POSTMAN Automation:

Postman is a versatile API (Application Programming Interface) application that allows the test of web APIs. Postman simplifies the process of building, testing, and documenting APIs. Postman provides a user-friendly interface for sending HTTP requests to APIs and viewing the responses. It supports various HTTP methods such as GET, POST, PUT, DELETE and more allowing developers to interact with APIs effortlessly.

Features:

1. **API Requests:** Postman allows developers to craft and send HTTP requests to APIs directly from its interface. Users can specify request headers, parameters, and payloads easily.
2. **Collections:** Collections are groups of related requests that can be organized into folders. This feature helps developers manage and execute multiple API requests efficiently.
3. **Environments:** Environments allow users to define variables that can be dynamically substituted in requests. This enables testing APIs across different environments without modifying requests manually.
4. **Tests:** Postman provides a powerful testing framework that allows developers to write scripts to validate API responses automatically. These tests can be executed after sending requests, ensuring that APIs behave as expected.
5. **Mock Servers:** Postman can generate mock servers based on API specifications, allowing developers to simulate API responses without actually implementing the backend logic. This is useful for frontend development and testing.

6. **Documentation:** Postman offers tools for generating API documentation automatically from collections. This documentation can be shared with team members or external stakeholders, improving collaboration and understanding.
7. **Monitoring:** Postman allows developers to monitor APIs for performance and reliability. Users can set up monitors to periodically send requests to APIs and receive alerts if any issues arise.

Getting started:

Installation:

- Go to the postman website (postman.com) and download the version of postman compatible with your operating system (Windows, macOS, or Linus).
- Once downloaded, follow the installation instructions provided by the installer.

Setting up an account:

1. After installation, launch **Postman**.
2. Sign up if you don't have an account.

(You can also choose to sign in using your google account or continue without signing up)

API Testing:

API testing with Postman involves verifying that the APIs in your application work correctly. Here's a simple breakdown of the testing capabilities in Postman:

1. **Manual Testing:**
    - With Postman, you can manually send requests to APIs and inspect the responses.

- You can specify request parameters, headers, and payloads directly within the Postman interface.
- After sending a request, you can view the response body, headers, status code, and other details.

2. **Writing Test Scripts:**
    - Postman allows you to write test scripts using Javascript to automate the validation of API responses.
    - These scripts can be written in the "Tests" tab of each request.
    - You can write scripts to check if the response contains certain data, has specific headers, meets performance criteria, and more.
    - For example, you can write a script to verify that the response status code is 200 or that a particular field exists in the response body.
3. **Automating Tests:**
    - Postman provides features for automating API tests, allowing you to run them automatically without manual intervention.
    - You can create collections of requests and write test scripts for each request within the collection.
    - Postman's collection runner allows you to execute the entire collection or specific requests within it, running the associated test scripts.

The features provide powerful capabilities for writing, executing and managing tests, allowing you to thoroughly validate your APIs and ensure their reliability and quality are,

Postman Test: Postman Test is a tool for checking APIs manually. You write scripts to test the response after making a request. These scripts ensure the server's response matches what you expect.
Postman Pre-request: lets you run scripts before sending a request. You can use these scripts to set up variables or make other adjustments before the request goes out.
Postman run: Postman run lets you run many requests at once. You group these requests into a collection then hit **run** to execute them all together.
Postman data driven test: Tests lets you test APIs using data you provide. You write test scripts that use information from **Comma-separated value** (CSV) or **JavaScript Object Notation** (JSON) files. Then, you run these scripts using a postman data driven test.

Conclusion:

Postman is a versatile tool that simplifies web API development by allowing users to send requests, organize them into collections, and test them in different environments effortlessly. With features like scripting for automation , mock servers for simulation, and documentation generation for clarity, postman streamlines the entire API development process, making it accessible and efficient for developers of all levels.