

# HTTP Methods: GET vs. POST

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The two most used HTTP methods are: GET and POST.

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## What is 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.

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.

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## Two HTTP Request Methods: GET and POST

Two commonly used methods for a request-response between a client and server are: GET and POST.

- **GET** - Requests data from a specified resource
  - **POST** - Submits data to be processed to a specified resource
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## The GET Method

**Note that query strings (name/value pairs) is sent in the URL of a GET request:**

```
/test/demo_form.asp?name1=value1&name2=value2
```

**Some other notes on GET requests:**

- 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

- GET requests have length restrictions
- GET requests should be used only to retrieve data

# The POST Method

**Note that query strings (name/value pairs) is sent in the HTTP message body of a POST request:**

```
POST /test/demo_form.asp HTTP/1.1
Host: w3schools.com
name1=value1&name2=value2
```

**Some other notes on POST requests:**

- 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

# Compare GET vs. POST

The following table compares the two HTTP methods: GET and POST.

	GET	POST
BACK button/Reload	Harmless	Data will be re-submitted (the browser should alert the user that the data are about to be re-submitted)
Bookmarked	Can be bookmarked	Cannot be bookmarked
Cached	Can be cached	Not cached
Encoding type	application/x-www-form-urlencoded	application/x-www-form-urlencoded or multipart/form-data. Use multipart encoding for binary data
History	Parameters remain in browser history	Parameters are not saved in browser history
Restrictions on data length	Yes, when sending data, the GET method adds the data to	No restrictions

	the URL; and the length of a URL is limited (maximum URL length is 2048 characters)	
Restrictions on data type	Only ASCII characters allowed	No restrictions. Binary data is also allowed
Security	<p>GET is less secure compared to POST because data sent is part of the URL</p> <p>Never use GET when sending passwords or other sensitive information!</p>	POST is a little safer than GET because the parameters are not stored in browser history or in web server logs
Visibility	Data is visible to everyone in the URL	Data is not displayed in the URL

## Other HTTP Request Methods

The following table lists some other HTTP request methods:

Method	Description
HEAD	Same as GET but returns only HTTP headers and no document body
PUT	Uploads a representation of the specified URI
DELETE	Deletes the specified resource
OPTIONS	Returns the HTTP methods that the server supports
CONNECT	Converts the request connection to a transparent TCP/IP tunnel

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