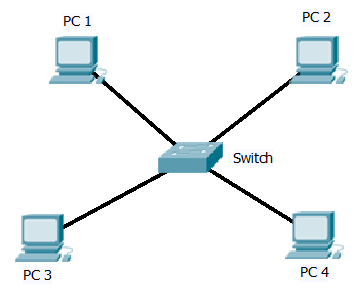
**Institute of Technology Tralee**

**Computing Department**

**Lab 4 Building a simple switched Network**

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You will carry out this lab as part of a group of 3-4 students that form a simple switched network.



In lab R200 students have full administration rights in that they can change most computer/network settings. However, when students logon as normal they become part of a DOMAIN called LAB-DOMAIN). This can sometimes cause problems when trying to set up small peer-to-peer network to share files and folders. Initially carry out the following steps;

1. Logon as normal and download this lab document to your desktop.
2. Download and install Filezilla Client and install it if it has not already been installed.
3. Download Filezilla Server but do not install it yet.
4. Disconnect you PC from the college network and restart your PC.
5. We are now going to logon to the PC locally – not the college network (not available now).

Username: **.\test** Password: **test**

**Creating the PC peer-to-peer network using a switch under Windows XP**

Recall in Lab 1 you created your own 2-PC LAN by just connecting two PCs using a UTP cable. If, however, there is a need to interconnect more than 2 PCs, crossover cables are of no use. Instead you need a network device such as a *hub* or *switch* that will allow you to interconnect many PCs.

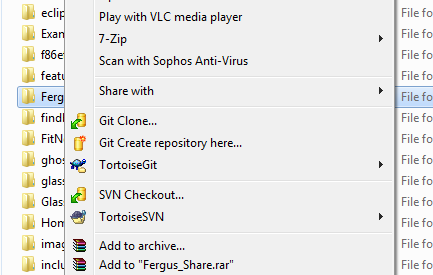
***Materials Required***

Straight-through patch cables

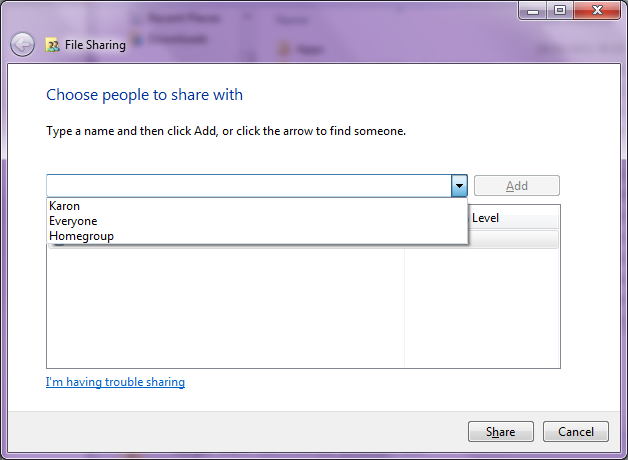
One Ethernet 100Base-T switch with link lights and collision lights.

***Before you connect the PC’s with the cable complete the following tasks***

1. Create a new folder on the C: drive and call it *myname*\_share (use your name). Copy some arbitrary files into this folder.
2. Right click on the folder and select the Share with option and choose Specific people from the drop down menu.



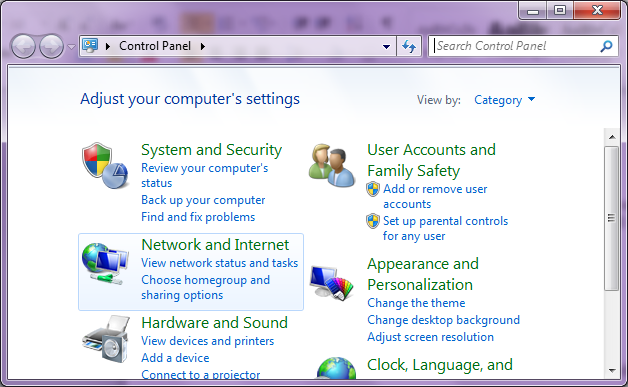
1. Choose Everyone from the drop down menu and select share.



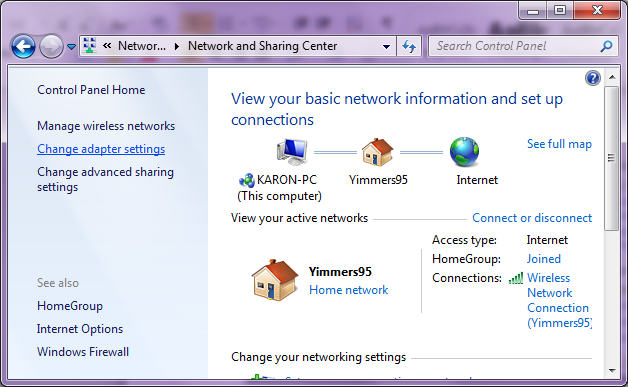
CHANGE IP ADDRESSING SETTINGS

We are going to connect the two PCs but first we will change their network settings.

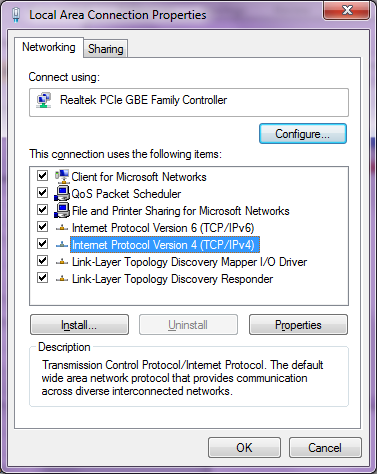
1. Normally in the college the DHCP server dynamically assigns each computer an IP address – in this instance we are going to assign a **static** IP address to each machine.
2. Click **Start** -> Control Panel -> Network and Internet-> View network status and tasks



1. Select Change adapter settings



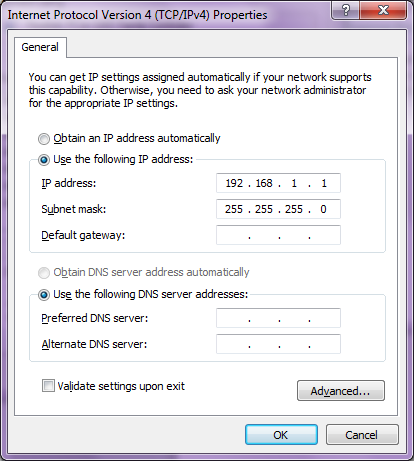
1. Double click on **Local Area Connection** - there may be more than one connection – make sure you select this one.
2. In the protocols list click on **Internet Protocol Version 4 (TCP/IPv4)**



1. Select **Properties**

The Network automatically assigns IP addresses to the computer dynamically – we want to set a static IP address on both machines for this practical. Click on **Use the following IP address** and set the following addresses on the two connected machines.

1. Enter the IP address 192.168.1.1 for one machine and 192.168.1.2 for the next machine, 192.168.1.3 for the next etc.
2. Enter the Subnet Mask 255.255.255.0 for all machines. The other entries are not important today.



You have to close all these setting windows before the IP address changes take effect.

1. Bring up the **Command Prompt** and use **ipconfig/all** to make sure the IP address has changes to the correct value on each PC.
2. Use the existing network cables to connect the PCs to the switch.
3. Try to ping each PC on the switch.
4. Try mapping the shared folders on the other PCs to Drive letters. You should now be able to see the files in the folder on the other PCs.
5. If time permits, install *Filezilla Server* on one of the PC’s and see if you can setup and FTP server with user accounts and associated passwords. Try to access your account using Filezilla Client from the other PC’s.

On completion, re-join the college network by resetting the ip address to being dynamically assigned. Delete any shared folders and turn of the FTP service offered by Filezilla. Logon to the college network to ensure it is available once again.