6.2 Network Hardware

As you study this section, answer the following questions:

- What is the transmission medium for wireless networks?
- What is the difference between half-duplex mode and full-duplex mode?
- What are the main differences between a hub and a switch? What makes a switch a better choice?
- Which device would you use to connect two network segments with different subnet addresses?
- Which device connects hosts using different transmission media on the same subnet?
- Which type of server handles user authentications?
- What is the role of a DHCP server?
- What are the benefits of using internet appliances?

In this section, you will learn to:

- Select and install a network adapter

Key terms for this section include the following:

Term	Definition
Medium	Hardware or software that provides a path for signals to pass between devices.
Network adapter (NIC)	A hardware device that creates and receives transmission signals sent along the networking medium.
Hub	Central connecting point for multiple media segments on the same subnet.
Switch	Central connection for multiple media segments on the same subnet.
Router	A hardware device that connects two network segments with different subnet addresses.
Bridge	Connects two segments within the same subnet.
Server	A host that provides a service.
VoIP	Software that provides voice communication over an IP network.
Internet appliance	A specialized device that performs a specific network role.
NAS	A device optimized for the single purpose of providing file sharing.
Transceiver	A hardware device that converts digital data into digital signals sent on the medium.
Modem	A hardware device that converts binary data to analog waves and vice versa.

This section helps you prepare for the following certification exam objectives:

Exam	Objective
TestOut PC Pro	1.5 Configure networking devices 1.5.1 Install and configure a wired and wireless network adapters and cables

CompTIA 220-1001	2.2 Compare and contrast common networking hardware devices.
	
	▪ Routers
	▪ Switches
	  ▪ Managed
	  ▪ Unmanaged
	▪ Access points
	▪ Firewall
	▪ Repeater
	▪ Hub
	▪ Bridge
	▪ Patch panel
	▪ Ethernet over Power
	▪ Power over Ethernet (PoE)
	  ▪ Injectors
	  ▪ Switch
	▪ Network interface card
	
	2.5 Summarize the properties and purposes of services provided by networked hosts.
	
	▪ Server roles
	  ▪ Web server
	  ▪ File server
	  ▪ Print server
	  ▪ DHCP server
	  ▪ DNS server
	
	3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.
	
	▪ Expansion cards
	  ▪ Network interface card

CompTIA 220-1002	1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop.
	
	▪ Network card properties
	  ▪ Half duplex/full duplex/auto
	  ▪ Speed
	  ▪ Wake-on-LAN
	  ▪ QoS
	  ▪ BIOS (on-board NIC)