# What is HTTP and HTTPS?

HTTP (Hypertext Transfer Protocol) and HTTPS (Hypertext Transfer Protocol Secure) are two protocols used for transferring data over the internet, and they have key differences in terms of security and data integrity:

**HTTP (Hypertext Transfer Protocol):**

**Unsecured:** HTTP is an unsecured protocol, meaning the data exchanged between the user's browser and the web server is transmitted in plain text. This makes it vulnerable to eavesdropping and data interception.

**Port:** HTTP typically uses port 80.

**No Data Encryption:** Data sent via HTTP is not encrypted, which means that anyone with the right tools can intercept and read the data being transmitted.

**HTTPS (Hypertext Transfer Protocol Secure):**

**Secured:** HTTPS is a secured version of HTTP. It uses encryption to ensure the privacy and integrity of the data being transferred between the user's browser and the web server.

**Port:** HTTPS typically uses port 443.

**Data Encryption:** HTTPS employs various encryption protocols, such as SSL (Secure Sockets Layer) or its successor TLS (Transport Layer Security), to encrypt data. This encryption makes it extremely difficult for third parties to intercept and decipher the data.

Here are some key advantages of using HTTPS over HTTP:

**Data Security:** HTTPS ensures that data transmitted between the user and the website is encrypted, making it secure from eavesdropping and tampering.

**Trust and Authentication:** HTTPS uses digital certificates issued by trusted Certificate Authorities (CAs) to verify the authenticity of the website. This helps users trust that they are connecting to the intended website and not a malicious one.

**SEO Benefits:** Search engines like Google give preference to HTTPS websites in their search rankings, so using HTTPS can improve your website's visibility.

To implement HTTPS on a website, you need to obtain an SSL/TLS certificate, configure your web server to use it, and ensure that your website's links and resources are all served over HTTPS. This is essential for securing data and building trust with your website visitors.