

NAS Server on Raspberry Pi SD Card

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The following describes how to set up a simple NAS server based on the SMB protocol. The goal is to save files on the NAS server and share them between different computer clients. This project will use a Raspberry Pi 3 running Rasbian connected to a network using a wired connection or WLAN. You need access to a terminal or a SSH connection. The file storage requires an external USB Hard-drive.

Prepare the RPi

1. Make sure all packages are the latest version.

```
sudo apt-get update  
sudo apt-get upgrade
```

2. Sharing file from a NAS server requires the Samba package. This includes all required apps and configuration files to setup the SMB protocol.

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

3. After the installation, we need to configure the SMB services. Start by creating a OURNAS1 directory. For this example it will be located in the Pi user path and called "OURNAS1".

```
mkdir /home/pi/OURNAS1
```

4. Edit `/etc/samba/smb.conf` file using `sudo` and enter the configuration options for OURNAS1 sharing at the end as follows:

```
[OURNAS1]  
comment = OURNAS1 Files  
browseable = yes  
path = /home/pi/OURNAS1  
writable = Yes  
create mask = 0777  
directory mask = 0777  
browseable = Yes  
public = yes
```

5. Establish the user `pi` as the Samba user:

```
sudo smbpasswd -a pi
```

This will require creating a password. When completed, restart the Samba server:

```
sudo /etc/init.d/samba restart
```

6. To test access to the drive from Windows, open **File Explorer** and select **Computer, Map Network Drive** and:
 - a. Enter the Rpi IP-address and the share name "OURNAS1" as `\\xxx.xxx.xxx.xxx\OURNAS1`
 - b. Check the Reconnect at sign-in and Connect using different credentials if show.
 - c. If required, enter the `smbpasswd` created earlier for the share.

7. From the Windows machine, create a new directory and either move/create a file within it. If this process works, the share is functioning properly.
8. From the Rpi, enter *ls -lR OURNAS1/*. If the new directory and file are listed, we have access to the share.