## **The Web Authentication Guide Cheatsheet**

|                            | Complexity | Reliance on<br>HTTPS | Protection against |        |                  |  | Taking asso  |
|----------------------------|------------|----------------------|--------------------|--------|------------------|--|--|
|                            |            |                      | CSRF               | Replay | Tampering        | – Use-cases  |  |
| HTTP Basic                 | Easy       | Full                 | No                 | No     | No               | <ul><li>No session management</li><li>Read-only resource</li><li>Backend compatibility</li></ul>       | <ul><li>Hash secrets on server side</li><li>Use with TLS</li></ul>   |
| HTTP Digest                | Medium     | Confidentiality      | No                 | Yes    | Yes <sup>1</sup> | <ul> <li>Need something stronger than Basic<br/>w/ high compatibility</li> </ul>                       | <ul><li>Use full featured libraries</li><li>Use a unique realm</li></ul>   |
| Cookies                    | Easy       | Full                 | No <sup>2</sup>    | No     | No               | Full blown session management  | <ul> <li>Set the correct flags: Secure, HTTP<br/>Only, SameSite</li> <li>Add prefixes for added security<sup>3</sup></li> </ul>  |
| Bearer Tokens              | Easy       | Full <sup>4</sup>    | Yes                | No     | No <sup>4</sup>  | <ul> <li>Limited session management needs</li> <li>OAuth and other backend<br/>integrations</li> </ul> | <ul> <li>Use OAuth for integrations</li> <li>Keep the JWT secret safe</li> <li>Utilize short-lived tokens</li> <li>Consider using access and refresh tokens</li> </ul> |
| Signature<br>Schemes       | Hard       | Confidentiality      | Yes                | Yes    | Yes              | <ul><li>Use on the backend between servers</li><li>Use to provide pre-signed URLs</li></ul>            | <ul><li>Choose your library carefully</li><li>Keep secrets safe</li></ul>  |
| TLS Client<br>Certificates | Hard       | Full⁵                | No                 | Yes    | Yes              | <ul><li>Elevated security requirements</li><li>Use on the backend between servers</li></ul>            | <ul> <li>Harden TLS settings</li> <li>Use strong keys<sup>6</sup></li> </ul>   |

1. Only the request method and URI by default. Modern implementations supporting the "digest" property can protect the request body as well.

- 2. SameSite attribute turns this into a Yes.
- 3. \_\_Secure- and \_\_Host-
- 4. JWT provides integrity protection for the token itself.
- 5. This makes it impossible for an active network attacker to spy on the connection.
- 6. At least 2048 bits for RSA and 256 bits for ECC.

## **SECURITY DROPS**