These are the API Testing questions you need to work/answer during mentoring…..

**API is the acronym for Application Programming Interface. It is a software intermediary that allows two applications to talk to each other. API works at the core business layer. Each time you use an app like Facebook, send an instant message or check the weather on your phone, you are using an API. Some Well-known API’s are Google Maps API, Amazon advertising API, You tube API, Twitter API**.

1. **Difference between Soap and Rest**

|  |  |
| --- | --- |
| Soap uses XML | Rest uses xml, json |
| Little slow than Rest | Rest is faster than soap |
| Caching not support in Soap | Caching is supported |
| Soap we can send through SoapUI | We can send through Postman, Swagger |

1. **Difference URI vs URL**

* URI= (Endpoint) Uniform Resource Identifier (invisible for the users means there is no UI for URI)
* URL= Uniform Resource Locator (visible to all the users). A URL aims to find the location or address of a resource on the web.

1. **What are the key elements of an API request**

* Request line – Where we put endpoint
* HTTP Headers
* Message Body- we keep our data/payload to be sent to the server

1. **Difference between Put and Patch**

* PUT is a technique of altering resources when the client transmits data that revamps the whole resource.
* PATCH is a technique for transforming the resources when the client transmits partial data that will be updated without changing the whole data.

1. **Difference between Authentication vs Authorization**

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| --- | --- | --- |
|  | **Authentication** | **Authorization** |
| 1 | Confirms Who you are- (username, password, one time pin) | Permission to get access to the resource. /folder .. .grant/revoke |
| 2 | Confirms that users are who they say they are | Gives those users permission to access a resource. |

1. **How do you validate that a new resource is created after sending a successful POST Request?**
2. By checking the status code , 201 -- Successfully Created
3. By sending a get request using the reference number of the post req.
4. By accessing the Data Base I can check the new resource “MySQL ex.”
5. **What is Environment in Postman? What is the use of the Environment?**

* An environment in Postman is a set of key-value pairs.
* When we create an environment inside Postman, we can change the value of the key-value pairs and the changes are reflected in our all requests. For Example, we can keep the base URL and API Keys.

1. **Difference between collection and Monitor**

* **Collection** in Postman means a set of API requests preferably of the same type that are grouped and already saved in Postman. This is one of the very important features of Postman. We can run the whole group of request together in just a single click.
  + You can group your Postman requests into collections to keep your workspace organized, collaborate with teammates, generate API documentation/test suites, and automate request runs.
* **Postman Monitoring** allows regular check-ins so if anything changes, you'll know right away. Postman API monitoring helps you identify problems with your API including poor performance, response errors, and outages.

1. **What are the authentication you used in API? Explain each of those. (Basic, api key, oauth1 and 2)**

1. Basic Authentication (User name and Password)

2. API Key : An application programming interface key (API key) is a unique code that is passed into an API to identify the user. API keys are used to track and control how the API is being used, for example to prevent malicious use or abuse of the API.

3. Bearer Token

4. OAuth2 (Open Authorization 2) (by sharing some of your account info from an app to another with your permission”google acc, FB acc are examples”)

1. **What are the defects/bug did you receive in API?**

1. Wrong Error Codes.(Develops made some mistakes and put wrong status code for Different request).  
  
Following are correct status Code :  
Post Request - 201 ,Created (The request succeeded, and a new resource was created as a result.)  
Get Request - 200 , Successful (GET: The resource has been fetched and transmitted in the message body.)  
Patch/PUT - 200 , Successful(The resource describing the result of the action is transmitted in the message body.)  
Delete - 204 , (No Content ) status code if the action has been enacted and no further information is to be supplied.)  
  
Client Error responses:  
  
400 Bad Request - The server cannot or will not process the request due to something that is perceived to be a client error   
(e.g., malformed request syntax, invalid request message framing, or deceptive request routing).  
  
401 Unauthorized -Although the HTTP standard specifies "unauthorized", semantically this response means "unauthenticated".  
That is, the client must authenticate itself to get the requested response.  
  
403 Forbidden -  
The client does not have access rights to the content; that is, it is unauthorized, so the server is refusing to give the requested resource.   
  
404 Not Found -  
The server cannot find the requested resource. In the browser, this means the URL is not recognized.  
In an API, this can also mean that the endpoint is valid but the resource itself does not exist.   
  
Server error responses:  
  
500 Internal Server Error:  
The request method is not supported by the server and cannot be handled.   
  
502 Bad Gateway -  
This error response means that the server, while working as a gateway to get a response needed to handle the request, got an invalid response.   
  
503 Service Unavailable: The server is not ready to handle the request.   
  
504 Gateway Timeout -This error response is given when the server is acting as a gateway and cannot get a response in time.  
  
2. Missing Keys  
You have certain keys which are important , like Id should be integer or not null.  
But developer missed that key.  
  
3.Empty Post or Patch : Empty Post or Patch (Update) are not Handled properly.  
  
4. Black Box: We can do Black box Testing in API testing, like there is some input field is there   
Age, we can enter empty field, less than minimum value , within the range, more than maximum value.  
  
5. Keys Verification: If we have JSON ,XML APis we should verify its that all the keys are coming.

**11. What are the good ways to write test test cases for rest api?**

**12. What functionality you are working in API? Explain?**

**13. How to send chain request?**

**14. What are the difference between 204 vs 404?**

* 204 — No Content. it at least tells the client that the request was successful but The server has successfully fulfilled the request and that there is no additional content to send in the response payload body
* 404 – Not Found. server was connected but not found. The server cannot find the requested resource.

**15. What challenges you have encountered during working on API?**

**16. What do you validate in API?**

1- we validate data code

2- we validate statues String (ok, created, very bad request)

3- if we need to validate any particular String

4- We validate Feild and Value

5- Checking response header content type

6- Check if the response time is less that 200ms

**17. What is postman variables? How many places you can create variables. Explain their scope.**

Local in environment ,, Global in Global area .