**What is the difference between SOAP and REST?**

SOAP and REST are mechanisms for sharing Internet data. For example, imagine that your internal accounts system shares data with the client's accounting system in order to automate billing tasks. The two apps share data using an API that sets communication rules. SOAP and REST are different approaches to designing APIs. The SOAP approach is highly structured and uses XML data format. The REST approach is more flexible and allows applications to exchange data in multiple formats.

**What are the similarities between SOAP and REST?**

To create apps, you can use many different programming languages, designs and platforms. It is difficult to share data among these diverse technologies because they contain different data formats. Both SOAP and REST appeared in an attempt to solve this problem.

You can use SOAP and REST to create APIs or contact points between diverse apps. The term web service and the term API are used interchangeably. However, APIs are the broader category. Web services are a special type of API.

Here are other similarities between SOAP and REST:

• Both describe rules and standards on how applications create, process and respond to data requests from other applications

• Both use HTTP, standard Internet Protocol, in information exchange

• Both support SSL/TLS protocol for secure and encrypted connection

You can use SOAP or REST to create secure and scalable distributed systems that withstand errors.

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|  | REST | SOAP |
| Abbreviation of phrase | Representative State Transfer | Simple Object Access Protocol |
| What is the definition? | Representative Case Transfer (REST) is a design style that specializes in designing contacts. | Simple Access to Objects Protocol (SOAP) is a protocol for communication between applications |
| Design | The REST API interface displays data. | The interface SOAP API displays the process. |
| Transport Protocol | REST only works with HTTPS. | SOAP is an independent protocol that can work with any transfer protocol. |
| Data Coordination | REST supports XML, JSON, regular text, and HTML. | SOAP supports data exchange in XML format only. |
| Performance | REST has faster performance due to small message volume and cache support. | SOAP messages are bigger in size, so the connection is slower. |
| Scalability | Easy to expand REST range. It is stateless, so each message is processed independently of previous messages. | It is difficult to expand the range of SOAP. The server maintains the status by storing all previous messages exchanged with a customer. |
| Safety | REST supports encryption without affecting performance. | SOAP supports encryption with additional overheads. |
| Condition of use | REST is useful in modern applications and in general APIs. | SOAP is useful in old apps and special APIs. |