

### 1) Explain what is REST and RESTFUL?

REST represents REpresentational State Transfer; it is a relatively new aspect of writing web API.

RESTFUL is referred for web services written by applying REST architectural concept are called RESTful services, it focuses on system resources and how state of resource should be transported over HTTP protocol to different clients written in different language. In RESTFUL web service HTTP methods like GET, POST, PUT and DELETE can be used to perform CRUD operations.

### 2) Explain the architectural style for creating web API?

The architectural style for creating web api are

- HTTP for client server communication
- XML/JSON as formatting language
- Simple URI as the address for the services
- Stateless communication

### 3) Mention what tools are required to test your web API?

SOAPUI tool for SOAP WS and Firefox “poster” plugin for RESTFUL services.

### 4) Mention what are the HTTP methods supported by REST?

HTTP methods supported by REST are:

- **GET:** It requests a resource at the request URL. It should not contain a request body as it will be discarded. Maybe it can be cached locally or on the server.
- **POST:** It submits information to the service for processing; it should typically return the modified or new resource
- **PUT:** At the request URL it update the resource
- **DELETE:** At the request URL it removes the resource
- **OPTIONS:** It indicates which techniques are supported
- **HEAD:** About the request URL it returns meta information

### 5) Mention whether you can use GET request instead of PUT to create a resource?

No, you are not supposed to use POST or GET. GET operations should only have view rights

### 6) Mention what are resources in a REST architecture?

Resources are identified by logical URLs; it is the key element of a RESTful design. Unlike, SOAP web services in REST, you view the product data as a resource and this resource should contain all the required information.

## 7) Mention what is the difference between AJAX and REST?

### AJAX

- In Ajax, the request are sent to the server by using XMLHttpRequest objects. The response is used by the JavaScript code to dynamically alter the current page
- Ajax is a set of technology; it is a technique of dynamically updating parts of UI without having to reload the page
- Ajax eliminates the interaction between the customer and server asynchronously
- REST requires the interaction between the customer and server

### REST

- REST have a URL structure and a request/response pattern the revolve around the use of resources
- REST is a type of software architecture and a method for users to request data or information from servers
- REST requires the interaction between the customer and server

## 7) Mention some key characteristics of REST?

Some key characteristics of REST includes

- REST is stateless, therefore the SERVER has no state (or session data)
- With a well-applied REST API, the server could be restarted between two calls as every data is passed to the server
- Web service mostly uses POST method to make operations, whereas REST uses GET to access resources

## 8) Mention what are the different application integration styles?

The different integration styles include

- Shared database
- Batch file transfer
- Invoking remote procedure (RPC)
- Swapping asynchronous messages over a message oriented middle-ware (MOM)

## 9) Explain how JAXB related to RESTful web API?

JAXB stands for java arch for XML binding.

**10) Mention what is the difference between PUT and POST?**

“PUT” puts a file or resource at a particular URI and exactly at that URI. If there is already a file or resource at that URI, PUT changes that file or resource. If there is no resource or file there, PUT makes one

POST sends data to a particular URI and expects the resource at that URI to deal with the request. The web server at this point can decide what to do with the data in the context of specified resource

PUT is idempotent meaning, invoking it any number of times will not have an impact on resources.

However, POST is not idempotent, meaning if you invoke POST multiple times it keeps creating more resources

**11) Mention which markup language can be used in restful web api?**

JSON and XML are the two markup language that can be used in restful web api

**12) Mention what is the difference between RPC or document style web services? How you determine to which one to choose?**

In document style web services, we can transport an XML message as part of SOAP request which is not possible in RPC style web service. Document style web service is most appropriate in some application where XML message behaves as document and content of that document can alter and intention of web service does not rely on the content of XML message.

**13) Mention what is JAX-WS and JAX-RS?**

Both JAX-WS and JAX-RS are libraries (APIs) for doing communication in various ways in Java. JAX-WS is a library that can be used to do SOAP communication in JAVA, and JAX-RS lets you do the REST communication in JAVA.

**14) List out the tools or API for developing or testing web api?**

Testing tools for web services for REST APIs includes

- Spring REST web service using MVC
- Jersey API
- CFX
- Axis
- Restlet,

**15) Mention what is the difference between SOAP and REST?****SOAP**

- SOAP is a protocol through which two computer communicates by sharing XML document
- SOAP permits only XML
- SOAP based reads cannot be cached
- SOAP is like custom desktop application, closely connected to the server
- SOAP is slower than REST
- It runs on HTTP but envelopes the message

**REST**

- Rest is a service architecture and design for network-based software architectures
- REST supports many different data formats
- REST reads can be cached
- A REST client is more like a browser; it knows how to standardized methods and an application has to fit inside it
- REST is faster than SOAP
- It uses the HTTP headers to hold meta information

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