

HTTP:

- The Hypertext Transfer Protocol (HTTP) is designed to enable communications between clients and servers.
- HTTP works as a request-response protocol between a client and server.
- Communication between client computers and web servers is done by sending HTTP Requests and receiving HTTP Responses like such:
 - A client (a browser) sends an HTTP request to the web.
 - A web server receives the request.
 - The server runs an application to process the request.
 - The server returns an HTTP response (output) to the browser.
 - The client (the browser) receives the response.
- A web browser may be the client, and an application on a computer that hosts a web site may be the server.
- Example: A client (browser) submits an HTTP request to the server. Then the server returns a response to the client. The response contains status information about the request and may also contain the requested content.
- **Note:** HTTP does not encrypt data but HTTPS does.

HTTP Methods:

- Some of the HTTP methods are:
 - GET
 - POST
 - PUT
 - HEAD
 - DELETE
 - PATCH
 - OPTIONS
- The two most common HTTP methods are GET and POST.
- **GET Method:**
 - The GET method is used to retrieve information from the given server using a given URL.
 - GET is used to request data from a specified resource. It should not modify the data in any way.
 - GET requests can be cached.
 - GET requests remain in the browser history.
 - GET requests can be bookmarked.
 - GET requests should never be used when dealing with sensitive data since the query is visible.
 - GET requests have length restrictions.
 - Note that the query string (name/value pairs) is sent in the URL of a GET request.
E.g. /test/demo_form.php?name1=value1&name2=value2
- **POST Method:**
 - POST is used to send data to a server to create/update a resource.
 - A POST request is used to send data to the server, such as customer information or file upload using HTML forms.

- The data sent to the server with POST is stored in the request body of the HTTP request.

E.g.

POST /test/demo_form.php HTTP/1.1

Host: w3schools.com

name1=value1&name2=value2

- POST requests are never cached.
- POST requests do not remain in the browser history.
- POST requests cannot be bookmarked.
- POST requests have no restrictions on data length.