Web Service : Giving the Service for web application when two application running using different technologies.

Java is platform independent but language dependent.

Amazon :

Java (Servlet/JSP)

	Payment	
	Paypal	.net
	Paytm	python
XML/	Google pay	node js
JSON	Credit card / Debit card	php

XML : eXtensible markup of language

JSON : JavaScript Object notation

```
Employee emp = new Employee();
emp.setId(100);
emp.setName("Steven");
emp.setSalary(34000);
```

XML Format

```
<Employee>
    <Id>100</Id>
    <Name>Steven</Name>
    <Salary>34000</Salary>
</Employee>
```

JSON Format

```
{"id":100,"name":"Steven","salary":34000}
```

Mainly divided into 2 parts.

1. SOAP web service : In SOAP Web Service we can consume and produce the data only in the format of XML. Simple object access protocol. SOAP is base upon SOA (Service Oriented architecture).
2. Rest full web service : In Rest full web service we can consume and produce the data in any format base upon application requirement. Like html, text format, xml format, json format, media format etc. Rest full web service is architecture style which help to expose our resource as web service.

Rest Full Web service is a concept.
Implementation of Rest full web service is

JAX_RS : Java API for XML Rest full web service
Spring framework or Spring boot

Servlet
JSP

We need to replace servlet program by Rest Full web service.
Using JAX_RS.

Create dynamic web project with version 2.5 and convert this project to maven.
Then add dependencies

```
   <dependencies>

<dependency>
   <groupId>javax.activation</groupId>
   <artifactId>activation</artifactId>
   <version>1.1.1</version>
</dependency>
<dependency>
<groupId>org.glassfish.jersey.core</groupId>
<artifactId>jersey-server</artifactId>
<version>2.27</version>
</dependency>
<dependency>
<groupId>org.glassfish.jersey.containers</groupId>
<artifactId>jersey-container-servlet</artifactId>
<version>2.27</version>
</dependency>

<dependency>
<groupId>org.glassfish.jersey.inject</groupId>
<artifactId>jersey-hk2</artifactId>
<version>2.27</version>
</dependency>


 <dependency>
```

```
    <groupId>javax.xml.bind</groupId>
    <artifactId>jaxb-api</artifactId>
    <version>2.3.0</version>
</dependency>

<dependency>
    <groupId>org.glassfish.jersey.media</groupId>
    <artifactId>jersey-media-json-jackson</artifactId>
    <version>2.22.2</version>
</dependency>

  </dependencies>
```

Now we need to add pre defined servlet ie front controller.
Front controller is a type of design pattern which control all controllers in the application.

If we want to make normal class as Rest full web service we need to write few pre defined annotation

1. @Path

Through browser we can check only get method we can't test post, put , delete or other

So we need rest api resting tool.

Post man client

Get method

Get all resource details

1. Query param

   URL?key=value;

2. Path param

   URL/value