Salesforce Apex Integration

Integration:

The process of merging the data and functionality of salesforce with other applications to provide to the users with a centralized platform to access data.

Apex Integration

Apex allows you to integrate with other external services like SOAP and Rest web services using callouts .Users can use a Utility for JSON,xml,and data security.

Json stands for java script Object Notation.json is alight weight format for storing and transporting data.json is often used when data is sent from a server to a webpage.

A)Schoolname{ iris,canber,xyz}

B)Schoolname

{

Iris

Cnaber

xyz

}

Serialize→ means to convert an object into string.

Deserialize→means to convert string→object

Apex callouts come in two flavors.

- **Web service callouts to SOAP[simple object access Protocol] web services use XML, and typically require a WSDL document for code generation.**
    - **It is a light weight protocol used for data interchange between an applications.**
    - **It can work on any programming language or any operating system like window or linux.**
    - **It works on http protocol–is a default protocol used by all the web applications.**
- **HTTP callouts to services typically use REST [Representational state transfer]with JSON.**

WSDL-based callouts apply to SOAP Web services, HTTP callouts can be used with any HTTP service, either SOAP or REST.

What is Apex integration in Salesforce?

Apex **allows you to integrate with external SOAP and REST Web services using callouts**. You can use utilities for JSON, XML, data security, and encoding. A general-purpose utility for regular expressions with text strings is also provided. Invoking Callouts Using Apex.

What is Salesforce integration services?

Salesforce integration services **aim to enable seamless connection of Salesforce solutions to your other business-critical systems**. ScienceSoft applies 13-year experience in CRM services to help companies solve integration challenges of any complexity and build cost-effective Salesforce integrations.

What are the integration tools used in Salesforce?

The Top Salesforce Integration Tools

- To integrate Salesforce with another system, you need an integration tool. ...
- RapidiOnline. ...
- Commercient. ...
- Dell Boomi. ...
- Jitterbit. ...
- Mulesoft. ...

- Orbis. ...
- Tibco Scribe.

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 Service 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 Web Services

SOAP stands for Simple Object Access Protocol. It is a XML-based protocol for accessing web services.

SOAP is a W3C recommendation for communication between two applications.

SOAP is XML based protocol. It is platform independent and language independent. By using SOAP, you will be able to interact with other programming language applications.

Advantages of Soap Web Services

WS Security: SOAP defines its own security known as WS Security.

Language and Platform independent: SOAP web services can be written in any programming language and executed in any platform.

Disadvantages of Soap Web Services

Slow: SOAP uses XML format that must be parsed to be read. It defines many standards that must be followed while developing the SOAP applications. So it is slow and consumes more bandwidth and resource.

WSDL dependent: SOAP uses WSDL and doesn't have any other mechanism to discover the service.

RESTful Web Services

REST stands for REpresentational State Transfer.

REST is an architectural style not a protocol.

Advantages of RESTful Web Services

Fast: RESTful Web Services are fast because there is no strict specification like SOAP. It consumes less bandwidth and resource.

Language and Platform independent: RESTful web services can be written in any programming language and executed in any platform.

Can use SOAP: RESTful web services can use SOAP web services as the implementation.

Permits different data format: RESTful web service permits different data format such as Plain Text, HTML, XML and JSON.

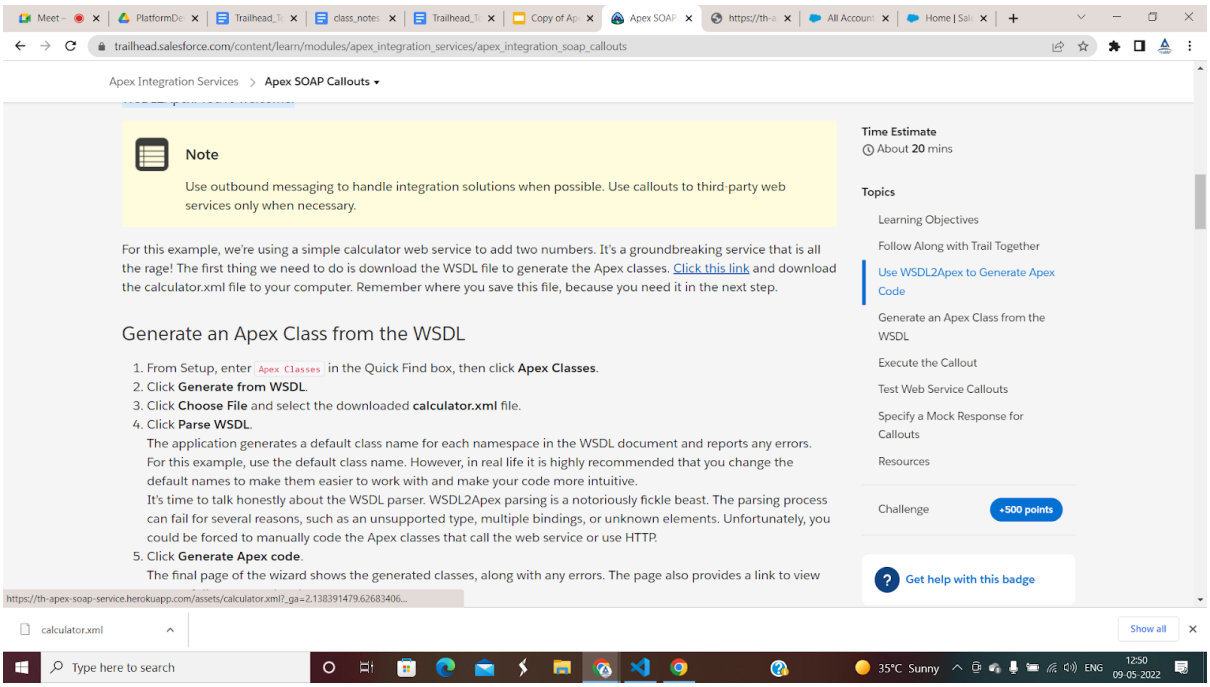
No.	SOAP	REST
1)	SOAP is a **protocol**.	REST is an **architectural style**.
2)	SOAP stands for **Simple Object Access Protocol**.	REST stands for **REpresentational State Transfer**.
3)	SOAP **can't use REST** because it is a protocol.	REST **can use SOAP** web services because it is a concept and can use any protocol like HTTP, SOAP.
4)	SOAP **uses services interfaces to expose the business logic**.	REST **uses URI to expose business logic**.
5)	**JAX-WS** is the java API for SOAP web services.	**JAX-RS** is the java API for RESTful web services.
6)	SOAP **defines standards** to be strictly followed.	REST does not define too much standards like SOAP.
7)	SOAP **requires more bandwidth** and resource than REST.	REST **requires less bandwidth** and resource than SOAP.

8)	SOAP **defines its own security**.	RESTful web services **inherits security measures** from the underlying transport.
9)	SOAP **permits XML** data format only.	REST **permits different** data format such as Plain text, HTML, XML, JSON etc.
10)	SOAP is **less preferred** than REST.	REST **more preferred** than SOAP.

Use WSDL2Apex to Generate Apex Code

In addition to REST callouts, Apex can also make callouts to SOAP web services using XML. **Working with SOAP can be a painful (but necessary) experience.** Fortunately, we have tools to make the process easier.

WSDL2Apex automatically **generates Apex classes from a WSDL document.** You download the web service's WSDL file, and then you upload the WSDL and WSDL2Apex generates the Apex classes for you. The Apex classes construct the SOAP XML, transmit the data, and parse the response XML into Apex objects. Instead of developing the logic to construct and parse the XML of the web service messages, let the Apex classes generated by WSDL2Apex internally handle all that overhead. If you are familiar with WSDL2Java or with importing a WSDL as a Web Reference in .NET, this functionality is similar to WSDL2Apex. You're welcome.


trailhead.salesforce.com/content/learn/modules/apex_integration_services/apex_integration_soap_callouts
Apex Integration Services
Apex SOAP Callouts
Note
Use outbound messaging to handle integration solutions when possible. Use callouts to third-party web services only when necessary.
For this example, we're using a simple calculator web service to add two numbers. It's a groundbreaking service that is all the rage! The first thing we need to do is download the WSDL file to generate the Apex classes. Click this link and download the calculator.xml file to your computer. Remember where you save this file, because you need it in the next step.
Generate an Apex Class from the WSDL
1. From Setup, enter Apex Classes in the Quick Find box, then click Apex Classes.
2. Click Generate from WSDL.
3. Click Choose File and select the downloaded calculator.xml file.
4. Click Parse WSDL.
The application generates a default class name for each namespace in the WSDL document and reports any errors. For this example, use the default class name. However, in real life it is highly recommended that you change the default names to make them easier to work with and make your code more intuitive.
It's time to talk honestly about the WSDL parser. WSDL2Apex parsing is a notoriously fickle beast. The parsing process can fail for several reasons, such as an unsupported type, multiple bindings, or unknown elements. Unfortunately, you could be forced to manually code the Apex classes that call the web service or use HTTP.
5. Click Generate Apex code.
The final page of the wizard shows the generated classes, along with any errors. The page also provides a link to view
Time Estimate
About 20 mins
Topics
Learning Objectives
Follow Along with Trail Together
Use WSDL2Apex to Generate Apex Code
Generate an Apex Class from the WSDL
Execute the Callout
Test Web Service Callouts
Specify a Mock Response for Callouts
Resources
Challenge
+500 points
Get help with this badge
https://th-apex-soap-service.herokuapp.com/assets/calculator.xml?_ga=2.138391479.62683406...
calculator.xml
Show all
Type here to search
35°C Sunny
ENG
12:50
09-05-2022