LECTURE 1: Exploring the Network

Networks and the Internet have changed the way we communicate, learn, work, and even play.

Networks come in all sizes. They can range from simple networks consisting of two computers, to networks connecting millions of devices.
The Internet is the largest network in existence. In fact, the term Internet means a ‘network of networks’. The Internet provides the services that enable us to connect and communicate with our families, friends, work, and interests.

The network infrastructure is the platform that supports the network. It provides the stable and reliable channel over which communication can occur. It is made up of network components including end devices, intermediate device, and network media.

Networks must be reliable. This means the network must be fault tolerant, scalable, provide quality of service, and ensure security of the information and resources on the network. Network security is an integral part of computer networking, regardless of whether the network is limited to a home environment with a single connection to the Internet, or as large as a corporation with thousands of users. No single solution can protect the network from the variety of threats that exist. For this reason, security should be implemented in multiple layers, using more than one security solution.

The network infrastructure can vary greatly in terms of size, number of users, and number and types of services that are supported on it. The network infrastructure must grow and adjust to support the way the network is used. The routing and switching platform is the foundation of any network infrastructure.

This chapter focused on networking as a primary platform for supporting communication. The next chapter will introduce you to the Cisco Internetwork Operating System (IOS) used to enable routing and switching in a Cisco network environment.