

1. Basics of API Testing

Q1. What is an API?

Answer:

An API (Application Programming Interface) is a set of rules that allows different software applications to communicate with each other by sending requests and receiving responses, typically over HTTP using standard methods like GET, POST, PUT, and DELETE.

Q2. What is API Testing?

Answer:

API testing is a type of software testing that validates APIs by sending requests and verifying responses for correctness, reliability, performance, and security without involving the UI layer.

Q3. Why is API testing important?

Answer:

API testing is important because:

- It validates business logic before UI is ready
 - It is faster and more stable than UI testing
 - It detects defects at the integration layer
 - It ensures data accuracy and system reliability
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Q4. Difference between API Testing and UI Testing?

API Testing UI Testing

Tests business logic Tests user interface

Faster execution Slower execution

More stable Prone to UI changes

No UI required Requires UI

2. API Types & Architecture

Q5. What are the types of APIs?

Answer:

- REST APIs
 - SOAP APIs
 - GraphQL APIs
 - gRPC APIs
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Q6. What is REST API?

Answer:

REST (Representational State Transfer) is an architectural style that uses HTTP methods to perform CRUD operations and exchanges data typically in JSON format.

Q7. What are REST constraints?

Answer:

- Client–Server
 - Stateless
 - Cacheable
 - Uniform Interface
 - Layered System
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Q8. What is statelessness in REST?

Answer:

Each API request contains all the information needed to process it. The server does not store client session data.

3. HTTP Methods

Q9. Explain HTTP methods.

Answer:

Method	Purpose
GET	Retrieve data
POST	Create new resource
PUT	Update entire resource
PATCH	Partial update
DELETE	Remove resource

Q10. Difference between PUT and PATCH?

Answer:

PUT updates the entire resource, whereas PATCH updates only specific fields.

4. HTTP Status Codes

Q11. What are HTTP status code categories?

Answer:

Range Meaning

1xx Informational

2xx Success

3xx Redirection

4xx Client Error

5xx Server Error

Q12. Common status codes?

Answer:

These codes indicate the result of an API request:

- 200 – OK
- 201 – Created
- 400 – Bad Request

- 401 – Unauthorized
 - 403 – Forbidden
 - 404 – Not Found
 - 500 – Internal Server Error
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5. Request & Response

Q13. What is an API request?

Answer:

An API request consists of:

- HTTP method
 - URL (endpoint)
 - Headers
 - Query parameters
 - Request body (for POST/PUT)
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Q14. What is an API response?

Answer:

An API response includes:

- Status code
 - Headers
 - Response body
 - Response time
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6. Headers, Parameters & Body

Q15. What are headers?

Answer:

Headers contain metadata such as content type, authorization, and caching instructions.

Q16. Difference between Query Params and Path Params?

Answer:

- Path Params: Part of URL, mandatory
- Query Params: Optional filters or pagination



Q17. What is request body?

Answer:

The request body contains data sent to the server, usually in JSON or XML format.

7. Authentication & Authorization

Q18. What authentication methods have you used?

Answer:

- Basic Authentication
- Bearer Token
- OAuth 2.0
- API Key

Q19. Difference between Authentication and Authorization?

Answer:

Authentication verifies identity; authorization verifies access rights.

Q20. What is Bearer Token?

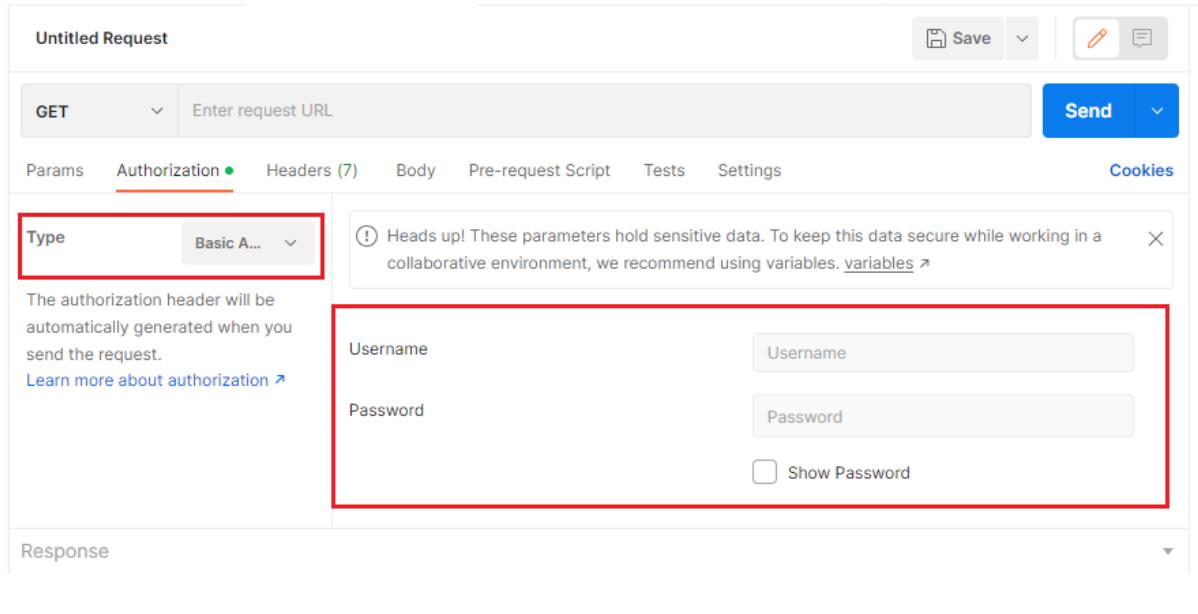
Answer:

A bearer token is an access token sent in the Authorization header to authenticate API requests.

Q21. What is Basic Auth in Postman?

Answer:

Basic Auth in Postman is a type of authorization technique provided in Postman for HTTP user agents like web browsers. It provides fields to enter username and password which when entered gets associated with the request.



The screenshot shows the Postman interface with an 'Untitled Request' title bar. The 'Authorization' tab is selected. In the 'Type' dropdown, 'Basic A...' is chosen. Below it, a note says: 'The authorization header will be automatically generated when you send the request.' To the right, there's a warning message: 'Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables.' Below the note, there are 'Username' and 'Password' input fields, both of which are highlighted with a red box. A 'Show Password' checkbox is also present. The interface includes tabs for Params, Headers (7), Body, Pre-request Script, Tests, Settings, and Cookies. A 'Send' button is at the top right.

8. Postman-Specific Questions

Q22. What is Postman?

Answer:

Postman is an API testing tool used to create, execute, automate, and document API requests.

Q23. What are collections in Postman?

Answer:

Collections are groups of related API requests organized for testing and execution.

Q24. What are Pre-request and Test scripts?

Answer:

- Pre-request Script: Executes before request (setup data)

- Test Script: Executes after response (validations)
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Q25. How do you validate response in Postman?

Answer:

Using JavaScript assertions in the Tests tab with pm.test() and pm.expect().

Q26. How do you pass data from one API to another?

Answer:

By extracting values from response and storing them in environment variables.

```
pm.environment.set("token", pm.response.json().token);
```