There are two type of web services : Rest and Soap

**Rest Web service:**

Tutorial link: https://www.youtube.com/watch?v=Pjo14AiP1wo&list=PLVlQHNRLflP\_qE5zYOhmwwSiPfH13f3Gx&index=2

JSON: java script object notation

XML : extended markup language

JSON: its leight weight process

**Difference between Web application and web service:**

In case of web application, consumer must be a browser but in case of web service consumer will be another application. As we know Web service is a way to communicate between the two applications over the network.

SOAP: Simple object access protocol

REST: Representational State Transfer.

Major difference between the XML over JSON

XML is a heavy weight format and occupied more space. It’s also required high level bandwidth to work with this format

That’s why in mobile application used JSON format.

JSON is light weight format and occupied less space.

Need to download the jersey jar. To work for rest web service. Make google search "jersey rest API download".

Most popular tool to test REST web service is postman.

Two implementation is used with the rest web service one is jersey implementation developed by Sun and another one is by JBOSS implementation.

In jersey implementation to invoke the rest web service below servlet container need to configured in DD (web.xml)

Servlet Container: org.glassfish.jersey.servlet.ServletContainer

URL pattern: should be /rs/\*, rs indicate this is related to web service request, because some time one single application support web application and web service both so just differentiate the URL pattern

Configured init-param attribute in web.xml.

Jersey packages config path: jersey.config.server.provider.packages

Value for the custom package is: Path for the package which contain the services: "azt.ws" custom package.

**JAX - RS injection:**

Means consumer will send some data to the provider and it will give response back to client. So sending data to the provider is called injection.

**Different approaches to send (inject) the data to the provider:**

@PathParam: In this injection we pass the data as /firstinput/secondinput and so on means, after the proper URL

All inputs will be pass through the / (slash)

@QueryParam: in this each input parameter will pass with the param\_nam=param\_value & separator used between the two inputs

Signature <url till webservice class>/<method\_name>? <all inpputs which required for this method>

@MatrixParam : in this ;(semi colon used after each input ) insted & and also after method name also.

@FormParam : In this case we will create a html form and submit the request to rs service

-@HeaderParam: Need to complete

-@BeanParam: Need to complete

-@CookieParam: Need to complete

In REST methods are called as resources and URL is called as URI

REST web service worked on top of the http protocol.

**Rest web service interview question:**

<https://www.softwaretestinghelp.com/restful-web-services-interview-question/>

* HTTP protocol is used in REST web services, HTTP standard methods are used to access resources in Restful web service architecture.
* Just like we require address with postal code to reach any person, in the same way, 'Addressing' locates resources that are present on the server for the purpose of hosting web services. This is usually done with URI i.e. Unified Resource Identifier.

* HTTP protocol plays a role communication between client and server through http request and response method.
* HTTP request and HTTP response core component

HTTP request core component

* **Verb**: Includes methods like GET, PUT, POST, etc.
* Uniform Resource Identifier for identifying the resources available on the server.
* HTTP Version for specifying the HTTP version.
* HTTP Request header for containing the information about the data.
* HTTP Request body that contains the representation of the resources in use.

**The core components that come under HTTP Response are:**

* **Request Code:** This contains various codes which determine the status of the server response.
* HTTP Version for specifying the HTTP version.
* HTTP Response header for containing the information about the data.
* HTTP Response body that contains the representation of the resources in use.
* The request data which is present in the body part of every HTTP message is referred as ‘Payload’.  In Restful web service, the payload can only be passed to the recipient through POST method.
* Some of HTTP methods with description

**GET:** This is a read only operation which fetches the list of data on the server.

**PUT:** This operation is used for the creation of any new resource on the server.

**POST:** This operation is used for updating an old resource or for creating a new resource.

**DELETE:** As the name suggests, this operation is used for deleting any resource on the server.

**OPTIONS:** This operation fetches the list of any supported options of resources that are available on the server.

**Some of the HTTP status codes with their meaning are as follows:**

**Code 200:** This indicates success.

**Code 201:** This indicates resource has been successfully created.

**Code 204:** This indicates that there is no content in the response body.

**Code 404:** This indicates that there is no method available.