**Introduction to IP addressing and subnetting**

**IP addresses and subnets are necessary for effective network communications. IP addresses are composed of two main parts:**

**Host Identifier (Host ID): The host identifier uniquely identifies a specific device within a network. Each device on the same network must have a unique host ID. The host ID occupies the remaining portion of the IP address after the network ID.**

**Example: In the IP address 192.168.1.5 with a subnet mask of 255.255.255.0, the host ID is 5.**

**Network Identifier (Network ID):** **The network identifier indicates the specific network to which the device belongs. All devices within the same network share the same network ID.** **In a standard IPv4 address, the network ID is located at the beginning of the IP address.**

**Example: In the IP address 192.168.1.5 with a subnet mask of 255.255.255.0, the network ID is 192.168.1.0.**

**IP "Classful" Addressing Network and Host Identification and Address Ranges**



