API Testing and Tools

1. What is API Testing?

API testing focuses on verifying APIs directly using requests and responses without UI involvement.

2. Types of API Testing

- Functional Testing

- Performance Testing

- Security Testing

3. HTTP Methods

- GET: Retrieve data

- POST: Submit data

- PUT: Update data

- DELETE: Remove data

4. API Testing Strategy

- Define scope

- Prepare test data

- Validate response codes

- Validate response payload

5. Common API Testing Tools

Postman

Manual and automated testing.

SoapUI

SOAP and REST testing.

REST Assured

Java-based API automation.

JMeter

Load and performance testing.

6. Key API Test Assertions

- Status Code == 200

- Response time < 2 seconds

- Correct data format

- Schema validation