# Mulhern-Presentation-3.2

# What SOAP is

SOAP is a protocol which includes HTTP (tutorialspoint, 2020).

- XML can be sent with SOAP (tutorialspoint, 2020).

- SOAP can be used to make REST APIs.

- SOAP is used for sending messages with XML (tutorialspoint, 2020).

- SOAP sends data (tutorialspoint, 2020).

- Basically SOAP is a backend framework with HTTP!

# Envelopes

Envelopes in the SOAP protocol are the main component of SOAP (w3schools, 2020).
- Basically XML looks like HTML
- In HTML: there are the HTML and BODY tags.
- The XML: Envelopes is like the BODY tags.
- In XML: the xml tag is like the HTML tag in HTML.
- What envelopes means is it is initializing a new instance of XML.

# Headers

Headers are an area of XML used to define application-level variables (tutorialspoint, 2020).

- Headers are not always needed (tutorialspoint, 2020).
- Headers can not be used and XML will still work (tutorialspoint, 2020).
- Headers are the first element in the SOAP envelope (tutorialspoint, 2020).
- Basically Headers define endpoints and api-keys and stuff.
- Again, headers are not mandatory for XML to run properly.

# Faults and Fault Codes

SOAP has an element called the FAULT element (ORACLE, n.d.).

- If there is more than one FAULT element in an XML document; the compiling of the document will return an error (ORACLE. n.d.)
- The FAULT element is used to show there is an error of some kind (ORACLE. n.d.).
- Again; a Fault Element is optional. (Tutorialspoint, n.d.).
- SOAP Fault Codes range from 500 to 599 (Tutorialspoint, n.d.).
- The fault code returned corresponds to a specific error. (Tutorialspoint, n.d.).

End-to-end data flow of a SOAP API

With SOAP APIs there is a specific endpoint of which a client can get from (Smartbear, 2020).

- There often is a series of information request and response with the client and the server in order to confirm the API can be used.
- This often is called API Keys.
- XML is sent with SOAP API.
- The XML sent may include environment variables.
- XML is also retrieved by an API endpoint.

# References

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