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Assignment 1

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SOAP vs REST

Two key types of web service designs are as follows

1. Simple Object Access Protocol (SOAP)
2. Representational State Transfer (REST)

• SOAP

SOAP is a protocol which was designed before REST and came into picture. The main idea behind designing SOAP was to ensure that programs built on different platforms and programming languages could exchange data in an easy manner.

• REST

This was designed for working with components such as media components, files, or even objects on a particular hardware device. A RESTful service would use the normal HTTP verbs of GET, POST, PUT and delete for working with req. components,

Key Differences :

- SOAP is a protocol whereas REST is an architectural pattern.
- SOAP uses service interfaces to expose its functionality to client applications while REST uses Uniform Services Locators to access to the components on the hardware device.
- SOAP needs more bandwidth for its usage whereas REST doesn't need much bandwidth.
- SOAP only works with XML formats whereas REST works with plain text, XML, HTML and JSON.
- SOAP cannot make use of REST whereas REST can make use of it.

When to Use

SOAP

- Asynchronous processing and subsequent invocation.
- A Formal means of communication.
- Stateful operations

REST

- Limited resources and bandwidth
- Statelessness
- Caching
- Ease of coding

Challenges

- REST lacks security and state.
- SOAP's document size is a great challenge.