Introduction to API Testing using POSTMAN

Prepared by Lopa Raval
Date: 15 Mar, 2023

Agenda

API the concept

Benefits of API testing

Components of API testing

Approach to API testing

POSTMAN overview

API the concept

What is an API? - Stands for Application Program Interface. API is a software interface that allows two applications to interact with each other without any user involvement.

API Vs. Webservices - Web service is a collection of open-source protocols and standards used for exchanging data between systems or applications. All Web services are APIs but all APIs are not web services.

Some examples: Google maps, Login to facebook, E-commerce.

Testing done with API - security, scalability, speed etc..

Benefits of API testing

With API testing- once the logic is designed - test cases are isolated and ready to built immediately.

API changes are much more controlled and infrequent hence maintenance of tests is easier

When API tests fail, we know exactly where our system broke and where the defect can be found hence time saving.

It is one of the early tests so there’s early feedback and better team productivity

Components of API testing

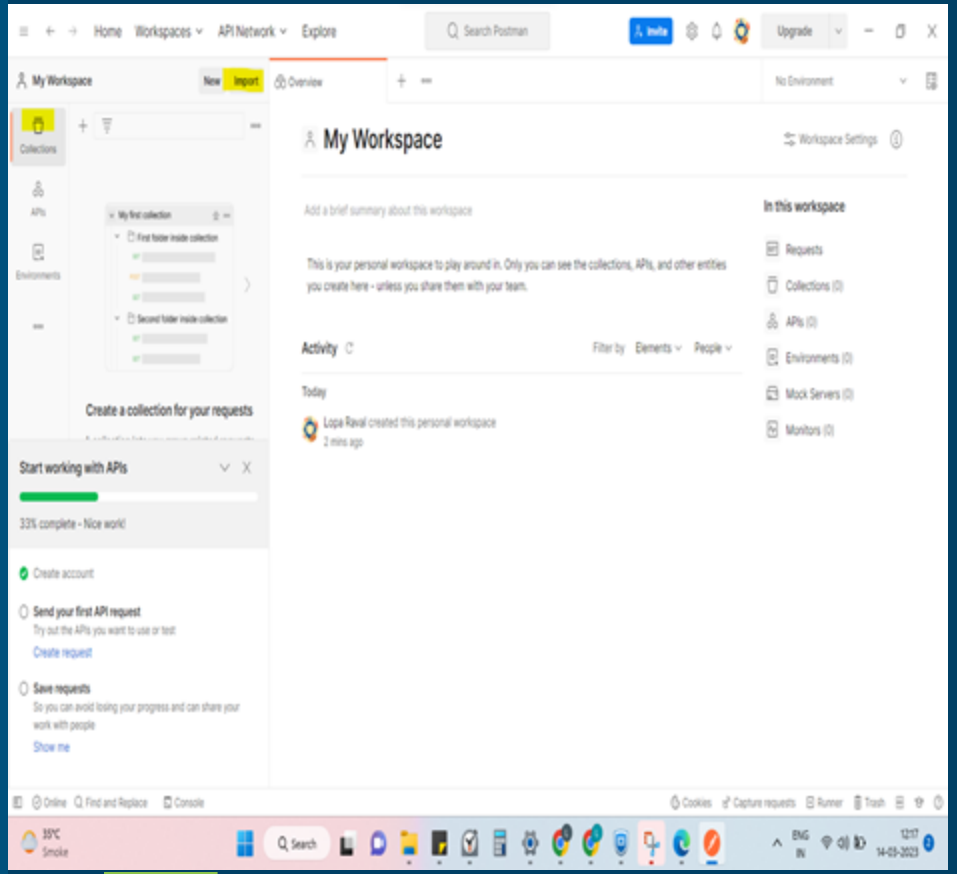
- ➔ Documentation
- ➔ Collection of request (import directly)
- ➔ Method of request
- ➔ URI/URL
- ➔ Body of request (payload)
- ➔ Parameters (if any)
- ➔ Authentication details (if any)
- ➔ Expected success/failure responses

Documentation

- ➔ Document of API testing has to be provided by dev team before a tester sets up test environment for API testing
- ➔ Without Document API testing can not be performed
- ➔ Document has to be reviewed and updated regularly
- ➔ It involves all necessary information regarding a particular test

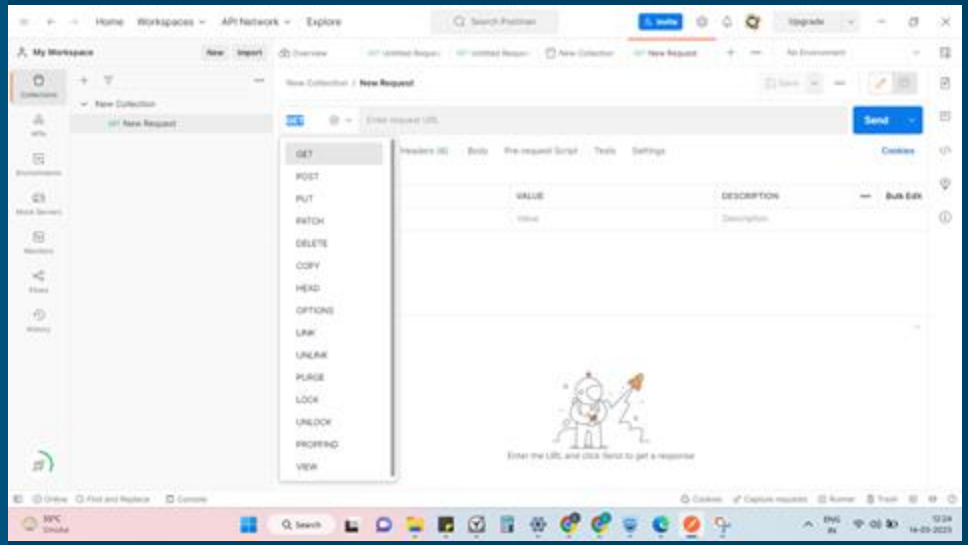
Collection

- ➔ If one request is considered as one test then a collection can be considered as test cases.
- ➔ It can be created anytime during testing.
- ➔ Usually same type of test cases end up in one collection



Method

- These are HTTP methods used for different types of communication
- Today we are going to learn about GET and POST methods
- GET : When we want to fetch data from the server
- POST : When we want to create some new resource on the server

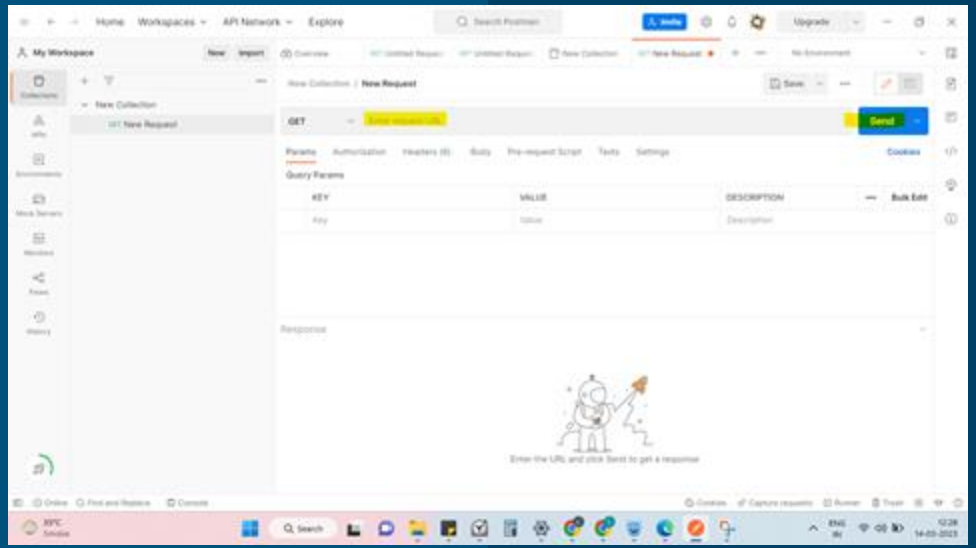


URI - Uniform Resource Identifier

Domain | URI | Query String

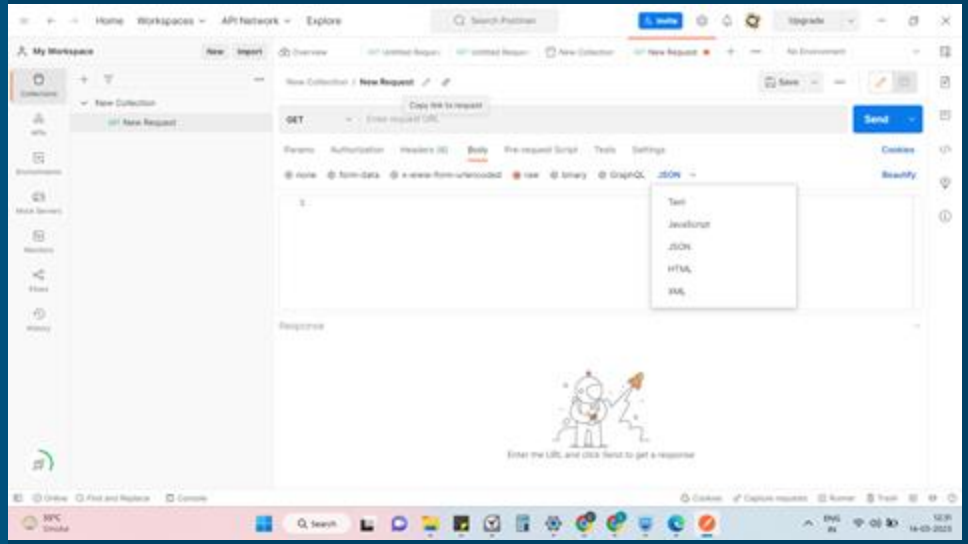
http://www.michaelcropper.co.uk/seo-tools/uri-encoder-decoder-tool-for-seo?name=value&another-name=value

Domain:	The physical server where your website is hosted
URI:	The identifier which maps to files on your server
Query String:	Part of a GET request to easily pass in values to customise the output



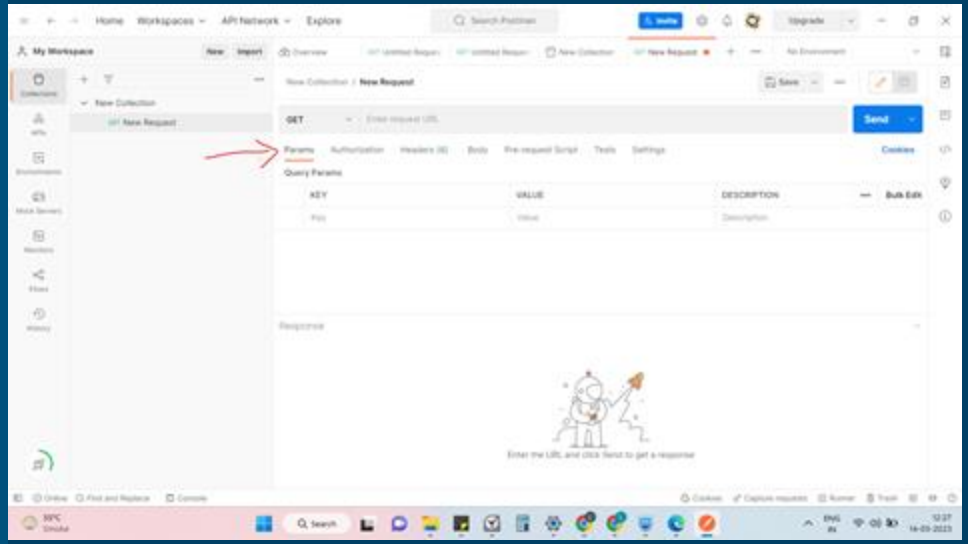
Body / Payload

- ➔ This is considered test steps
- ➔ Dev should either give you a JSON code/file or guide on how to put together the payload for the test
- ➔ It can be created in may data forms
- ➔ Usually its run in raw data form with JSON



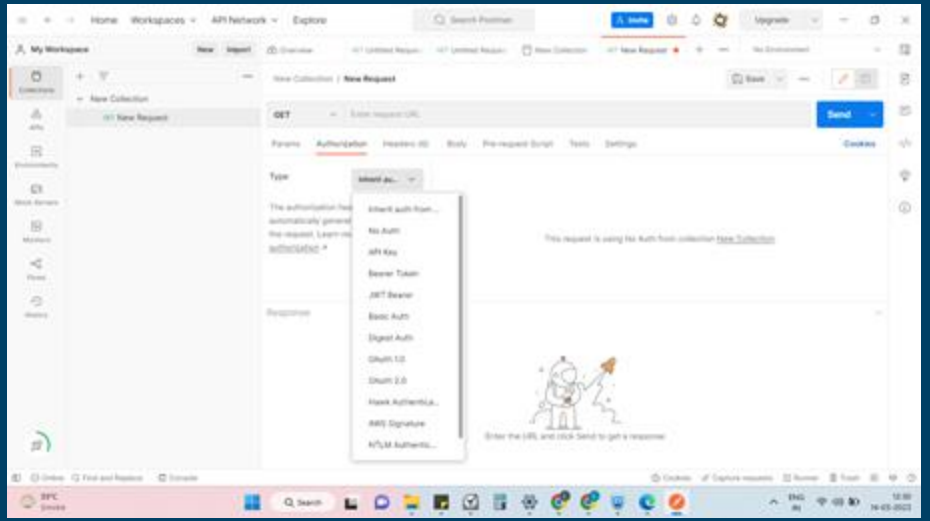
Parameters

- ➔ This is considered pre-conditions or pre-requisites
- ➔ Not all test cases have to set parameters.
- ➔ If there are any parameters it should be clearly mentioned in the documentation



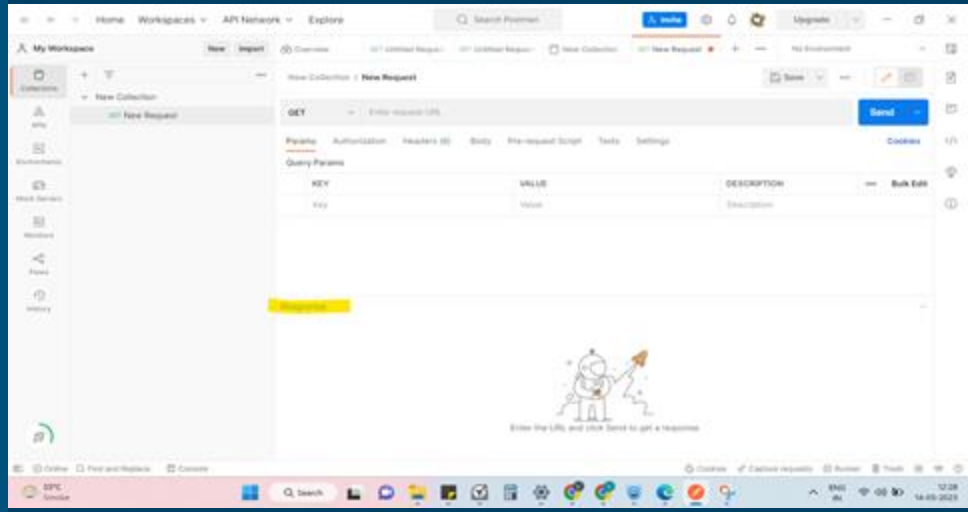
Authorization

- ➔ This is considered pre-conditions or pre-requisites
- ➔ Not all test cases have to set authorizations
- ➔ Authorization details can block the test if not given properly. It is same as login for any web page.



Responses

- This is considered Expected results against which we are testing.
- Different type of response messages can be verified in the response area set by dev team
- Different type of response codes can be verified for those messages.
- Referhttps://www.softwaretestinghelp.com/rest-api-response-codes/ for more details



Approach to API testing

- ➔ Get URI from dev team
- ➔ Get payload from dev team (mostly in JSON form)
- ➔ Get the type of method from dev team
- ➔ Get authentication details from dev (If any)
- ➔ Modify the payload according to test cases
- ➔ Check the response
- ➔ Concluding the testing

POSTMAN overview

- Go to https://www.postman.com/downloads/
- Postman on the Web > Launch Postman
- Create an account with TechM email
- Create workspace > create collection

Any Questions?

Thank you!