OBJECTIVE
3.1.6: LANs and WANs

Local Area Network (LAN)

local area network (LAN)
A group of computers connected within a confined geographic area.

A **LAN** is a group of computers connected within a confined geographic area. Figure 1-14 illustrates a LAN.

NOTE:
This configuration is representative. Routers are not required in all LANs.

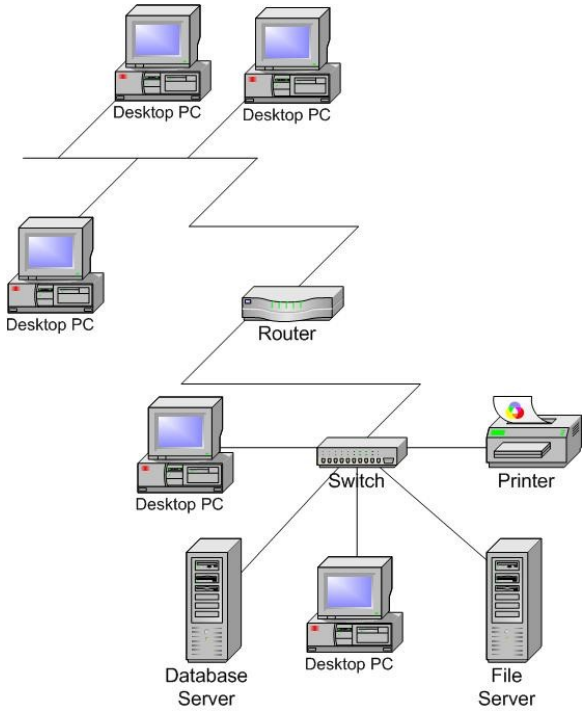

Figure 1-14: LAN example

switch
A device that connects either individual systems or multiple networks. A Layer 1 switch connects individual systems.

router
A device that routes packets between networks based on network-layer addresses; determines the best path across a network. Also used to connect separate LANs to form a WAN.

LANs allow users to share files and services, and are commonly used for intra-office communication. They can extend over several hundred feet and generally represent one locale, such as a corporate office in Phoenix, Arizona, for example. You would use a **switch** to connect computers so that they create a LAN. LANs are structured around distributed computing, and often consist of workstations and servers. In large LANs, networked computers and devices may be subdivided into subnetworks, or subnets. **Routers** can be used to connect subnets.

OBJECTIVE
3.1.6: LANs and WANs

Wide Area Network (WAN)

wide area network (WAN)
A group of computers connected over an expansive geographic area so their users can share files and services.

A **WAN** is a group of computers connected over an expansive geographic area, such as a state or country, allowing users to share files and services. Figure 1-15 illustrates a WAN. A WAN often connects two LANs using the communications lines of a public carrier, such as the PSTN. The connection is called a WAN link. You will learn about various types of WAN links later in this course.

