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Week 15 Research Assignment
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Prompts chosen: "What are some other features the REST entails that we didn't cover this week?" and "What is your favorite thing you learned this week?"

"REST is an acronym for Representational State Transfer and an architectural style for distributed hypermedia systems. Roy Fielding first presented it in 2000 in his famous dissertation." The key elements of the REST paradigm are client, server and resource. A client or software runs on a user's device and initiates communication. The server will provide an API to access the data/features while the resource is any content the server can provide the client ex.) video or text file. To access a resource, the client will need to send an HTTP request and the server will generate a HTTP response. These are both considered to be self-descriptive, which means that they contain information on how to interpret/process them (below is a helpful image to show how the REST API works).

A REST request includes 4 essential parts: HTTP method, endpoint, headers and body. The HTTP method includes the CRUD operations that will determine what happens to the resource (I have listed the CRUD operations below and their correlating HTTP verb methods). The endpoint contains a URI (Uniform Resource Identifier) which indicates where/how to find the resource on the internet (The most common endpoint is a URL = Unique Resource Location). Headers store relevant information for the client and server. The most common use for headers is to provide authentication data ex.) API key, name or IP address of a computer/where the server is installed and the info about the response format. Lastly, the body is used to communicate additional information to the server such as data that needs to be added or updated (I also found a helpful visual for how the API request works and attached it below).

My favorite thing that I learned this week was Functional Components. This was my favorite because it is simplified code where the function returns JSX. I like how this is easier to read, write and understand and think it will be very helpful for future applications!
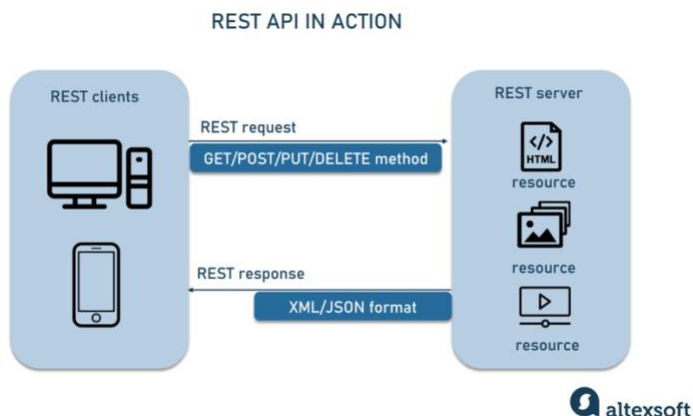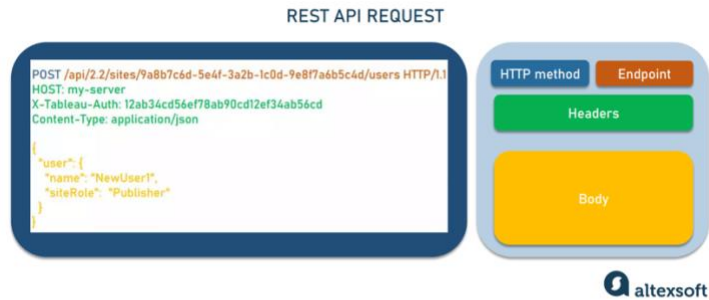
CRUD Operations
Create --- Post
Retrieve --- Get
Update --- Update
Delete --- Delete

REST API REQUEST

REST request for creating a new user where the response will return the ID of the created resource. Source: Tableau API

Resources:

Gupta, L. (2022, April 7). *What is rest*. REST API Tutorial. Retrieved February 1, 2023, from
https://restfulapi.net/

Editor. (2021, March 4). *REST API: Key Concepts, best practices, and Benefits*. AltexSoft.
Retrieved February 1, 2023, from https://www.altexsoft.com/blog/rest-api-design/