API(Application programming interface)

API allows the applications to access data and interact with another application. An API delivers a user request to a system and sends the system’s response back to a user.

REST API - Representational stateless transfor

Rest provides a set of rules to build an api. Developers follow those rules while implementing APIs in their programs. Rest uses Json language to send response to requests.

Client sends a request to the server through the internet by using an HTTP request.

HTTP request contains

1. URl

2. Request

3. Header

4. Body

1.URL

[http://example.com/search/books/?name=’things’](http://example.com/search/books/?name)

In above the one with green is request protocol, part in orange is address of system , blue one is path parameter and the last(red) is query parameter

Note: In rest there is a term called resources it defines what resource a client looking(path)

2.Request

1.GET - this request is used to retrieve the data from applications

2. POST - Post method is used to send the data to application

3.PUT - By using put client can update the information in application

4.DELETE - delete is used to delete data in system

3.Header

Header contains data related to the request .

4. Body

Contains the information in json or xml format

HTTP response

The response from the server to the client request

1.Status code

Status code contains the details whether the request is processed, any errors etc

1.200 ok- the request is processed and the response is sent successfully

2.400 - bad request

3.401 - unauthorized

4.403-forbidden

5.404 - not found

6.500 - internal server error

2.Header

Contains details about response

3.Body

Response data of a request

Simple Object Access Protocol(SOAP)

Soap follows a standard principles to develop an api. While sending a request to a server client can only send in a post method. Soap uses xml format. The message contain

Soap envelope , header and body.

Example:

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">

<soap:Header>

</soap:Header>

<soap:Body>

<m:GetUser>

<m:UserId>123</m:UserId>

</m:GetUser>

</soap:Body>

</soap:Envelope>