Emily Foglia

Professor Jeffrey Seaman

CMPS 361

17 October 2021

HTTP: Stateless Protocol

HTTP is a stateless protocol. The means that no information is saved or tracked on the state of the connection. Author Ethan Brown explains that when a page is loaded in your browser, neither the server nor your browser has any innate way to know that it's the same browser visiting the same website.

In some cases, HTTP being a stateless protocol is not an issue. A website may not have updating features based on the user, or the developer wants the website to reset on each new visit. If a website does not have an account system or any user-unique features, implementing a "fix" to the stateless protocol is unnecessary. There are, however, many other websites that rely on this normally missing feature to offer the best user experience.

One solution to creating a state is cookies. Cookies are packets of information sent from the server to be stored in the browser for some configurable time frame. It can simply be a unique ID that identifies a browser to create the illusion of a state when the connection is made again. The server will decide what information is contained inside the cookie.

Another solution to creating a state is sessions, which came into popularity during the "cookie scare." Users were turning off cookies, and developers had to come up with another solution to maintain state. Sessions can be implemented with cookies, but other methods such as decorating URLs also exist. The modern method to implement sessions is using "local storage," which allows for the storage of larger amounts of data.

References

Brown, E. (2020). *Web development with Node and Express: Leveraging the JavaScript stack* (2nd ed.). O'Reilly Media.