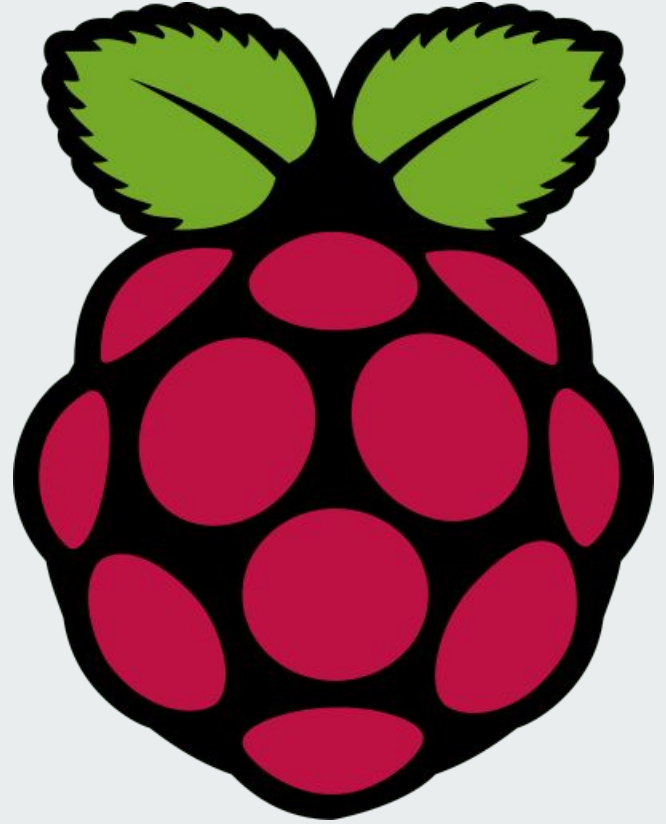




NAS server on Raspberry Pi



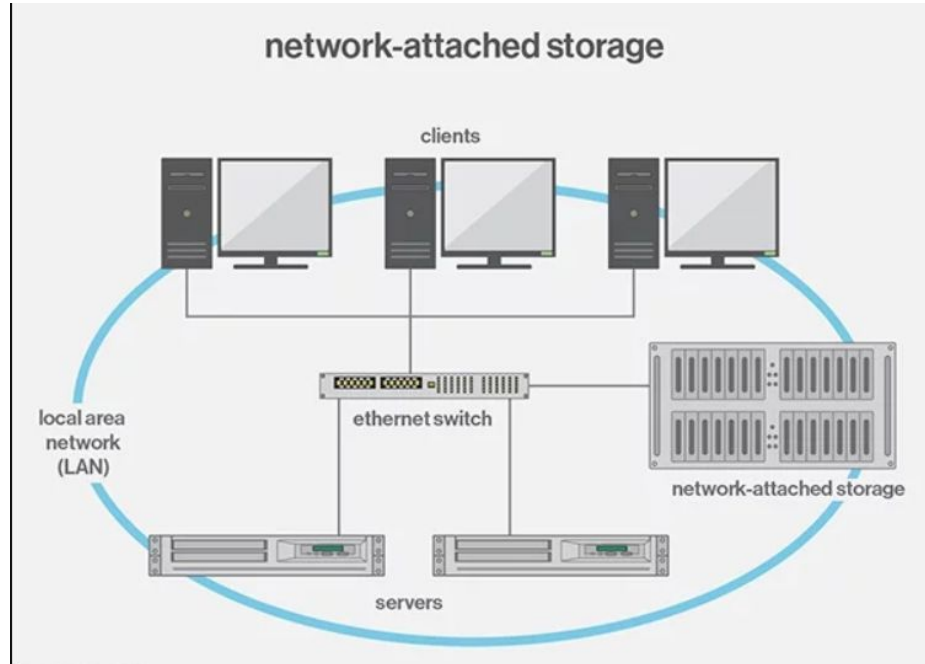
What is NAS ?

NAS – Network Attached Storage, to make it simple, is a kind of storage device in computer science that provides local area network (LAN) nodes with file-based shared storage through a standard Ethernet connection. NAS is defined as a special kind of file-level data storage server, including storage devices (such as disk arrays, CD/DVD drives, tape drives, or removable storage medium) and embedded system software, and can support cross-platform file sharing.

A NAS is high-capacity storage that connects to your home or office network so that you and other users you designate can access your files from mobile devices and PCs without plugging in to the drive.



How NAS works ?



NAS Function



Simply, it is a file-level data storage server. It is used in LAN environment for a lot of host computers to share storage space and offer file sharing services. All its functions can be divided into five aspects:

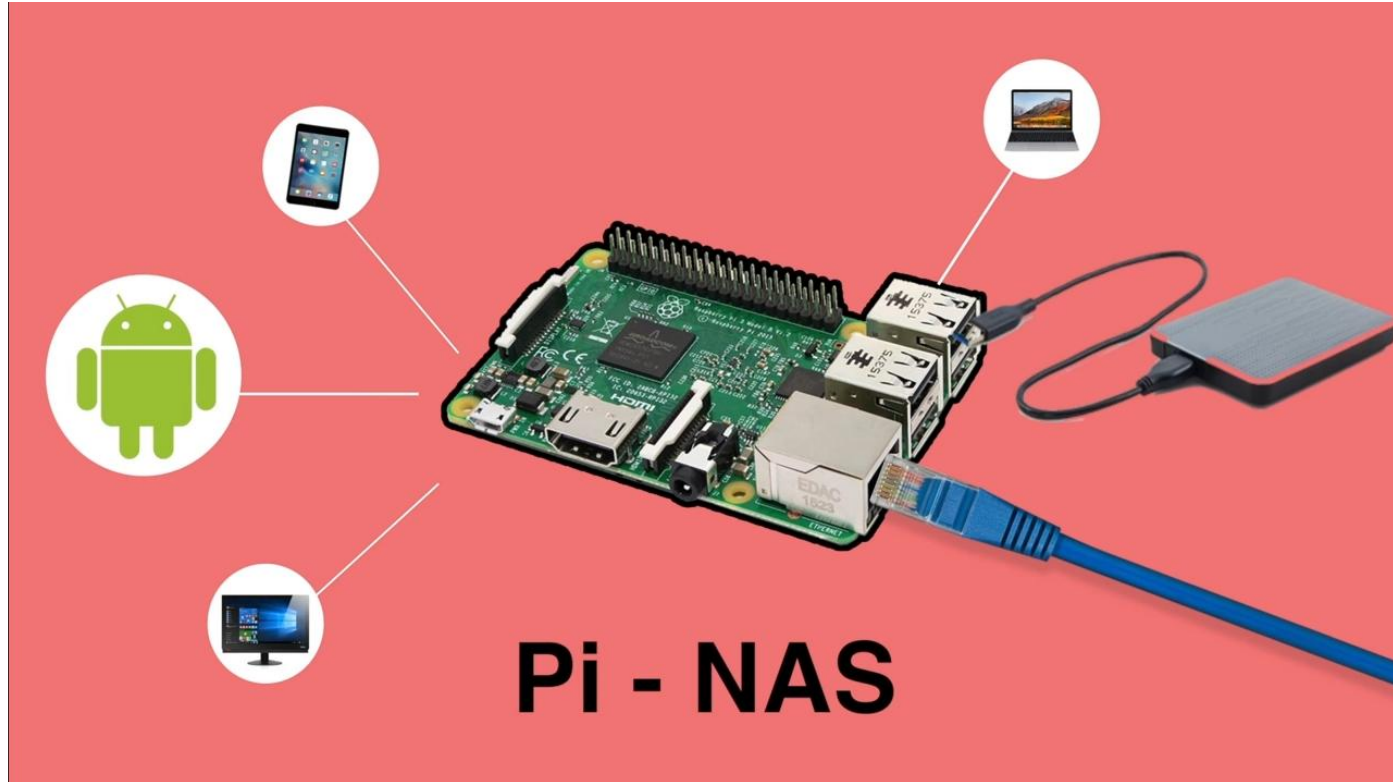
- File sharing
- Data backup/disaster recovery
- Network printing
- Multimedia file sharing
- Media server

Advantage



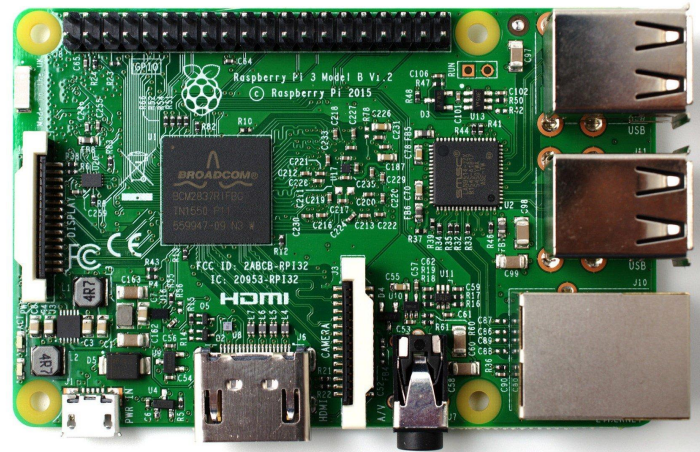
- **Fast:** Fast installation and data access; higher data bandwidth.
- **Easy:** Easy installation/configuration and administration.
- **Safety:** most NAS supports RAID0, RAID1 and RAID5, which makes your data safer. When the data stored on one drive has been destroyed, it can be recovered from another drive.
- **High capacity:** Capacity expansion is very simple. It can expand its capacity through the USB interface, and can also add a new NAS in the network.
- Performance is stable and maintenance is easy.

NAS server on Raspberry pi 4



Equipment

- Raspberry Pi 4
- LAN connection
- SD card
- Hard drive / Pen drive
- Monitor,mouse and keyboard.



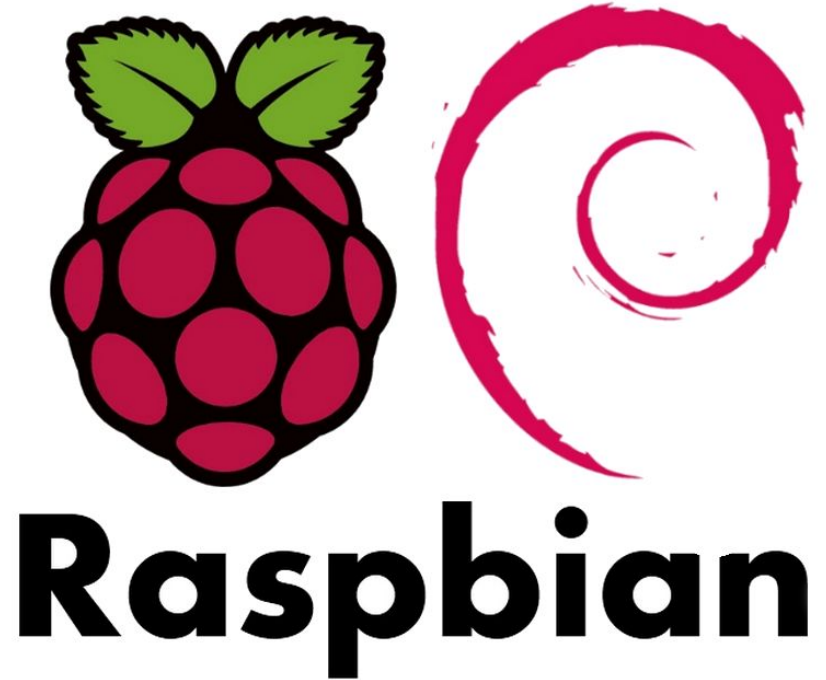
Implementation

Step 1 : Boot the SD card.

Step 2 : Install the raspbian os.

Step 3 : Writing the command for NAS.

Step 4 :Sharing is possible in LAN.



Commands



- Update apt-get and install NTFS-3g.
- Find out what path your external drive is located at (Ex. /dev/sda1)
- Mount the external drive to media folder and then make a shared folder within it.
- Install the samba software.
- Edit the samba Config file.
- Restart the samba.

Application



- File can be shared in LAN.
- Storage can be obtained.
- One can secure its file in the network.

Limitation and future enhancement



- Internet connection must be fast.
- Networking / sharing is possible in cellular phones through the same network.
- Security can be enhanced.



Thank You...