

#### Q. Difference between SOAP and REST

- 1) SOAP stands for Simple Object Access Protocol where REST stands for Representational State Transfer
- 2) SOAP is a protocol where REST is an architectural style
- 3) SOAP can't use REST but REST can use SOAP
- 4) SOAP uses services interfaces to expose the business logic where REST uses URI to expose business logic
- 5) If we want to develop SOAP webservice using java then we need to use JAX-WS API but if we want to develop REST webservice using java then we need to use JAX-RS API
- 6) SOAP requires more bandwidth and resource than REST. REST requires less bandwidth and resource than SOAP.
- 7) SOAP allows only XML data format where REST supports different formats like Plain text, HTML, XML, JSON
- 8) SOAP defines its own security. RESTful web services inherit security measures from the underlying transport
- 9) SOAP is less preferred than REST whereas REST is more preferred than SOAP

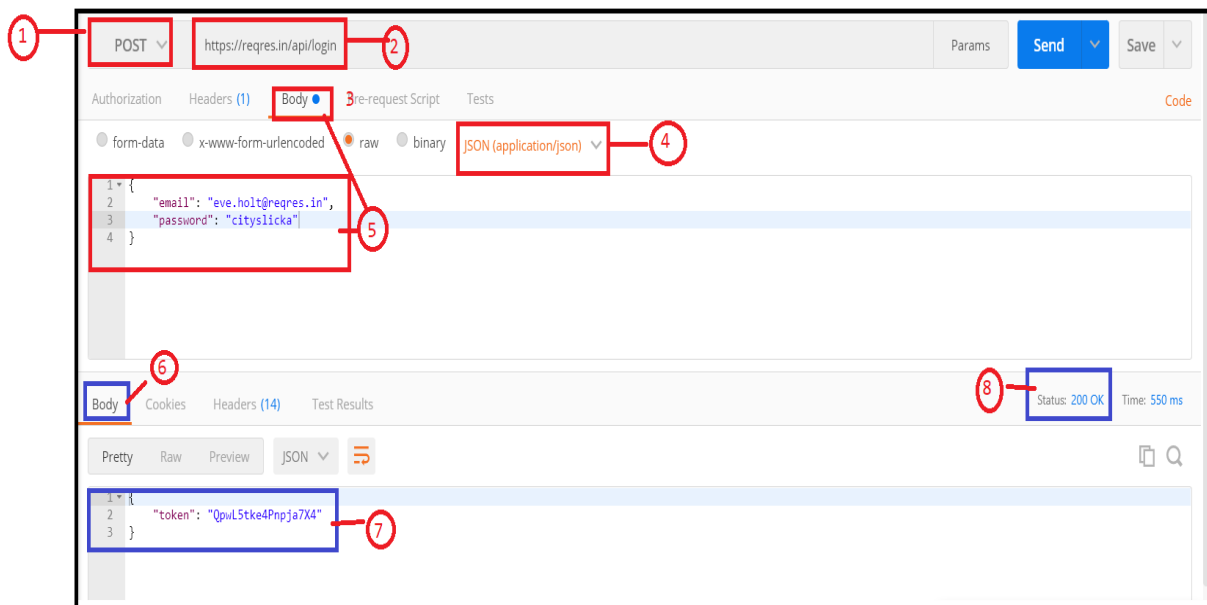
#### Q. How to Test RestFull Webservice

-> To Test RestFull webservice we have different tools like

- 1) Soap UI
- 2) Postman
- 3) RestAssured

-> Webservice Testing Using Postman

- 1) Select HTTP method  
HTTP protocol has provided different methods for different purposes
  - a) GET method: This method is used to fetch data
  - b) POST method: To Create new resource
  - c) PUT method: To update/replace resource
  - d) DELETE method : To Delete the resource
  - e) PATCH method: To update the resource



1 -HTTP Method and we have different HTTP methods  
Like

- i) GET
- ii)PUT
- iii)POST
- iv)DELETE
- v)PATCH

- I) GET is used to fetch data
- ii) PUT is used to update and replace
- iii) POST is used to insert data
- iv) DELETE is used to delete
- v) PATCH is used to update

2 https://reqres.in/api/login

This is called end point URI

3 is called Request Body

4 is called Request Content type -either JSON,XML HTML or Plain Text

5 is called Request Payload and it may be JSON XML HTML or Plain Text

6 is called Response Body

7 is called Response Payload and it may be JSON XML HTML or Plain Text

8 is called HTTP status code

-> Rules for JSON Syntax

Rule 1: Curly braces should be used hold objects

Square brackets are used to hold arrays

Rule 2: Data should be in key/value pairs

Key always enclosed in double quote

If value is String type then we need to use double quote

key and value should be separated by colon :

Example

```
{
  "coverNoteNo": "HA-100123"
}
valid
```

```
{
  coverNoteNo: "HA-100123"
}
```

Invalid because key is not enclosed in double quote

Rule 3: If we are using multiple key-value pair then first key-value pair should be separated from another key-value pair using comma

Example

```
{
  "coverNoteNo": "HA-100123",
  "customerName": "Kartik",
  "placeOfAccident": "Nashik",
  "vehicalRegNo": "MH-12-P-4001"
}
Valid Format
```

```
{
  "coverNoteNo": "HA-100123"
  "customerName": "Kartik"
  "placeOfAccident": "Nashik"
  "vehicalRegNo": "MH-12-P-4001"
}
Invalid format
```

Rule 4: For last key-value pair comma is not required by mistake if we use comma then we will get error.

```
{
  "coverNoteNo": "HA-100123",
  "customerName": "Kartik",
  "placeOfAccident": "Nashik",
  "vehicalRegNo": "MH-12-P-4001",
  "licenNo": "MH-14-2011-0062821",
  "accidentDate": "17-May-2022"
}
```

Valid Format

```
{
  "coverNoteNo": "HA-100123",
  "customerName": "Kartik",
  "placeOfAccident": "Nashik",
  "vehicalRegNo": "MH-12-P-4001",
  "licenNo": "MH-14-2011-0062821",
  "accidentDate": "17-May-2022",
}
```

Invalid Format

Rule 5: If we are sending multiple objects then we need to use square brackets and one object must be separated from another using comma

Example

```
[
  {
    "claimNo": "1026",
    "delearFlag": "HONDA"
  },
  {
    "claimNo": "1029",
    "delearFlag": "HONDA"
  }
]
```

## HTTP status code

1xx series is for information purpose

2xx: series is for Successful

200 series

i) 200 OK

ii) 201 Created

When we are using POST method to create a resource in that case if resource is successfully created then we need to return status code as 201 Created

iii) 204 No Content

When we are deleting resource with the help of DELETE method then on successful delete we need to return status code 204

4xx: series is Client Error

i) 400 Bad Request

If request Payload is not in proper format then we will get 400 Bad Request

ii) 401 Unauthorized

If application requires credentials and if we have not provided credentials or provided credentials are wrong then we will get 401 Unauthorized

iii) 403 Forbidden

You are valid user of application but you don't have permission on particular page or action

iv) 404 Not Found

If requested page or resource is not available then we will get 404 page not found

v) 405 Method Not Allowed

At server side to handle a request we have used some method and in the request we are using different method then in that case we will get 405 Method not allowed

vi) 406 Not Acceptable

Suppose, client is expecting response in xml format but server is sending response in JSON format in that case we will get 406 Not Acceptable

vii) 407 Proxy Authentication Required

You must authenticate with a proxy server before this request can be served

viii) 415 Unsupported Media Type

Suppose, server is expecting request in xml format but client is sending request in JSON format in that case we will get 415 Unsupported Media Type

5xx: Series give Server Error information

1) 500 Internal Server Error

While processing request if there is an exception and if that exception is not handled properly then we will get 500 Internal Server Error

2) 502 Bad Gateway

If we are sending request from A server to B server through the Gateway and A server receives invalid response from B server then we will get this status code

3) 503 Service Unavailable

If server is temporarily overloading or down.

504 Gateway Timeout

The gateway has timed out.

505 HTTP Version Not Supported

The server does not support the "http protocol" version

