**REST Assured:**

What is REST?

Any web service can be implemented by using SOAP and REST.

A web service that communicates information between two applications using REST architecture called a Restful web service.

REST (Representation State Transfer) is an architectural style. It defines a set of principles to be followed while designing a service for communication between two applications.

When these principles are applied while designing a web service for client service interaction we get RESTful web service.

What are the principals a web service should follow of REST architecture?

**Uniform Interface:**

**Resource**: In terms of REST everything is resource. For ex if we have employee database stored, then employee, department, role everything is a resource.

**URI**: Any resource or data can be accessed by URI. Suppose we want to fetch employee data then URI will be host machine URL and employee like <http://example.com/employees>, to get one particular employee data [http://example.com/employees/{id}](http://example.com/employees/%7bid%7d). Now to get all employees from a particular department URI will be <http://example.com/departments/123/employees>

**HTTP**: There are multiple methods which we can use along with URI like:

GET, POST, DELETE, PUT

So uniform interface talks about identification of resources, which can be done by using URI along with HTTP methods.

Statelessness: In REST all client-server communications are stateless means server does not have any state information of a system and a client has to send complete request every time means it has to be complete and should not depend on previous requests.

Caching: Caching happens at client side, server tells client which information needs to be cached by client. This information is sent in cache-control header.

Layering: Multiple layers can exists between client and server. For ex proxy or caching. We can create a new caching service between client and server which can store all server response for an hour to improve performance.

What is Rest Assured?

--It is java library and used to test Restfull web services.

--To test JSON and XML based web services.

--Support POST,GET,PUT,DELETE,OPTIONS, PATCH, HEAD etc methods.

--It is implemented in Groovy.