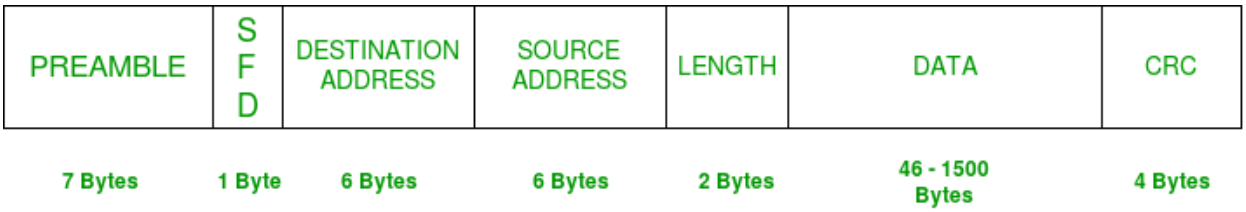
Ethernet (IEEE 802.3) Frame Format



IEEE 802.3 ETHERNET Frame Format

Preamble: It consumes 7 bytes of alternating 0's and 1's and alerts the receiving entity about the incoming frame. It also gives enough time to the receiver to synchronize its clock with that of the transmitter. It is added at the physical layer.

Start Frame Delimiter (SFD): It is 1 byte long and signals the receiver about the beginning of the frame. It also provides the last chance for synchronization. The last 2 bits of this field (10101011) is 11 to tell the receiver that the next bit is the start of the destination address.

Destination Address (DA): It is 6 bytes long and it contains the physical address of the destination station or the next station to receive the packet.

Source Address (SA): It is 6 bytes long and it contains the physical address of the source station or the sender of the packet.

Length/Type of PDU: It is 2 bytes long. It defines the length or type of PDU. If its value is less than in 1518 then it is considered as the length field and if its value is greater than 1536 then it is considered as the type field.

Data: This field carries the data sent by the upper layer. This field may have a minimum length of 46 bytes and a maximum length of 1500 bytes.

Cyclic Redundancy Check (CRC): This field is 4 bytes long and it contains the error detection code for the frame.