

## Overview

The Hypertext Transfer Protocol, or **HTTP**, is a protocol for how web browsers communicate with web servers. When a user wishes to visit a webpage, their web browser (which may be referred to as the **client**) must request the contents of the web page from a web **server**. In response, the web server must interpret the request and send the requested page back to the client. HTTP facilitates this process and sets a standard way for these requests to be sent and received.

### Key Terms

- HTTP
- client
- server
- GET
- POST
- Status Code

## GET and POST Requests

```
GET / HTTP/1.1
Host: www.google.com
```

When a user requests a web page by typing a URL into their web browser, the web browser sends a particular type of HTTP request called a **GET** Request. The text of a GET request begins with the word **GET**, to indicate the request type. Following the word **GET** is a path indicating which web page the user is requesting, called the “Request URI,” where URI stands for Uniform Resource Identifier.

Following **GET** is **/**, which indicates the root of the web page, such as when you type a URL like **google.com/** or **facebook.com/** without specifying anything after the **/**. Finally, the first line of the GET request will end with the version of the HTTP protocol that the request is using, generally **1.1**. The next line specifies the “Host,” which is the domain name which the user is requesting a page from.

Web browsers can also submit a different type of HTTP request, called a **POST** request, which is meant for transmitting data from the client to the web server, such as when a user fills out an online form. In this case, a client would have asked the server for the blank form via a GET request. Once submitted, the filled out form would be sent back to the server via a POST request.

## Status Codes

When a web server receives an HTTP request from a client, the server must send a response back to the client. Servers indicate the results of requests with **status codes**, which they send back to the client.

For instance, if a client requests a web page, the server should send back the contents of that web page. If the server has the page that the user is looking for and is able to respond with it successfully, then the server sends the status code **200**, which means that the request was handled successfully. But if the user requests a page that doesn't exist on the web server, then the server responds with status code **404**, which stands for “Not Found.”

Other types of errors are also represented by status codes. For example, if the user tries to access a web page that the user does not have permission to access, then a web server will respond with status code **403**, which means “Forbidden.” If an error occurs in the web server while trying to process a user's request, then the server will frequently respond with status code **500**, which stands for an “Internal Server Error.”

```
HTTP/1.1 200 OK
Content-Type: text/html
```

Status Code	Meaning
200	OK
301	Moved Permanently
302	Found
403	Forbidden
404	Not Found
500	Internal Server Error