# Describe how HTTPS is different from HTTP. (not less than 250 words)

Full form of HTTP is Hypertext Transfer Protocol. HTTP offers set of rules and standards which govern how any information can be transmitted on the World Wide Web. HTTP provides standard rules for web browsers & servers to communicate.

HTTPS is HTTP with encryption. Https use TSL(SSL) to encrypt normal HTTP request and responses. As a result, HTTPS is far more secure than HTTP and also an updated version of HTTP.

## KEY DIFFERENCE

* HTTP lacks security mechanism to encrypt the data whereas HTTPS provides SSL or TLS Digital Certificate to secure the communication between server and client.
* HTTP operates at Application Layer whereas HTTPS operates at Transport Layer.
* HTTP by default operates on port 80 whereas HTTPS by default operates on port 443.
* HTTP transfers data in plain text while HTTPS transfers data in cipher text (encrypt text).
* HTTP is fast as compared to HTTPS because HTTPS consumes computation power to encrypt the communication channel.
* It’s a good fit for websites designed for information consumption like blogs whereas If the website needs to collect the private information such as credit card number, then it is a more secure protocol.
* Https is slower than HTTP .
* HTTP is an application layer of OSI model and HTTPS is a Transport layer.
* HTTP does not scramble the data to be transmitted. That’s why there is a higher chance that transmitted information is available to hackers whereas HTTPS scrambles the data before transmission. At the receiver end, it descrambles to recover the original data. Therefore, the transmitted information is secure which can’t be hacked.