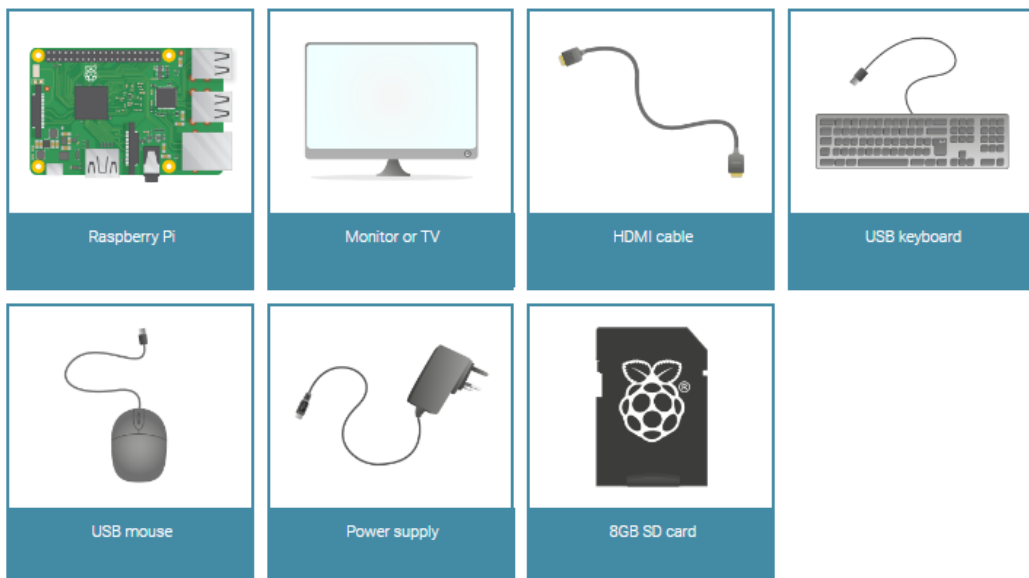# 1. INITIAL CONFIGURATION

RASPBERRY COMPONENTS


INSTALL RASPBIAN IN YOUR RASPBERRY

1. Visit the official Raspberry Pi Downloads page

2. Click on Downloads→Raspbian.

3. Click on the Download ZIP button under 'Raspbian Jessie', and select a folder to save it to.

4. Extract the files from the zip.

5. Download win32 Disk Imager: https://sourceforge.net/projects/win32diskimager/

6. Finally, click **Burn** to transfer Raspbian to the SD card. You'll see a progress bar that tells you how much is left to do. (Be careful choosing the correct device, otherwise you may lost important information from your disk)
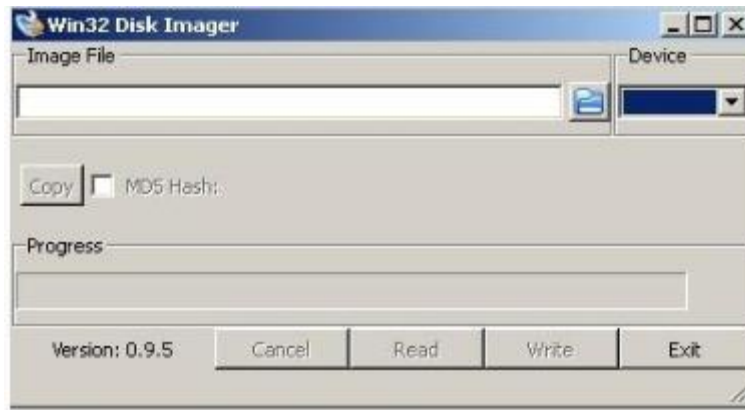
FIRST-TIME CONFIGURATION

7. The first time that raspberry is initilized must be shown a blue screen like MSDOS/BIOS. In other case, you can show this screen writing: raspi-config in the bash.


8. **E**xpand_rootfs – Expand root partition to fill SD card", to take advantage of all the space of your SD card.

9. Configure_keyboard – Set keyboard layout.

10. Enable ssh service

RASPBERRY REMOTE CONTROL

When the ssh service is enabled in your raspberry, you are able to control the device from your computer. You must follow the next steps:

11. Download the Putty application in your computer. http://www.putty.org/

12. Get the Raspberry's IP

13. Establish a connection between your computer and the Raspberry.
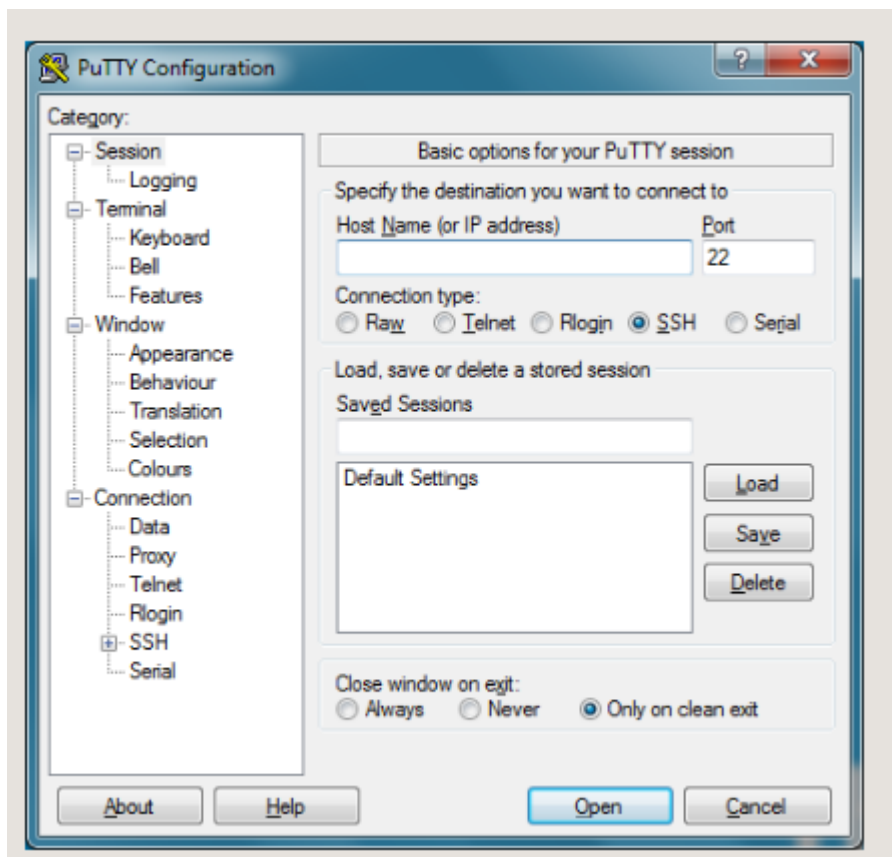
SET A STATIC IP

At this moment We are able to establish a connection between our computer and the raspberry, but by the default configuration the IP address is assigned through DHCP protocol which means that every time that you turn on your raspberry, the IP address will be assigned automatically.

In our case, We need a static IP, in this way our Raspberry will be identified and accessible.

14. Copy the file interfaces

```
sudo cp /etc/network/interfaces interfaces.old
```

15. Edit the file

```
sudo vi /etc/network/interfaces
```

16. Set a static IP (197.168.3.169)

```
auto eth0

iface lo inet loopback

iface eth0 inet static
address X.X.X.X
netmask X.X.X.X
gateway X.X.X.X
```

17. Restart the Raspberry

```
sudo reboot
```

2. INSTALLING SAMBA

18. Install Samba

```
sudo apt-get update

sudo apt-get install samba samba-common-bin
```

19. Edit the default SAMBA configuration

```
sudo cp /etc/samba/smb.conf smb.old

sudo vi /etc/samba/smb.conf
```

```
[profile]
comment = Description
path = Share folder address
writeable = Yes/No
create mask = permissions
directory mask = permissions
browseable = Yes/No
valid users users or group
```

Example:

```
[pi 16GB]
comment = USB Share
path = /media/16GB
writeable = Yes
create mask = 0777
directory mask = 0777
browseable = Yes
valid users dave
```

20. Add users in Linux

```
sudo groupadd gerents

sudo useradd –g gerents –d /home/dave –m –s /bin/bash
sudo passwd pep (Initial01)
```

21. Add user in Samba

```
sudo smbpasswd -a dave (Initial01)
```

22. Restart the service

```
sudo /etc/init.d/samba restart
```
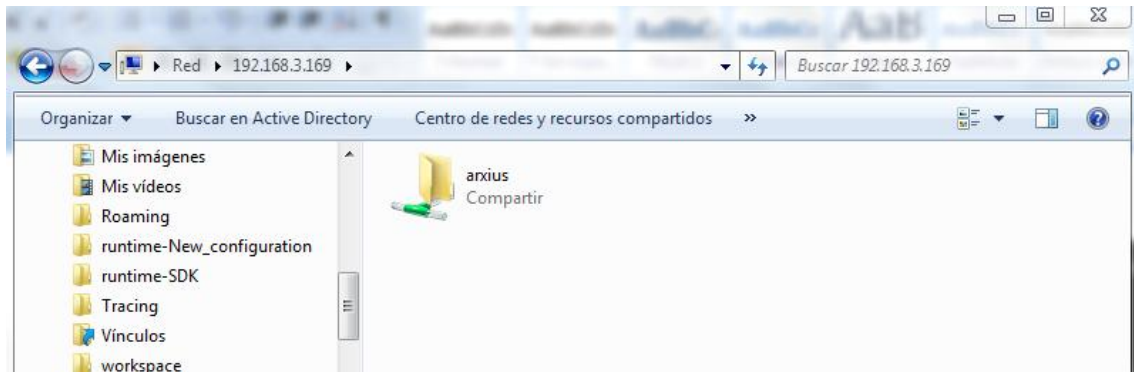
23. Install SambaClient

```
sudo aptitude show smbclient

sudo aptitude install smbclient
```

24. Check your shared folders/files

```
sudo smbclient -L localhost -N
```


25. Check your shared folders/files from Windows

As You can see our host name is by default RASPBERRY, it may complicate our task due to the fact that all groups will have the same name. For this reason is convenient to chose our own hostname.

```
sudo hostnamectl set-hostname NEW_HOSTNAME

sudo vi etc/hosts
sudo vi etc/hostname

sudo reboot
```

3. INSTALLING SAMBA IN LINUX

In this case you must repeat the same steps than when you had set a static IP and install samba in your raspberry.

4. SHARING FOLDERS IN WINDOWS

26. The option to detect networks and share files must be activated.

    Panel de control→Centro de redes y recursos compartidos→Cambiar Configuración de Uso Compartido Avanzado

Detección de redes

Cuando se activa la detección de redes, este equipo puede ver otros equipos y dispositivos en la red y es visible para los demás equipos en la red. ¿Qué es la detección de redes?

- ⦿ Activar la detección de redes
- ◯ Desactivar la detección de redes

Compartir archivos e impresoras

Cuando se activa el uso compartido de archivos e impresoras, los usuarios de la red podrán tener acceso a los archivos e impresoras compartidos en este equipo.

- ⦿ Activar el uso compartido de archivos e impresoras
- ◯ Desactivar el uso compartido de archivos e impresoras

## Uso compartido de la carpeta pública

Cuando se activa el uso compartido de carpetas públicas, los usuarios de la red, incluidos los miembros del grupo en el hogar, pueden obtener acceso a los archivos de estas carpetas. ¿Qué son las carpetas públicas?

- ⦿ Activar el uso compartido para que todos los usuarios con acceso a la red puedan leer y escribir archivos de las carpetas públicas
- ◯ Desactivar el uso compartido de la carpeta pública (los usuarios que iniciaron sesión en este equipo todavía podrán obtener acceso a esas carpetas)

27. Create groups and users in Windows

Panel de control→ Cuentas de Usuario →Editar usuarios y grupos locales

28. Share folders/files
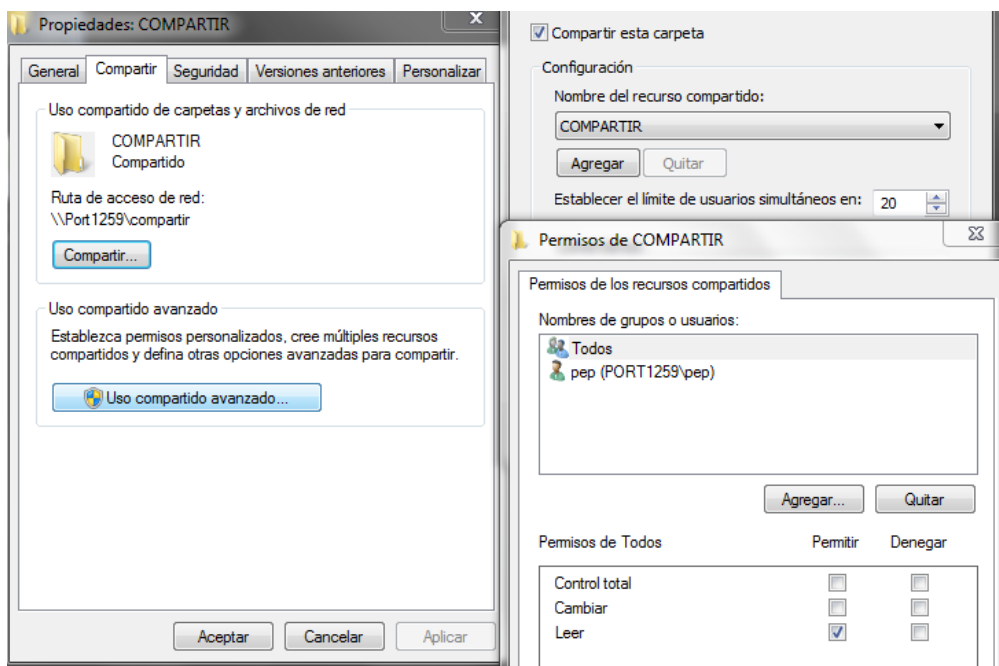
*You must check that global privileges of the folder don't contradict the particular assigned permissions.

5. INSTALLING CUPS

29. Install cups in your raspberry

```
sudo apt-get install cups
```

Our OS doesn't have graphical interface, for this reason We want to configure the printer server remotely.

30. Edit the configuration file.

```
sudo vi /etc/cups/cups.config
```

```
# Only listen for connections from the local machine.

#Listen localhost:631

Listen *:631

Listen /var/run/cups/cups.sock


# Restrict access to the server...

  Order allow,deny

  Allow 192.168.1.*


# Restrict access to the admin pages...

  Order allow,deny

  Allow 192.168.1.*


# Restrict access to configuration files...

  AuthType Default

#  Require user @SYSTEM

  Allow 192.168.1.*

  Order allow,deny
```
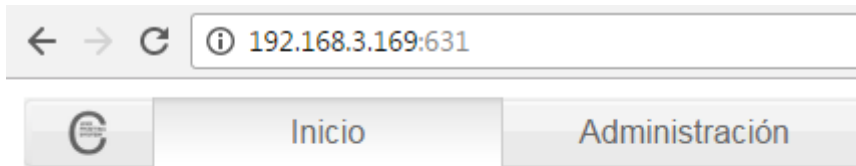
31. Restart the service

```
sudo service cups restart
```

Now you can configure the server printer remotely.

CUPS 1.7.5