# What is HTTP?

* [HTTP](https://www.cloudflare.com/learning/ddos/glossary/hypertext-transfer-protocol-http/) stands for hypertext transfer protocol, and it is the basis for almost all web applications.
* HTTP is the method computers and servers use to request and send information.
* For instance, when someone navigates to amazon.com on their laptop, their web browser sends an HTTP request to the amazon servers for the content that appears on the page. Then, amazon servers send HTTP responses with the text, images, and formatting that the browser displays to the user.

# What is HTTP/1.1?

* The first usable version of HTTP was created in 1997. Because it went through several stages of development, this first version of HTTP was called HTTP/1.1.
* This version is still in use on the web.

# What is HTTP/2?

* In 2015, a new version of HTTP called HTTP/2 was created. HTTP/2 solves several problems that the creators of HTTP/1.1 did not anticipate.
* In particular, HTTP/2 is much faster and more efficient than HTTP/1.1. One of the ways in which HTTP/2 is faster is in how it prioritizes content during the loading process.

# Why is HTTP/2 faster than HTTP/1.1?

#### ****HTTP/1.1:****

For better understanding, let’s assume the situation when you make a request to the server for the geeksforgeeks.html page & server responds to you as a resource geeksforgeeks.html page.

before sending the request and the response there is a TCP connection established between client & server. again you make a request to the server for image img.jpg & the server gives a response as an image img.jpg. the connection was not lost here after the first request because we add a keep-alive header which is the part of the request so there is an open connection between the server & client.

there is a persistent connection which means several requests & responses are merged in a single connection.

These are the drawbacks that lead to the creation of HTTP/2: The first problem is HTTP/1.1 transfer all the requests & responses in the plain text message form.

The second one is head of line blocking in which TCP connection is blocked all other requests until the response does not receive. all the information related to the header file is repeated in every request.

#### ****HTTP/2:****

HTTP/2 was developed over the SPDY protocol. HTTP/2 works on the binary framing layer instead of textual that converts all the messages in binary format.

it works on fully multiplexed that is one TCP connection is used for multiple requests.

HTTP/2 uses HPACK which is used to split data from header. it compresses the header.

The server sends all the other files like CSS & JS without the request of the client using the PUSH frame.