
Restful Web Services Interview Questions and Answers

Q1. What are RESTful webservices?

Web services based on REST Architecture are known as RESTful web services. These web services use HTTP methods and the concept of REST architecture. A RESTful web service usually defines a URI, Uniform Resource Identifier a service, representation such as JSON and set of HTTP Methods.

Q2. What is differences between RESTful web services and SOAP web services ?

Though both RESTful Web Services and SOAP web service can operate cross platform they are architecturally different. Some of the 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.

Q3. What is Resource in REST framework ?

it represents a "resource" in REST architecture. In REST API it has life cycle methods like init(), handle() and release(). Context, Request and Response corresponding to specific target resource. This is now deprecated over ServerResource. see Restlet documentation for more details.

Q4. What are important features of Restful web services?

Some important features of Restful web services are:

Resource identification through URI: Resources are identified by their URIs (typically links on internet). So, a client consumes RESTful Web Services using the URIs of the resources (same as you put a website address in the browser's address bar to get representation as response).

Uniform interface: Resources are manipulated using a fixed set of four create, read, update, delete operations:

Client-Server: A clear separation of concerns is the reason behind this constraint. Separating concerns between the client and server improves portability in the Client and Scalability of the server components.

Stateless: each request from client to server must contain all the information necessary to understand the request. No advantage of any stored context on the server.

Cache: to improve network efficiency responses must be capable of being labeled as cacheable or non-cacheable.

Named resources – the system is comprised of resources which are named using a URI.

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to progress from one state to another.

Layered components – intermediaries, such as proxy servers, cache servers, gateways, etc, can be inserted between the client and server to support performance, security, etc.

Self-descriptive messages: Resources are decoupled from their representation so that their content can be accessed such as HTML, XML, plain text, PDF, JPEG, JSON, and others

Q5. What are HTTP methods that can be used in Restful web services?

RESTful web services use HTTP protocol methods for the operations they perform.

Some important Methods are:

GET : It defines a reading access of the resource without side-effects. This operation is idempotent i.e. they can be repeated without changing the result

PUT : It is generally used for updating resource. It must also be idempotent.

DELETE : It removes the resources. The operations are idempotent i.e. they can get repeated without leading to any error.

POST : It is used for creating a new resource. It is not idempotent.

Q6. What are the tools used for creating RESTFull web services ?

You can use AJAX (Asynchronous JavaScript with XML) and Direct Web Remoting to consume web services in Java and NetBeans also supported development of RESTful services.

Q7. What do you mean by Idempotent and which HTTP methods are idempotent?

Idempotent means result of multiple successful request will not change state of resource after initial application. For example : Delete is idempotent method because when you first time use delete, it will delete the resource (if it exists) that, all other request will have no result because resource is already deleted. Get, put and delete are HTTP Idempotent methods.

Q8. What are differences between Post and Put Http methods?

POST : It is used for creating a new resource. It is not idempotent.

PUT : It is generally used for updating resource. It is idempotent.

Idempotent means result of multiple successful request will not change state of resource after initial application.

Q9. What is statelessness in RESTful Webservices?

As per REST architecture, a RESTful web service should not keep a client state on server. This restriction is called statelessness. It is the responsibility of the client to pass its context to server and then server can store this context to process client's request. For example, session maintained by server is identified by session identifier passed by the client.

Q10. What are the advantages of statelessness in RESTful Webservices?

Following are the benefits of statelessness in RESTful web services

Web services can treat each method request independently. Web services need not to maintain client's previous state. As HTTP is itself a stateless protocol, RESTful Web services work seamlessly with HTTP protocol.

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then interpret to get the client's state in case client interactions are to be taken care of.

Q12. What are the best practices for caching?

Always keep static contents like images, css, JavaScript cacheable, with expiration date of 2 to 3 days. Never keep

Dynamic contents should be cached for few hours only.

Q13. 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) where you assign your custom code now assign instance of your CustomStatusService to appropriate "statusService property".

Q14. What happens if RestFull resources are accessed by multiple clients ? do you need to make it thread-safe?

Since a new Resource instance is created for every incoming Request there is no need to make it thread-safe or multiple client can safely access RestFull resources concurrently.

That's all on REST interview questions , I will add couple of more REST Interview questions whenever I got them

Q15. What is JAX-RS?

Java API for RESTful Web Services (JAX-RS), is a set of APIs to develop REST service. JAX-RS is part of the Java EE 6 specification and helps to develop REST web application easily.

Q16. What are REST frameworks that you are aware of and which can be used to create Restful webservice

There are multiple Rest framework that can be used to create Restful web services such as

- Jersey
- RestEasy
- Restlet
- CFX
- Spring Rest webservises

Q17. What is addressing in RESTful webservices?

Addressing refers to locating a resource or multiple resources lying on the server. It is analogous to locate a post

Q18. What are important constraints for a RESTful Web Service?

The five important constraints for RESTful Web Service are

- 1.Client – Server : There should be a service producer and a service consumer.
- 2.The interface (URL) is uniform and exposing resources. Interface uses nouns (not actions)
- 3.The service is stateless. Even if the service is called 10 times, the result must be the same.
- 4.The service result should be Cacheable. HTTP cache, for example.
- 5.Service should assume a Layered architecture. Client should not assume direct connection to server – it might have a middle layer – cache.

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It should return only HTTP Header, no Body and should be read only.

Q20. Which type of Webservices methods are to be read only?

GET operations are read only and are safe.