4.1 IPv4 Addressing Overview

As you study this section, answer the following questions:

- What information do IP addresses provide?
- What is the binary form of the IPv4 address 192.168.46.20?
- What is the role of a subnet mask?
- What is the purpose of the IP address default class?
- What is the default address class of the IP address 132.11.166.5?
- Which three address ranges are used for private IP addresses?
- Using IPv4, how is the host portion of a network address expressed?
- Which network address is used by routers to specify the default route?
- What are commonly used broadcast address formats?
- What is a commonly used loopback address?

Key terms for this section include the following:

Term	Definition
Private IP address	Private addresses aren't routed to the internet.
Public IP address	Public IP addresses are available and accessible on the internet.
Network Address Translation (NAT)	NAT converts private IP address to public IP addresses.
Decimal notation	Decimal notation is a base 10 numbering system. It uses integers 0 – 9.
Binary notation	Binary notation is a numbering system that uses only two integers, 0 and 1.
IP address range class	The class identifies the range and default subnet mask for the address.

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

Exam	Objective
Cisco CCNA 200-301	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing