What are HTTP and HTTPS protocols?

- HyperText Transfer Protocol(HTTP) is an application layer protocol that is used to access and transfer data(text, images, video, multimedia, etc) over the world wide web.
- HTTP is a client-server protocol that runs on top of the TCP/IP family of protocols and uses the request/response protocol.
- HTTP uses port number **80**.
- In HTTP, the client sends a request message to the server. After the client responds, HTTP establishes a TCP connection between the client and the server. HTTP delivers a request to the server, which collects the data that was requested. After the server sends data to the client, the connection will be terminated.
- If we want something else from the server, we should have to re-establish the connection between client and server.

Features of HTTP

- **HTTP is connectionless**: After serving a single HTTP request, the client-server connection is closed and that same connection is never used again.
- **HTTP is media independent**: It means that HTTP can send any sort of data as long as both the client and the server understand how to process the data.
- **HTTP is stateless**: The client and server only know about each other during the current request, and when the connection is disconnected, both the client and the server forget about each other.

HTTPS
Hypertext Transfer Protocol Secure is a secure extension or version of HTTP that is used for providing security to the data sent over the world wide web.

This protocol allows transferring the data in an encrypted form which is particularly important when users transmit sensitive data such as login credentials.

To encrypt communications HTTPS uses an encryption protocol called Transport Layer Security (TLS), formerly known as Secure Sockets Layer (SSL).

HTTPS protocol uses the 443 port number for communicating the data.