

## **1.What are Micro services?**

Micro services are an architectural and organizational approach to software development where software is composed of small independent services that communicate over well-defined APIs.

These services are owned by small, self-contained teams.

## **2.How to write Test cases for API Testing?**

- a) Validate the keys with the Min. and Max range of APIs (e.g maximum and minimum length)
- b) Keys verification. If we have JSON, XML APIs we should verify it's that all the keys are coming.
- c) Have a test case to do XML, JSON Schema validation.
- d) Verify the Parse the Response data
- e) Verify the JSON Schema validation, Verify the Field Type, Verify the Mandatory Fields
- f) Valid Response headers & Negative Testcases response
- g) Verify that how the APIs error codes handled.
- h) Verify the response HTTP status code.

## **3. Debugging in API Testing?**

- a) Get Information on the Request and Response
- b) Identify the Problem Area
- c) Discuss with the development team members if server error
- d) Debug and Resolve

## **4. REST and SOAP Services?**

**SOAP API:** 1. SOAP Stands for Simple Object Access Protocol, it's an architecture

2. SOAP is not as simple as REST API

3. It supports only the XML format

4. It consumes more bandwidth
5. The size of the response will be more
6. The response time will be more than REST API
7. We use generic protocol and it's not secure

**REST API:** 1. REST Stands for Representative State Transfer, it's a representation

2. REST seeks to fix problems to SOAP and provides simple methods of accessing Web services
3. It supports various formats like JSON, XML, Text, HTML etc
4. It consumes Less bandwidth
5. The size of the response will be Less
6. The response time will be lesser than SOAP API
7. We use HTTPS protocol and its more secure

## **5.Web Services and Backend Services?**

**Web Services:** Web service is a collection of open-source protocols and

standards used for exchanging data between systems or applications whereas API is a software interface that allows two applications to interact with each other without any user involvement.

**Backend Services:** The backend service configuration contains a set of values, such as the protocol used to connect to backends, various distribution and session settings, health checks, and timeouts

## **6.What is the use of JAVASCRIPT Snippets? And why do you use it in API Testing?**

Snippet is a programming term for a small region of re-usable source code, machine code, or text.

JSON Snippets are snippets that contain pieces of JSON data instead of HTML

## **7.All the HTTP methods used in API testing?**

POST, PUT, GET, PATCH, DELETE, HEAD

### **8. What is Path and Query Parameter?**

The path parameter defines the resource location it has / symbol, while the query parameter defines sort or filter operations, and it has? Symbol.

### **9. What exactly need to be verified in API Testing?**

- \*Data accuracy
- \*HTTP status codes
- \*Response time
- \*Error codes in case API return any errors
- \*Authorization checks
- \*Non-functional testing such as performance testing, security testing

### **10.Difference Between POST and PUT Method?**

Both POST and PUT http methods works similar as it is used to edit or modify the resource which is already available in the server or database but while using PUT method if we give all the parameters key and value pair and if there is no resource in the database it will give error response. But in terms of PATCH method, it will not create a new resource but will provide error.

### **11.What is meant by Collection creation in Postman? What is assertion in Postman?**

.Collection creation is a package in which we can save any number of Individuals requisitions for specified http request and will use runnable to run the requests at a time. Assertions checks weather the given predict in the tests result is true or false, in any programming language the assertion predictions are a Boolean expression.

## **12.How were you validating the JSON Response?**

- \* We monitor API responses and ensure that the format that we are getting is same as the expected one.
- \* We get alert whenever there is any breaking change in JSON response.
- \* We use JSON Schema to construct a model of API response and it makes easier to validate that API is returning the valid data.

## **13.In your project where did you Perform API testing?**

Integration scenario for ivalidate application:

- \* API user services end point to create blank contract entity
  - \* Once after creating the contract, it provides the contract ID in the JSON Response, the same contract ID we should pass as a query parameter to provide the exclusion details. Exclusion details is a separate end point here we must pass two set of parameters, one for data-based exclusion and another for date-based exclusion, once this end point becomes successful it generates Contract entity ID.
  - \* The same contract entity ID we should pass as parameter for run exclusion job end point.
- Based on its successful execution we can generate the reports.
- \* In order to generate the particular report, I have to use a specific end point (HTTP URL) for that URI, I need to pass exclusion job ID as a query parameter then only the reports will be generating in a specific location, the data available in the report manually I need to check the database

## **14.API Testing Process?**

- \*The developer will provide the end point, Path parameter (/ symbol) and Query parameter (? Symbol)
- \*We need to click send request and we receive the response in different format if JSON selected
- \*We get response status code
- \*We need to verify the response status code

- \*We can see the response time(millisecond)
- \*We will see the response size(bytes)
- \*Authorization checks

### 15.What is JSON Schema?

JSON Schema is a contract for JSON document that defines the expected data types and format of each field in the response.

### 16.Difference between URL and URI?

HTTP	HTTPS
<ul style="list-style-type: none"> <li>• HTTP stands for 'HyperText Transfer Protocol'.</li> </ul>	<ul style="list-style-type: none"> <li>• HTTPS stands for 'HyperText Transfer Protocol Secure'.</li> </ul>
<ul style="list-style-type: none"> <li>• HTTP works at the application layer.</li> </ul>	<ul style="list-style-type: none"> <li>• HTTPS works at the transport layer.</li> </ul>
<ul style="list-style-type: none"> <li>• The default port number is 80, for communication.</li> </ul>	<ul style="list-style-type: none"> <li>• Here, the default port number is 443.</li> </ul>
<ul style="list-style-type: none"> <li>• No encryption is present in HTTP websites.</li> </ul>	<ul style="list-style-type: none"> <li>• Both encryption and decryption exist on HTTPS websites.</li> </ul>

### 17.Difference between HTTP and HTTPS?

URL	URI
URL is used to describe the identity of an item.	URI provides a technique for defining the identity of an item.
URL links a web page, a component of a web page or a program on a web page with the help of accessing methods like protocols.	URI is used to distinguish one resource from other regardless of the method used.
URL provides the details about what type of protocol is to be used.	URI doesn't contains the protocol specification.
URL is a type of URI.	URI is the superset of URL.

## 18.Which Services will you prefer (SOAP or REST) and why?

We prefer REST API because of the following reasons:

- \* REST provides simple methods of accessing Web services .
- \* It supports various formats like JSON, XML, Text, HTML etc.
- \* It consumes Less bandwidth .
- \*The size of the response will be Less.
- \*The response time will be lesser than SOAP API.
- \*We use HTTPS protocol and its more secure.

### More API Interview Question:

#### 1. what are the different methods present in api?

There are four different methods present in api:

GET

POST

PUT

DELETE

PATCH

#### 2.What are diff operations performed in Api?

Below are the operations performed in Api

GET- used to fetch the data

POST- Used to create data

PUT- Used to update data

DELETE- used to delete data

## **2.What is difference between PUT and PATCH?**

PUT- we can update all the fields as well as single field

PATCH- we can update single/ partial fields

## **4.What are main differences between API and Web Service?**

-Api call internally and web services call over the internet

- The only difference is that a Web service facilitates interaction between two machines over a network.

An API acts as an interface between two different applications so that they can communicate with each other..

Web service also uses SOAP, REST, and XML-RPC as a means of communication.

## **5. What are the advantages of API Testing?**

- a) Api provides the security
- b) API checks the authentication and the data that we are passing
- c) API can transfer the load to diff microservices
- d) API helps to avoid data breaching
- e) Test for Core Functionality
- f) Time Effective- we can hit lots of apis within less time
- g) Language-Independent- like json,XML, html, text

h) Easy Integration with GUI

## **6. What are different Test Environment in project?**

- Generally we will have below four test Environments:

DEV- where developers work

SIT/QA- where Testers work

UAT- where Testers and Client work

PROD- it's a live env.

## **7. What are the test environment of API?**

Global- Global has large scope (used to pass variables between diff collections)

Local – Local has small scope (Used to pass variable from one request to another)

-we are using QA/UAT environment in which we are using Global and Local environment for api methods

## **8. What must be checked when performing API testing?**

Error codes, data which are coming (Retrieval data), Time

## **9. What are tools could be used for API testing?**

Postman

Swagger



SoapUI

Etc.

### **10.What are differences between API Testing and UI Testing?**

Api doesn't provide the GUI( Graphical User interface) but UI provides.

### **11.What are common API errors that often founded?**

This are the common error getting during api testing

201-created

200-ok

400-Bad request

401-Unauthorised

403- forbidden

404- page not found

500- Internal server error

503-service not available

### **12.Any examples why error code generates?**

200- when we get succesfull data

201- when we create data into database

400- URI wrong or end point missing

401- when session got expired, passing invalid token/

username/pass

404- when we are trying to access the URL but URL not present

405- Method not allowed

500- any server down or network issue

### **13.what are the collections?**

Collections are used to store the services(api methods)

By using collection we can run all the methods at the same time.

We can Import/Export Collection.

### **14.what is mean bearer token?**

Bearer token is one of the Authentication pass in headers

Bearer means identification for the token.

### **15.where we pass the data in post?**

We pass the data in Body-> Raw-> in the form of json, XML.

Html, text

### **16.can we run collection?**

Yes, we can run the collection and collection methods at the same time, but before we run the previous

or old collection we have to update the authentication.

### **17.what is mean end points/service url?**

End points are the different service urls which are used to hit the URL with domain uri.

### **18.what is mean API ?-Application programming interface**

Api stands for Application programming interface.

- used to communicate between two system

-it simply knows as sending the request and getting the response.

### **19.what are headers?**

Headers is nothing but the what kind of request it is

```
{content-type= application json/  
application xml/  
application text }
```

### **20.what is bearer?**

Bearer is the indentifier for perticular token used for the Authentication.

### **21.Difference between SOAP and REST**

<b>SOAP</b>	<b>REST</b>
1. soap is protocol	1.rest is architecture
2. uses XML format only XML,JSON,HTML,TEXT,JAVASCRIPT	2. uses
3. soap need WSDL file	3. rest need API only
4. type of security provided by soap:	4. type of security provided
by rest	
SOAP ENVIORNMENT PARAMS	AUTH TOKEN, HEADER,
5. Heavy in weight API's	5. Light in weight API's
6 .Response time is more	6. Response time is less

7. Not best for CRUD operation

7. Best for CRUD operation

## **22.Types of API**

REST API- uses Postman tool (Representational state transfer)

SOAP API- Uses SOAPUI tool (simple object access protocol)

## **23.Concept under REST:**

REST- REST is an architecture used to create rest api.

REST Assured- To automate rest api we need rest assured libraries.

RESTFUL- when we automate rest api it called as restful services.

## **24.What is the difference between / and ?.**

/- Path parameter

?- Query parameter

## **25. What is producer and consumer?**

Producer- who produce the data

Consumer- who consumes the data

## **26.What is URI?**

URI- Unique resource identifier

URI= URL+ENDPOINT

Eg. <https://www.amazon.com+/login/home>

## **27.What are diff ways to pass the data/ scripting languages?**

a) JSON:

```
{  
  "name": "Suraj ",  
  "email": "Suraj123@gmail.com",  
  "gender": "Male",  
  "status": "Active"  
}
```

b) XML:     <name>suraj</name>

              <email>[suraj@gmail.com](mailto:suraj@gmail.com)</email>

c) String

d) Text

e) Html

f) Javascript

Etc.

## **28.What are headers?**

Headers means what kind of data we are passing.

a.Authorization

b.Content Type

c.Language

## **29.What we pass in http request?**

a. URI

b. Headers

c. Payload

### **30.What are different authorization?**

- a. Basic Auth:-pass the username and pass.
- b. Digest:-whenever we are passing username and pass it will get convert in # keys.

It means your username/pass will secured get server side too.

- c. OAuth1:-OAuth1 required below things:

- 1. Consumer Key
- 2. Consumer Secret
- 3. Access Token
- 4. Secret Token

Above info will get from developers.

- e.OAuth2:-OAuth2 required below things:

- 1. Client Id
- 2. Client Secret
- 3. Grant type

Above info will get from developers.

- f. Bearer Token

- g.NoAuth

### **31. What are OAuth1 and OAuth2?**

OAuth1- this auth uses when we need third party logins.

OAuth2- this auth uses when we have single url and different endpoints

### **32.What is WSDL file**

WSDL basically an XML document contains all the details about web service and all api request

### **33.What is Web service?**

Whenever we are hitting any service over the internet it known as webservice.

Webservice is any piece of software that makes itself available over the internet and uses a standardized XML messaging system.

### **34. What is UDDI?**

- universal description discovery integration
- UDDI is an XML based standard for describing , publishing and finding the webservices.

### **35. What are diff soap elements/components**

- a. Envelop – It is beginning and end of message
- b. Header – Header elements contain header information
- c. Body – body element contains call and response information
- d. Fault – Fault contain error and status information

### **36.What are diff WSDL element/component**

- a. Type- Define the data types used by the webservices
- b. Message – Define the data element for each operation
- c. Port Type- Describe the operation that can be performed and message involve
- d. Binding- Defines the protocol and data format for each port type

### **37.What are different assertions present in SoapUI?**

Below are the different assertion present in soapui:

- a. Contains - checks for the existence of a specified string

- b. Not Contains - checks for the non-existence of a specified string
- c. Response SLA - validates that the last received response time was within the defined limit. Applicable to Script Test Steps and Test Steps that send requests and receive responses.
- d. Invalid HTTP Status Codes - checks that the target TestStep received an HTTP result with a status code not in the list of defined codes. Applicable to any TestStep that receives HTTP messages
- e. Valid HTTP Status Codes - checks that the target TestStep received an HTTP result with a status code in the list of defined codes. Applicable to any TestStep that receives HTTP messages.Etc

### **38.What are different Api gateways.**

- a. SSL certificate
- b. Routing
- c. Adapter
- d. Cache
- e. Load balancer

### **39.Difference between monolithic and microservice?**

Monolethic - all api available under one service

Microservice- for api have different microservice.