สยามชำนาญกิจ
SIAM CHAMNAN KIT

Postman in the Right Way

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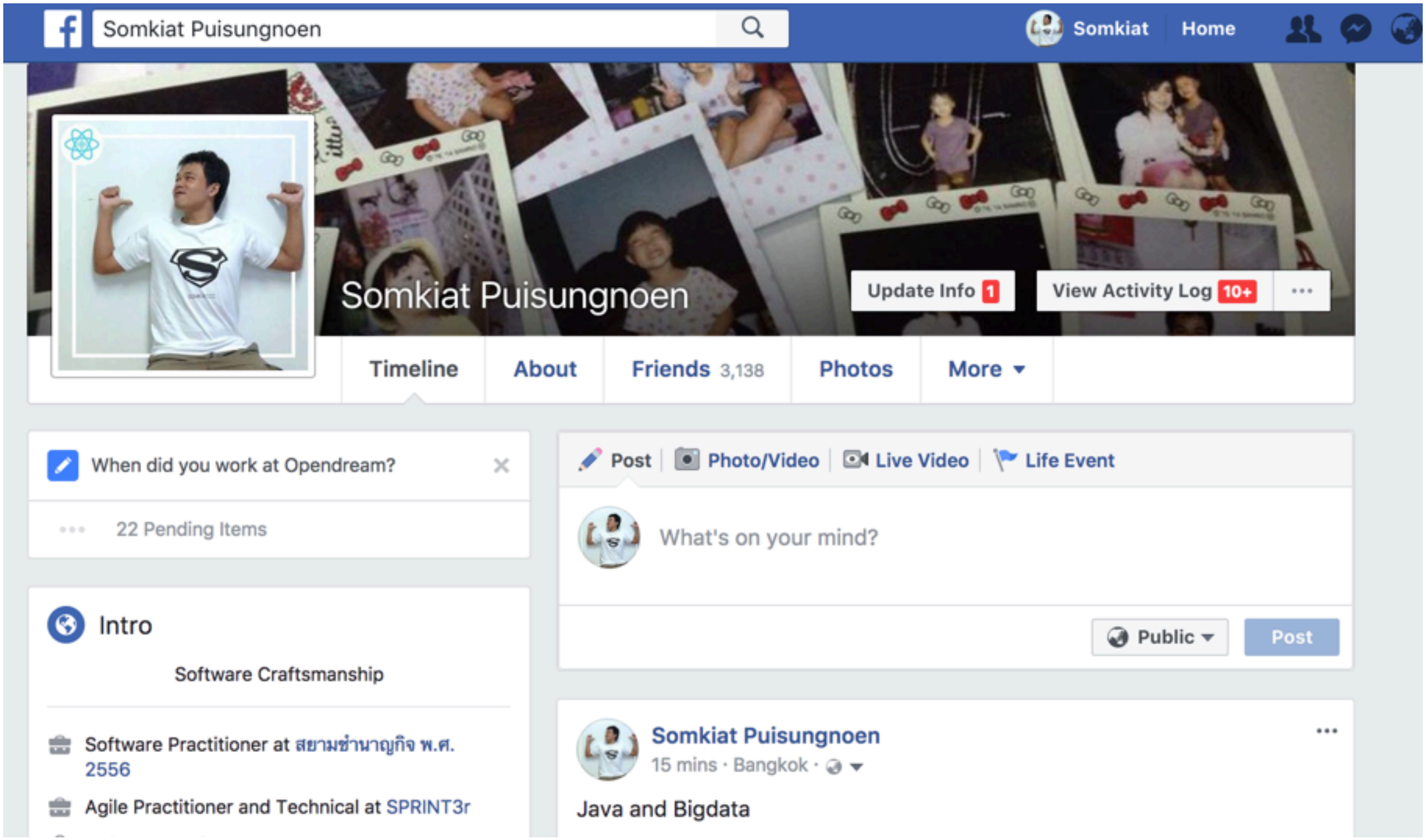

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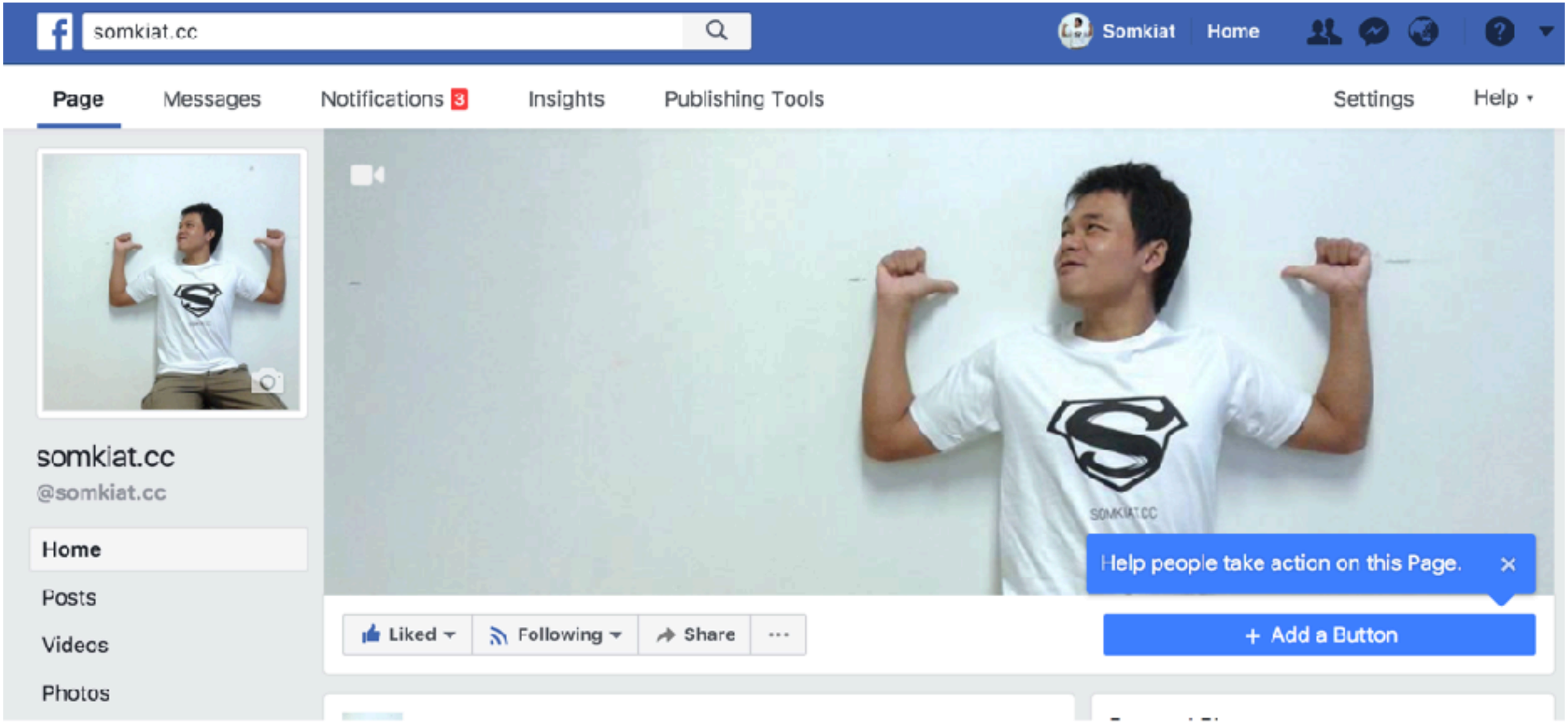

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Postman in the right way

https://github.com/up1/workshop-postman

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Testing

Fast feedback

High quality

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Continuous Testing

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API Design

API Testing

Postman

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Basic of Postman

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Postman

PUBLISH

Onboard developers to your API faster with Postman collections and documentation

DESIGN & MOCK

Design in Postman & use Postman's mock service

MONITOR

Create automated tests to monitor APIs for uptime, responsiveness, and correctness

DEBUG

Test APIs, examine responses, add tests and scripts

DOCUMENT

Create beautiful web-viewable documentation

AUTOMATED TESTING

Run automated tests using the Postman collection runner

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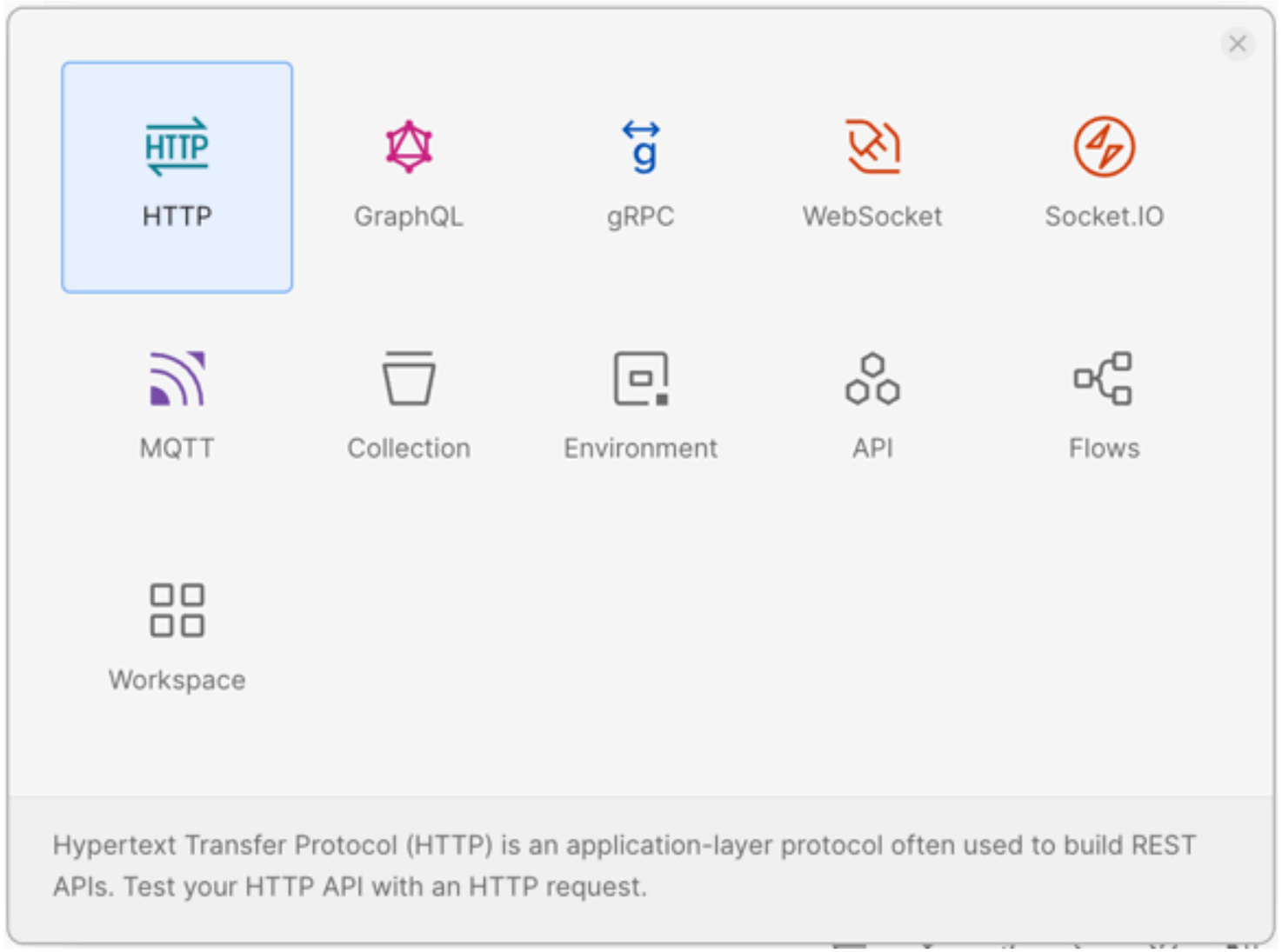
Postman



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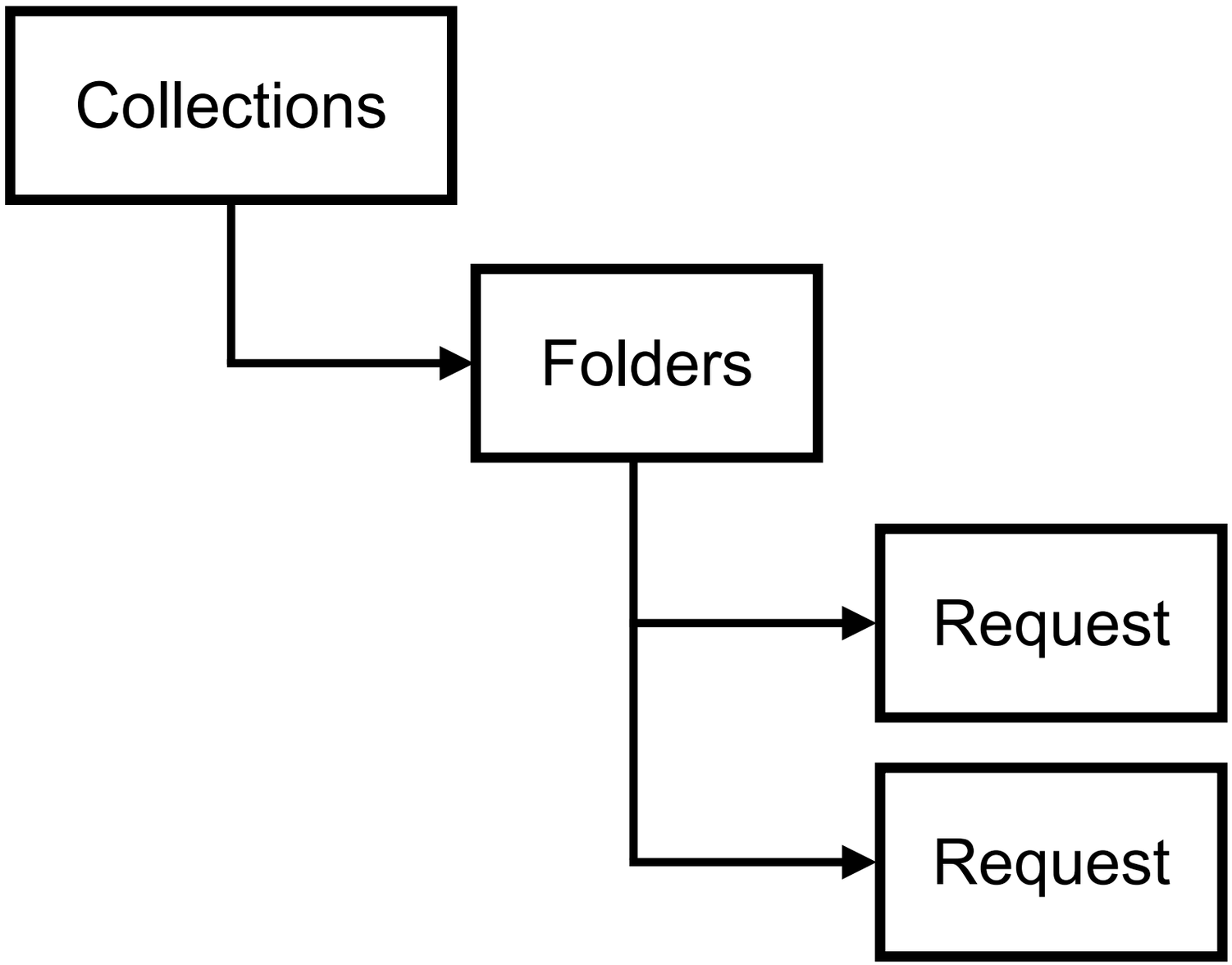
Postman structure



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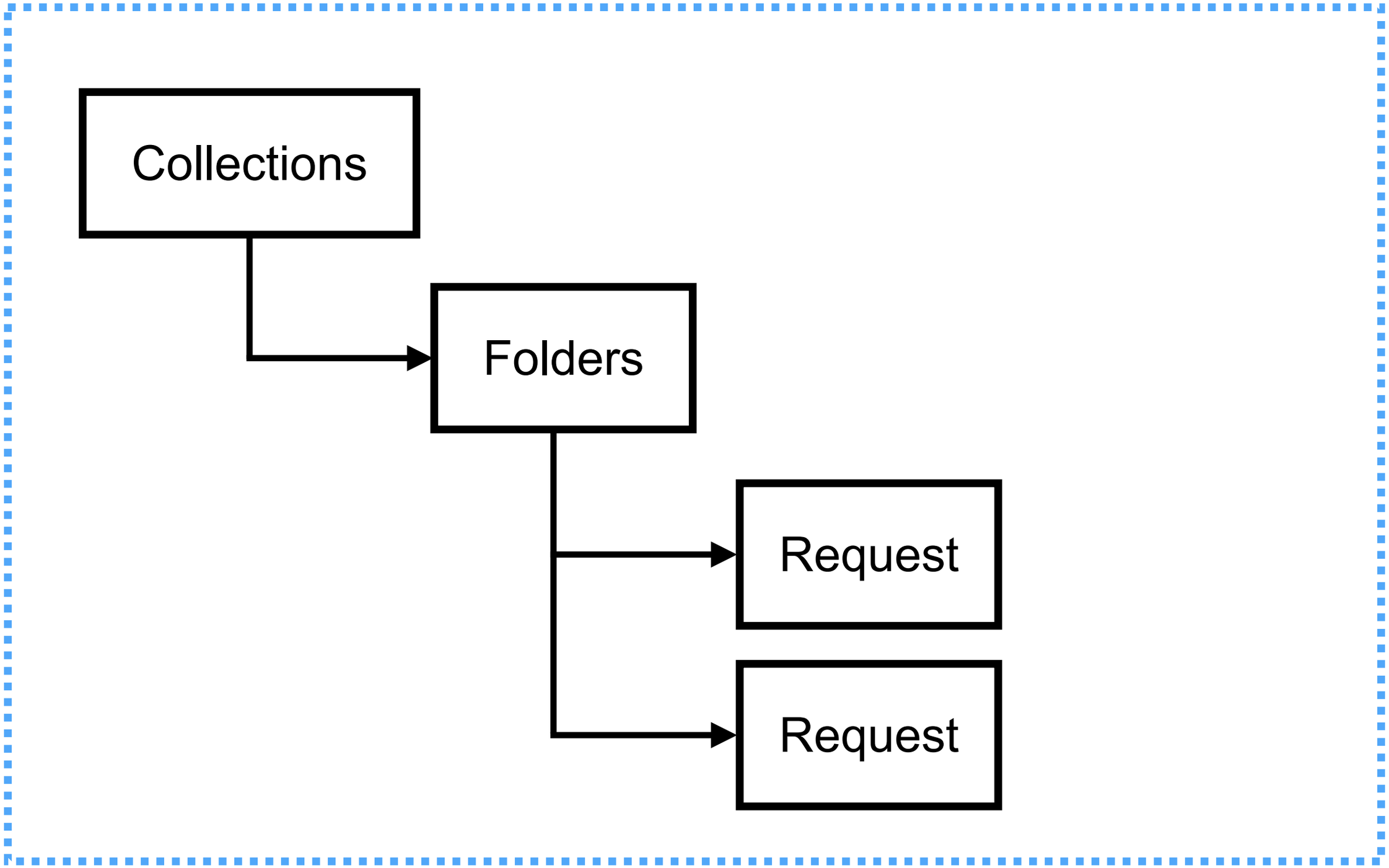
Workspace



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Collections

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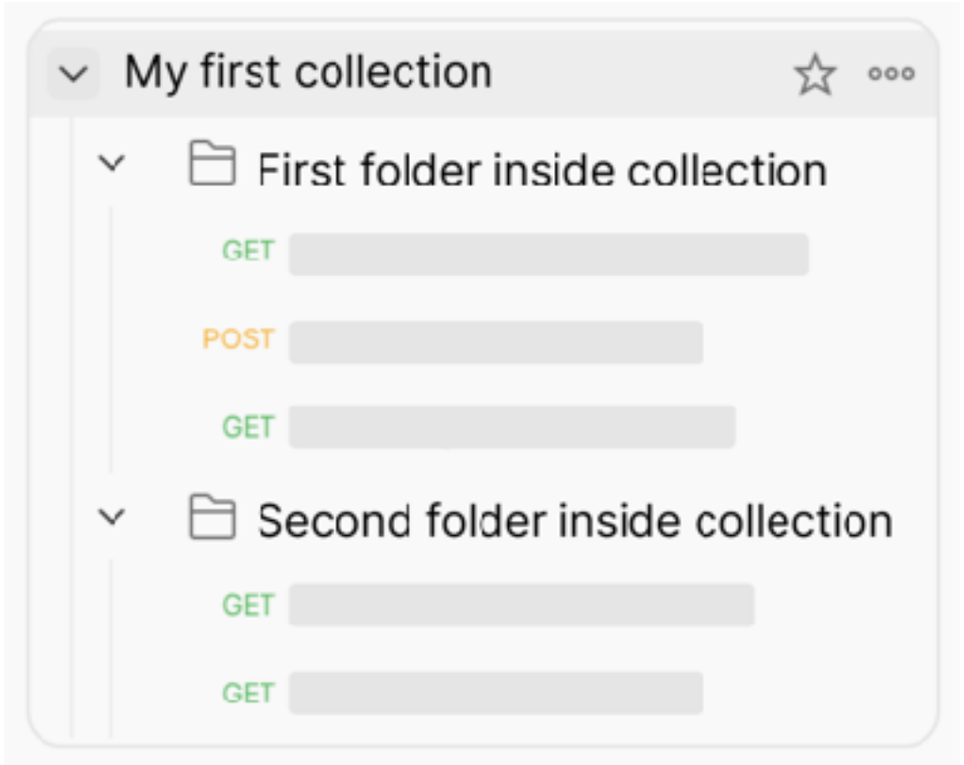
Postman collections

Grouping requests



https://www.postman.com/collection/

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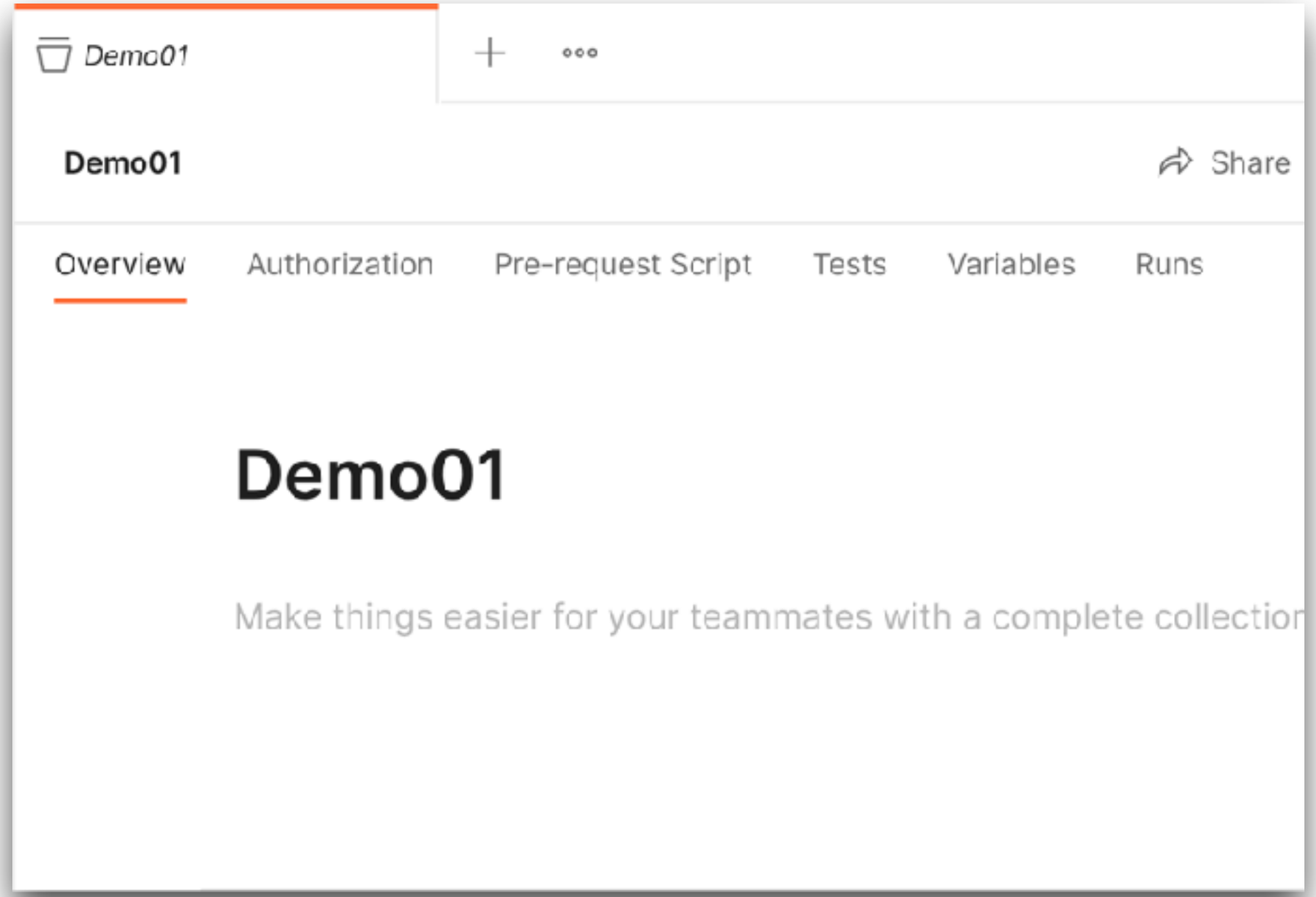
Collections



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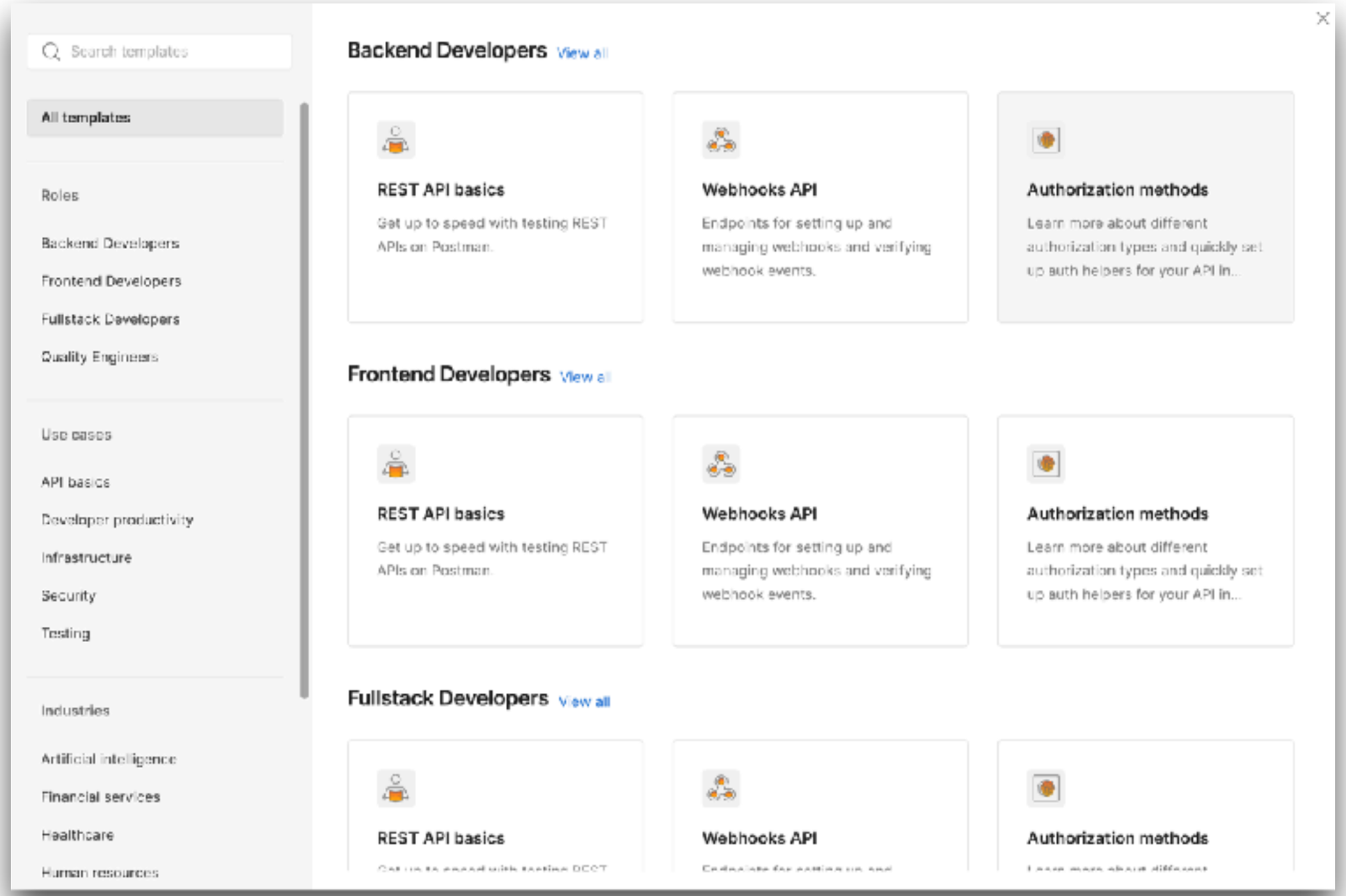
Collection Template !!



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Folders

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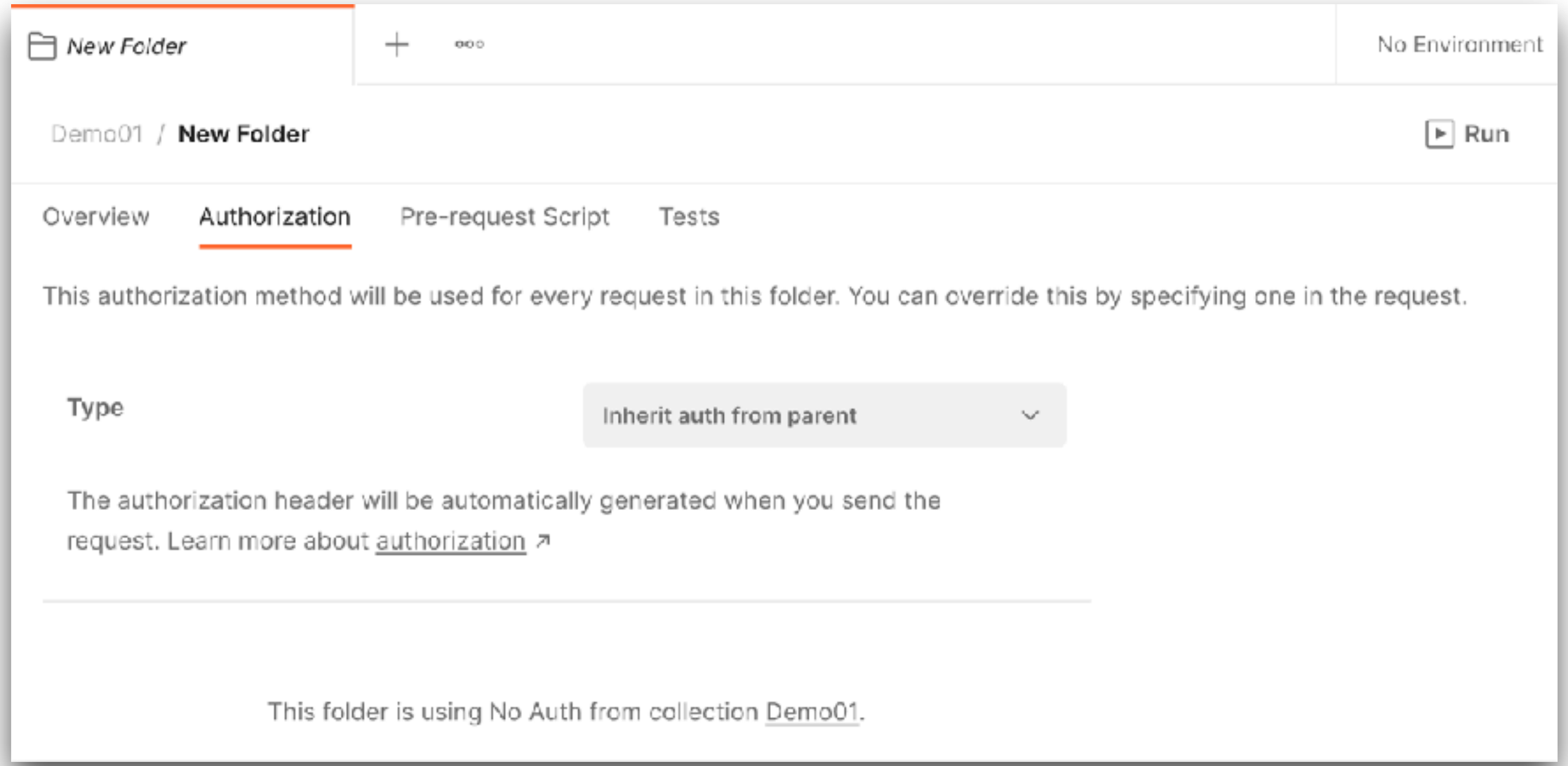
Folders



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Requests

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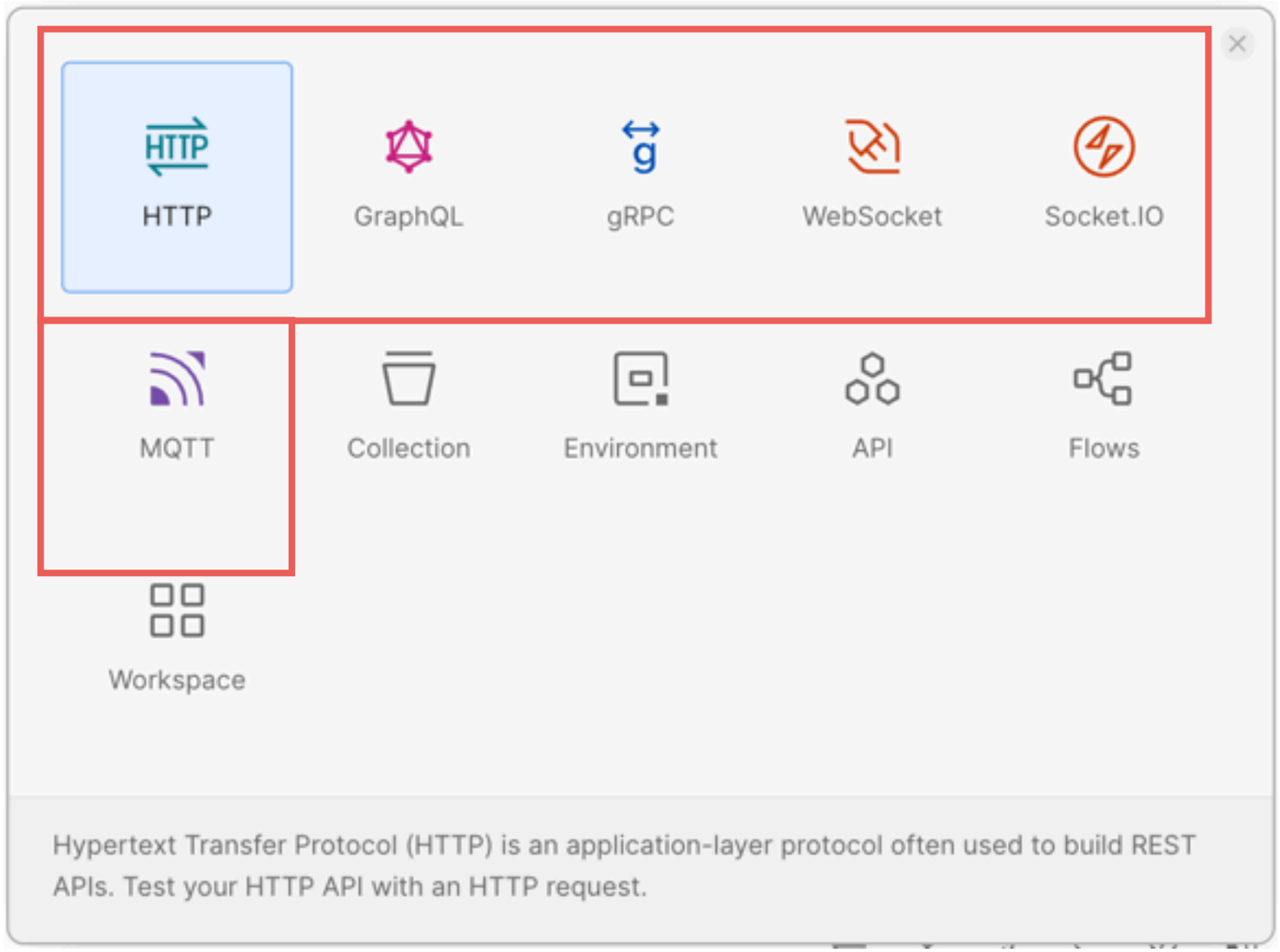
Request



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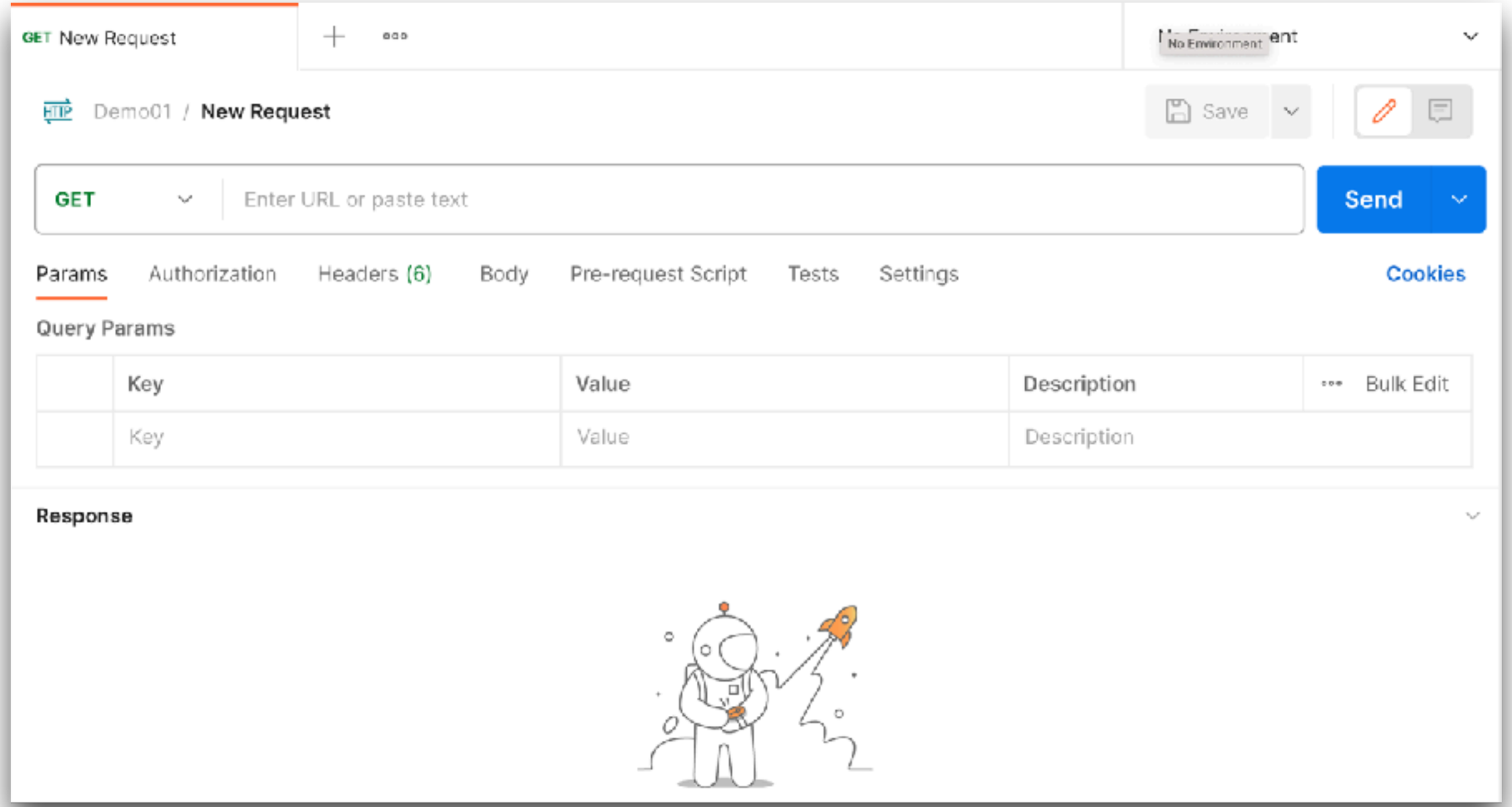
HTTP Request



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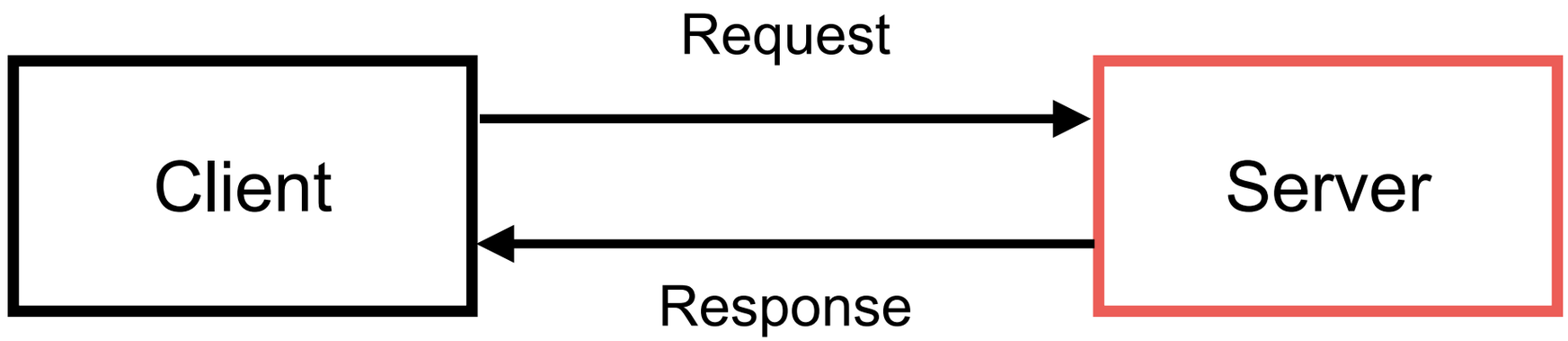
HTTP (Hyper Text Transfer Protocol)

Protocol to exchange information over network



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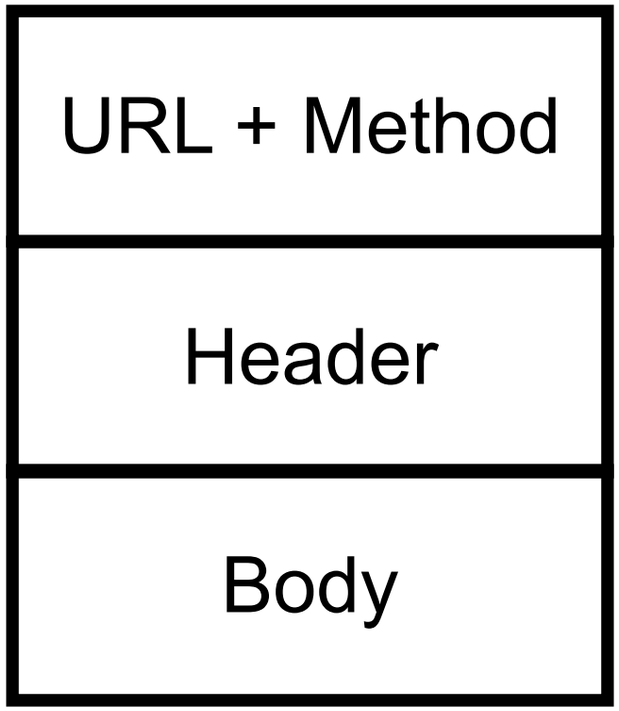
HTTP Request

URL
HTTP methods
Request headers
Request body



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HTTP Request

```
GET /api/data HTTP/1.1
Host: example.com
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64)
Accept: application/json
Accept-Language: en-US,en;q=0.5
Authorization: Token abc123
Cache-Control: no-cache
Connection: keep-alive
Referer: https://www.google.com/
Pragma: no-cache
```

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URL in HTTP Request

URL (Uniform Resource Locator)

URL

https://www.youtube.com/watch?v=9JunaO2hGK0

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URL in HTTP Request

URL (Uniform Resource Locator)

URL

https://www.youtube.com/watch?v=9JunaO2hGK0

URI

https://www.youtube.com/watch?v=9JunaO2hGK0

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URL in HTTP Request

URL (Uniform Resource Locator)

URL

https://www.youtube.com/watch?v=9JunaO2hGK0

URI

https://www.youtube.com/watch?v=9JunaO2hGK0

URN

https://www.youtube.com/watch?v=9JunaO2hGK0

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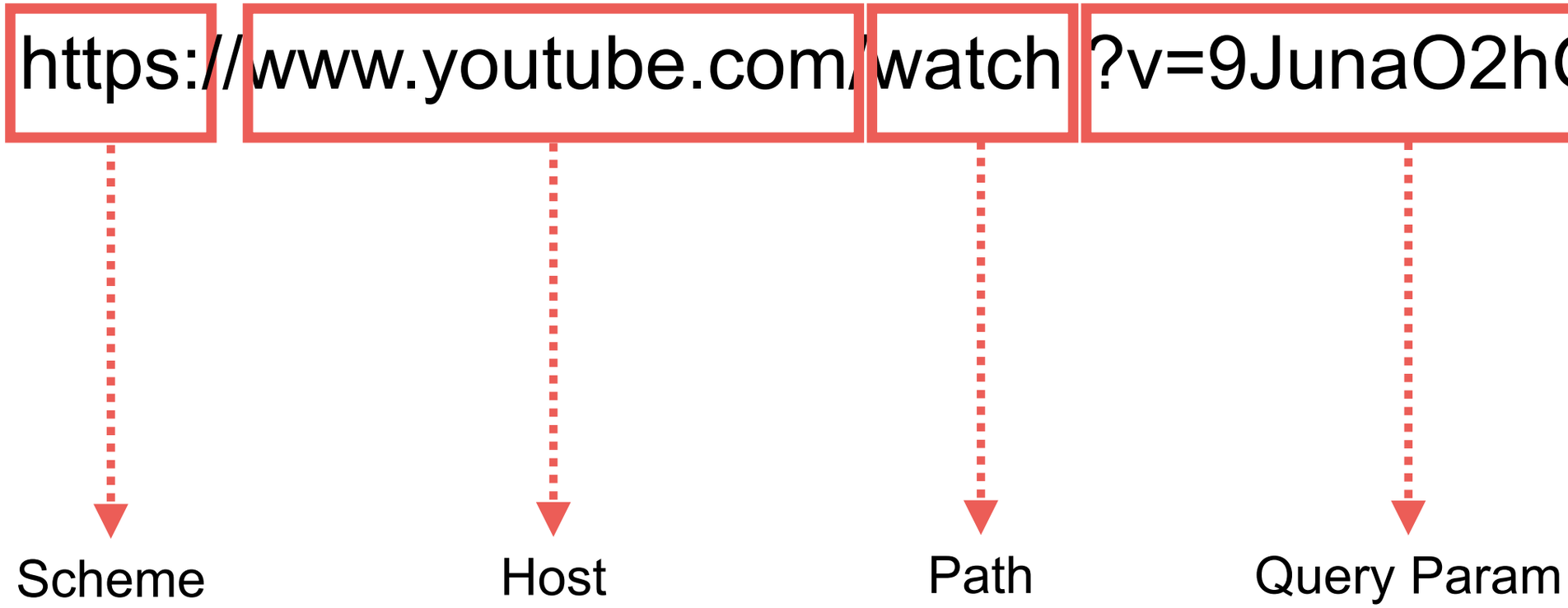
URL in HTTP Request

URL (Uniform Resource Locator)



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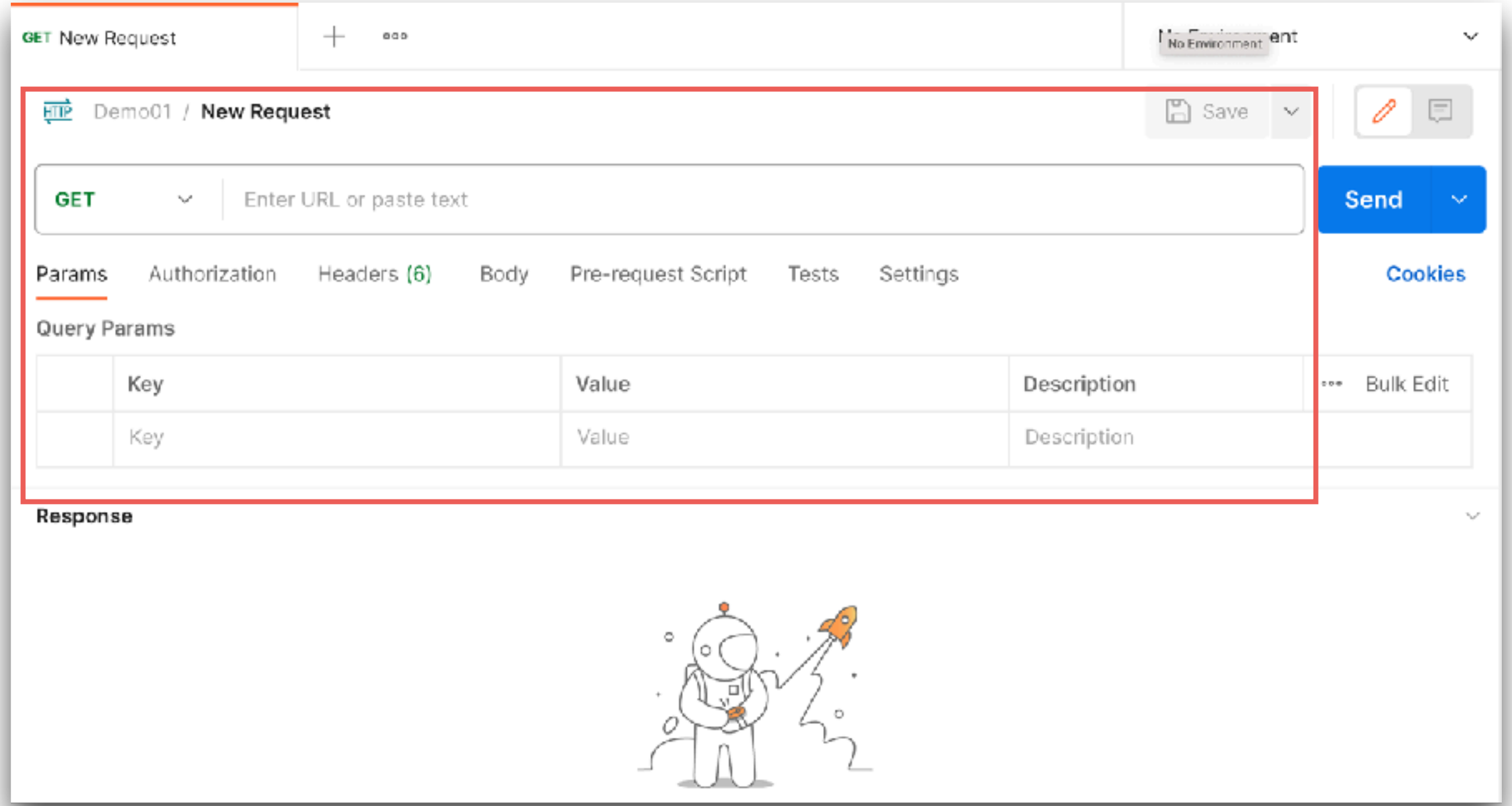
HTTP Request in Postman



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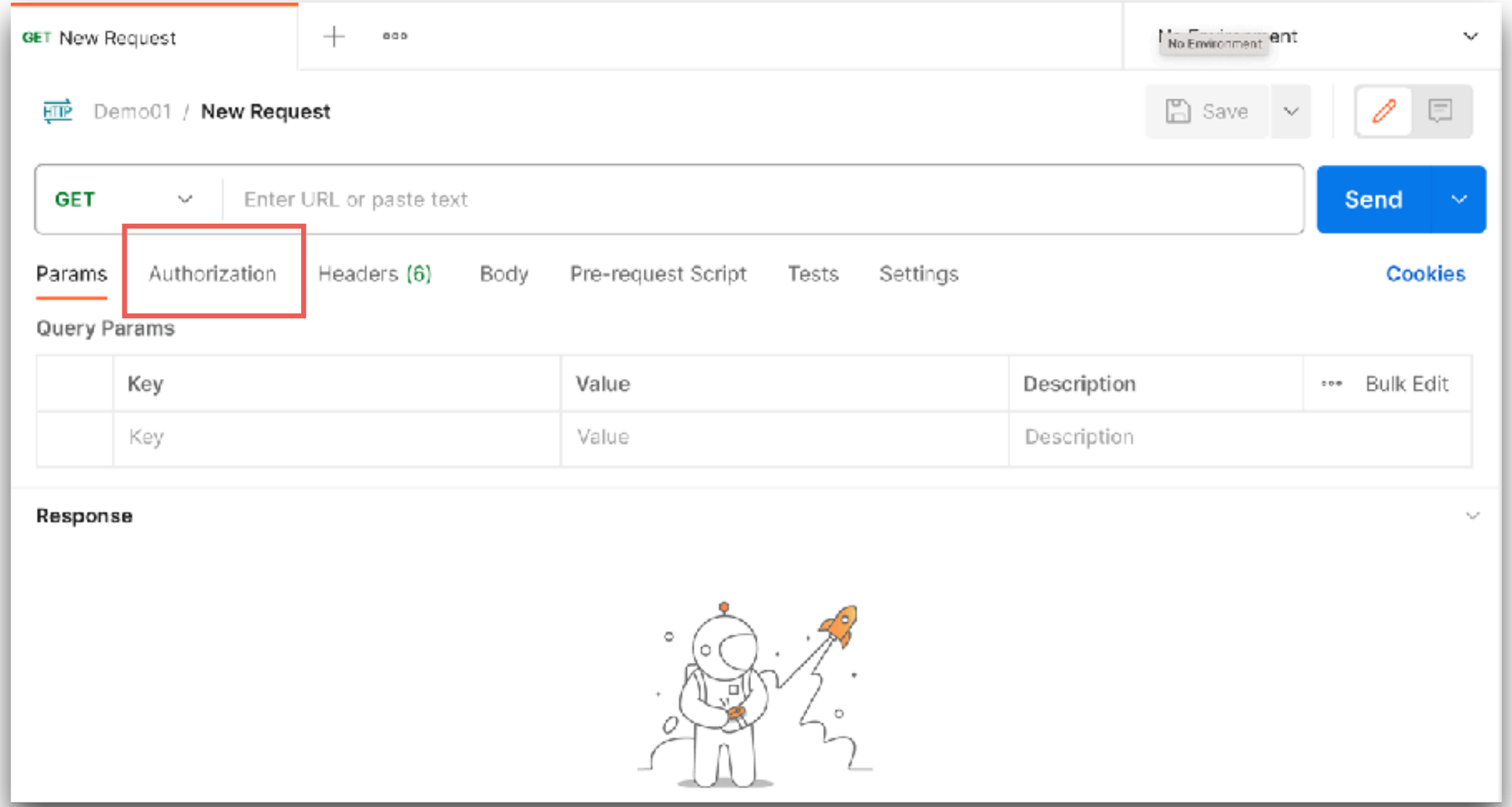
Authorization in request ?



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HTTP Methods

Method	Description
GET	Ask the server to retrieve a resource
POST	Ask the server to create a new resource
PUT	Ask the server to update an existing resource
DELETE	Ask the server to delete a resource
HEAD	Ask the server for status of a resource

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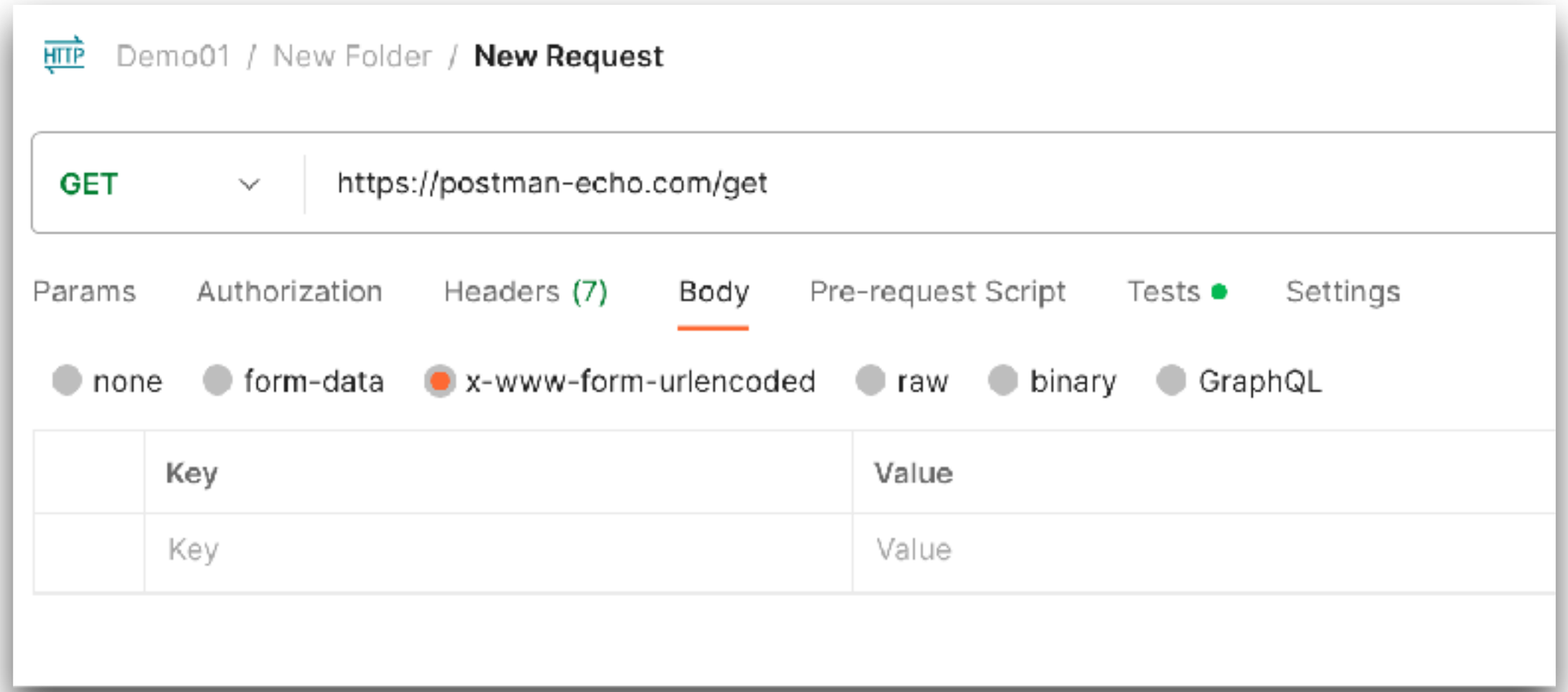
Request Body

Data sent from client to server
Text/HTML/JSON/XML/Multipart



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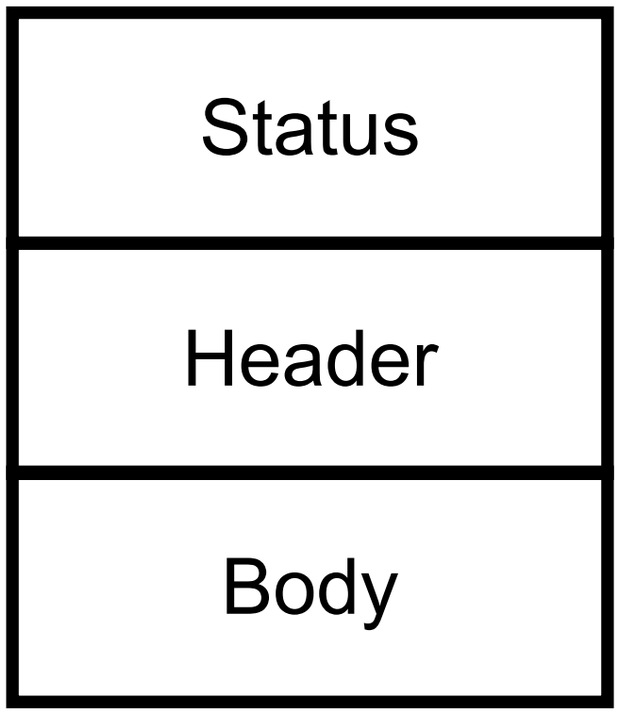
HTTP Response

Message that server sent back to a client



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HTTP Response

```
HTTP/1.1 200 OK
Date: Sun, 28 Mar 2023 10:15:00 GMT
Content-Type: application/json
Server: Apache/2.4.39 (Unix) OpenSSL/1.1.1c PHP/7.3.6
Content-Length: 1024

{
    "name": "John Doe",
    "email": "johndoe@example.com",
    "age": 30,
    "address": {
        "street": "123 Main St",
        "city": "Anytown",
        "state": "CA",
        "zip": "12345"
    }
}
```

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Status Code

Code	Description
1xx	Information
2xx	Successfu
3xx	Redirection
4xx	Client error
5xx	Server error

https://developer.mozilla.org/en-US/docs/Web/HTTP/Status

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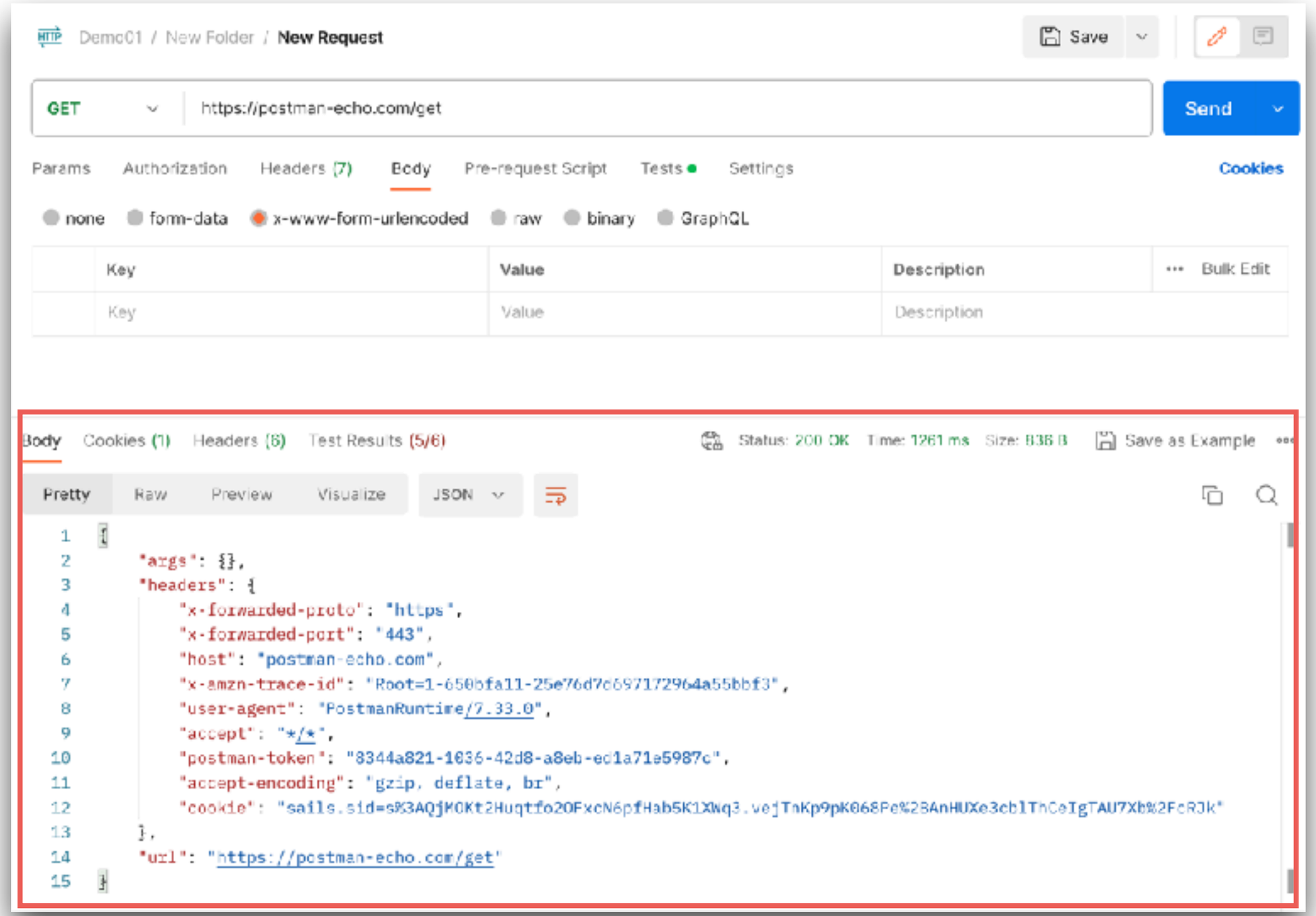
HTTP Response in Postman



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Test in Postman

Pre-request script

Test response

https://learning.postman.com/docs/writing-scripts/pre-request-scripts/

https://learning.postman.com/docs/writing-scripts/test-scripts/

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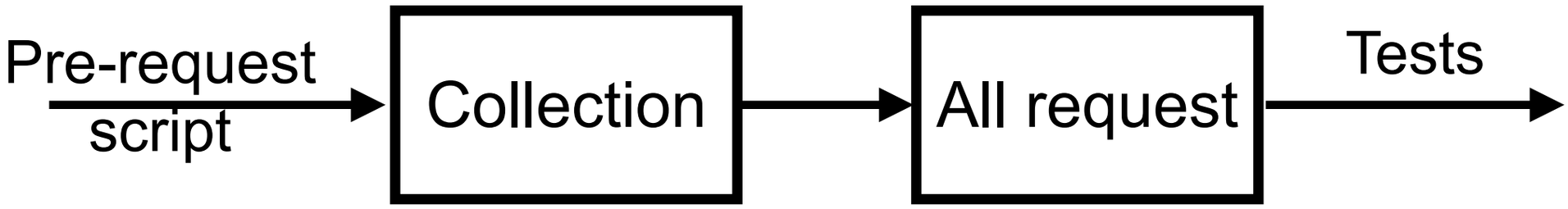
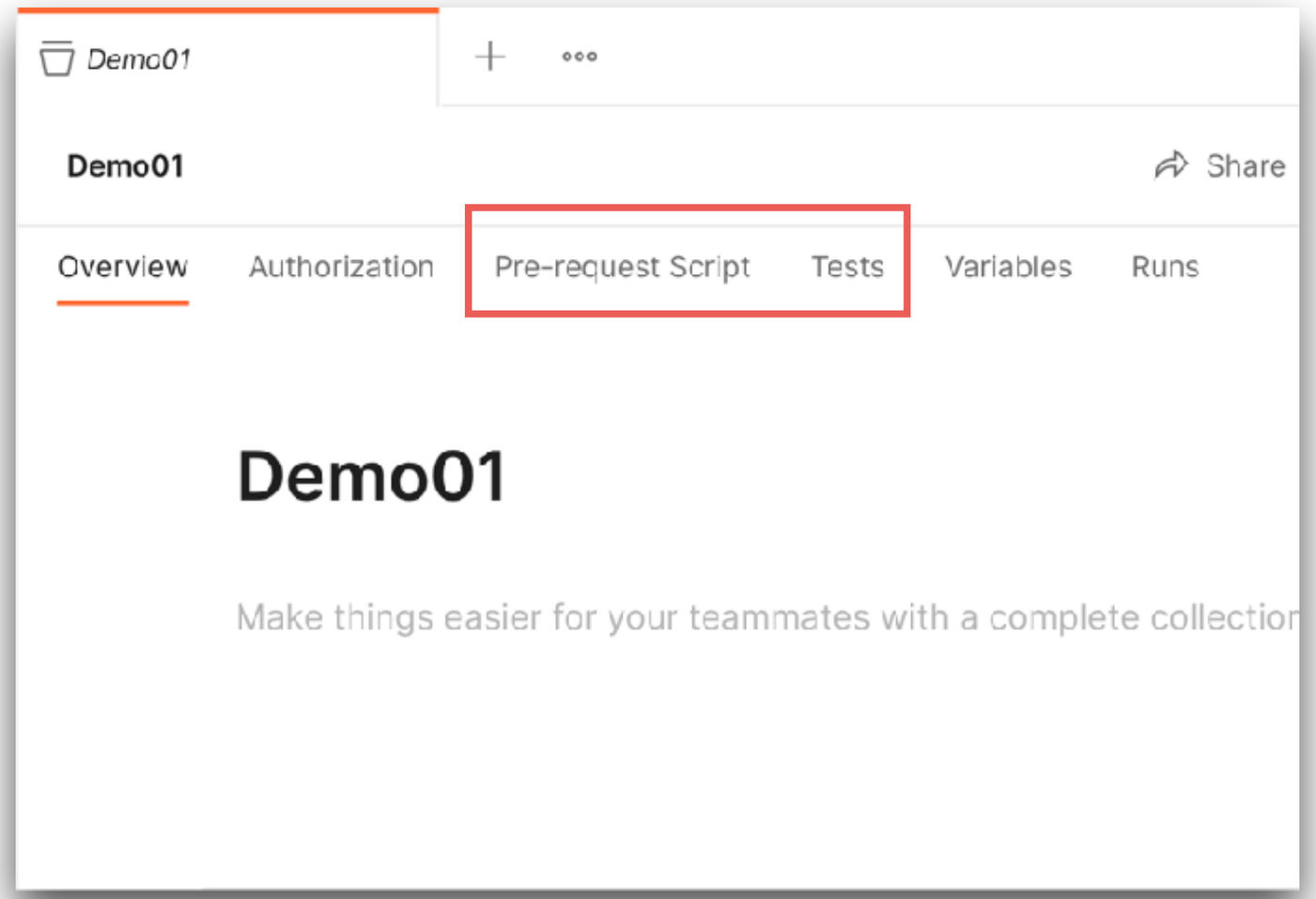
Test in collection





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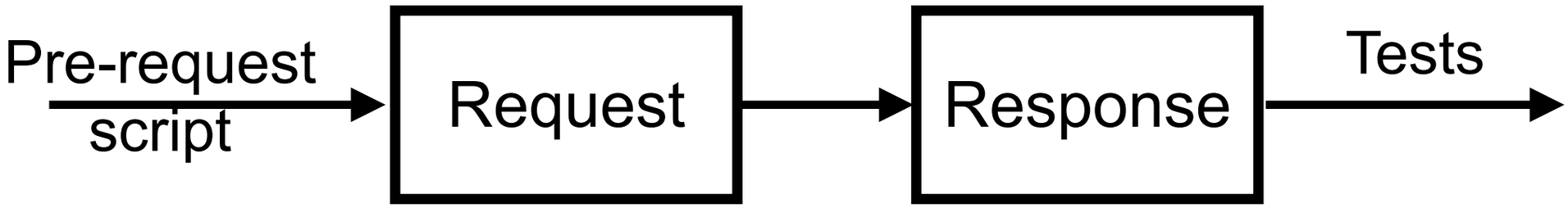
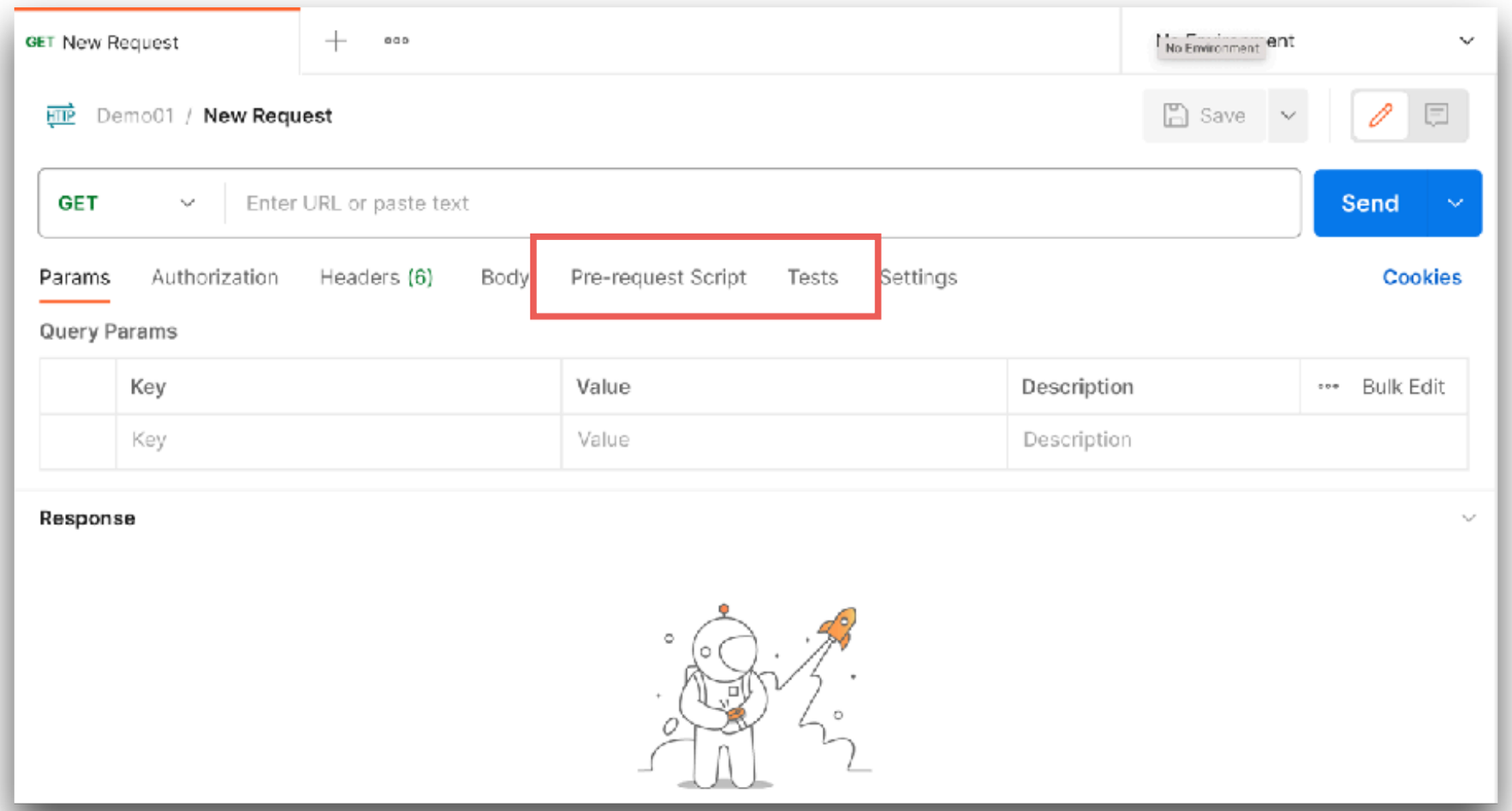
Test in request





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What to test ?

```
HTTP/1.1 200 OK
Date: Sun, 28 Mar 2023 10:15:00 GMT
Content-Type: application/json
Server: Apache/2.4.39 (Unix) OpenSSL/1.1.1c PHP/7.3.6
Content-Length: 1024

{
    "name": "John Doe",
    "email": "johndoe@example.com",
    "age": 30,
    "address": {
        "street": "123 Main St",
        "city": "Anytown",
        "state": "CA",
        "zip": "12345"
    }
}
```

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Write test with Postbot

https://learning.postman.com/docs/getting-started/basics/about-postbot/

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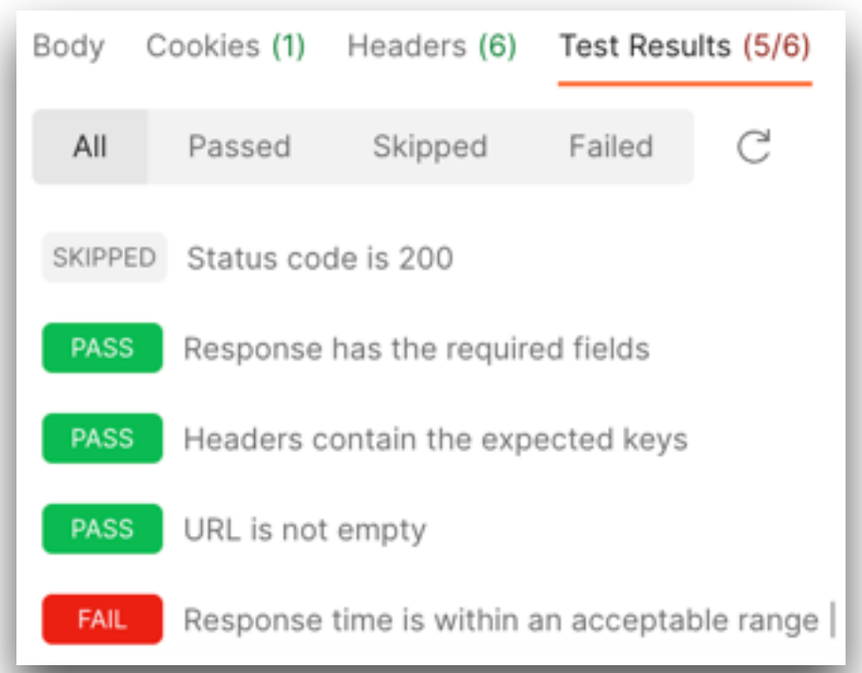
Skip test !!

```
pm.test.skip("Status code is 200", function () {

    pm.response.to.have.status(200);

});
```



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Test Execution

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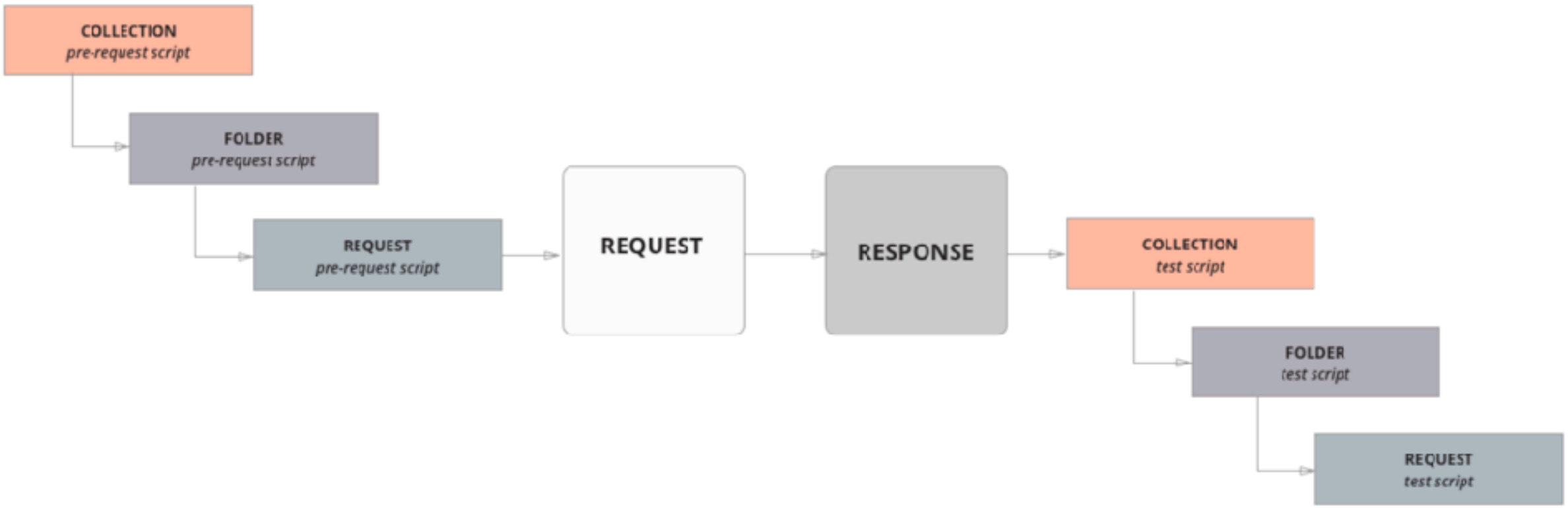
Test Execution



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Variables

https://learning.postman.com/docs/sending-requests/variables/

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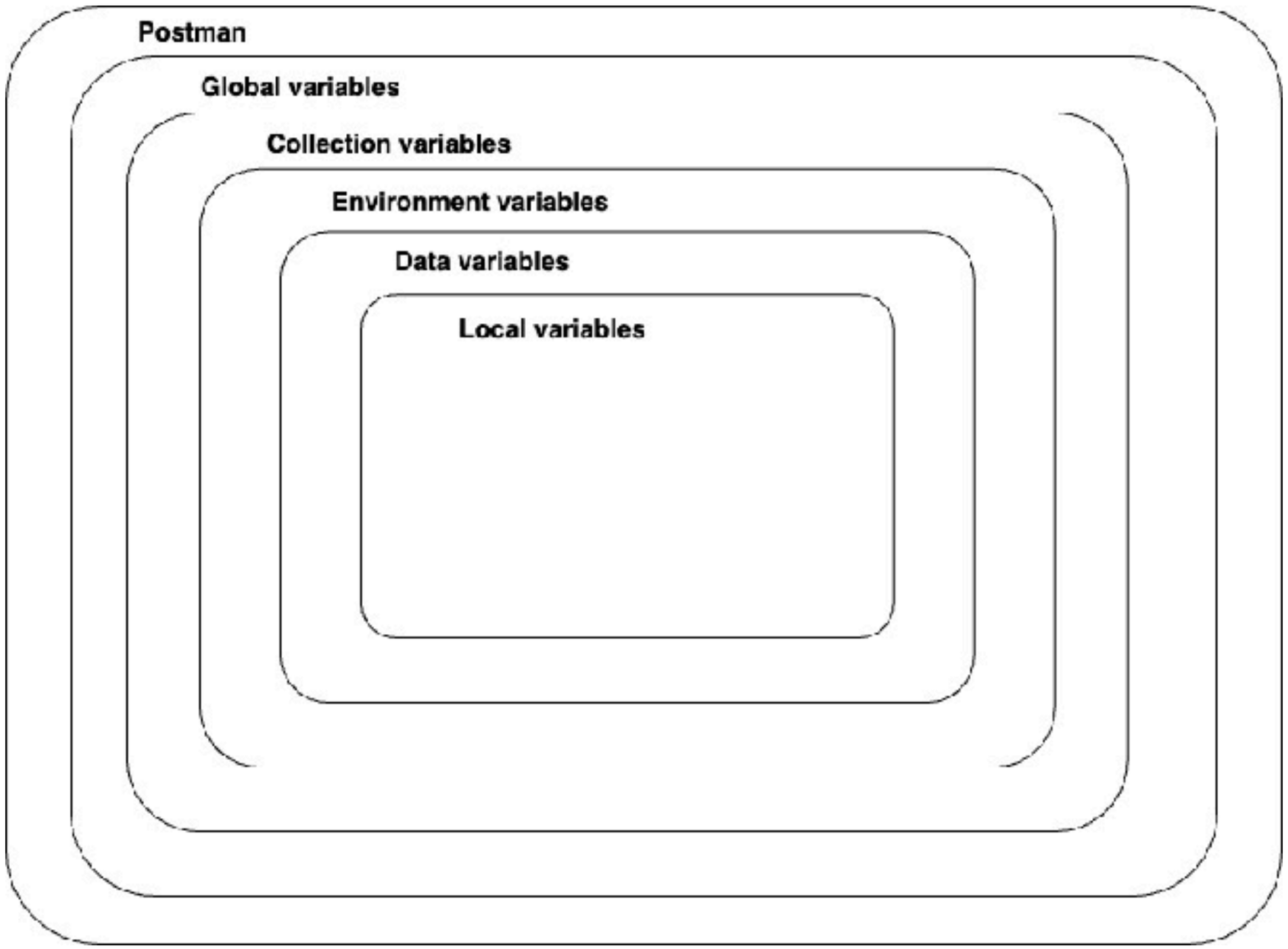
Variables Scopes



https://learning.postman.com/docs/sending-requests/variables/#variable-scopes

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Variables

Global variables
Collection variables
Local variables

{{VARIABLE_NAME}}

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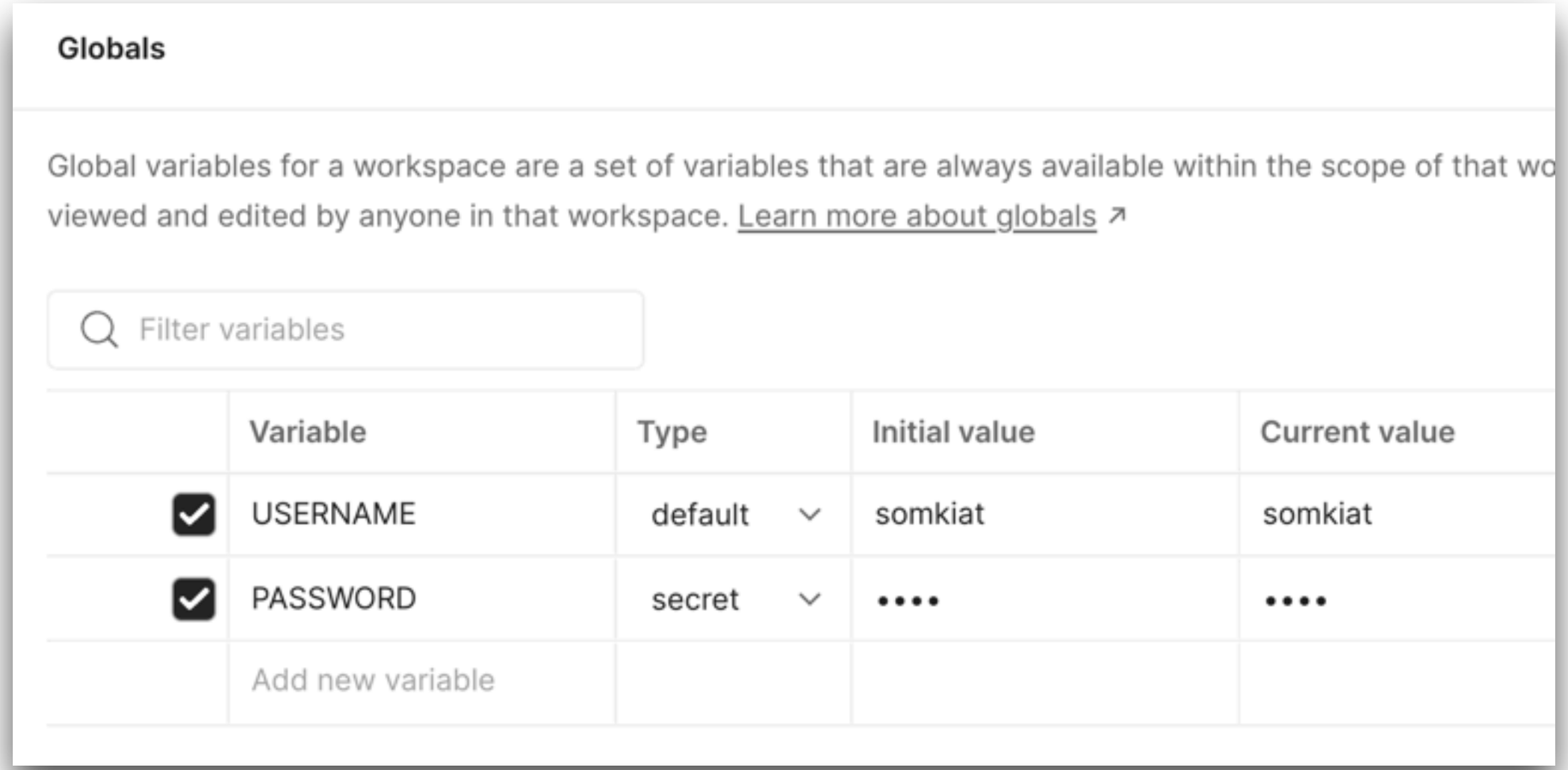
Variable Types

Plain text
Secret for sensitive data



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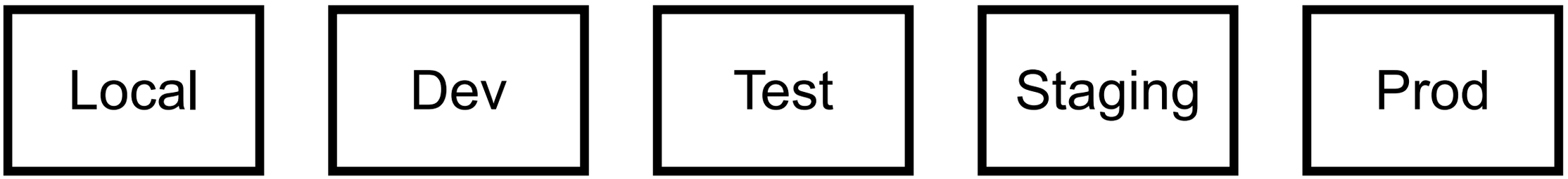
Environment to test



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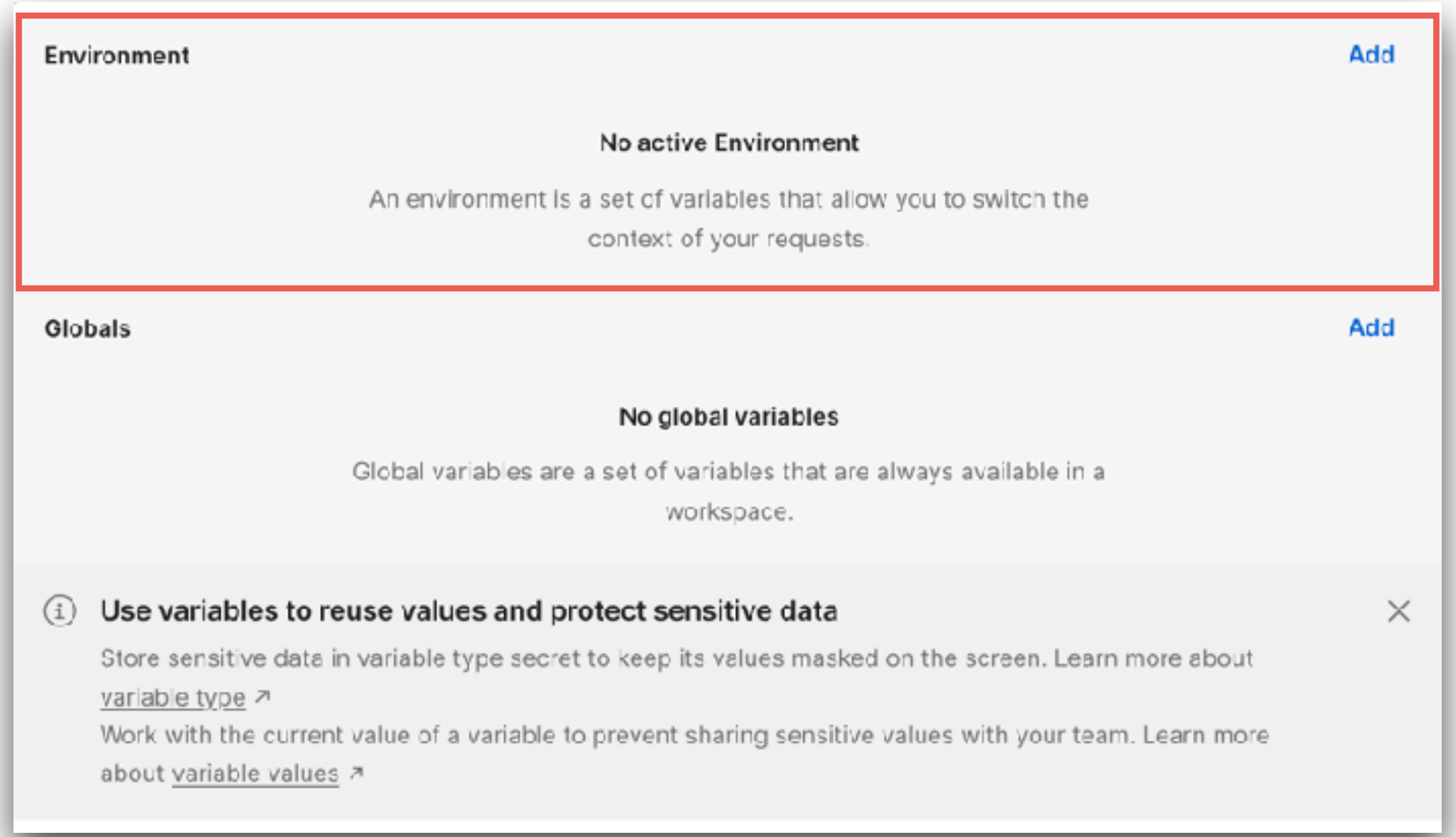
Environment in Postman



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Working with more data

Data-Driven Testing

Duplicate requests	Use external data files	Use pre-request script

CSV, JSON

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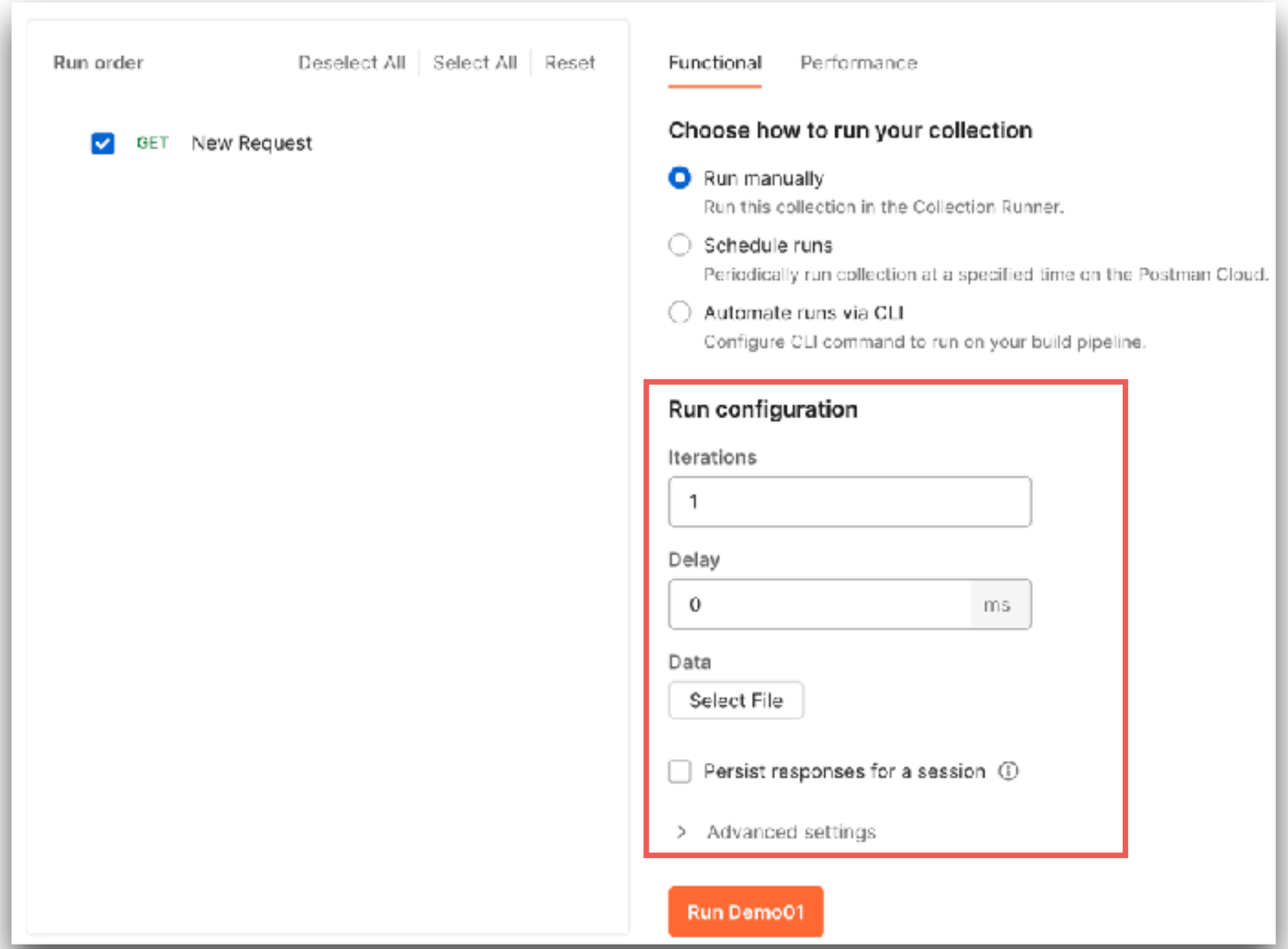
Working with CSV/JSON



https://learning.postman.com/docs/collections/running-collections/working-with-data-files/

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Workflow in postman

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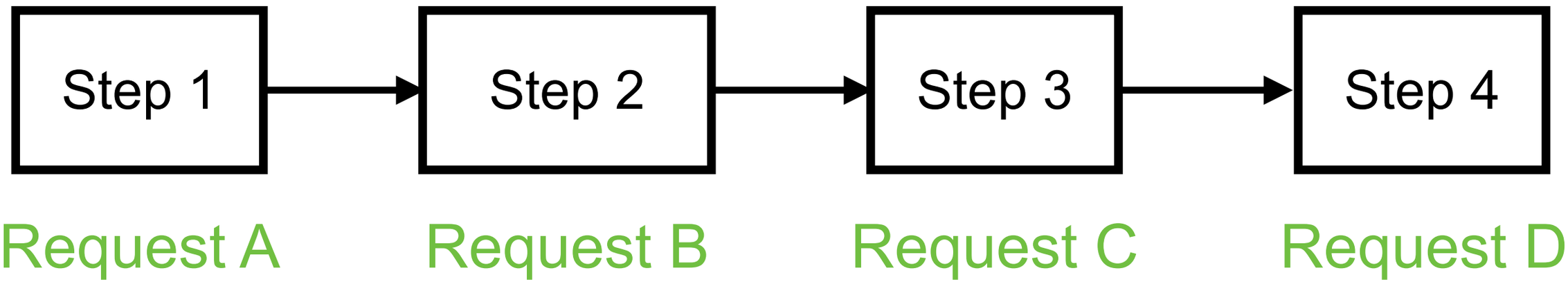
Workflow



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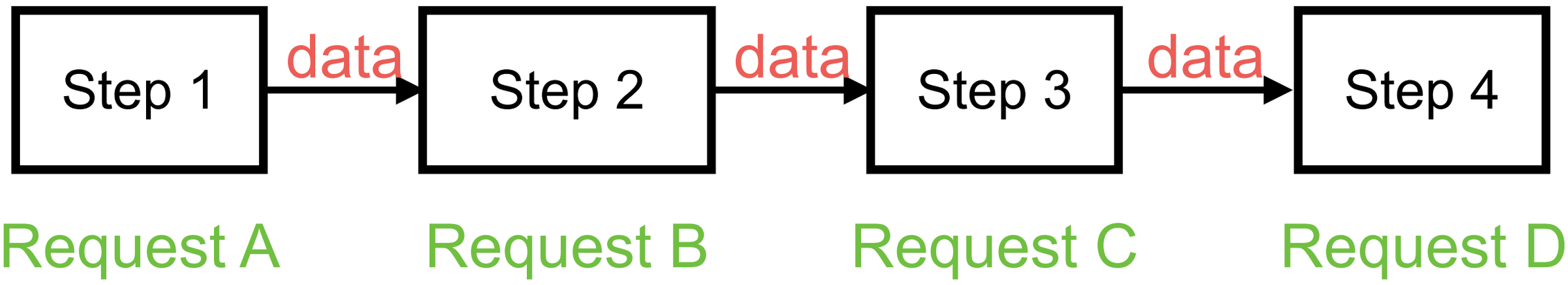
Workflow in postman ?



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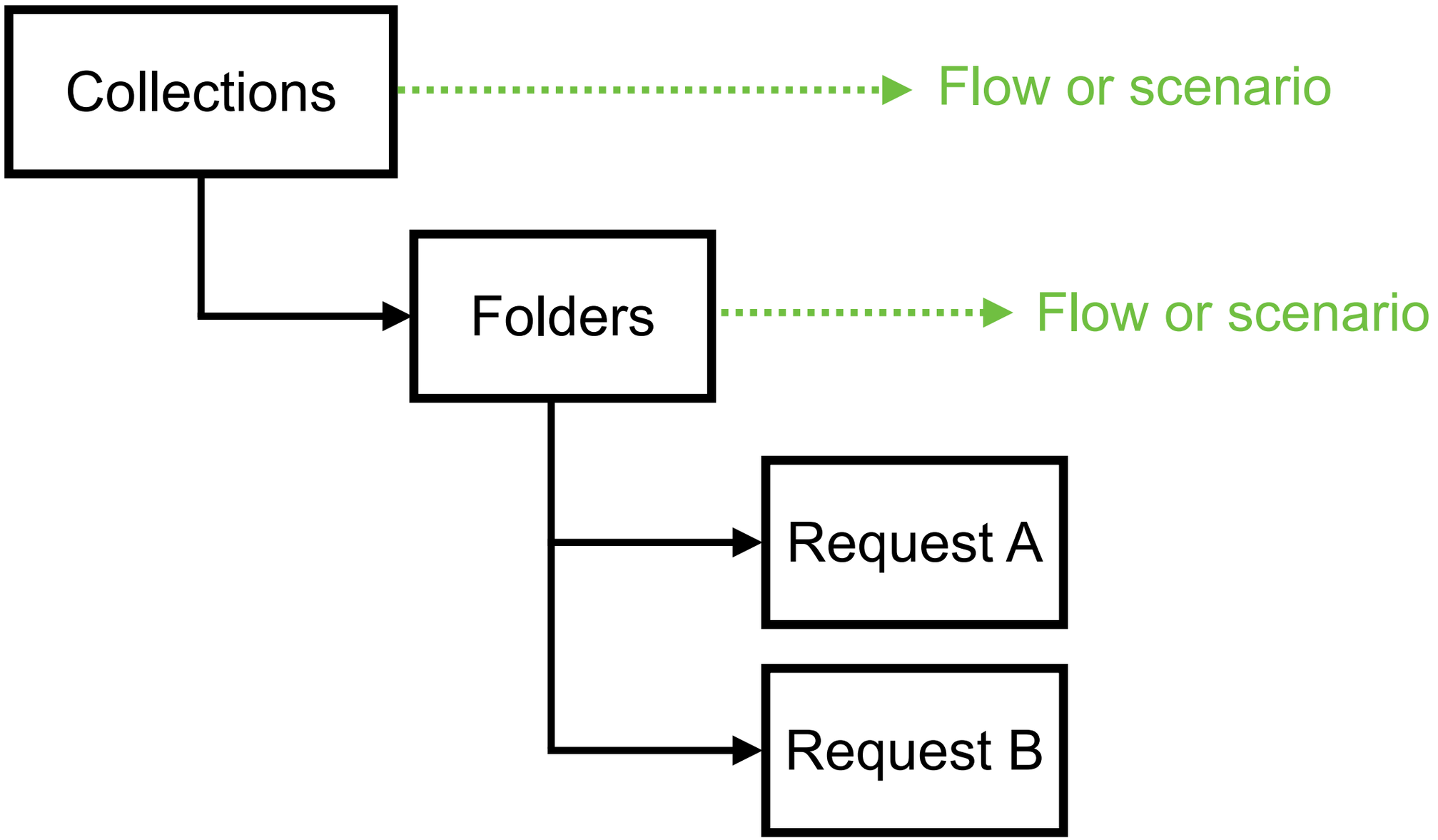
Postman structure



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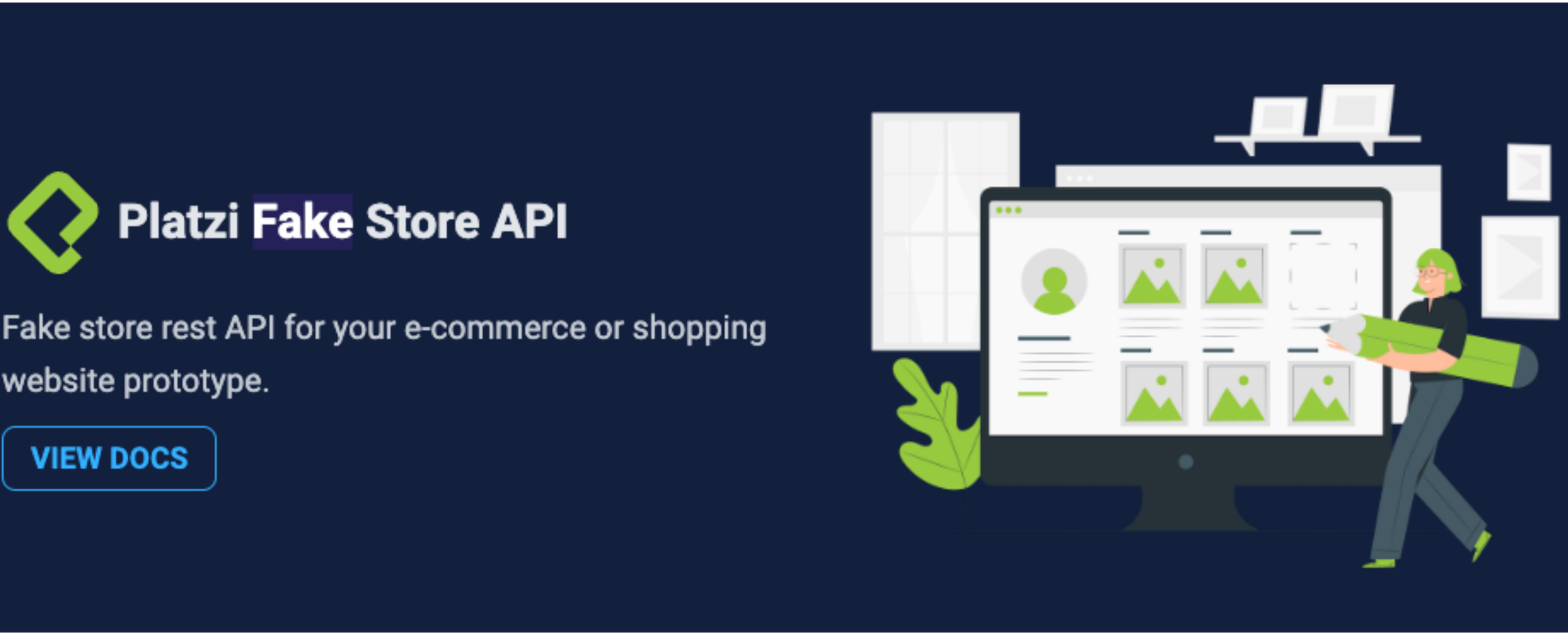
Workshop



https://fakeapi.platzi.com/

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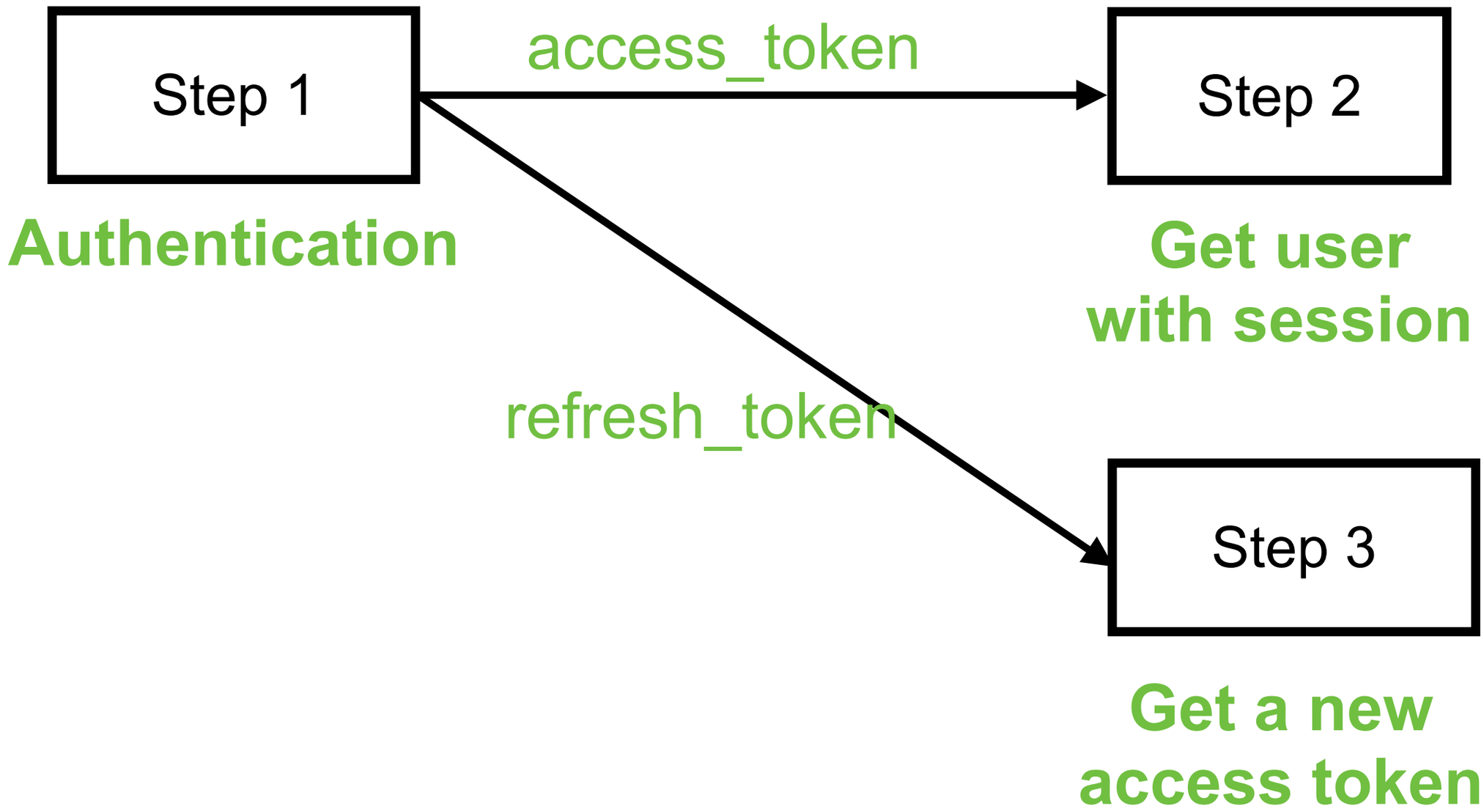
Workflow



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Solutions

Hard code !!

Variables and Test scripts

Test scripts

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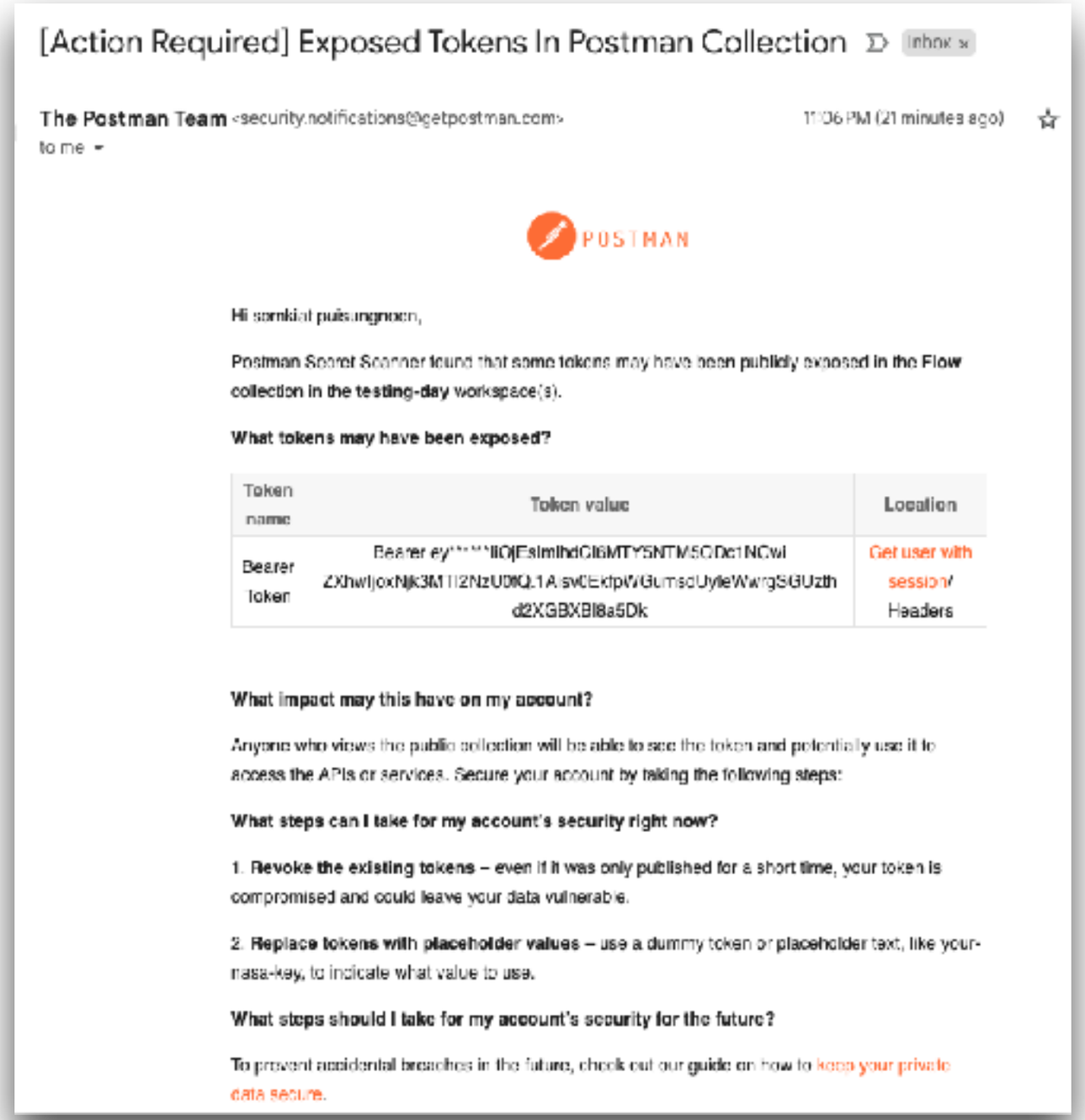
Exposed Tokens in Postman



[Action Required] Exposed Tokens In Postman Collection Inbox

The Postman Team <security.notifications@getpostman.com> 11:06 PM (21 minutes ago)
to me

POSTMAN

Hi somkiat puisungnoen,

Postman Secret Scanner found that some tokens may have been publicly exposed in the Flow collection in the testing-day workspace(s).

What tokens may have been exposed?

Token name	Token value	Location
Bearer Token	Bearer ey*****IIOjEsImlhdCI6MTY5NTM5ODc1NCwi ZXhwIjoxNjk3MTI2NzU0IQ.1AlsvCEktpWGumsdUyleWwrgSGUzth d2XGBXBI8a5Dk	Get user with session/ Headers

What impact may this have on my account?

Anyone who views the public collection will be able to see the token and potentially use it to access the APIs or services. Secure your account by taking the following steps:

What steps can I take for my account's security right now?

1. **Revoke the existing tokens** – even if it was only published for a short time, your token is compromised and could leave your data vulnerable.

2. **Replace tokens with placeholder values** – use a dummy token or placeholder text, like your-nasa-key, to indicate what value to use.

What steps should I take for my account's security for the future?

To prevent accidental breaches in the future, check out our guide on how to keep your private data secure.

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Use Variables in test script

Collection variables

```
var jsonData = pm.response.json();
var accessToken = jsonData.access_token;
var refreshToken = jsonData.refresh_token;

pm.collectionVariables.set("accessToken", accessToken);
pm.collectionVariables.set("refreshToken", refreshToken);
```

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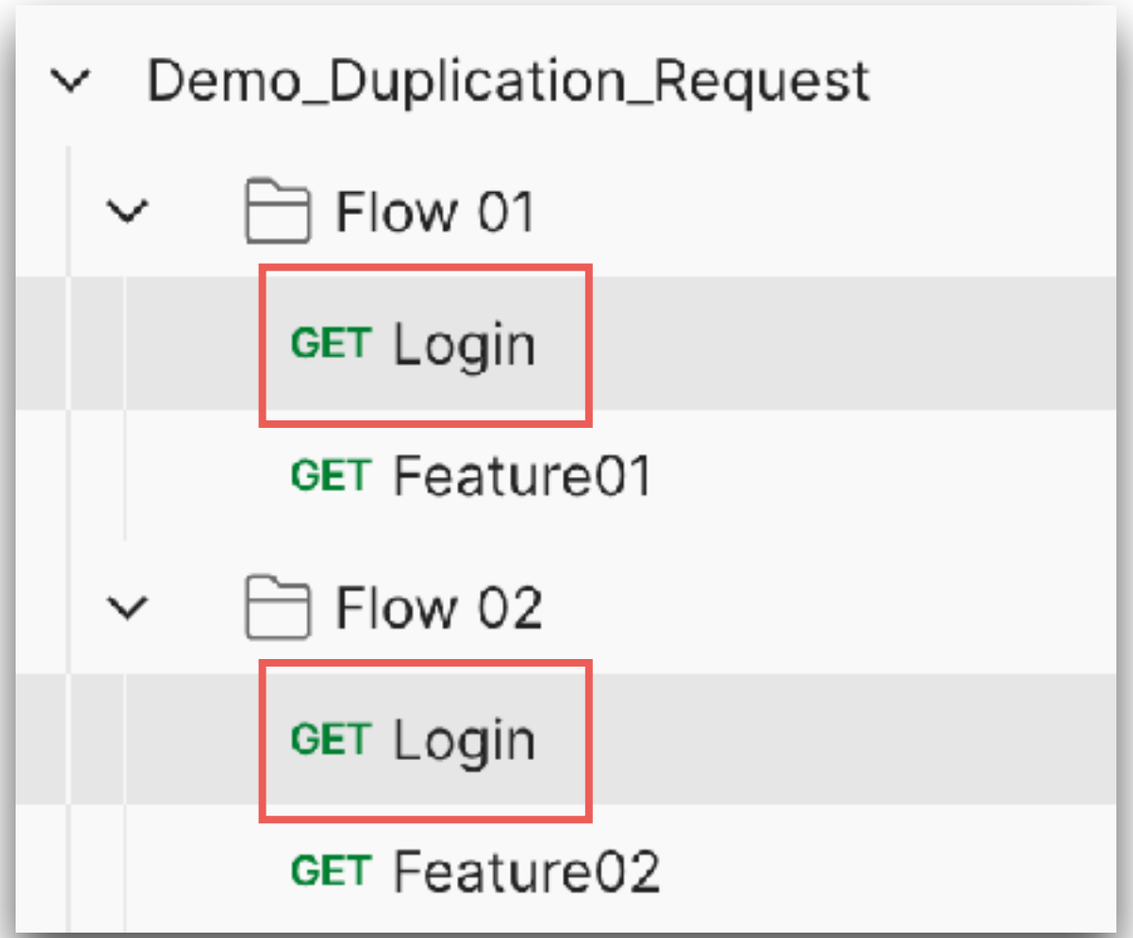
Duplication Requests !!



https://learning.postman.com/docs/writing-scripts/script-references/postman-sandbox-api-reference/#scripting-with-request-data

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Write code

```
const postRequest = {
  url: 'https://postman-echo.com/post',
  method: 'POST',
  header: {
    'Content-Type': 'application/json',
    'X-Foo': 'bar'
  },
  body: {
    mode: 'raw',
    raw: JSON.stringify({ key: 'this is json' })
  }
};
pm.sendRequest(postRequest, (error, response) => {
  console.log(error ? error : response.json());
});
```

https://github.com/up1/workshop-postman/wiki/Workshop-Code-Snippets

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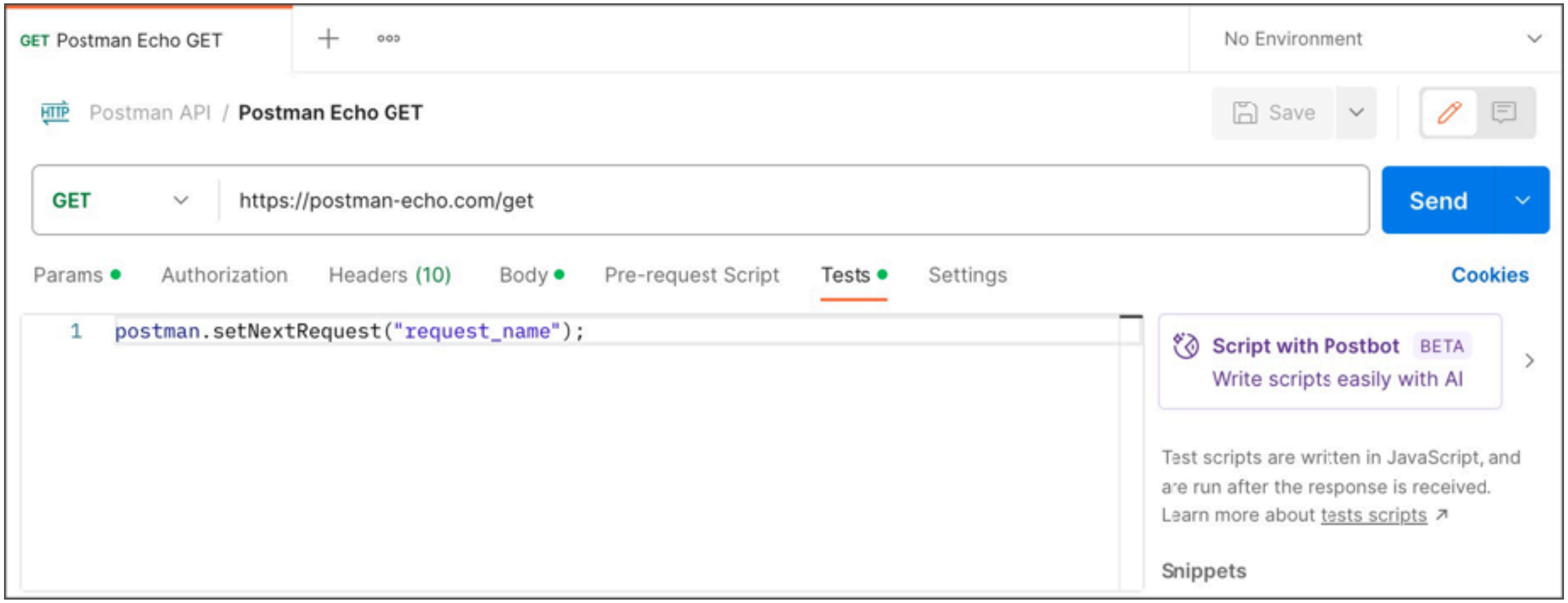
Call request in collection



https://learning.postman.com/docs/collections/running-collections/building-workflows/

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Terminate execution !!

postman.setNextRequest(null);

https://learning.postman.com/docs/collections/running-collections/building-workflows/

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Software Delivery Process

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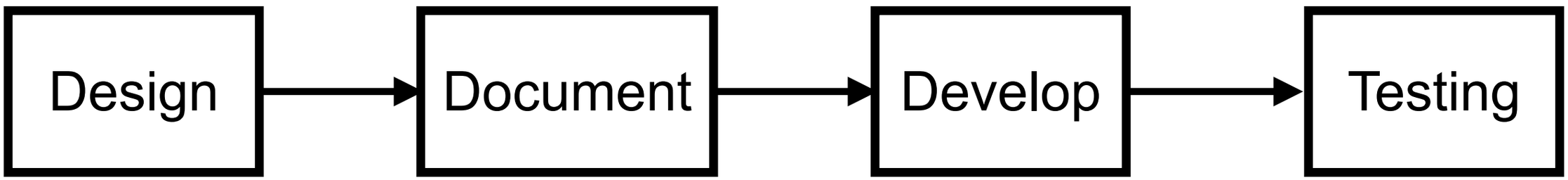
Software Delivery Process



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API Development

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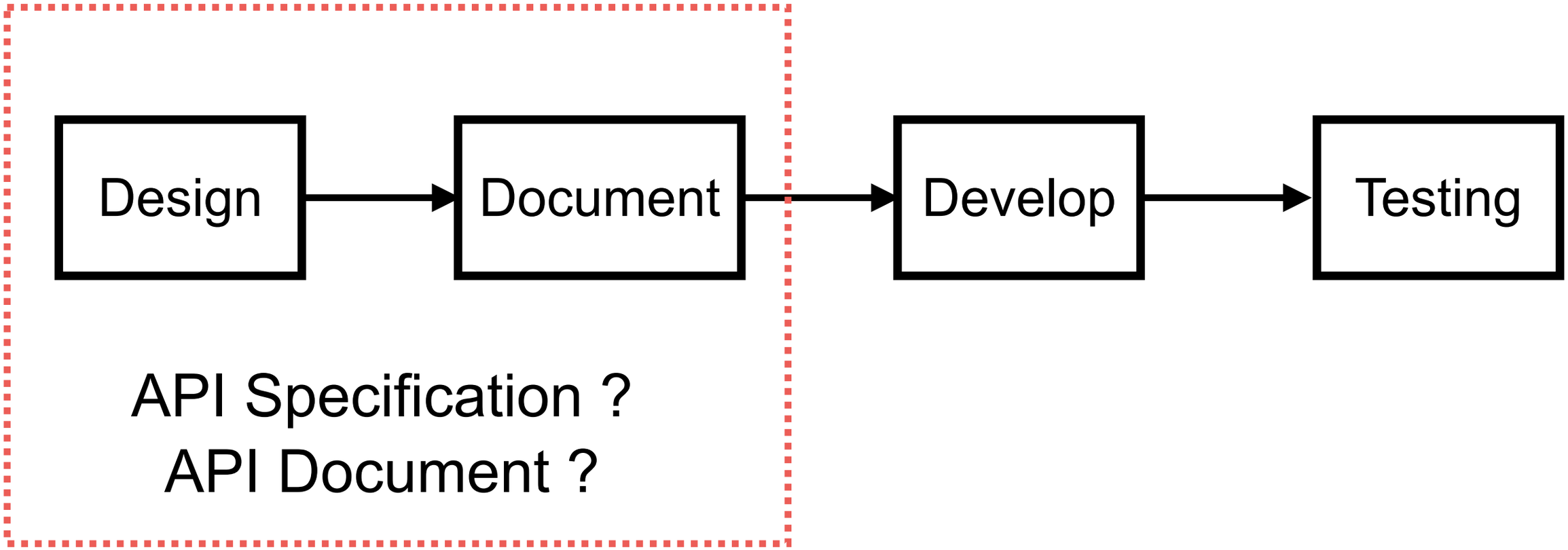
APIs



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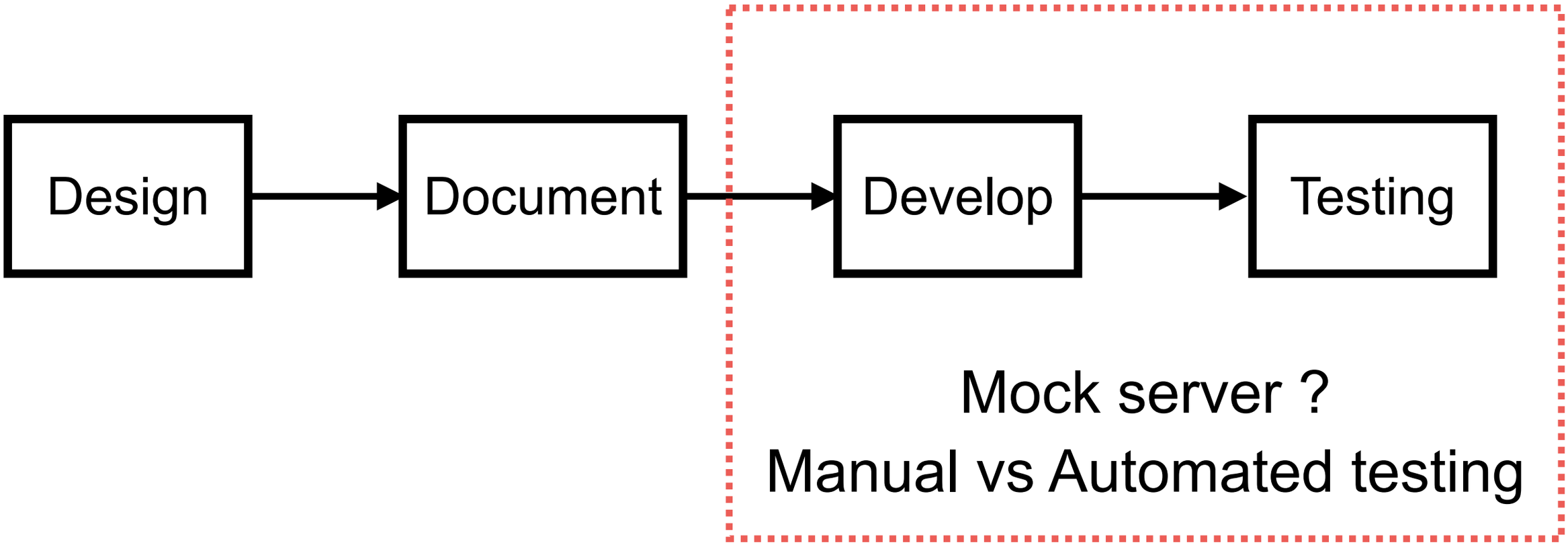
APIs



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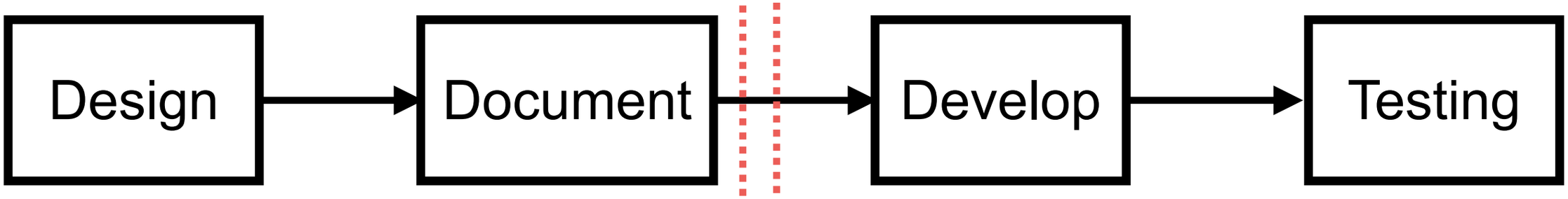
Working with Postman



API Specification ?
API Document ?

Mock server ?
Manual vs Automated testing

POSTMAN

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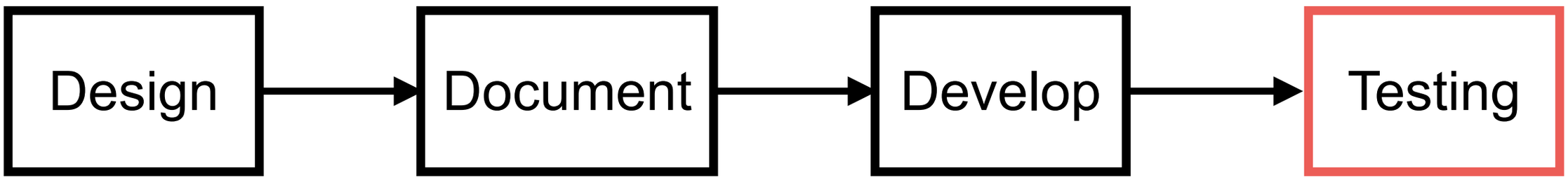
ทำก่อนคิด (ทดสอบอย่างไร)



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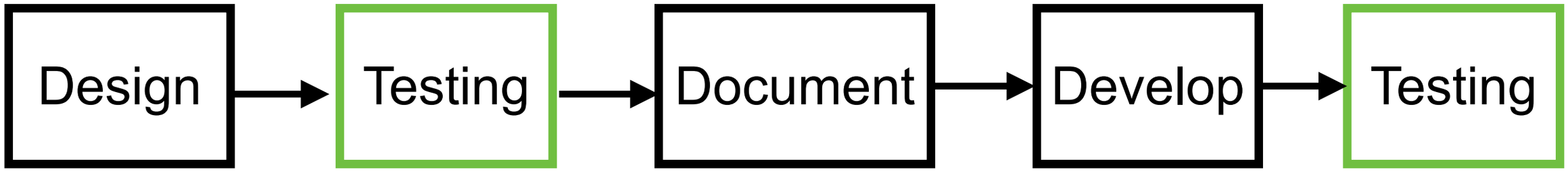
คิดก่อนทำ



Why and What to test ?

Validation
Verification

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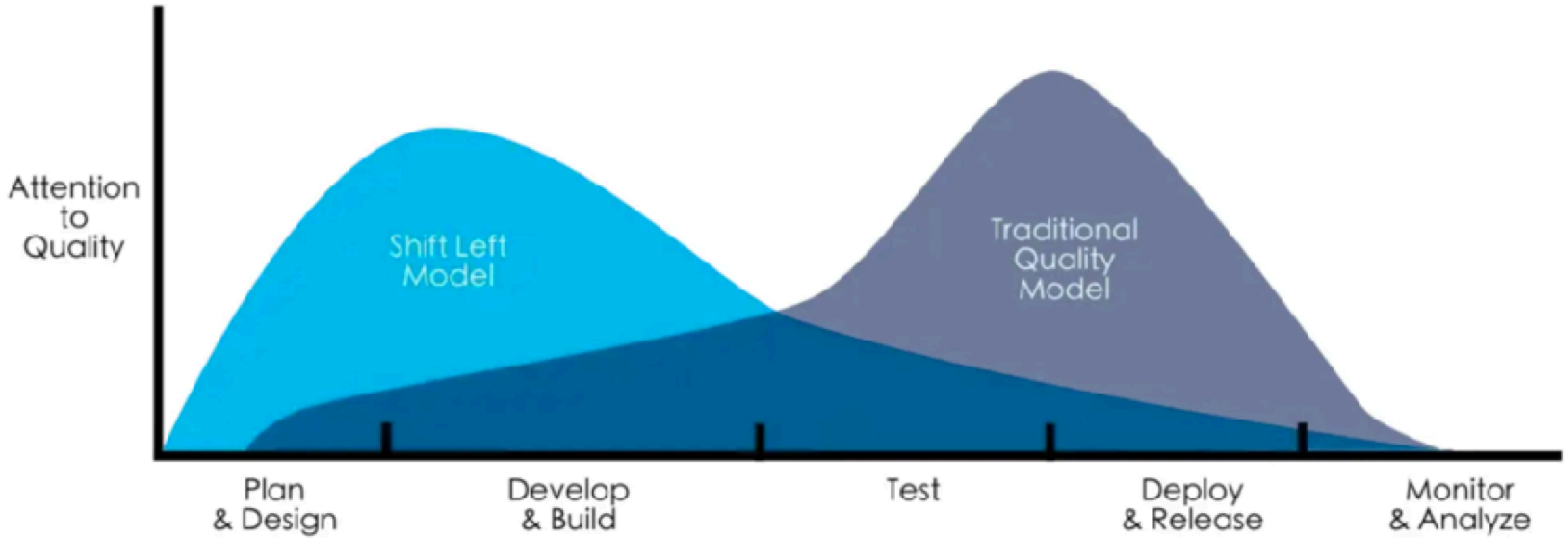
คิดก่อนทำ



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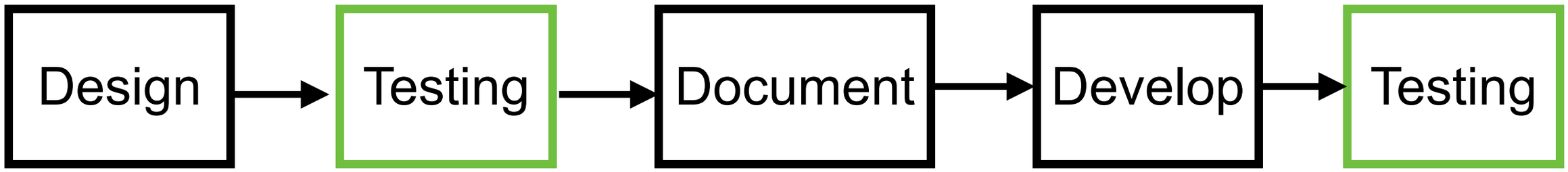
High Quality



Validation
Verification

Why and What to test ?

POSTMAN

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Workshop

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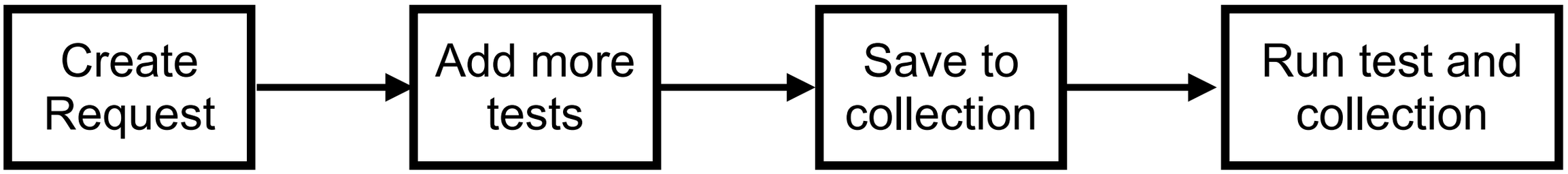
Simple Process



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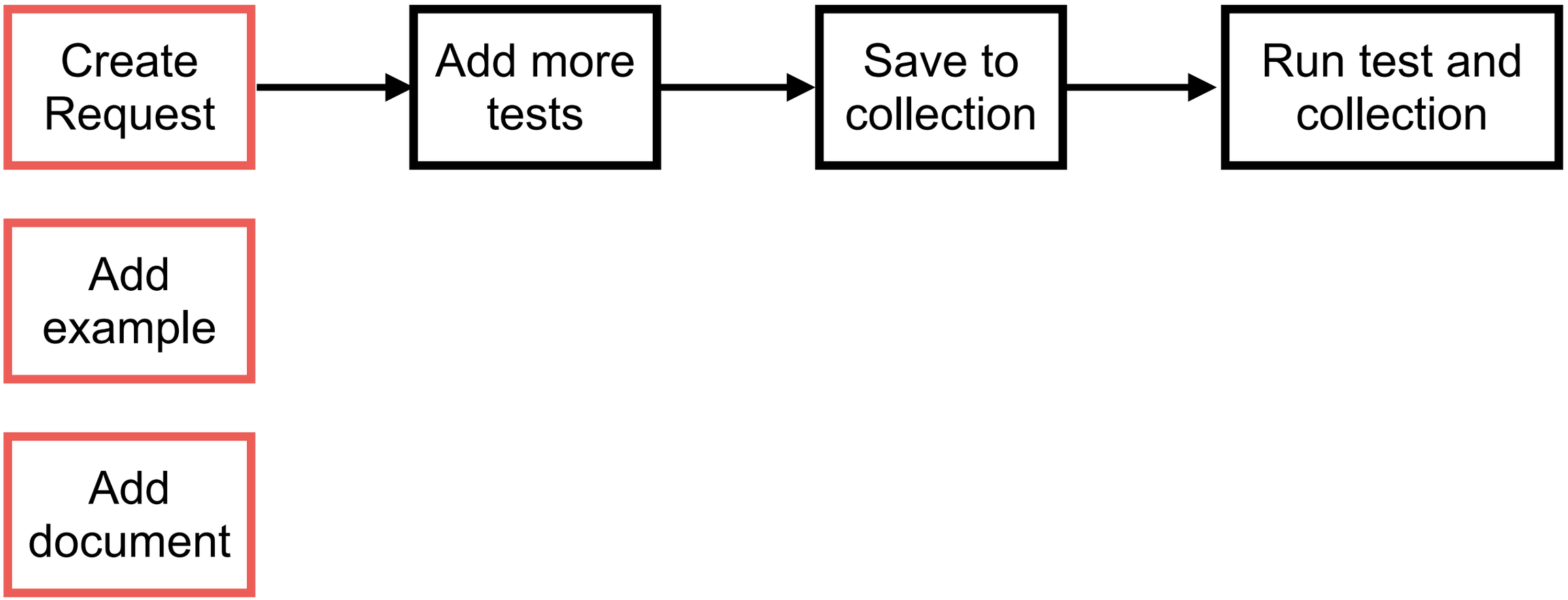
Design first with Postman



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Add more tests !!

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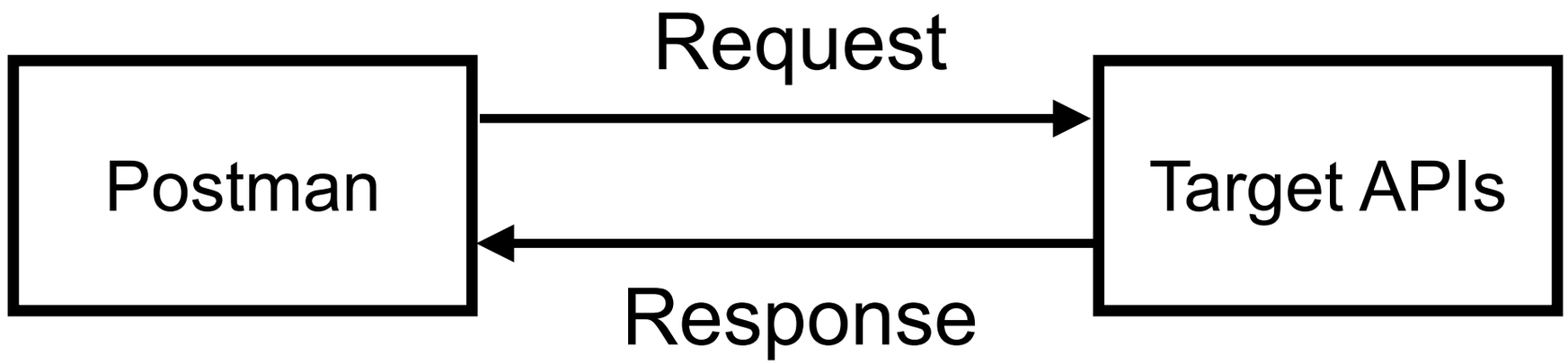
Why and What to test ?

Thinking about testing (API)



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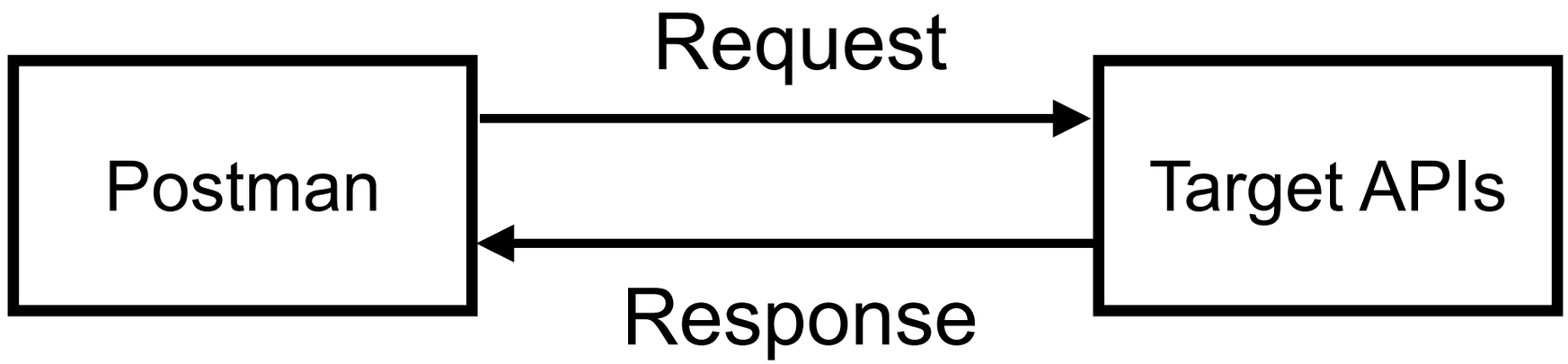
Why and What to test ?

Thinking about testing (API)



Status code	Response time	Response body	Response schema

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Add test cases
in request and collections

JavaScript

https://learning.postman.com/docs/writing-scripts/test-scripts/

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Automation process with Postman

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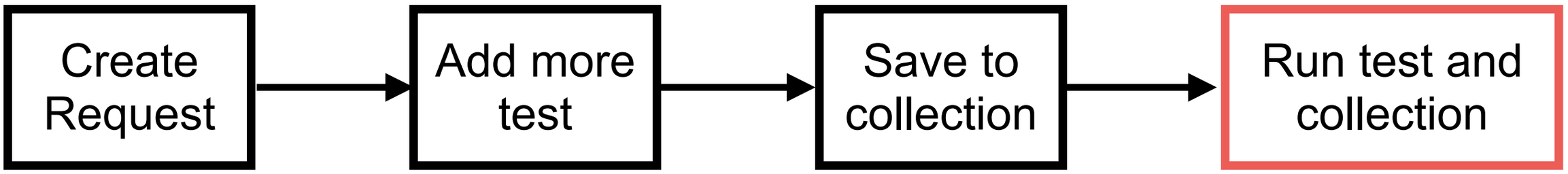
Testing process ?



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Testing with Postman

Collection runner

Postman CLI

Newman CLI

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Newman CLI

Send request and receive response
Run collections in command line
Integrate with CI/CD tools

$npm install -g newman

https://github.com/postmanlabs/newman

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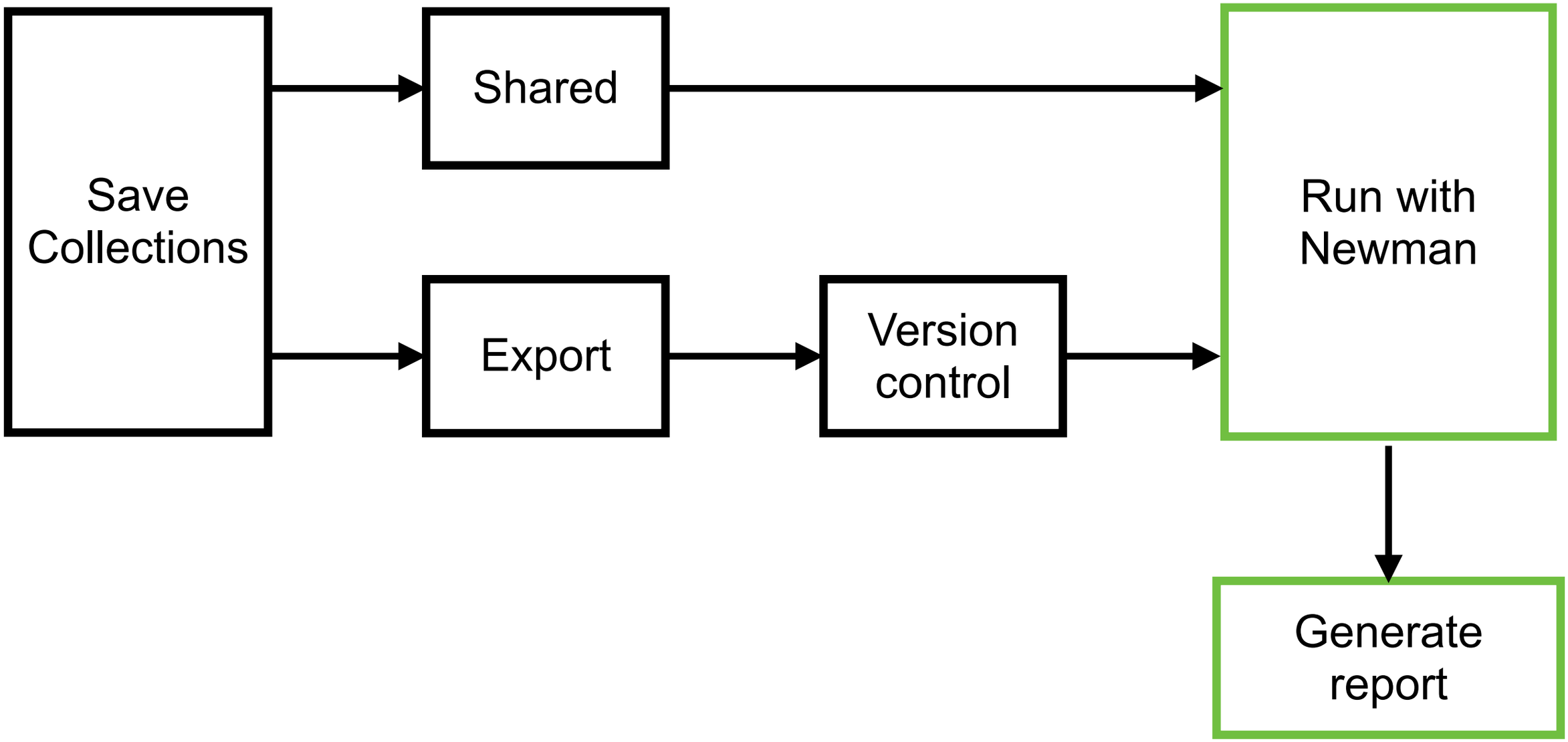
Working with Newman



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Newman CLI

Run collection
Run requests in folder
Working with data
Working with environments
Working with OS variables

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Working with OS variables

Test script

```
var user = pm.globals.get(“demo_username”)
var pass = pm.globals.get(“demo_password”)
```

Run in command line

```
$newman run your-collection.json
  --global-var demo_username=demo user
  --global-var demo_password=demo password
```

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Test Report

CLI
JUNIT
JSON
HTML

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Mock Server

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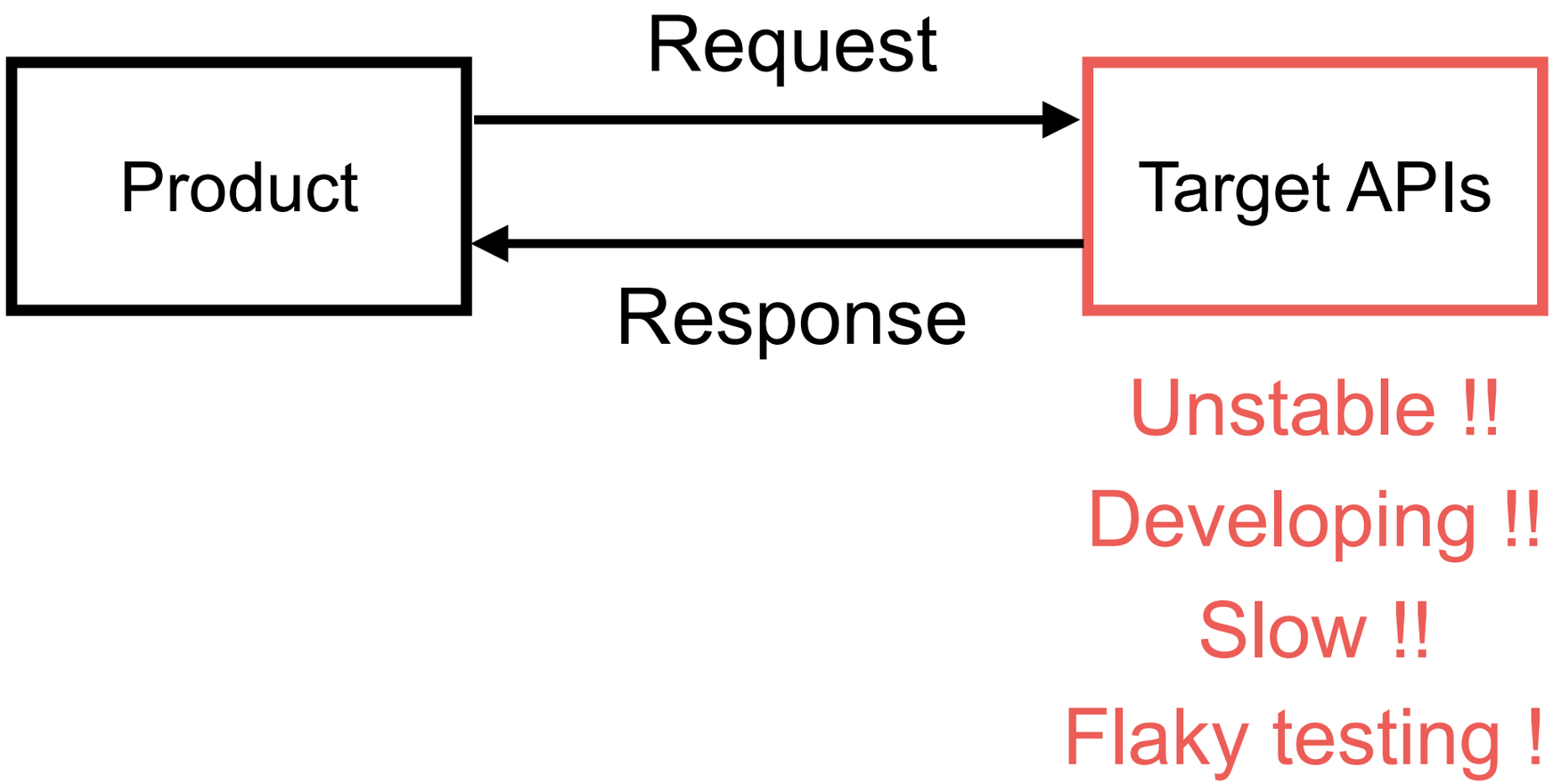
Problems ?



https://learning.postman.com/docs/designing-and-developing-your-api/mocking-data/setting-up-mock/

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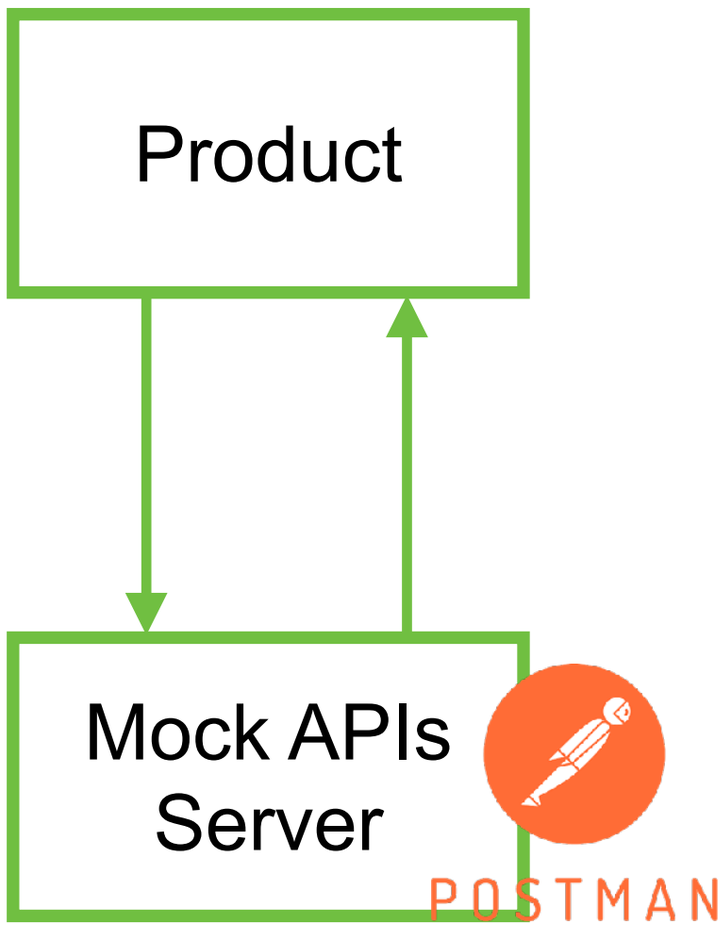
Mock Server with Postman



Target APIs

Unstable !!

Developing !!

Slow !!

Flaky testing !!

https://learning.postman.com/docs/designing-and-developing-your-api/mocking-data/setting-up-mock/

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Workshop MockServer

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Automated Testing Lifecycle

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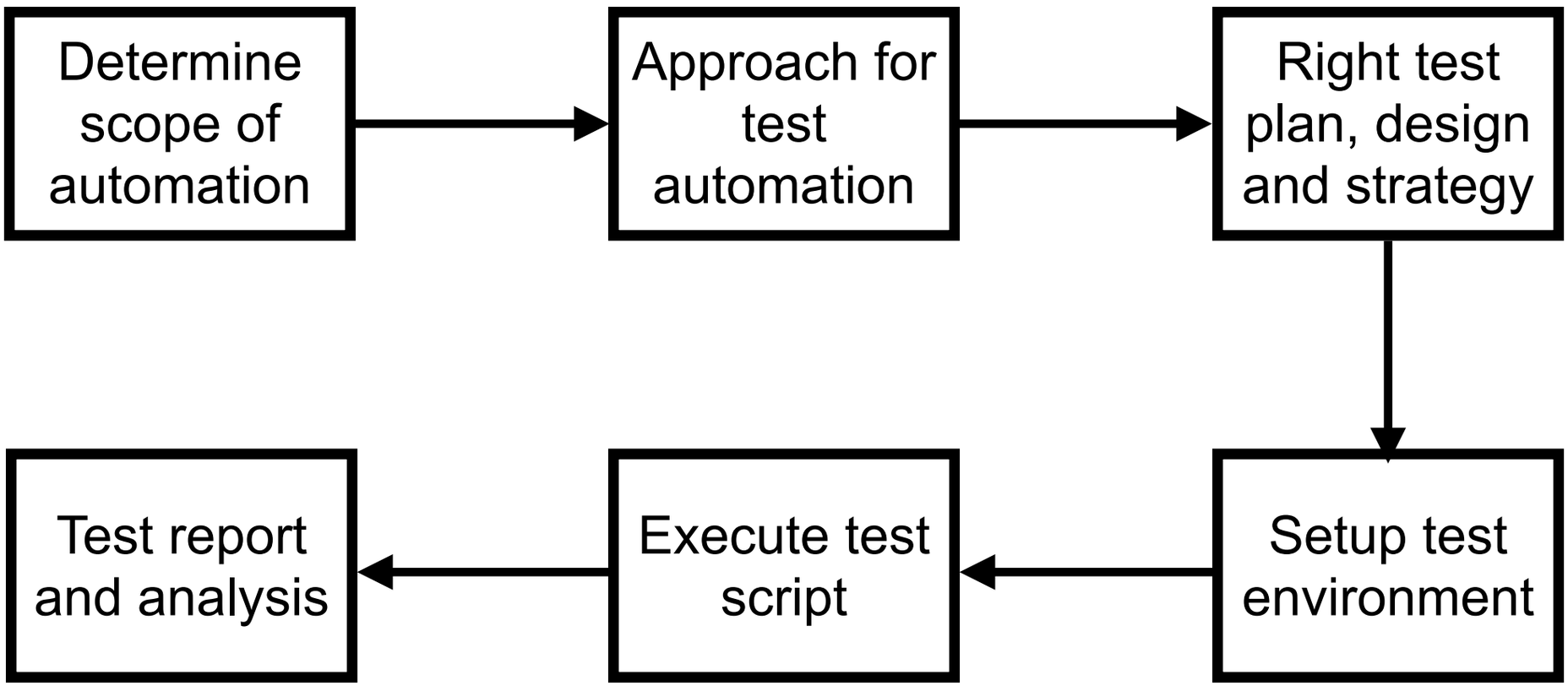
Automated Testing Lifecycle



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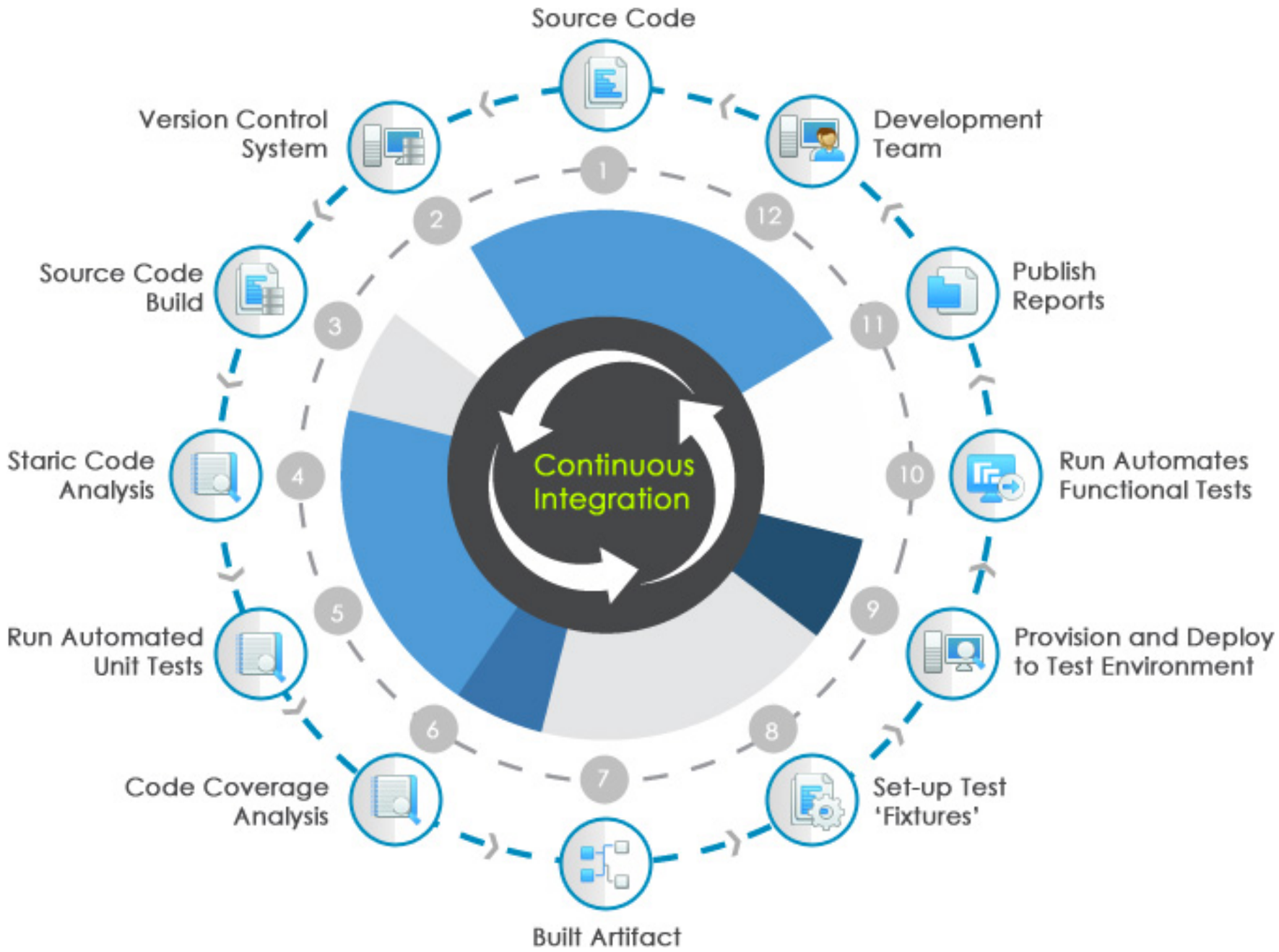
Continuous Integration



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Continuous Testing

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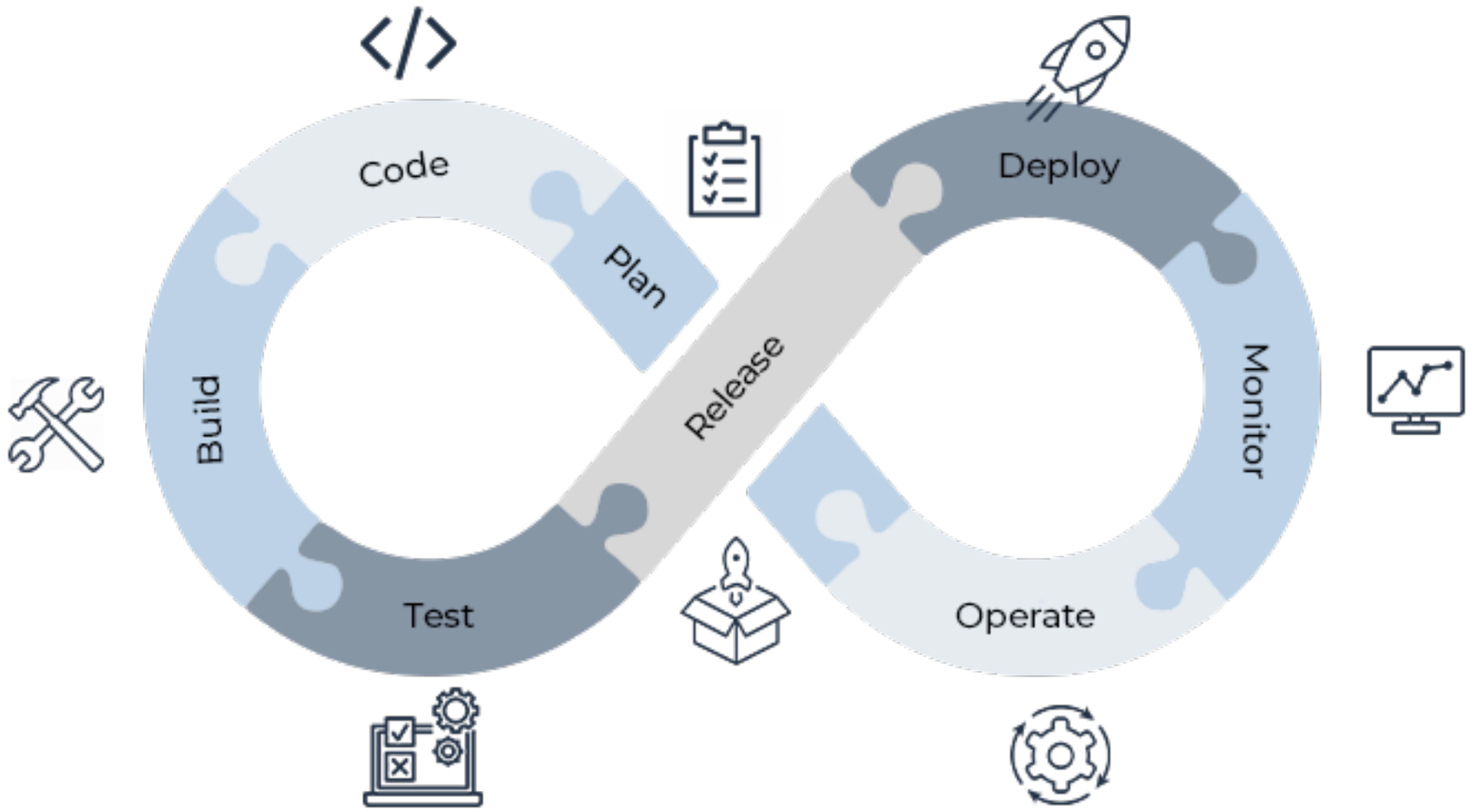
DevTestOps



https://www.xenonstack.com/insights/devtestops-advantages

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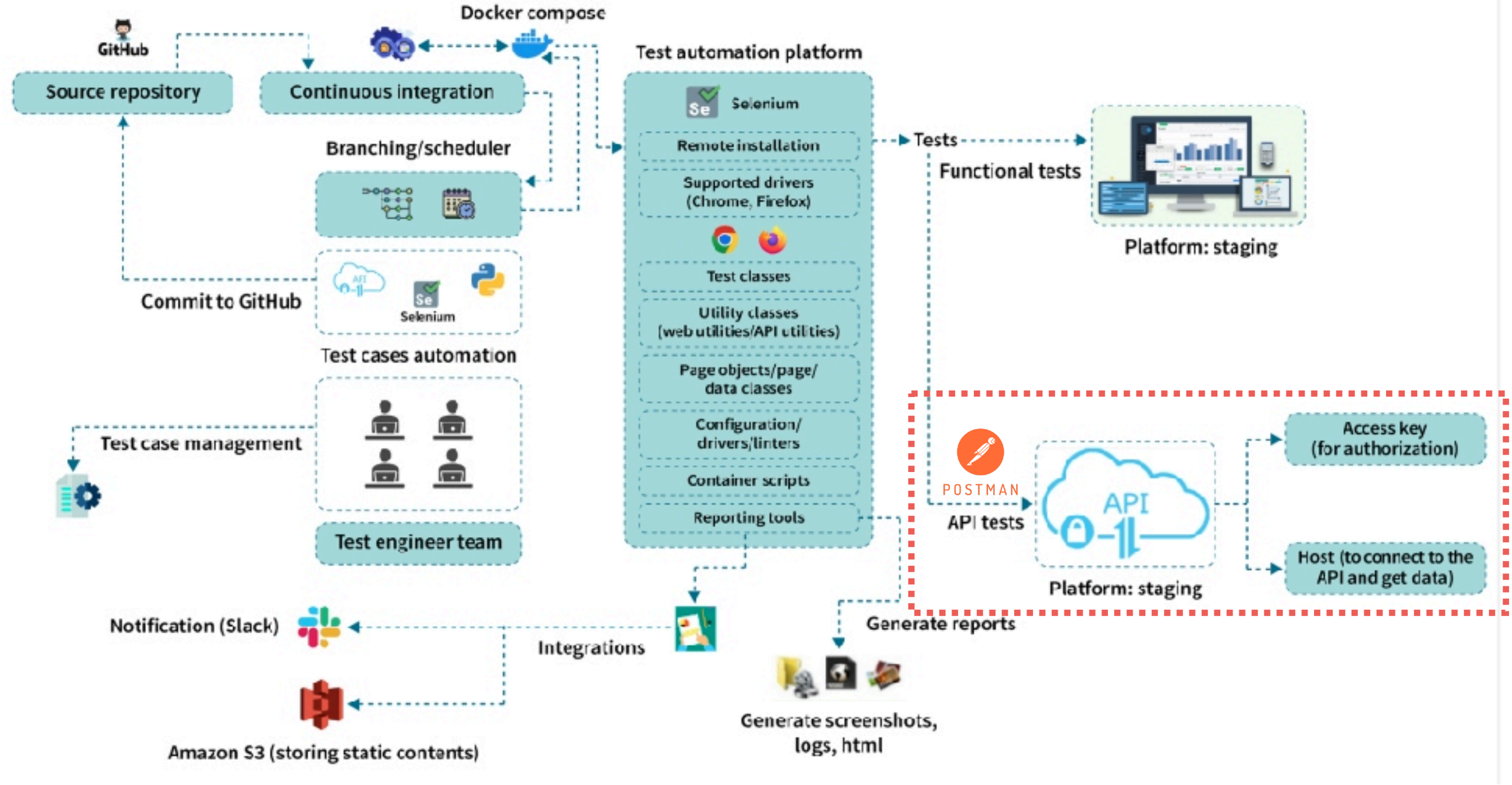
Example



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Test Strategies ?

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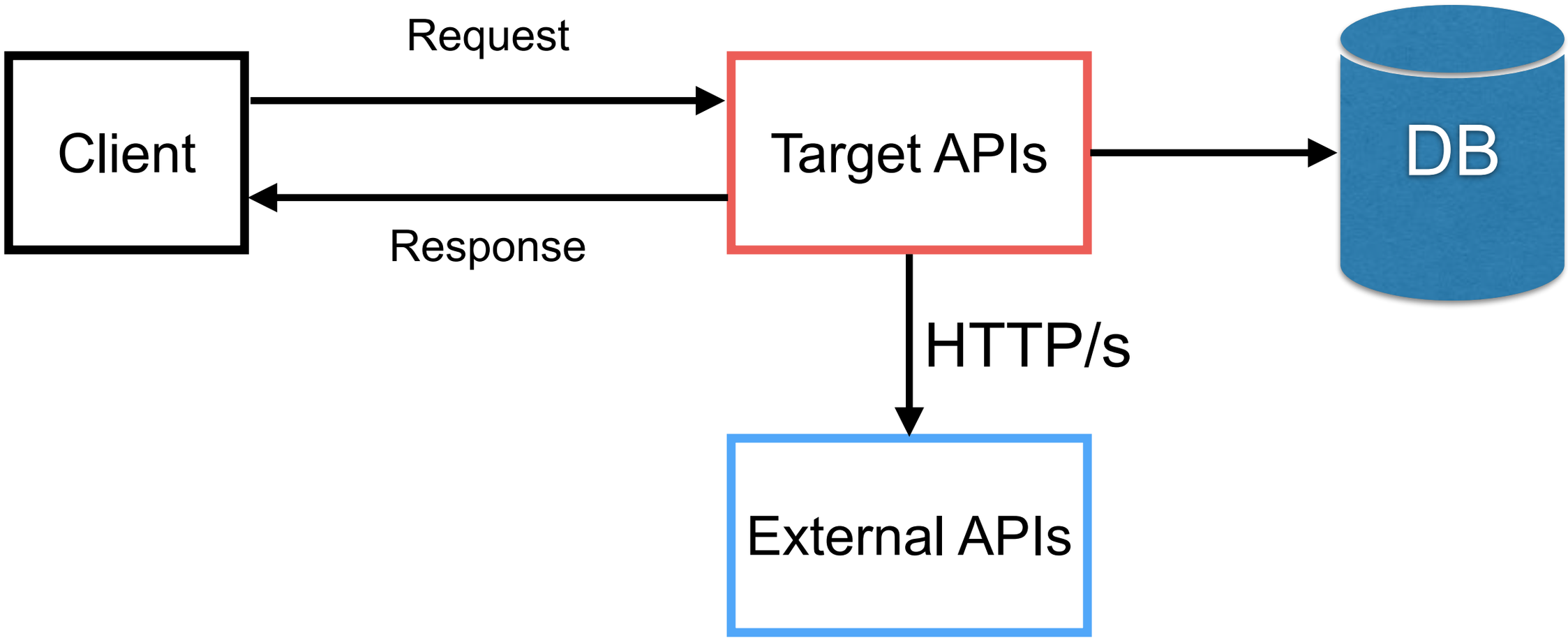
Architecture



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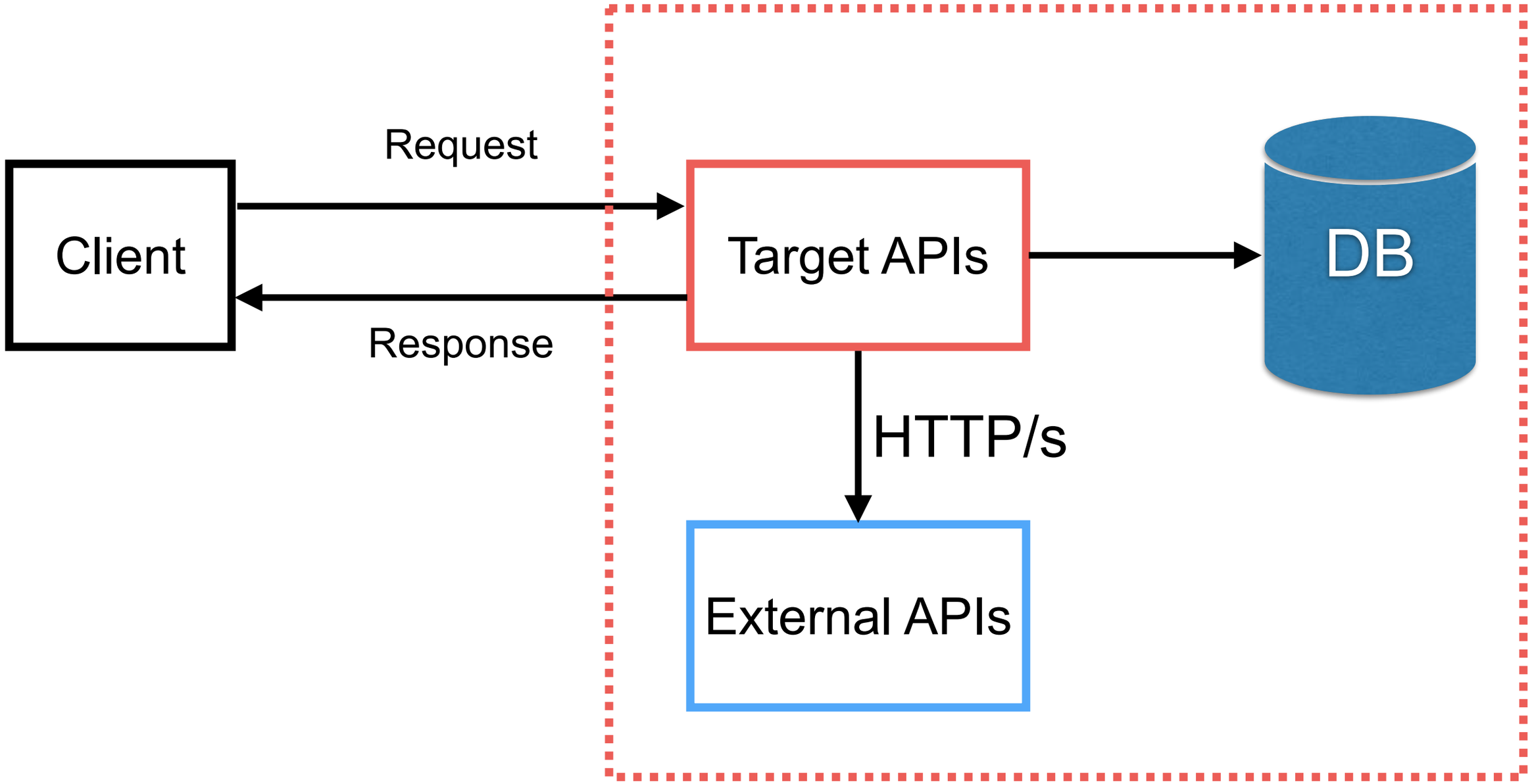
What and Why to test ?



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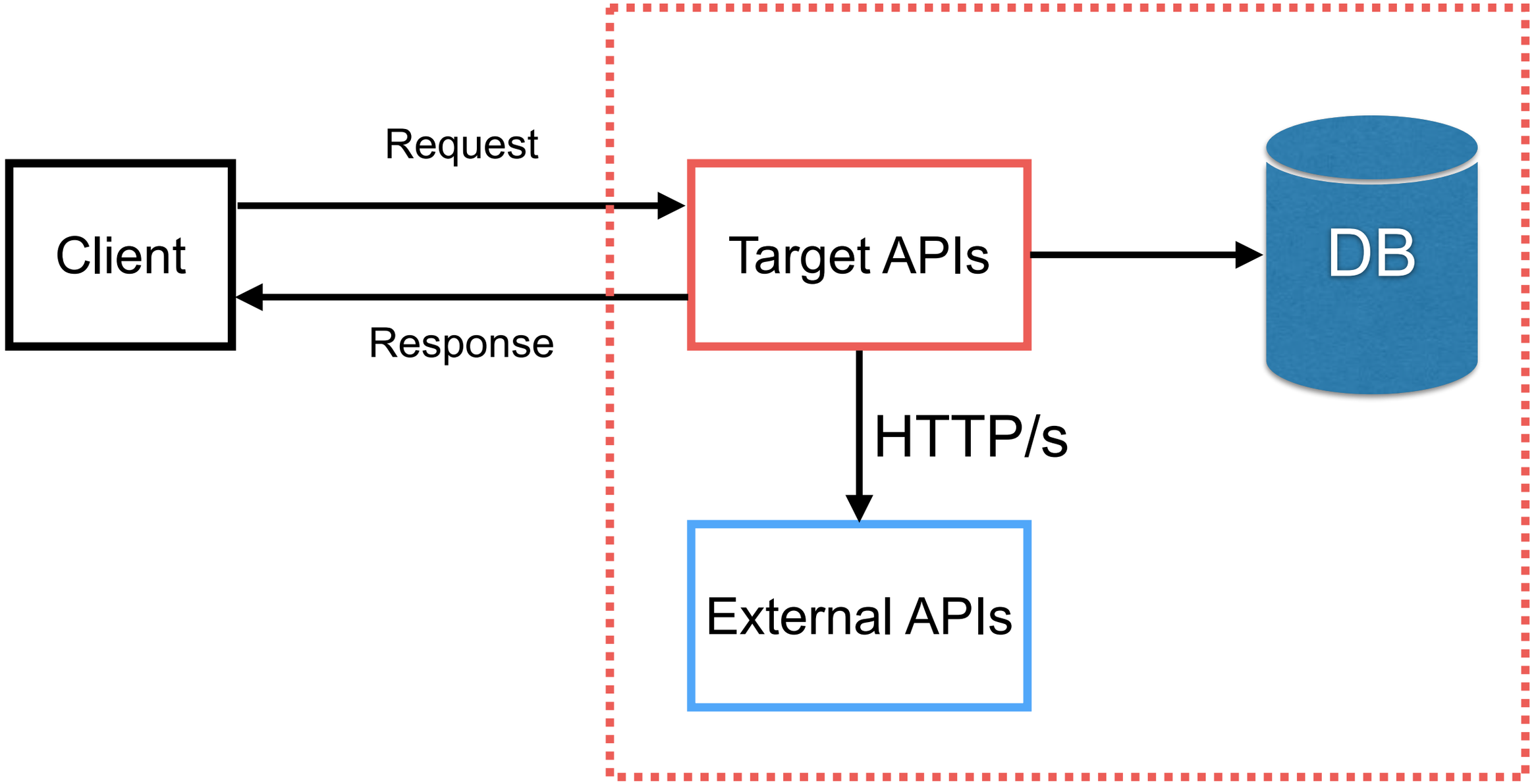
Testing with real dependencies



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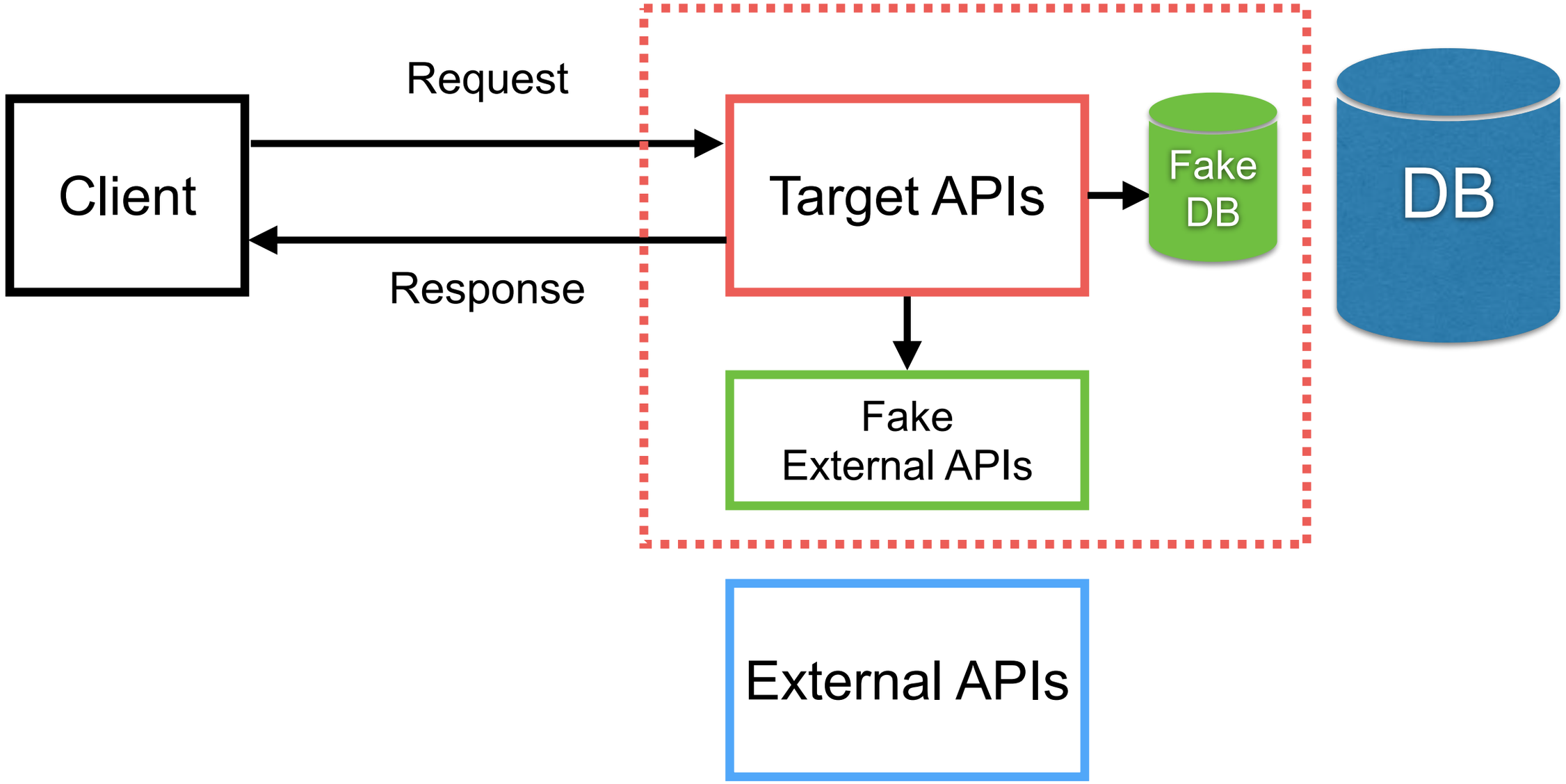
Testing with fake dependencies



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Contract Testing

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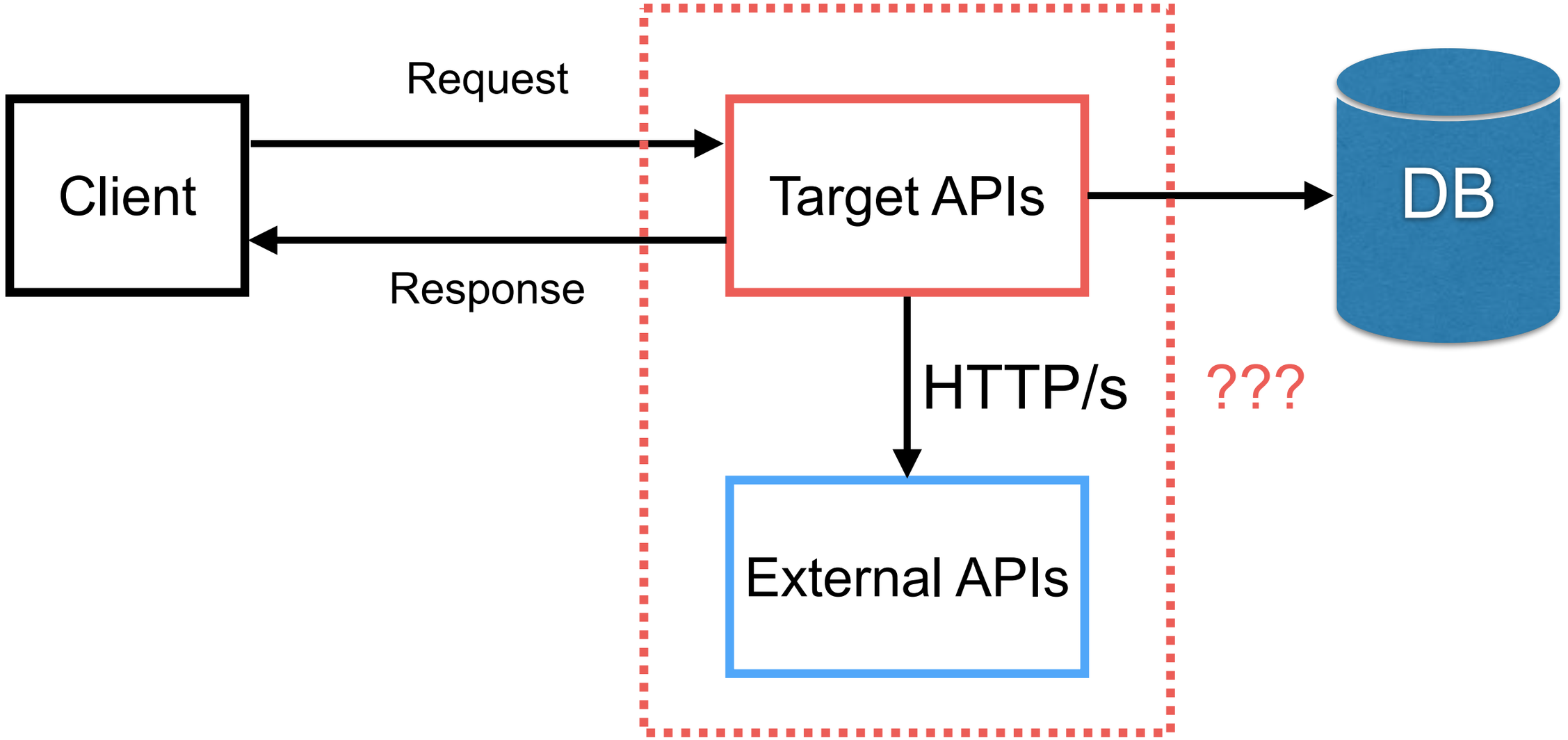
Contract Testing ?



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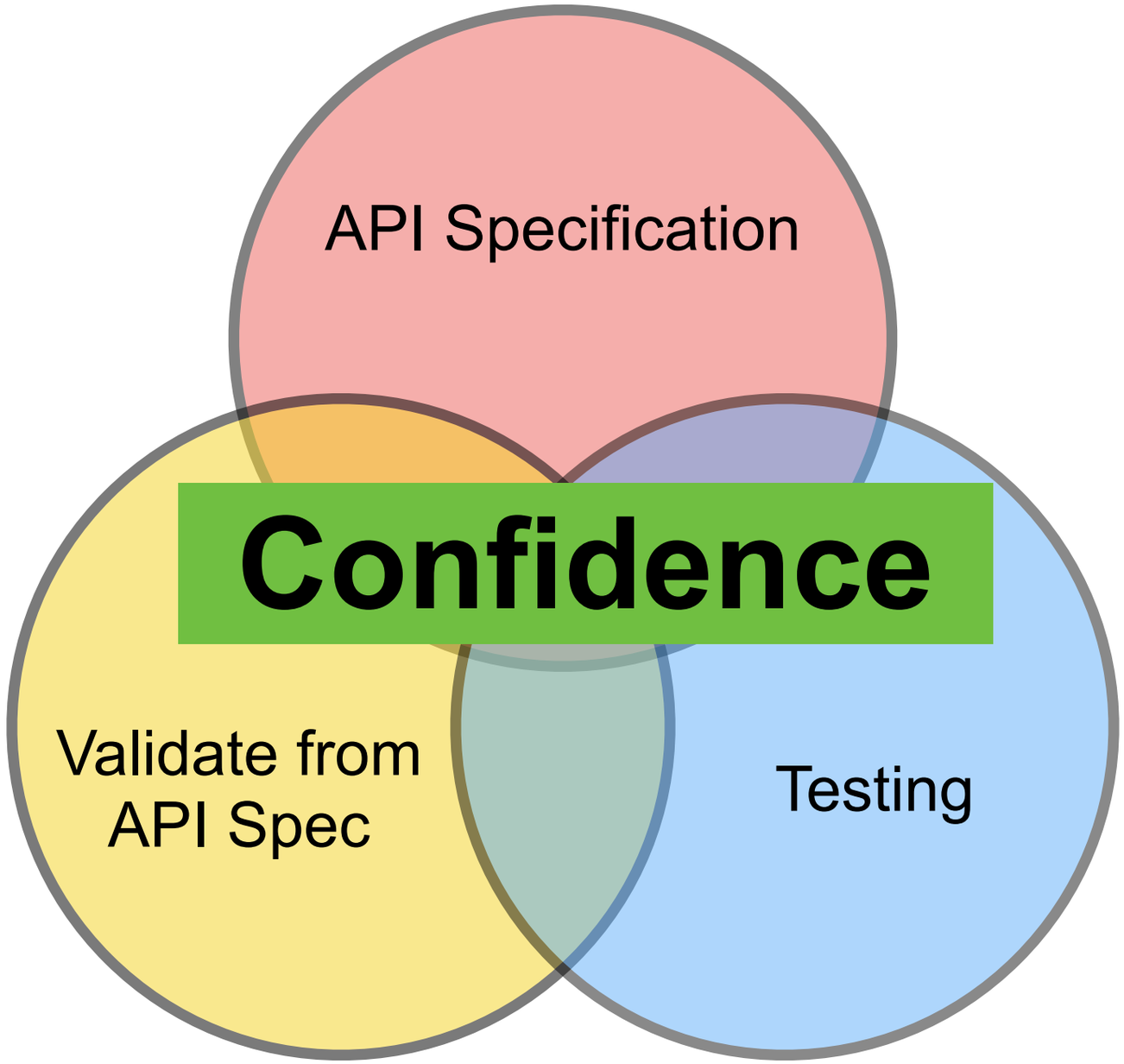

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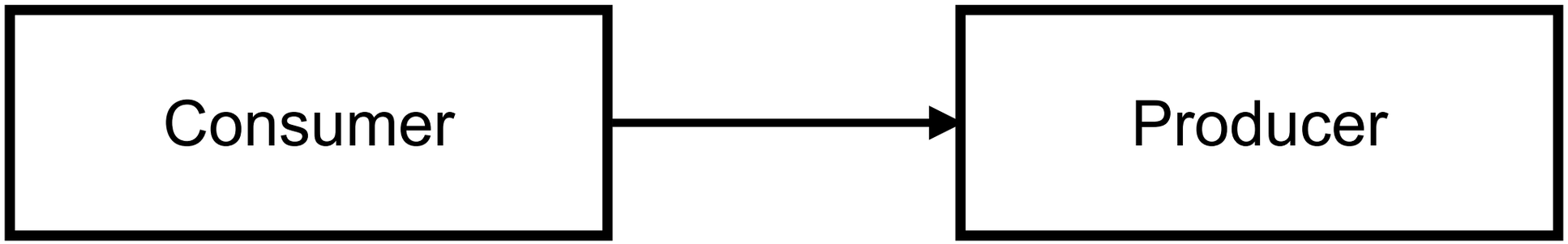
Testing ?



How to call/use API ?

How consumer use my API ?

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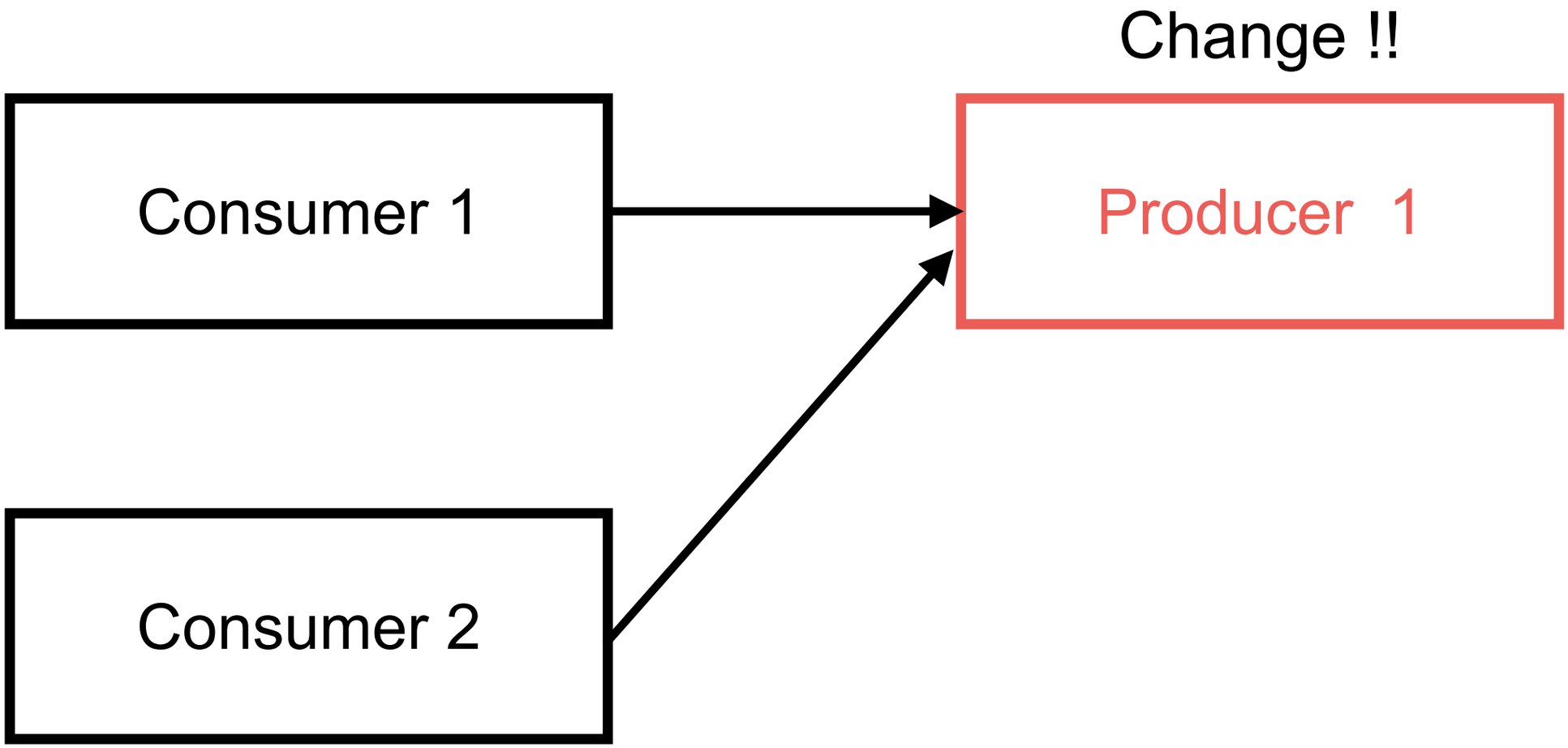
Testing ?



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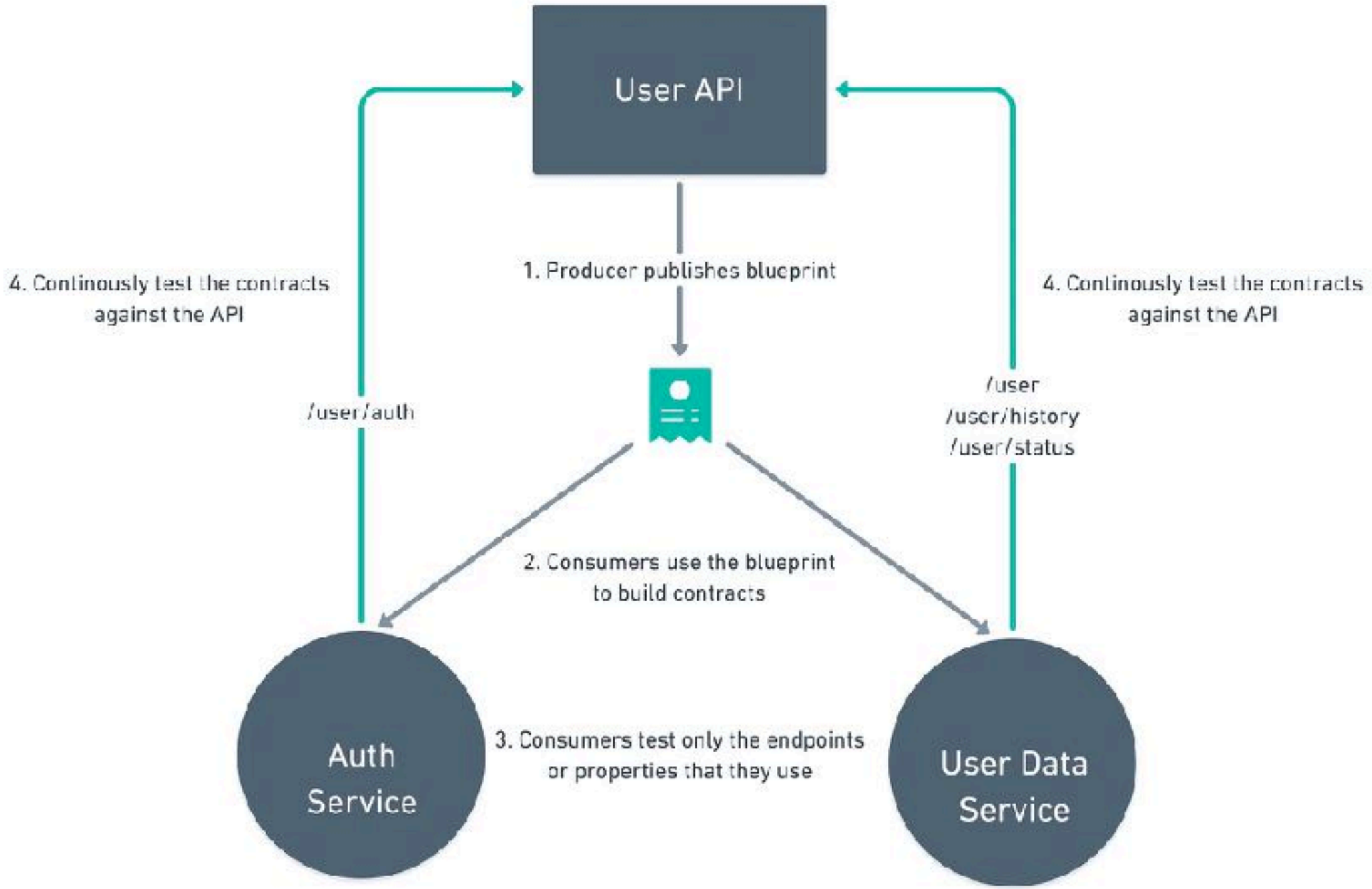
Example



https://medium.com/better-practices/consumer-driven-contract-testing-using-postman-f3580dba5370

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Workshop

https://postman-echo.com

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1. Producer publish blueprint

Design API Specification
Validate schema

API
GET /get?key1=value1&key2=value2
POST /post key1=value1 key2=value2

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2. Consumer create contract

Call APIs from provider
Define inputs and expected results
Create requests
Write test scripts to verify

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3. Mock provider in consumer-side

Easy to test and develop in consumer-side
Define inputs and expected results

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More testing !!

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Snapshot testing

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Performance testing

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Security testing

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More features

POSTMAN

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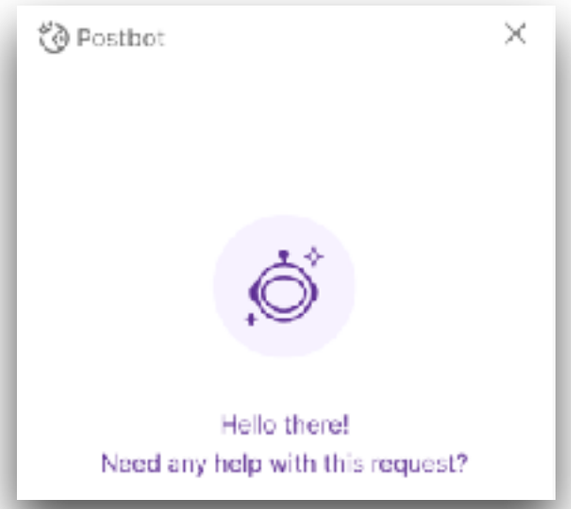
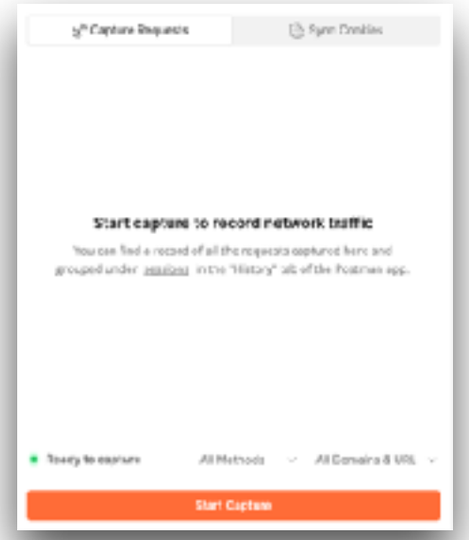
More features

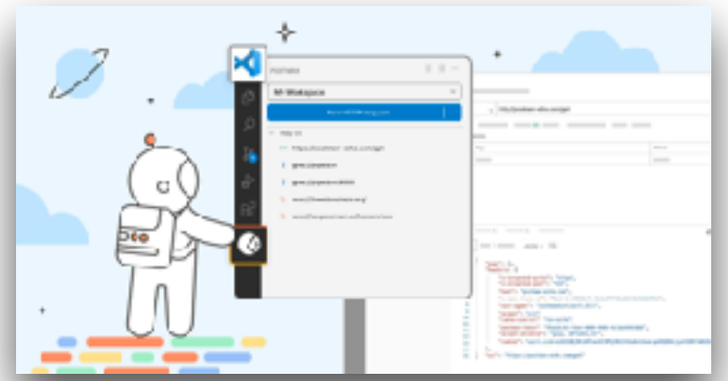


AI assistant for API testing



Postman interceptor

Working with OpenAPI/Swagger



Postman extension in VSCode

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Summary

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Better delivery process

Think about testing
Fast feedback
High quality
Working as a team

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Q/A

https://www.facebook.com/beSkilledSoftwareTester

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