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ITWP2600

Chapter 9 Exercise #8

Prompt:

In about 200 words, outline the difference between the Simple Object Access Protocol (SOAP) and the Representational State Transfer (REST) principle as they are used in the creation of Web services. In your answer, discuss the advantages and disadvantages of each.

Answer:

SOAP (Simple Object Access Protocol) and REST (Representational State Transfer) are two distinct approaches for building web services.

SOAP is a protocol that defines a highly structured messaging framework using XML. It supports a range of features such as security (via WS-Security), reliable messaging, and transaction compliance, making it ideal for enterprise-level applications. SOAP can operate over multiple transport protocols, including HTTP and SMTP. However, its complexity and strict standards often lead to increased development time and slower performance due to the processing overhead of XML.

REST, on the other hand, is an architectural style that uses standard HTTP methods (GET, POST, PUT, DELETE) and emphasizes stateless interactions. It commonly uses lightweight data formats like JSON or XML and is often faster and easier to implement than SOAP. RESTful services are scalable and cacheable, making them a popular choice for web and mobile applications. However, REST lacks formal standards for security and transactions, which can limit its use in highly sensitive or complex systems.

In summary, SOAP offers robustness for complex applications, while REST provides speed and simplicity for general web services.

Sources:

https://www.w3schools.com/xml/xml_soap.asp
https://restfulapi.net/
https://www.ibm.com/cloud/blog/soap-vs-rest-explained