



Independent Study

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JWT (Json web tokens)

Json web tokens are primarily used for authentication and authorization for web applications. JWT's are essentially a token defined by an arbitrary alphanumeric string that holds a key for a user that has been authenticated.

Formal Definition: "... A compact and self-contained way for securely transmitting information between parties as a JSON object..."[1]



How it's used

JWT's are generated on the server once the user has either registered or logged in to their application. Once they are generated they are sent as a payload to the client then the client will store this payload in their local storage for future use.

After the client app is able to verify its authenticity, this payload is used in subsequent requests to authenticate the user in place of credentials.



A JWT's Structure

A JWT is made up of three separate parts: a header, a payload, and a signature.

A header consists of two elements: a hashing algorithm marking the creation of the JWT and its type.

The payload is a base 64 encoded JSON object that holds the majority of the JWT; any information, necessary or supplementary, is stored within the payload.

A signature requires the previous two elements and a secret key. It is used primarily to identify the sender.



Why It's Used

Typically, JWTs are used as an API authentication method.

They are widely used in a function called Single Sign On (SSO) as a result of its small overhead and ease of use across domains.

In general, JWTs permit information to be exchanged securely and tampering can easily be identified due to the aforementioned structure.

Sources Cited

- auth0.com. (n.d.). JWT.IO - JSON Web Tokens Introduction. Jwt.io. <https://jwt.io/introduction>
- JWT Authentication: When and How To Use It. (2021, July 2). Atatus Blog - for DevOps Engineers, Web App Developers and Server Admins. <https://www.atatus.com/blog/jwt-authentication-when-and-how-to-use-it/#structure-of-jwt>