Index :

1. About API
2. Type of API
3. Response code/error with description
4. API Testing
5. Testing using POSTMAN
6. Testing using Rest-Assured

**About API**

**API** : Application Programming Interface

**Definition** :

It is mediator that allows two application to talk to each other.

When you use application on your mobile phone, the application connects to internet and send data to server **-->** the server then retrieves that data, interprets it, performs the necessary action and sends it back to your phone **-->** The application then interprets that data and presents you with the information you wanted in a readable way. This is what an API is – all of this happens via API.

Front-End API Database

API contains the business logic of an application

Ex. Make My Trip, Real life Example is Restaurant Waiter is the API who communicate to customer and Cook.

**WEB Service VS API**

The web services are the implementation of APIs to communicate between two application over the network usually it is http or https

Web services needs a network, API does not

All web services are API, but All APIs are not web services

**Types of WEB Services API**

**SOAP: Simple Object Access Protocol**

**REST: Representational State Transfer.**

**Difference:**

|  |  |
| --- | --- |
| SOAP | REST |
| It is protocol | It is Architectural style |
| Data pass is in only XML format | Data pass is plain txt, HTML, XML , JSON etc |
| SOAP can not make use of REST | REST can make use of SOAP |
|  |  |
|  |  |
|  |  |
|  |  |

**Rest API Method**

**GET: Retrieve**

**POST: Create**

**PUT: Update**

**DELETE: Delete**

**PATCH: Update particular / specific data**

**Content-Type**

What type of data API end-point will be understand or what type of data format you request.

Application/json

Application/xml

**Example:**

<https://reqres.in/api/users?page=2>

Protocol **server path** Resource path **parameter**

**API Testing**

Testing business logic called as API Testing

To check API, return the correct response

* To check headers
* To check Status code
* To check body

**API Testing Type**

* To check Functionality and Behavior
* Performance and Reliability
* Security

**Tool for API Testing**

* POSTMAN:
* Rest Assured : it is library and use it on java program
* SOAP UI: Paid tool
* JMeter : used for load testing and performance testing.

**Pre-Requisites for API Testing.**

* API documentation
* Test scope
* Tool