What is an Ethernet Switch?
An Ethernet switch is a device used to connect multiple PCs, Servers, Laptops or other Ethernet IP enabled devices such as IP cameras to a Local Area Network (LAN). Most switches feature 10/100 Mega bit per second RJ45 ports although many newer switch designs now offer 10/100/1000 triple speed ports that provide up to 1 Gigabit per second access. The switch uses a MAC address table to keep track of where PCs, servers or other connected devices are located. Each device has a unique MAC (Media Access Control) address "burned" into the hardware. For example; if a PC on port one needs to "talk" to a file server, the switch will look at its MAC address table and determine which port the file server is located on and send the PCs data to that port. This relieves network congestion. The older Hub technology used a shared communication method where all requests were sent to all ports of the hub causing latency.

How is an Ethernet Switch used?
Ethernet switches typically utilize RJ45 ports for UTP or STP connectivity to PCs, Servers, Routers etc. Many switches also feature high speed uplink ports where modules can be purchased to connect fiber optic or UTP cabling supporting speeds of 1 Gigabit per second or more. Cables are used to plug into the ports on the switch and then into the Ethernet device (PC, router etc.) on the other end.

Where are Ethernet Switches used?
Ethernet switches are utilized everywhere from Small Office/Home Office (SOHO) environments to major ISPs (Internet Service Providers) to military installations. Ethernet switches are used for both industrial and commercial applications.