**Diff between HTTP and HTTPS**

| **HTTP** | **HTTPS** |
| --- | --- |
| Stands for Hyper Text Transfer Protocol | Stands for Hyper Text Transfer Protocol Secure |
| It does no encrypt the code | It encrypts the code |
| Do not use a certificate | Uses a SSL certificate |
| Vulnerable to man in the middle and eavesdropping attacks | Can withstand such attacks |
| Not secure and unreliable | Secure and reliable |
| Works at application layer | Works at transport layer |
| Helps to transfer text, audio, video, images through web pages | Helps to transfer data securely over a network |

**HTTP Methods**

* **GET :** The GET method is used to retrieve information from the given server using a given URI. Requests using GET should only retrieve data and should have no other effect on the data. It is associated with R (read) in CRUD operations
* **POST :** A POST request is used to send data to the server, for example, blog post, file upload, etc. using HTML forms. It is associated with C (create) in CRUD operations.
* **PUT :** Replaces all current representations of the target resource with the uploaded content. It is associated with U (update) in CRUD operations.
* **PATCH :** The PATCH method is a request method in the Hypertext Transfer Protocol (HTTP) protocol for making partial changes to an existing resource
* **DELETE :** Removes all current representations of the target resource given by a URI. It is associated with D (delete) in CRUD operations
* **HEAD :** Same as GET, but transfers the status line and header section only.
* **TRACE :** The TRACE method is used to echo the contents of an HTTP Request back to the requester which can be used for debugging purpose at the time of development.
* **OPTIONS :** The OPTIONS method is used by the client to find out the HTTP methods and other options supported by a web server. The client can specify a URL for the OPTIONS method, or an asterisk (\*) to refer to the entire server.

**List down the various status (response) codes of each series.**

| **Status Code** | **Description** |
| --- | --- |
| **100 : Continue** | The 100 HTTP status code ‘Continue’ is an informational status code which indicates that the server has received the initial request to access the link from the browser and that the user should continue with the request**.** |
| **101 : Switching Protocol** | The 101 HTTP status code indicates that the server has received the browser’s request to change protocol. The server complies by switching protocol and responding with an upgrade response header. |
| **102 : Processing** | This 102 HTTP status code means that the server has received and accepted the request sent by the browser but has sent an interim response to the browser because it has not completed the request yet. |
| **103 : Early Hints** | The 103 HTTP status code indicates that the preloaded resources are visible to the user while the server sends early hints that it is likely to prepare a final response that includes the appropriate link header. |
| **201 : Created** | The 201 HTTP status code is one of the foremost success status codes in the list of HTTP status codes. The ‘Created’ code indicates to the user that their request has succeeded and multiple new resources have been created. |
| **202 : Accepted** | The 202 HTTP status code lets users know that their request has been accepted but is still in processing. This does not mean that the request will definitely be processed as it can get cancelled later on too. This status code, therefore, is noncommittal. |
| **204 : No Content** | The 204 status code informs the user that while their request has been accepted and processed, there is no content or information available on the server, except for the headers. |
| **205 : Reset Content** | The 205 status code tells the user at the browser end to reset the content in the document that sent the request. Consider the example of filling a form online. In case of error, the server asks for the form to be cleared and reset so that the information can be entered again. |
| **206 : Partial Content** | The 206 status code indicates that the request has been accepted, but only part of the data or resources available are sent to the user. |
| **300 : Multiple Choice** | The 300 status code is the first in the redirection HTTP codes list. It indicates to the user that the request has many response options, and they can choose any one resource. |
| **301 : Permanent redirection** | This code shows that a web page has been permanently replaced with a different resource. Redirect allows you to direct traffic from one location to another. Ensure proper SEO while making the changes and routing visitors to the correct location of your site. Typically, this is the one you will want to use for SEO purposes for preventing 404 errors |
| **302 : Temporary Redirection** | This code indicates that the request sent by the browser for a web page was found, but the URL or content has been moved temporarily. |
| **303 : See Other** | The 303 See Other HTTP status code directs the user to get the source requested at another URI with a Get request to the server. |
| **400 : Bad Request** | The 400 status code indicates an error at the client or user end and lets them know that the server could not understand the request due to bad syntax (spelling, punctuation, and other errors). |
| **401 : Unauthorized Error** | This indicates that the request sent by the browser could not be authenticated. The authentication may have been provided by the client, but the client is not permitted to access the requested resource. |
| **402 : Payment Required** | The 402 status code was created for directing the user to complete digital payments. After the payment, the server was supposed to display the requested content. |
| **403 : Forbidden Error** | The server understood the request however, it refuses to authorize it. This code is returned when the user attempts to access something that they do not have permission to access. |
| **404 : Page Not Found** | Say someone tries to access example.com/news-events but the news-events page doesn’t have any content. The user will then see status code 404 because even if the webserver is functioning, the request for that particular page doesn’t exist |
| **500 : Internal Server Error** | The 500 Internal server error code indicates that the server has failed to understand and handle a situation or request. Reasons are not mentioned. |
| **501 : Not implemented** | This status code is received when the web server does not recognize the request method and is incapable of supporting it. |
| **502 : Bad Gateway** | This error is a status code which means that one server on the internet received an invalid response from another server. Different webservers and operating systems represent the 502 bad gateway errors in various ways. But they all have the same meaning |
| **504 : Gateway Timeout** | When one server fails to receive a timely response from another server that it was accessing while loading a web page or fulfilling a request by the browser |