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WEB 420 RESTful APIs

Discussion 4.1 Stateless vs. Stateful

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The condition of a system at any point in time is called a state. Variables have states because they can change while a value does not change, so it does not have a state. A stateful protocol retains previous session information which allows the application to process subsequent transactions. Stateless architecture retains no information as part of the user’s state. Every single transaction is independent of the server’s state, and it only depends on the request or the system, at that exact moment. Authentication keys and all the necessary information needed for the server to execute and respond to the request must be included in every client request (Jagger, 2022). So, stateful protocol remembers the past information used, while stateless protocol handles every action as if it is being done for the very first time. REST is made to be functionally stateless. Stateless applications are highly scalable while stateful applications don’t scale as well. Historical client data can be stored on the client side with cookie or a GET request can be used to retrieve the client information from the database, but this still means that the application is stateless because the client state is not stored on the server side (Jagger, 2022). So, stateful is when the client state is stored on the server while stateless can be a client state that is stored in a cache, or a cookie, on the client side. The cache will contain some basic client information which the server utilizes to establish historical client information, but every request will then contain all the necessary information that is needed to execute the request on the server. Stateless features include a server design that is simplified, low requirement of resources, and each data packet is independent of each other so there is no dependency on another packet (Difference between stateless and stateful protocols). Stateful features include a server design that is complex, backing storage is needed to store the client data on the server, and consecutive requests/data packets depend on the server state (Difference between stateless and stateful protocols).

References

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