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| Parameters | SOAP | REST |
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| Full form | It stands for Simple Object Access Protocol | It stands for Representational State Transfer. |
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| Design | It is a standardized protocol for pre-defined rules to follow. | It has an architectural style with loose guidelines. |
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| Statefulness | SOAP is by default statelfull, but it is possible to make this API stateless. | It is stateless i.e., no sever side session. |
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| Approach | It is functional-driven, means that data here is available as services, eg, getUser | It is data-driven, meaning that data is available as resources. |
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| Security | It has WS-security(Web Service Security) (Enterprise-level security) with SSL support. It also has built-in ACID(Atomicity, Consistency, Integrity, Durability) compliance which is a good feature for transactions and that’s why SOAP is used while exchanging sensitive information. | It supports HTTPS and SSL (Secure Sockets Layer) |
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| Caching | SOAP API calls cannot be cached. | REST API calls can be cached. |
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| Performance | It requires more bandwidth and computing power | It requires less resources, and this makes it more powerful. |
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| Messaging Format | It only supports XML format. | It supports various formats like HTML, XML and JSON. |
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| Transfer Protocol | It works on HTTP, SMP, UDP, etc. So, it is recommended | It only works on HTTPS. |
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| JAVA API | JAX-WS is the java API for SOAP web services. | JAX-RS is the java API for REST. |
| Usage with one another | SOAP cannot use REST because SOAP is a protocol and REST has an architectural style. | REST can use SOAP as a protocol for web services. |
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| Exposing methods | SOAP uses WSDL (Web Services Description Language) to expose supported methods and technical details. | REST exposes methods through URIs, there are no technical details. |

REST and SOAP are 2 different approaches to online data transmission. Specifically, both define how to build [application programming interfaces (APIs)](https://www.redhat.com/en/topics/api), which allow data to be communicated between web applications.