INSTALLING A "NETWORK-ATTACHED STORAGE" DEVICE FOR YOUR LOCAL AREA NETWORK

Summary:
Instead of sharing files in a peer-to-peer network, you might obtain and install a "Network-Attached Storage" (NAS) device that attaches by means of a 10/100/1000Base-T cable to your local area network. Most of the current models of NAS devices can store files for "Windows..", "Linux", and "Macintosh OS X" client computers.

GENERAL INFORMATION ON THE NAS DEVICE

When you attach the NAS device to your local network, the NAS device needs to get an IP address from a "Dynamic Host Configuration Protocol" (DHCP) server (unless you assign static IP addresses manually to each device in your local area network). You should have a DHCP server running inside your router already, since that is the default configuration for routers.

The router (that you attach your NAS device to) does not need to have a working Internet connection since your NAS device does not need to connect to the Internet during normal operations. Your NAS device needs to connect through the local area network side of your router to your client computers in order to store files and folders for your client computers.

EXAMPLE OF A "NAS" DEVICE
"Buffalo Technology (USA)" makes a popular line of NAS devices. Their generic brand name for these device is "LinkStation". Information on the entire "LinkStation" line can be found at http://www.buffalotech.com/products/network-storage/

The following photo shows the "Buffalo" NAS unit that was shown by President Les Stein at the February and March 2011 meetings of the "Windows 7 / Hardware SIG" of the Tucson Computer Society:
It's model number is LS-L500. This model is no longer manufactured by "Buffalo Technology" but support is still available at http://www.buffalotech.com/support/downloads/

PREPARING FOR THE INSTALLATION OF A "NETWORK-ATTACHED STORAGE" DEVICE

Read the documentation for your NAS device. Locate either the paper or online documentation for your router. Make sure that your router has a 10/100/1000 wired network jack that is available for the NAS device. Obtain a "Category 5", "Category 5e", or "Category 6" network cable for connecting the NAS device to the router.
STEP-BY-STEP INSTRUCTIONS FOR INSTALLING AND CONFIGURING A "NETWORK-ATTACHED STORAGE" DEVICE

Step 1: Use a "Category 5", "Category 5e" or "Category 6" network cable to connect the NAS device to a wired network jack on the Local Area Network side of the router.

Step 2: Attach the power supply of the NAS device and power it up.

Step 3: Press the "Power" button of the NAS device.

Step 4: Go to any powered-up network-connected Windows, Linux, or Macintosh OS X computer. (In this example, we went to a network-connected "Ubuntu 10.10" computer.)

Step 5: Start a Web browser such as "Internet Explorer" or "FireFox": 
Step 6:
If the Web browser does not reach the Internet, it is still okay for configuring a connection to the NAS device.
In the address box of the Web browser, type in http://<IP address of your router>
Then press the <Enter> key of the keyboard.
Step 7:

Server not found

Firefox can't find the server at start.ubuntu.com.

- Check the address for typing errors such as www.example.com instead of www.example.com
- If you are unable to load any pages, check your computer's network connection.
- If your computer or network is protected by a firewall or proxy, make sure that Firefox is permitted to access the Web.

Try Again
Step 8: Click on the "Login" button, if there is one.
Step 9:  
Type in the password (for configuring the router), if there is one.

Step 10:  
Click on the "Submit" or "Log in" button.
Step 10:
Click on "DHCP Client List" or "DHCP Clients":

![DHCP Client List](image.png)
Step 11:
A list of DHCP clients will be displayed:
Step 12:
Write down the IP address and host name of the "NAS" device.
In this example, we wrote down
192.168.2.19   LS-LE48

(This IP address was assigned by the Dynamic Host Configuration Protocol server than is integral to our router. The "host name" was the default that was provided by the manufacturer of the NAS device.)

Step 13:
Click on "Log out" or "Log off".
Step 14: Close the Web browser window.

The rest of the steps will be for an "Ubuntu 10.10" client computer but the steps are similar for "Windows" and "Macintosh OS X" client computers:

Step 15: Click on "Places" in the menu bar.

Step 16: Click on "Connect to Server":

![Connect to Server](image)

Step 17: A "Connect to Server" box will be displayed:
Step 18: Use the drop down list button of the "Service Type" to select "Windows share".
Step 15:
Type the IP address of the "NAS" device in the "Server" field:
Step 16:
Click on the "Connect" button.

Step 17:
A "Nautilus" file management window with the title of "Windows shares on <IP address of NAT device>" will be displayed:
Step 18:
Double-click on the "Share" folder.

Step 19:
The "Nautilus" file management window will now display all of the files and folders that are stored in the "NAS" device.
Step 20:
Double-click on any folder to view it's contents.
In this example, we double-clicked on a folder called "Test Folder 1":

![Image of file explorer with a selected folder named Test Folder 1]
Step 21:
In this example, we wanted to create a file so we:
right-clicked inside the right pane of the "Nautilus" window,
clicked on "Create Document" in the pop-up context menu,
and then we clicked on "Empty File":

![Image of Nautilus window with right pane empty](image.png)
Step 22:
A new file called "new file" was created as shown:
Step 23:
We renamed it to
Test File inside Les Stein's Buffalo NAS box.txt
Step 24:
Next, we wanted to edit the new text file so we double-click on it and it opened up in the default "gedit" editor application. We then typed in some text:
Step 25:
When we clicked on the "x" button in the upper right-hand corner of the "gedit" window, a "Save changes to document.." box was displayed:
Step 26:
We clicked on the "Save" button.
Test File inside Les Stein’s Buffalo NAS
Box.txt

1 item, Free space: 464.8 GB