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HTTP Protocols (system of rules) Network Protocols HTML Computer Networking

Web Development

Why is HTTP protocol called stateless protocol?

Answer



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**Chandrashekhar Singh**, 3 year exp in UI Development.

Updated May 29, 2018

HTTP Protocol stands for Hyper Text Transfer Protocol is also application layer protocol for the WWW. It is the protocol used to convey information of World Wide Web (WWW). HTTP protocol is a stateless and connectionless protocol. HTTP is called as a stateless protocol because each command is request is executed independently, without any knowledge of the requests that were executed before it. It is the protocol used for the web. It is based on a request/response paradigm. In this protocol the communication generally takes place over a TCP/IP protocol.

A stateless protocol does not require the server to retain information or status about each user for the duration of multiple requests.

But some web applications may have to track the user's progress from page to page, for example when a web server is required to customize the content of a web page for a user. Solutions for these cases include:

- the use of HTTP cookies.
- server side sessions,
- hidden variables (when the current page contains a form), and
- URL-rewriting using URI-encoded parameters, e.g., /index.php?session_id=some_unique_session_code.

What makes the protocol stateless is that the server is not required to track state over multiple requests, not that it cannot do so if it wants to. This simplifies the contract between client and server, and in many cases minimizes the amount of data that needs to be transferred. and the Internet is a stateless development environment" is often used. This simply means that the HTTP that is the backbone of the Web is unable to retain a memory of the identity of each client that connects to a Web site and therefore treats each request for a Web page as a unique and independent connection, with no relationship whatsoever to the connections that preceded it.

HTTP Request Methods:

1) GET Method: The Get method is used to getting the data from the server. Get method appends the parameters passed as query string to a URL, in the form of key- value pairs. for example, if a parameter is name = Williams, then this string will be appended in the URL. By default the method is Get.

2) POST Method: The post method is used for sending data to the server. In post method the query string is appended along the request object, they do not get appended in the URL, so parameters transfer in hidden form.

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These three are commonly used methods of jsp while Get and Post methods are most widely used. There are more methods of http protocols which are rarely used by they have been given here for your knowledge.

4) TRACE Method: Trace on the jsp resource returns the content of the resource. Asks for a loopback of the request message, so that the use can see what is being recieved on the other side.

5) DELETE Method: It is used for delete the resources, files at the requested URL

6) OPTIONS Method: It lists the Http methods to which the thing at the requested URL can respond.

7) PUT Method: It put the enclosed information at the requestedURL.

8) CONNECT Method: It connects for the purpose of tunneling.

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2



2



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James Lloyd, works at The SSL Store™

Answered February 28, 2018



Some of the reasons for HTTP to be called stateless protocol are:

- HTTP has HTTP Cookies, which allow server to track the user state, number of connections, last connection, etc.
- It has persistent connections & several requests can be send through same TCP connection.
- Multiple requests can be sent through same HTTP connection & server does not offer any special meaning to their arriving over the same socket. Through performance wise, it is intended to minimize the time/bandwidth that'd otherwise be spent reestablishing a connection for every request.

HTTP is stateless protocol, which means once the transaction ends the connection between the browser and the server is also lost.

If HTTP gets State full protocol it won't be futile. Browser uses single connection to communicate with web server for several requests given to web application, which gives chance to browser window to engage the connections between browser window and web servers to keep them in idle state for very long time. This could result in reaching to maximum connections of web server even though most of the connections in clients are idle.

12.2K views · View 9 upvotes · Answer requested by Sathish Kumar



9



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Nagendra Gupta, Had a course called Computer Networks

Answered April 24, 2018



Originally Answered: Why is HTTP a stateless protocol?

Because the server does not need to store information about any previous conversation for answering a future request. In somewhat technical terms, server does not need to maintain state of any conversation for its working.

strict definition after that.

Initially when HTTP was developed, use cases were simple enough to be served using stateless protocol. like serving static web pages.

But now we use social networks, shopping sites which need to maintain states for working correctly. So HTTP version used now support stateful functions through different tweaks like cookies.

note: I was unclear about what the question intended to ask. why HTTP is said to be stateless or why it was developed as a stateless protocol. Hope this answers both.

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14 | 1

1 comment from Sathish Kumar

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Ravi Yadav, Machine Learning Scientist

Updated July 27, 2016



The server sends requested files to clients without storing any state information about the client. If a particular client asks for the same object twice in a period of a few seconds, the server does not respond by saying that it just served the object to the client instead the server resends the object, as it has completely forgotten what it did earlier. Since a HTTP server maintains no information about the clients, HTTP is said to be a stateless protocol.

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Erik Fair, network engineer, protocol designer; networking since 1981

Updated May 16, 2019



Originally Answered: What is the role of HTTP? Why is it called a stateless protocol?

Because in its original design, [HTTP](#) is a relatively simple file transfer protocol:

17 |

getting me in response,

- disconnect.

There was no relationship (state) maintained between one connection and another, even from the same client. Hence the need for [Browser Cookies](#) to establish that a given HTTP request is related to previous ones, i.e., are part of a "session."

7.8K views · View 17 upvotes · Answer requested by Esra Paksoy



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HTTP → **Hypertext Transfer Protocol**. It is an application protocol for collaborative and distributed systems. This protocol defines how messages are formatted and transmitted. It is an underlying protocol implemented by the **World Wide Web**. It also defines what actions browsers and web servers should take in response to different commands. *HTTP protocol is also known as a **stateless protocol**. The reason is each command is executed independently.* This is the main reason that each it is intimidating to implement websites that react perspicaciously to the user input.

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10



Because HTTP does not maintain any sessions. Each request from a user for a Web page or URL results in the requested pages being served, but without the Web (**HTTP**) server remembering the request later. In other words, there is no recorded continuity. Hence the HTTP uses cookie to change it to a **Stateful** protocol.

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3



Answered September 26, 2016

HTTP is a stateless protocol, in other word the server will forget everything related to client/browser state. Because a stateless protocol does not require the server to retain session information or status about each communications partner for the duration of multiple requests. HTTP is a stateless protocol, which means that the connection between the browser and the server is lost once the transaction ends.

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1



Originally Answered: Are HTTP post requests considered as stateless? If so, why?

You can use any type of HTTP request in a stateless manner, including POST. What makes it stateless, though, is how you handle the request on your server. If you have to use a session on the server, then it isn't stateless. If instead you pass all of the information you need for processing in the HTTP request, then it is stateless.

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6



http protocol does not maintain any information regarding the states of the browser or user. So it is called as a stateless protocol. That is the protocol can't remember what you did in your last web session. But this is overcome using cookies, which maintain states of the users to remember their previous activity.

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HTTP is called a stateless protocol because each command is executed independently, without any knowledge of the commands that came before it. This is the main reason that it is difficult to implement websites that react intelligently to user input. This shortcoming of HTTP is being addressed in a number of new technologies, including ActiveX, Java, JavaScript and cookies.

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Originally Answered: Why is HTTP a stateless protocol?

Hey Sathish! Well http used to be stateless if i am not wrong, http 1 was, but now it does use cookies so its no more stateless. Well it was stateless because may be when it was created intentions were to end the connection between the server and the browser in user's system completely, not saving the extra data.

Hope this helps.

1.7K views · Answer requested by Sathish Kumar

3 comments from Sathish Kumar and more



Its because on arrival of http requests, server does not need to attach any special meaning or handling for the same. Http are the standalone request and have to carry enough info on their own to carry out any required functionality.

Overall due to its functionality as an independent process or transaction which is unrelated to server, its called stateless protocol.

3.5K views

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HTTP is a stateless protocol, which means that the connection between the browser and the server is lost once the transaction ends.

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Look at my answer here: [Why is it said that "HTTP is a stateless protocol"? ↗](#)

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The normal way that HTTP (used to) work is connect, request file, disconnect.

I invented web sessions so that you could have continuity between web pages.

[Brief History of Web Sessions \(95/96\)](#)

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3 Answers Collapsed (Why?)

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