Web Services Interview Questions

There is given frequently asked Web Services interview questions and answers that has been asked in many companies. Let's see the list of top Web Services interview questions.

1) What is Web Service?

Web Service is a software system for communicating two devices over the network.

2) What are the advantages of web services?

* **Interoperability**: By the help of web services, an application can communicate with other application developed in any language.
* **Reusability**: We can expose the web service so that other applications can use it.
* **Modularity**: By the help of web service, we can create a service for a specific task such as tax calculation etc.

3) What are the different types of web services?

There are two types of web services:

* SOAP
* RESTful

4) What is SOAP?

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

5) What are the advantages of SOAP web services?

* WS Security
* Language Independent
* Platform Independent

6) What are the disadvantages of SOAP web services?

* Slow
* WSDL Dependent

7) What is WSDL?

WSDL stands for Web Services Description Language. It is a xml document containing information about web services such as method name, method parameter etc.

8) What is UDDI?

UDDI stands for Universal Description, Discovery and Integration. It is a XML based framework for describing, discovering and integrating web services. It contains a list of available web services. WSDL is the part of UDDI.

9) What is RESTful web services?

REST stands for REpresentational State Transfer. It is a architectural style. It is not a protocol like SOAP.

10) What are the advantages of RESTful web services?

* Fast
* Language Independent
* Platform Independent
* Can use SOAP.
* Allows different data format.

11) What is the difference between SOAP and REST web services?

|  |  |  |
| --- | --- | --- |
| **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) | SOAP **defines standards**to be strictly followed. | REST does not define too much standards like SOAP. |
| 6) | SOAP **permits XML** data format only. | REST **permits different** data format such as Plain text, HTML, XML, JSON etc. |

12) What is SOA?

SOA stands for Service Oriented Architecture. It is a design pattern to provide services to other application through protocol.

13) What tools are used to test web services?

* **SoapUI tool** for testing SOAP and RESTful web services
* **Poster** for firefox browser
* **Postman** extension for Chrome

**Define Web Service?**  
A web service is a kind of software that is accessible on the Internet. It makes use of the XML messaging system and offers an easy to understand, interface for the end users.  
  
**What is REST and RESTful web services ?**  
REST stands for **REpresentational State Transfer (REST)** its a relatively new concept of writing web services which enforces a stateless client server design where web services are treated as resource and can be accessed and identified by there URL unlikeSOAP web services which were defined by WSDL.  
  
Web services written by apply REST Architectural concept are called RESTful web services which focus on System resources and how state of Resource should be transferred over http protocol to a different clients written in different languages. In RESTfulweb services http methods like GET, PUT, POST and DELETE can can be used to perform CRUD operations.  
  
**What is differences between RESTful web services and SOAP web services ?**  
Though both RESTful web series and SOAP web service can operate cross platform they are architecturally different to each other, here is some of differences between REST and SOAP:  
  
1) REST is more simple and easy to use than SOAP  
2) REST uses HTTP protocol for producing or consuming web services while SOAP uses XML.  
3) REST is lightweight as compared to SOAP and preferred choice in mobile devices and PDA's.  
4) REST supports different format like text, JSON and XML while SOAP only support XML.  
5) REST web services call can be cached to improve performance.  
  
**What is Restlet framework ?**  
Restlet is leading RESTful web framework for Java applications is used to build RESTFul web services it has two part Restlet API and a Restlet implementation much like Servlet specification. There are many implementation of Restlet framework available you just need to add there jar in your classpath to use them. By using Restlet web framework you can write client and server.  
  
**What is Resource in REST framework ?**  
it represent a "resource" in REST architecture. on RESTLET API it has life cycle methods like init(), handle() and release() and contains a Context, Request and Response corresponding to specific target resource. This is now deprecated over ServerResource class and you should use that. see Restlet documentation for more details.  
  
**Can you use Restlet without any web-container ?**  
Yes, Restlet framework provide default server which can be used to handle service request in web container is not available.  
  
**What are the tools used for creating RESTFull web services ?**  
You can use AJAX(Asynchronous JavaScript with XAML) and Direct Web Removing to consume web serives in web application. Both Eclipse and NetBeans also supported development of RESTFul services.  
  
**How to display custom error pages using RestFull web services ?**  
In order to customize error you need to extend StatusService and implement getRepresentation(Status, Request, Response) method with your custom code now assign instance of your CustomStatusService to appropriate "statusService property".  
  
**Which HTTP methods are supported by RestFull web services ?**  
Another common REST interview questioning RESTFul web service each Resource supports GET, POST, PUT and DELETE http methods.GET is mapped to represent(), POST - acceptRepresentation(), PUT- storeRepresentation and DELET for rmeoveRepresentation.  
  
**What is difference between top-down and bottom-up approach of developing web services ?**  
In top-down approach first WSDL document is created and than Java classes are developed based on WSDL contract, so if WSDL contract changes you got to change your Java classes while in case of bottom up approach of web service development you first create Java code and then use annotations like @WebService to specify contract or interface and WSDL field will be automatically generated from your build.  
  
**Define SOAP?**  
SOAP is an XML based protocol to transfer between computers.  
  
**Define WSDL?**  
It means Web Services Description Language. It is basically the service description layer in the web service protocol stock. The Service Description layer describes the user interface to a web service.  
  
**Differentiate between a SOA and a Web service?**  
SOA is a design and architecture to implement other services. SOA can be easily implemented using various protocols such as HTTP, HTTPS, JMS, SMTP, RMI, IIOP, RPC etc. While Web service, itself is an implemented technology. In fact one can implement SOA using the web service.  
  
**Discuss various approaches to develop SOAP based web service?**  
We can develop SOAP based web service with two different types of approaches such as contract-first and contract-last. In the first approach, the contract is defined first and then the classes are derived from the contract while in the later one, the classes are defined first and then the contract is derived from these classes.  
  
**If you have to choose one approach, then what will be your choice?**  
In my point of view, the first approach that is the contract-first approach is more feasible as compared to the second one but still it depends on other factors too.  
  
**What are the types of information included in SOAP header?**  
Header of SOAP contains information like that,  
1. In SOAP header client should handle authentication and transaction.  
2. The SOAP message should process by client.  
3. EncodingStyle is also has in header.  
  
**What are the disadvantages of SOAP?**  
Some disadvantages .  
1. It is much slower than middleware technologies.  
2. Because we used HTTP for transporting messages and not use to defined ESB or WS-Addressing interaction of parties over a message is fixed.  
3. Application protocol level is problematic because usability of HTTP for different purposes is not present.