






Postman in the Right Way














Somkiat


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When did you work at Opendream?
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...
22 Pending Items



Intro


Software Craftsmanship


Software Practitioner at สยามชำนานุกิจ พ.ศ. 2556


Agile Practitioner and Technical at SPRINT3r



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Somkiat Puisungnoen
15 mins · Bangkok ·  ▾

Java and Bigdata

...





somkiat.cc

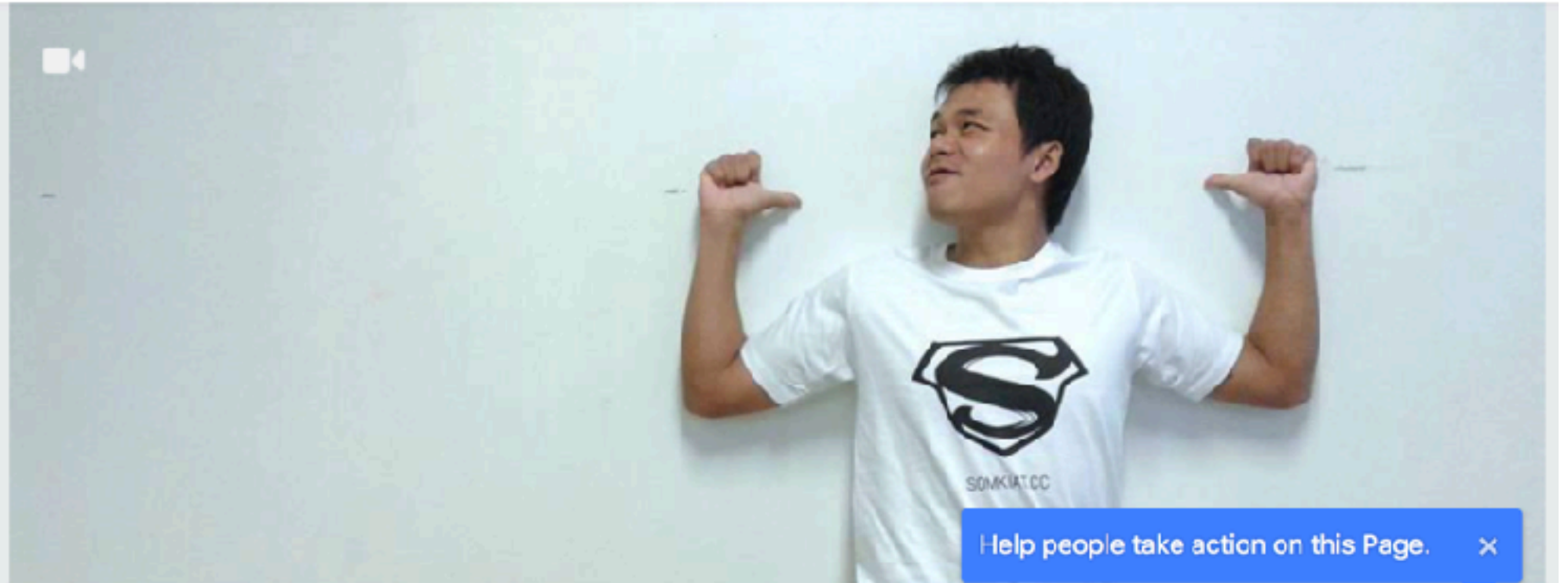
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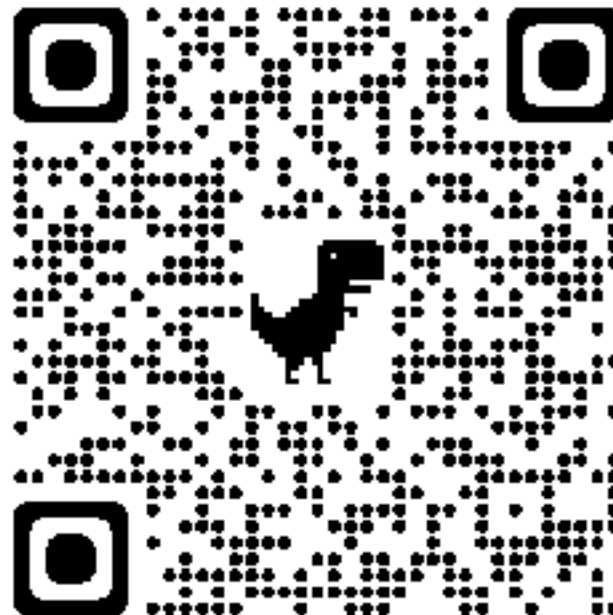
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Postman in the right way



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



Testing

Fast feedback

High quality



Continuous Testing



API Design

API Testing

Postman



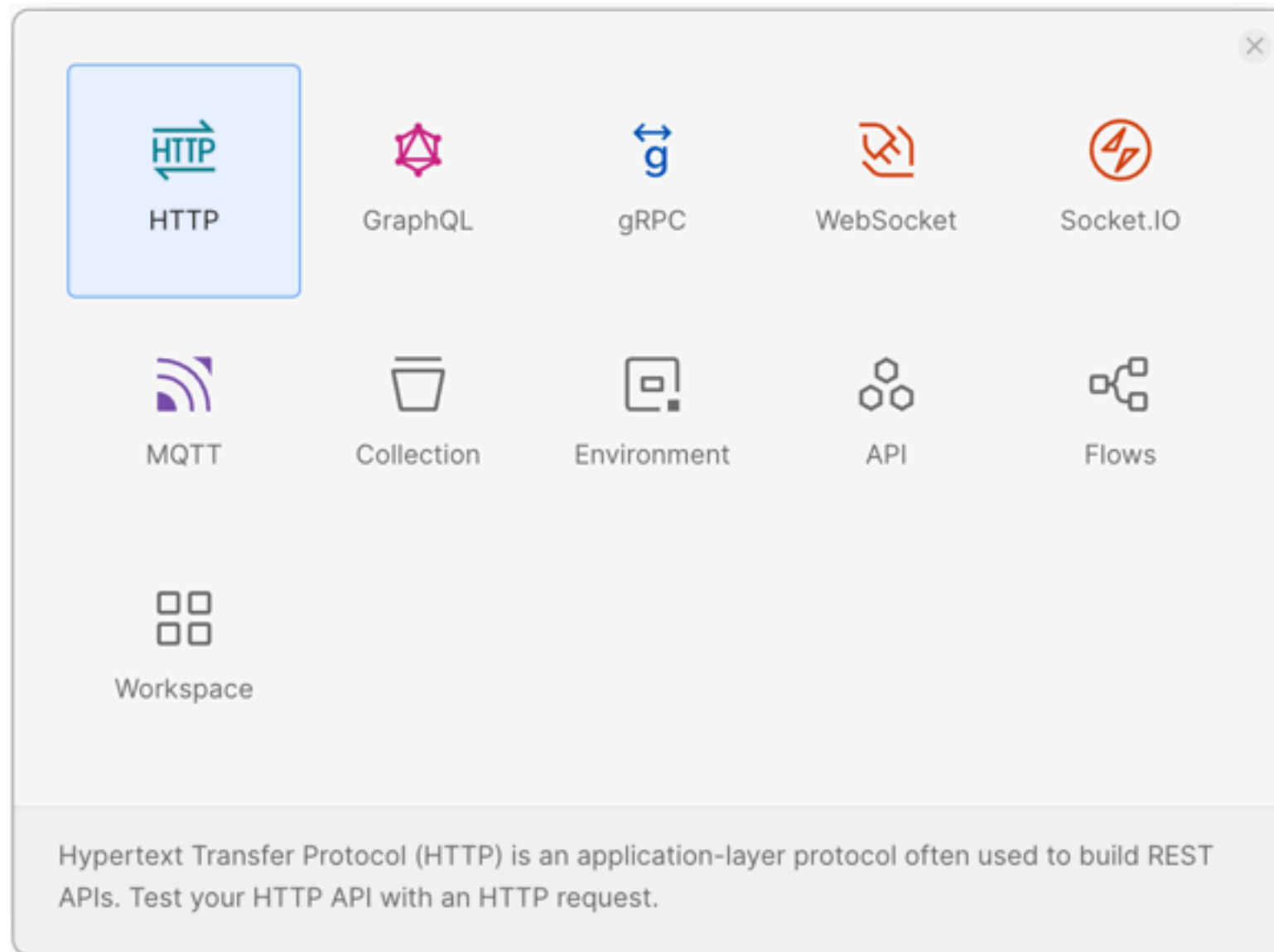
Basic of Postman



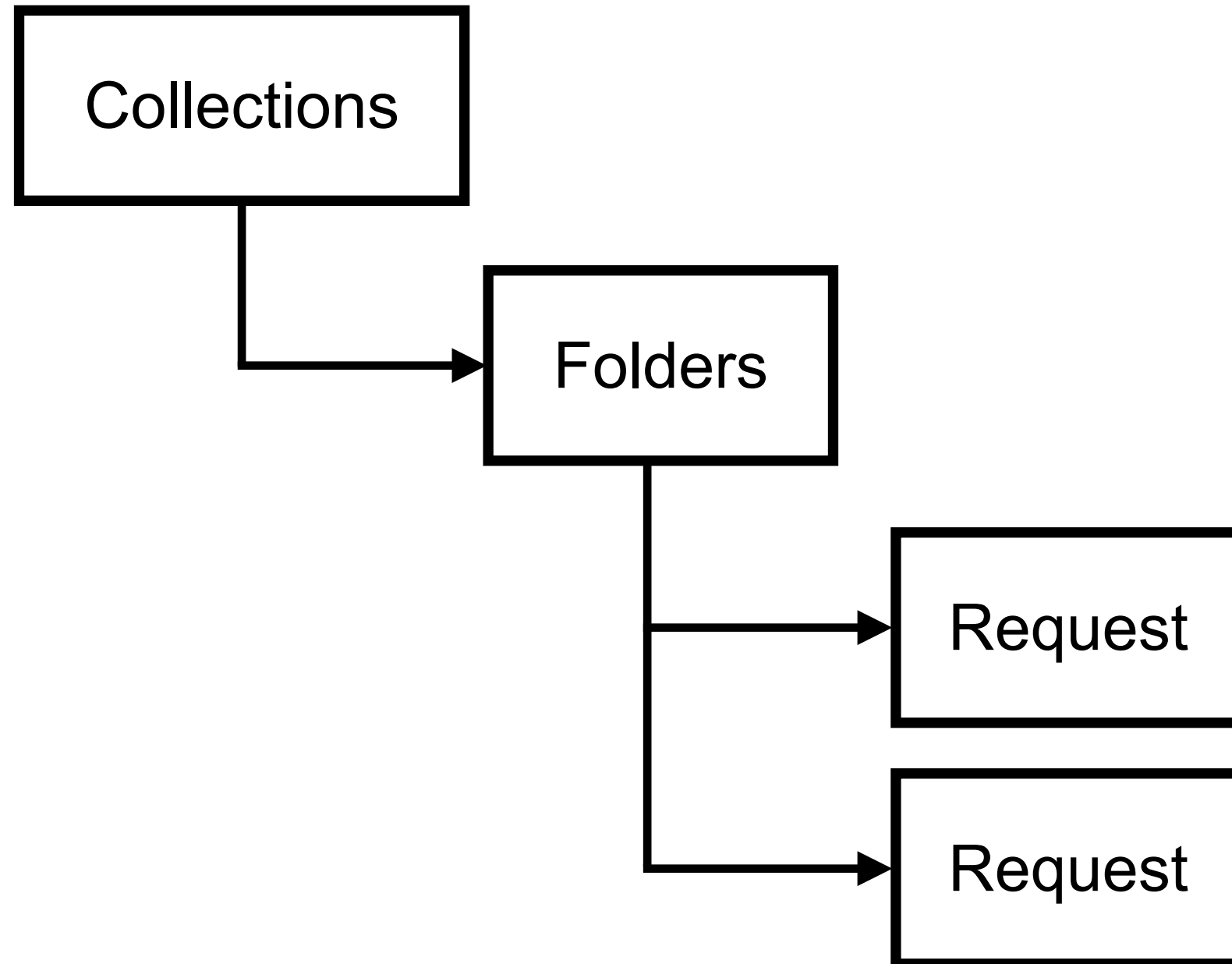
Postman



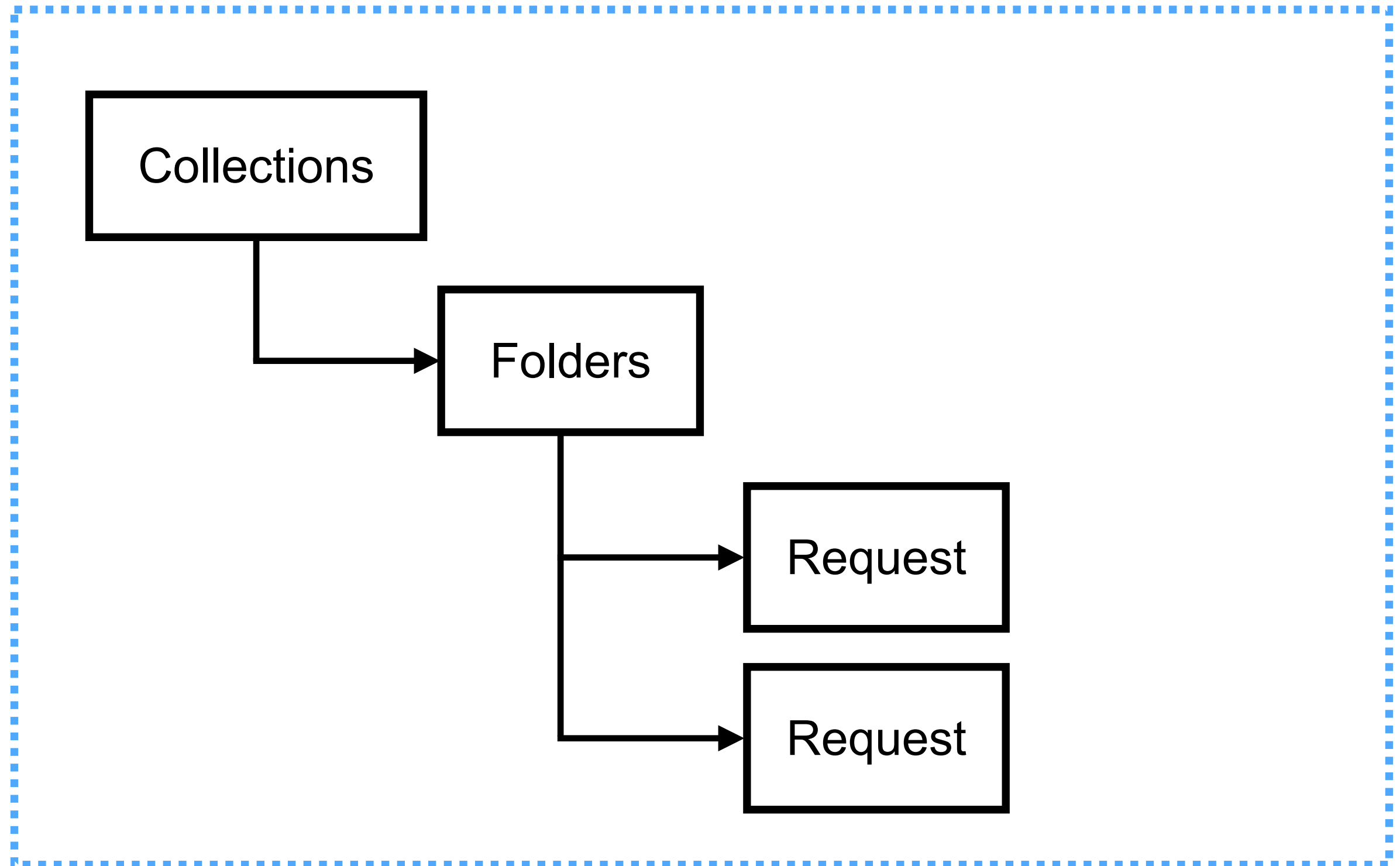
Postman



Postman structure



Workspace

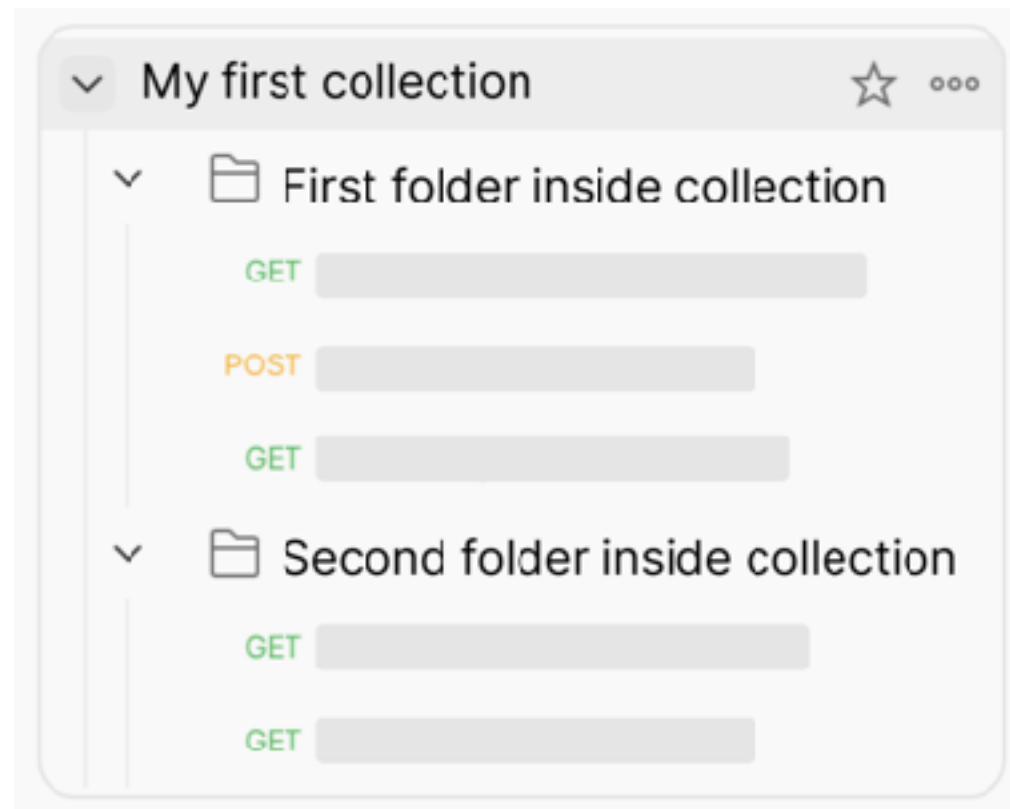


Collections



Postman collections

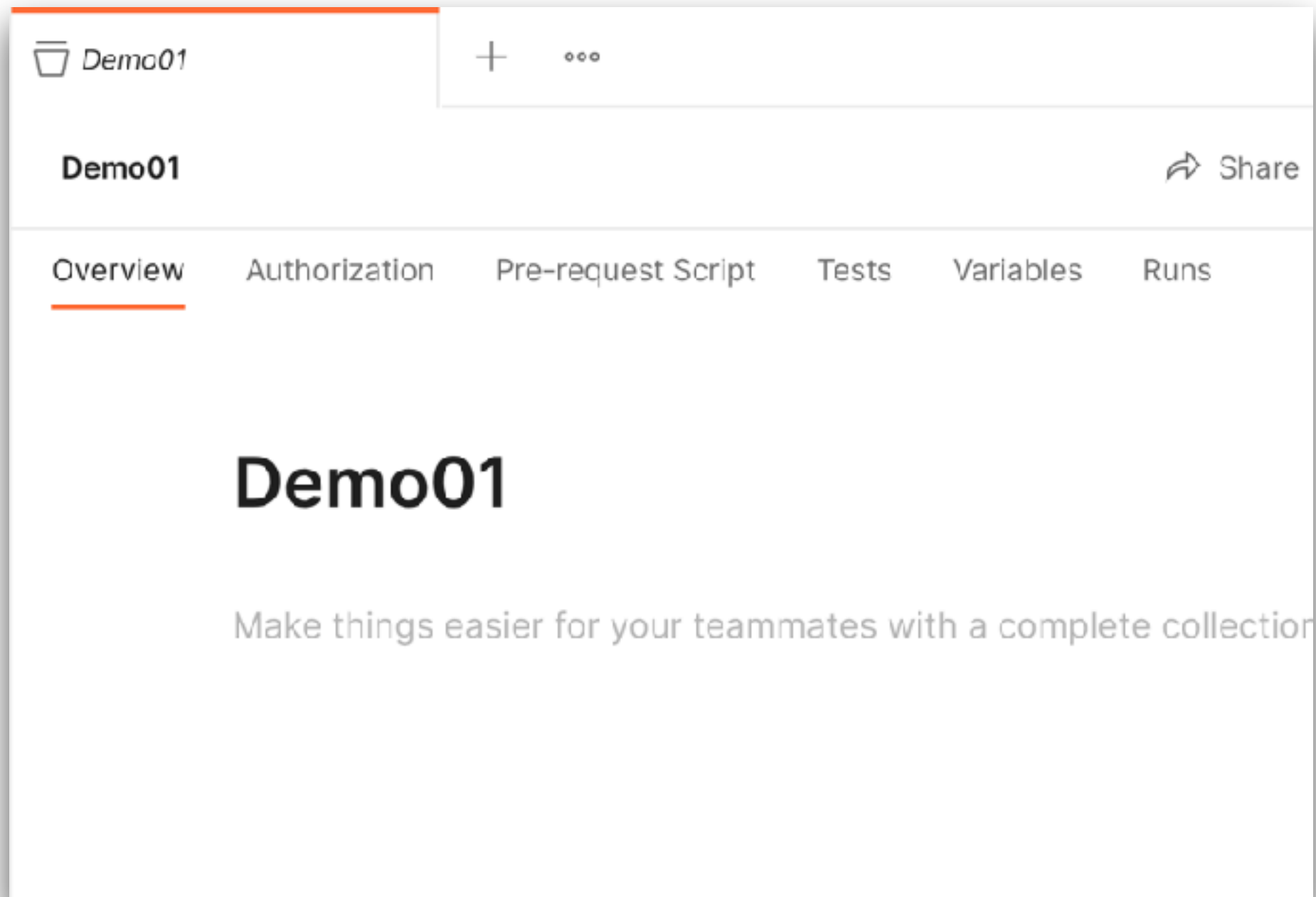
Grouping requests



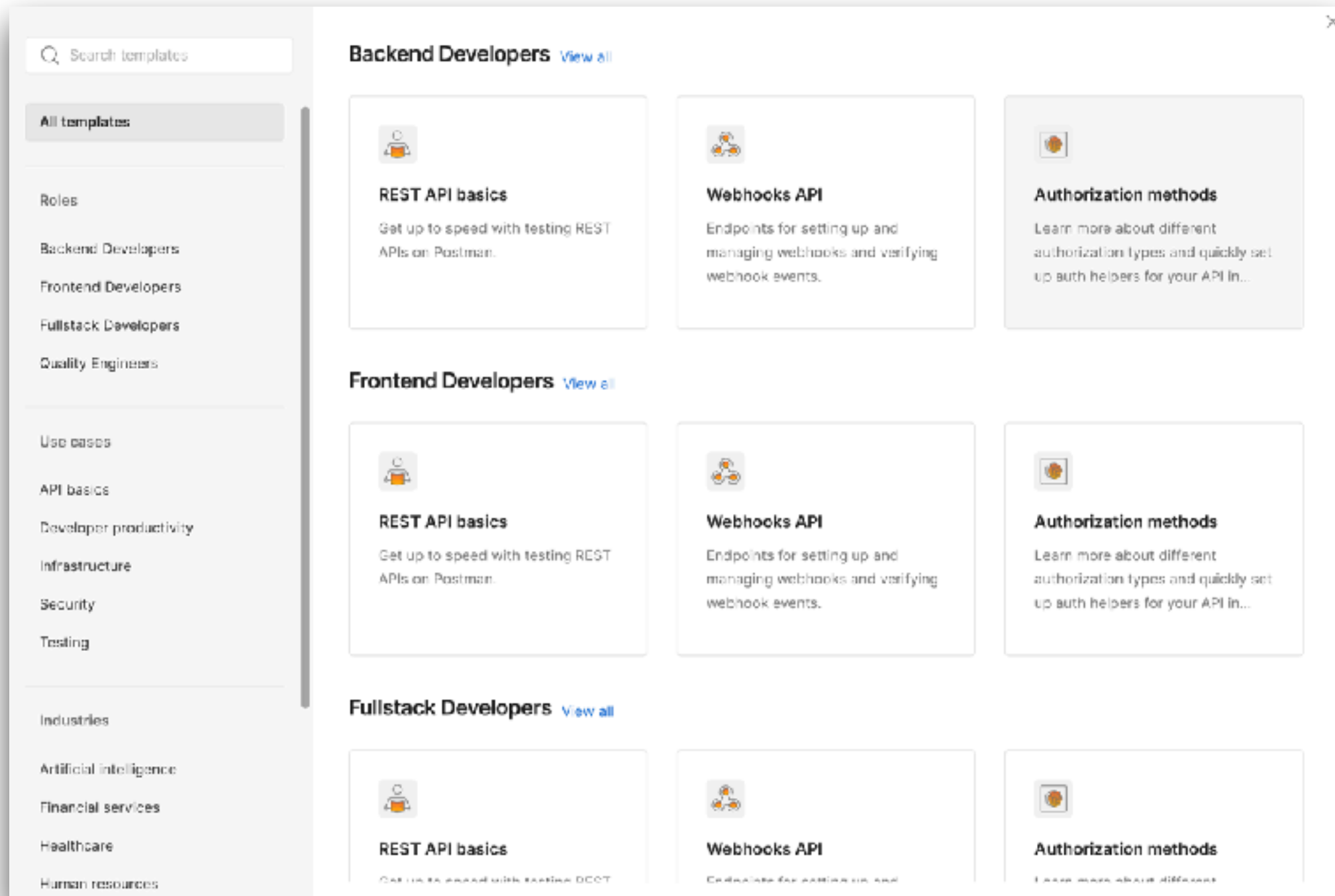
<https://www.postman.com/collection/>



Collections




Collection Template !!



Folders




Folders

 **New Folder**

No Environment

Demo01 / **New Folder**

 Run

Overview Authorization Pre-request Script Tests

This authorization method will be used for every request in this folder. You can override this by specifying one in the request.

Type

Inherit auth from parent

The authorization header will be automatically generated when you send the request. Learn more about [authorization](#)

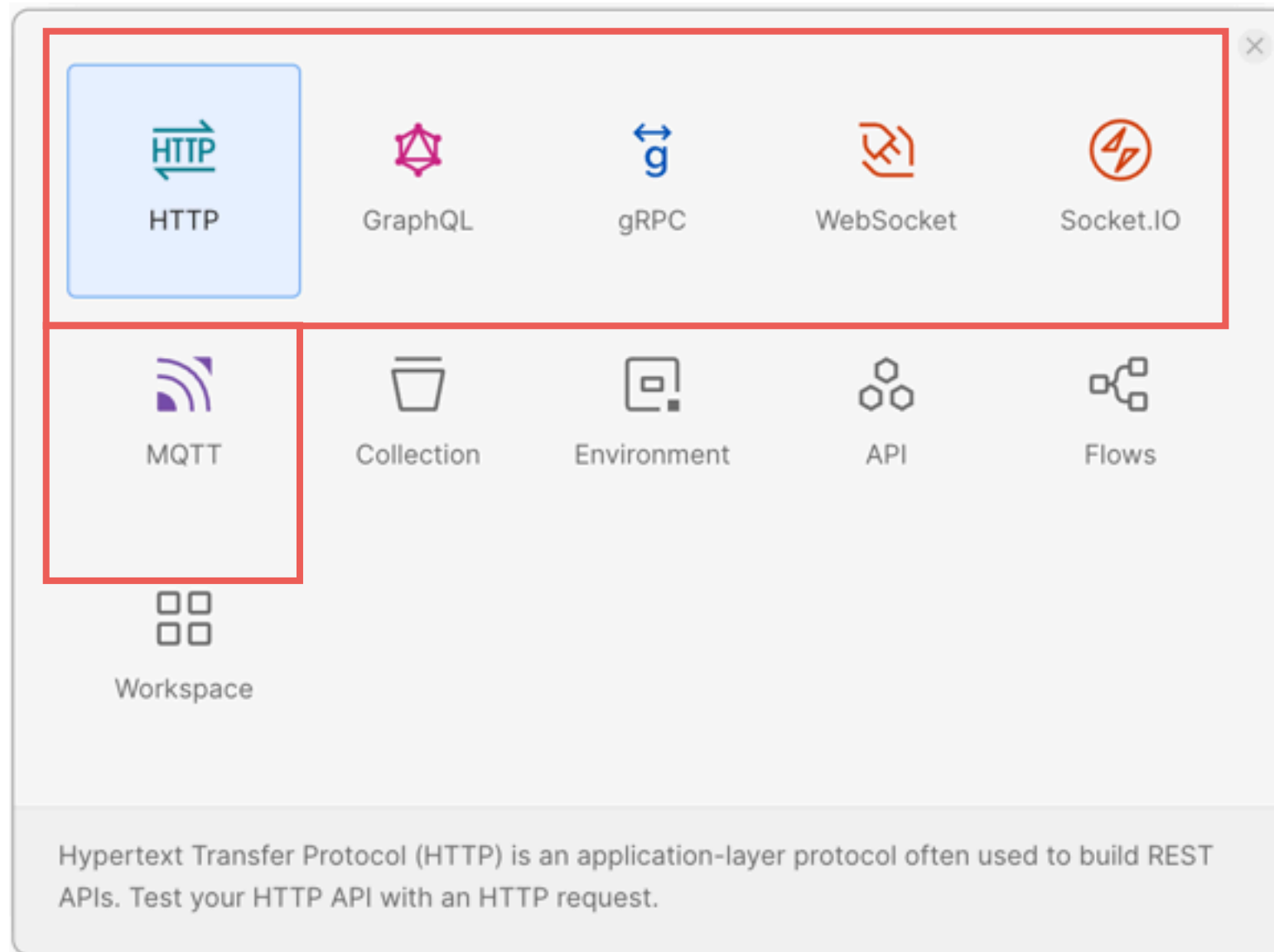
This folder is using No Auth from collection [Demo01](#).



Requests



Request



HTTP Request

GET New Request

+

...

No Environmentent

HTTP Demo01 / New Request

Save

GET

Enter URL or paste text

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests


Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

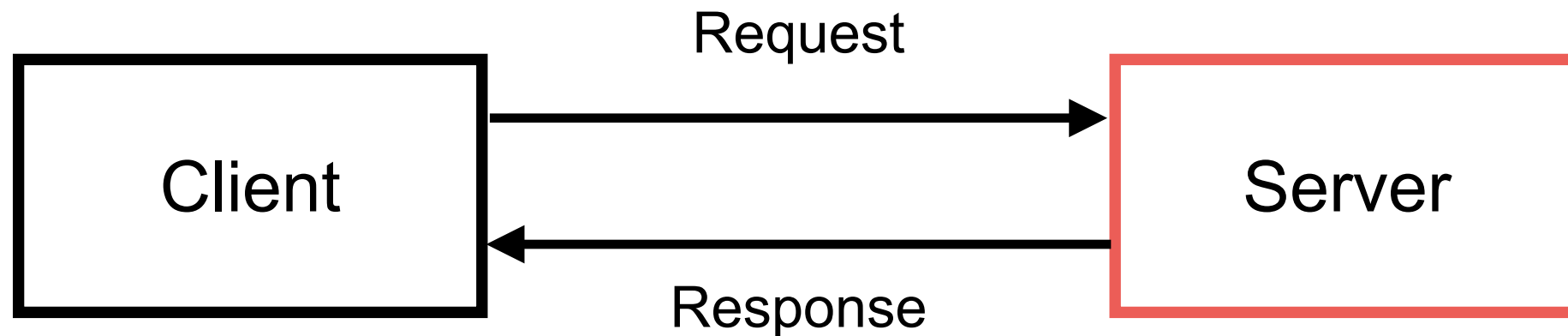
Response





HTTP (Hyper Text Transfer Protocol)

Protocol to exchange information over network



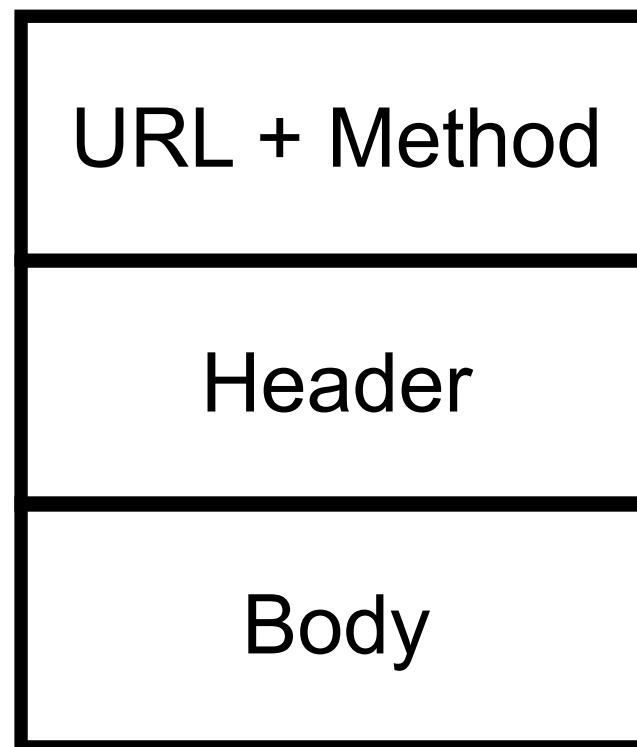
HTTP Request

URL

HTTP methods

Request headers

Request body



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
```



URL in HTTP Request

URL (Uniform Resource Locator)

URL

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



URL in HTTP Request

URL (Uniform Resource Locator)

URL

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

URI

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



URL in HTTP Request

URL (Uniform Resource Locator)

URL

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

URI

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

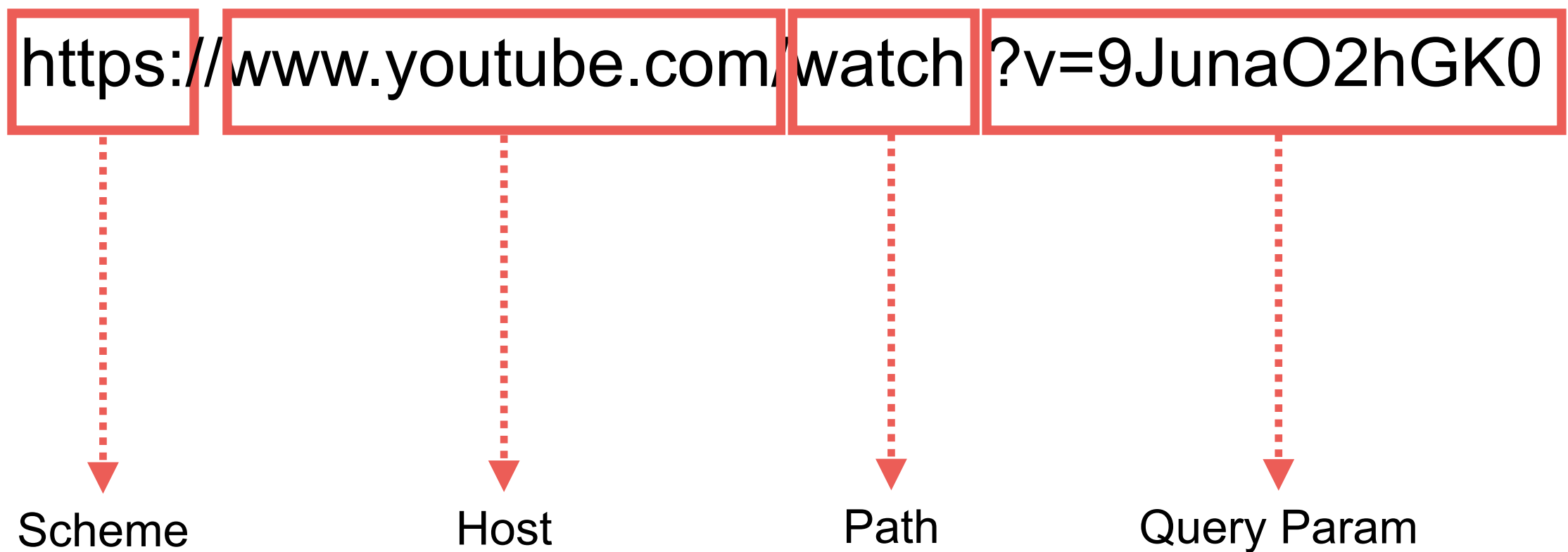
URN

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



URL in HTTP Request

URL (Uniform Resource Locator)



HTTP Request in Postman

GET New Request

+ ...

No Environment ent

HTTP Demo01 / New Request

Save

GET Enter URL or paste text


Send

Params Authorization Headers (6) Body Pre-request Script Tests Settings

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Response



Authorization in request ?

GET New Request

HTTP Demo01 / New Request

Save


GET Enter URL or paste text Send

Params Authorization Headers (6) Body Pre-request Script Tests Settings Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Response



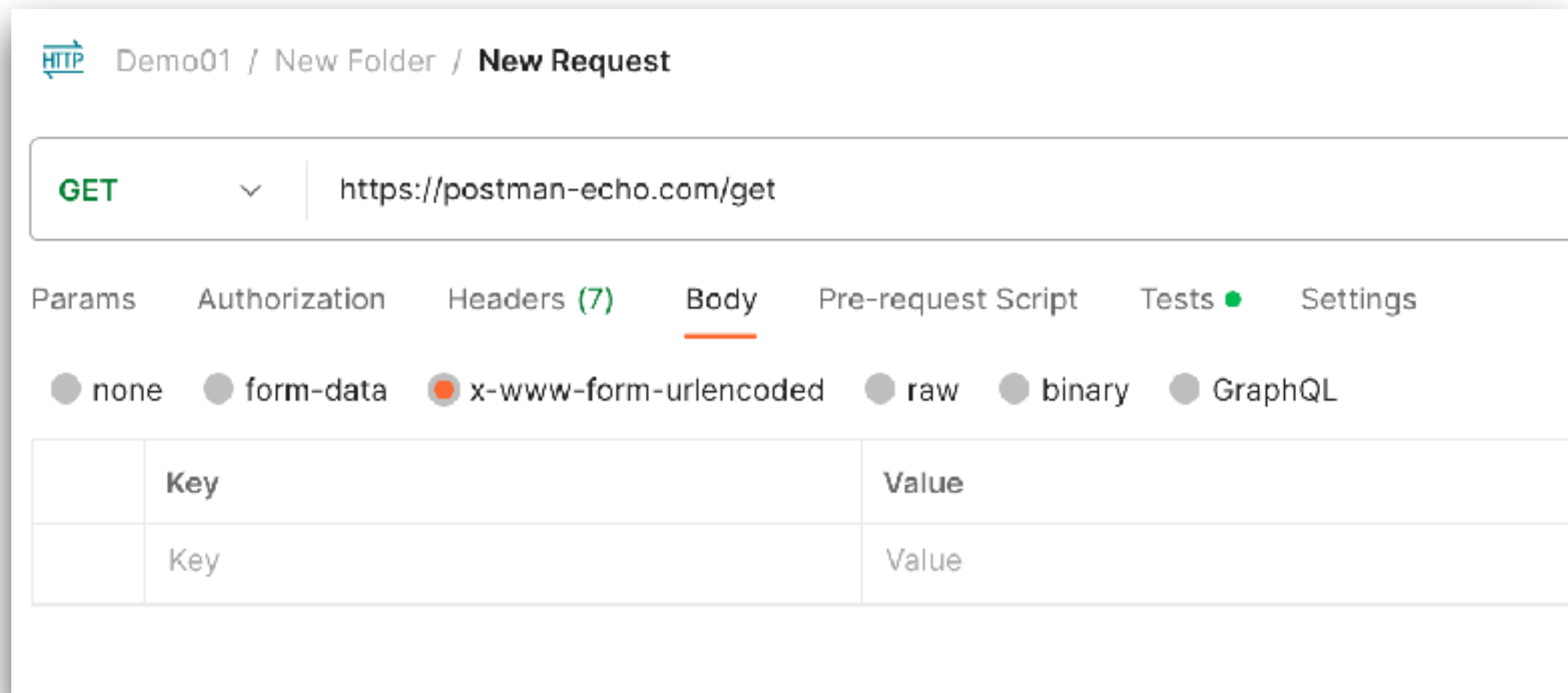
HTTP Methods

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



Request Body

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



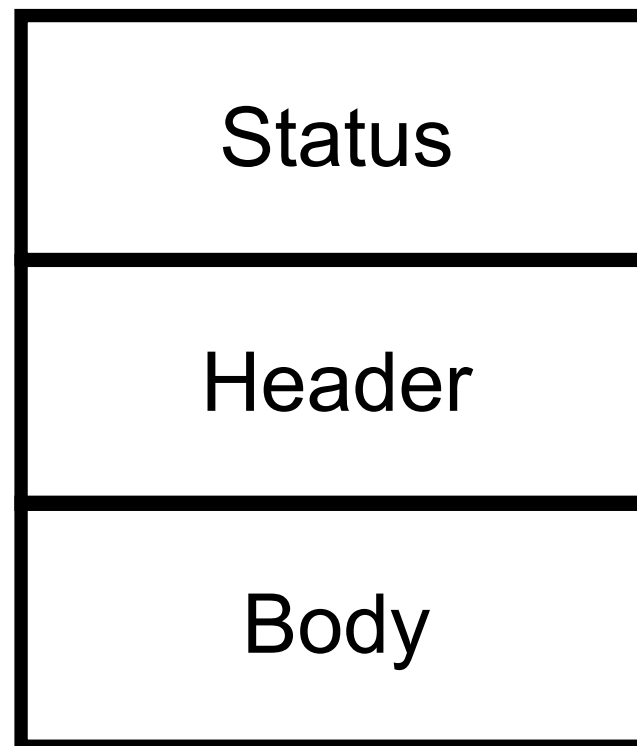
The screenshot shows the Postman interface for a new request. The URL is `https://postman-echo.com/get` and the method is `GET`. The `Body` tab is selected, showing radio button options for `none`, `form-data`, `x-www-form-urlencoded` (which is selected), `raw`, `binary`, and `GraphQL`. Below these options is a table with two rows, each with a `Key` and a `Value` column.

	Key	Value
	Key	Value



HTTP Response

Message that server sent back to a client



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"
  }
}
```



Status Code

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

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



HTTP Response in Postman

The screenshot displays the Postman interface for a new request. The request method is **GET** and the URL is **https://postman-echo.com/get**. The **Body** tab is selected, showing a table with headers and cookies. The response is displayed in the **Body** tab, showing a JSON object with headers, cookies, and the URL.

Request Details:

- Method: GET
- URL: https://postman-echo.com/get
- Body Type: x-www-form-urlencoded

Key	Value	Description
Key	Value	Description

Response Details:

- Status: 200 OK
- Time: 1261 ms
- Size: 838 B

Response Body (JSON):

```
1 {
2   "args": {},
3   "headers": {
4     "x-forwarded-proto": "https",
5     "x-forwarded-port": "443",
6     "host": "postman-echo.com",
7     "x-amzn-trace-id": "Root=1-650bfa11-25e76d7c697172964a55bbf3",
8     "user-agent": "PostmanRuntime/7.33.0",
9     "accept": "*/*",
10    "postman-token": "8344a821-1036-42d8-a8eb-ed1a71e5987c",
11    "accept-encoding": "gzip, deflate, br",
12    "cookie": "sails.sid=s%3AQjMOKt2Huqtfo20FxcN6pfHab5K1XWq3.vejTnKp9pK068Pe%2BAhUXe3cblThCeIgTAU7Xb%2FcR3k"
13  },
14   "url": "https://postman-echo.com/get"
15 }
```



Test in Postman

Pre-request
script

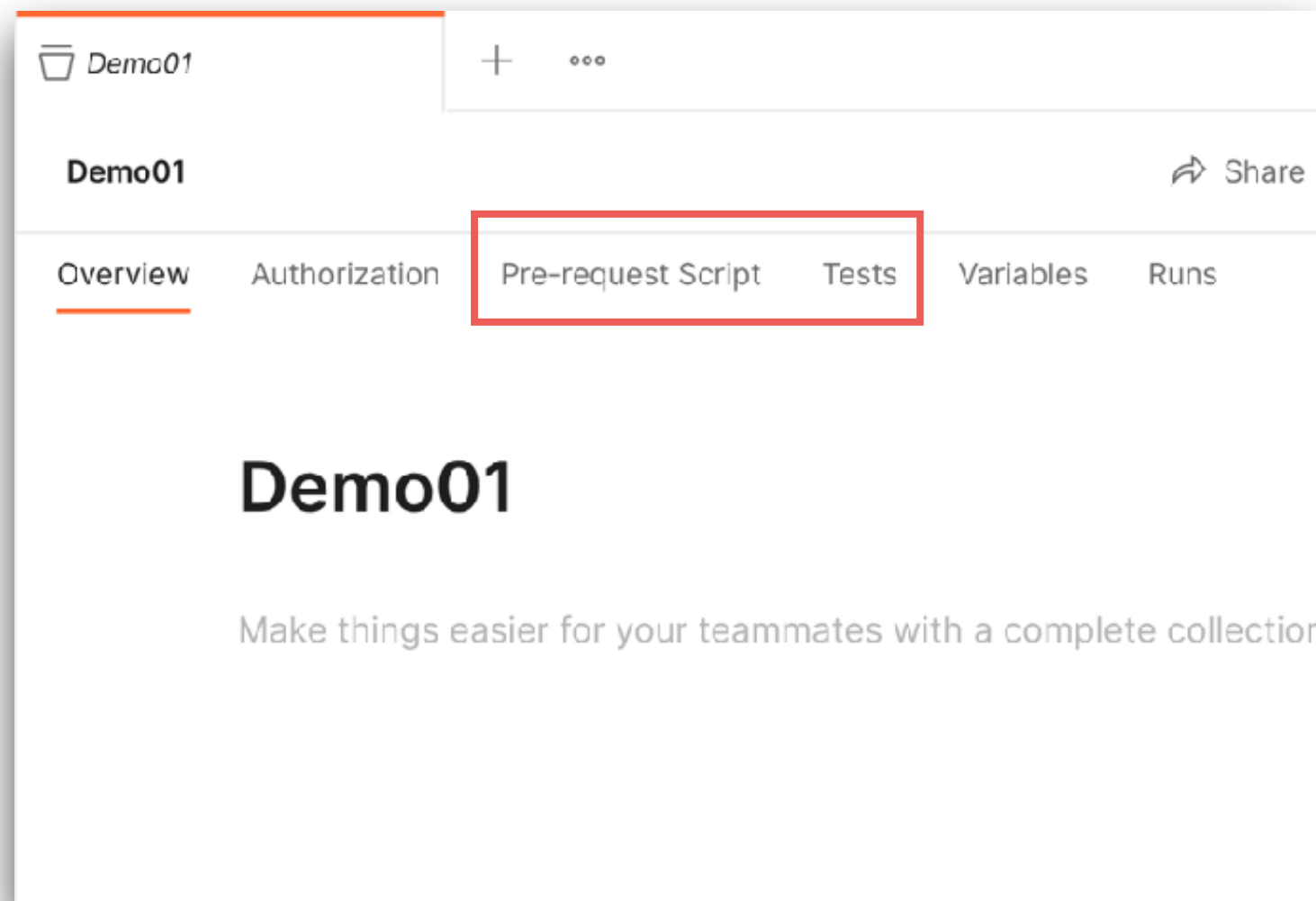
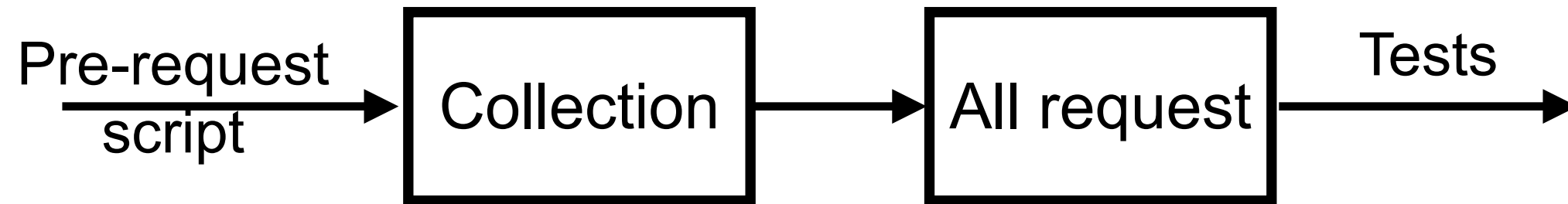
Test response

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

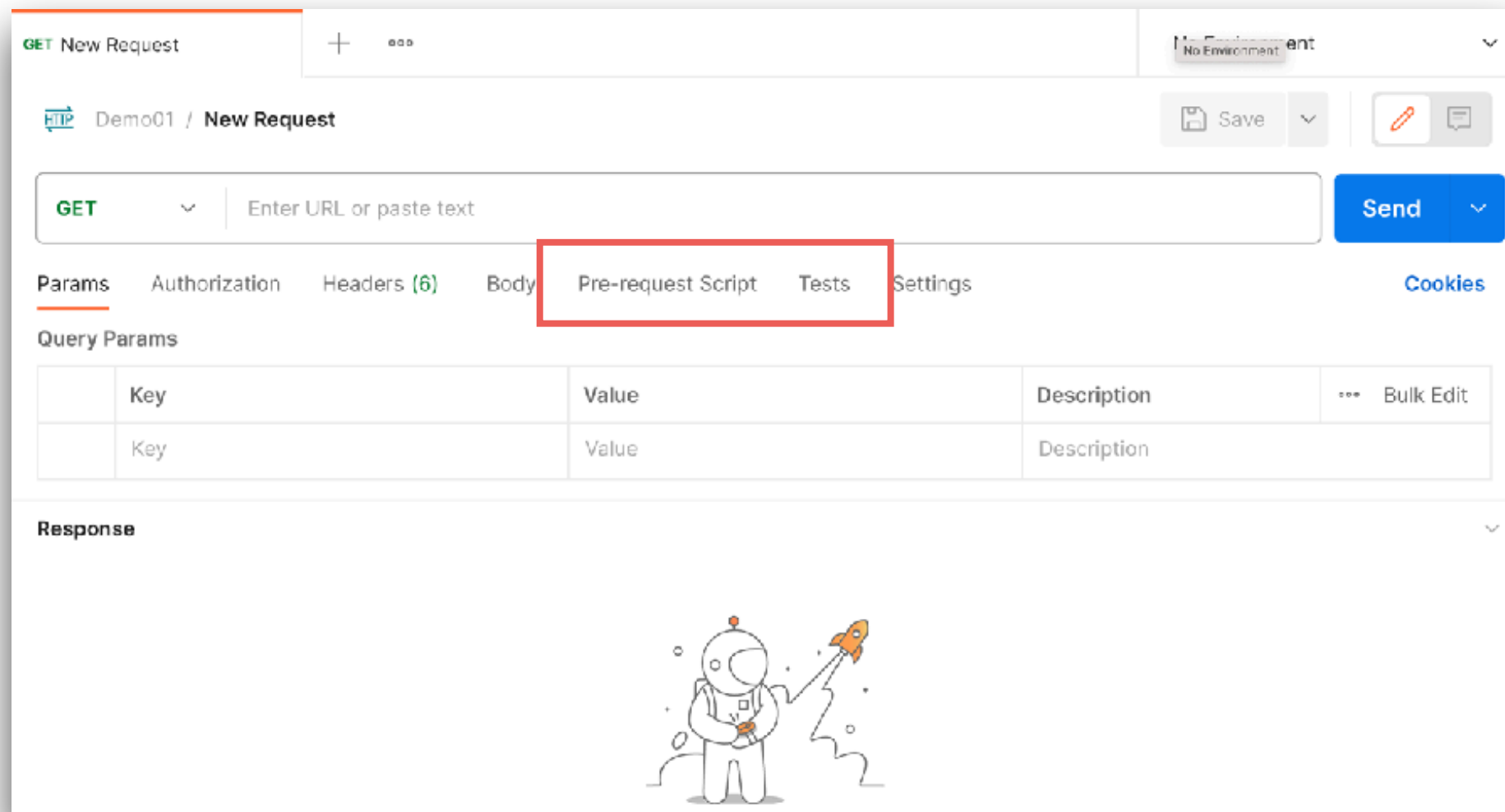
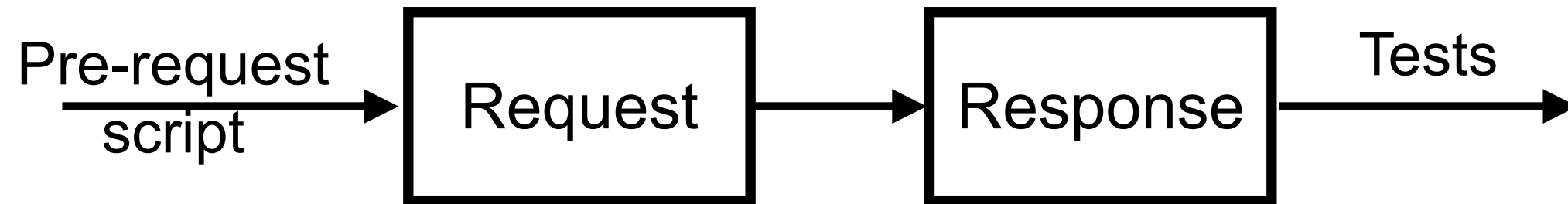
<https://learning.postman.com/docs/writing-scripts/test-scripts/>



Test in collection



Test in request



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"  
  }  
}
```



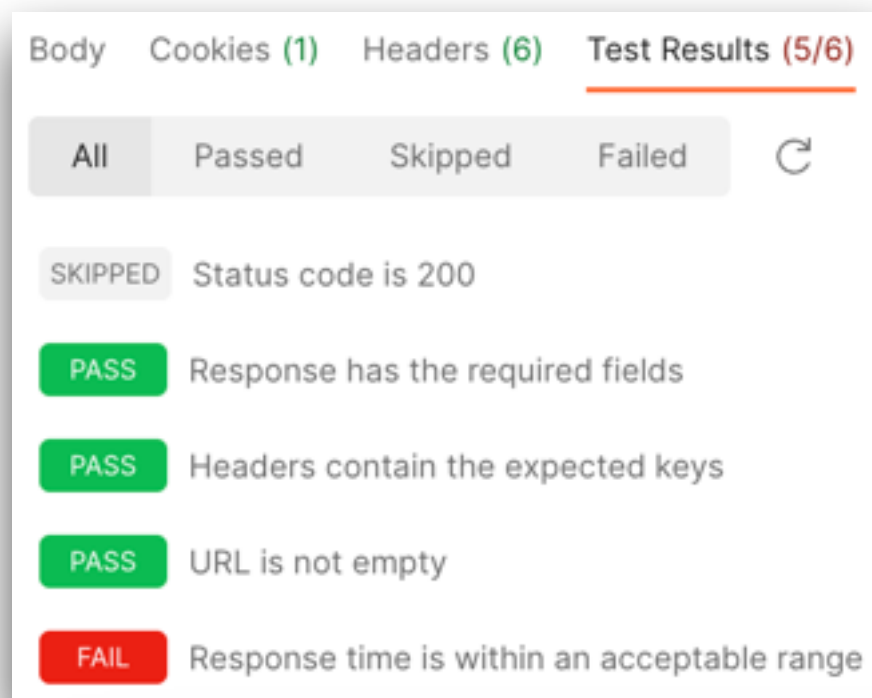
Write test with Postbot

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



Skip test !!

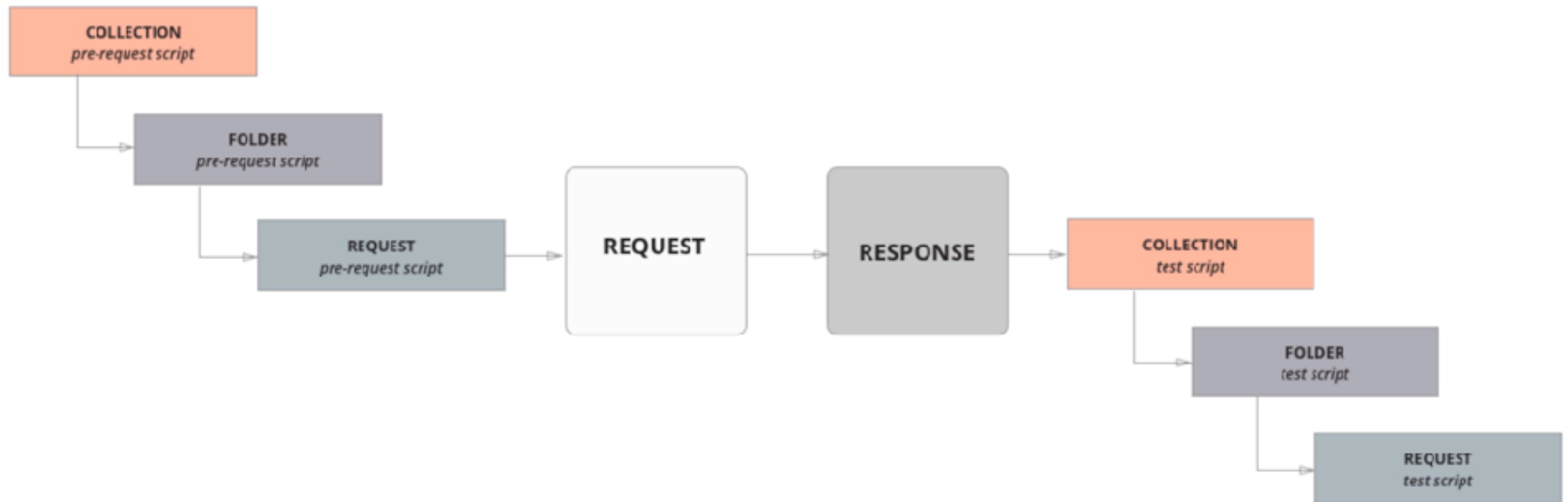
```
pm.test.skip("Status code is 200", function () {  
  
    pm.response.to.have.status(200);  
  
});
```



Test Execution



Test Execution

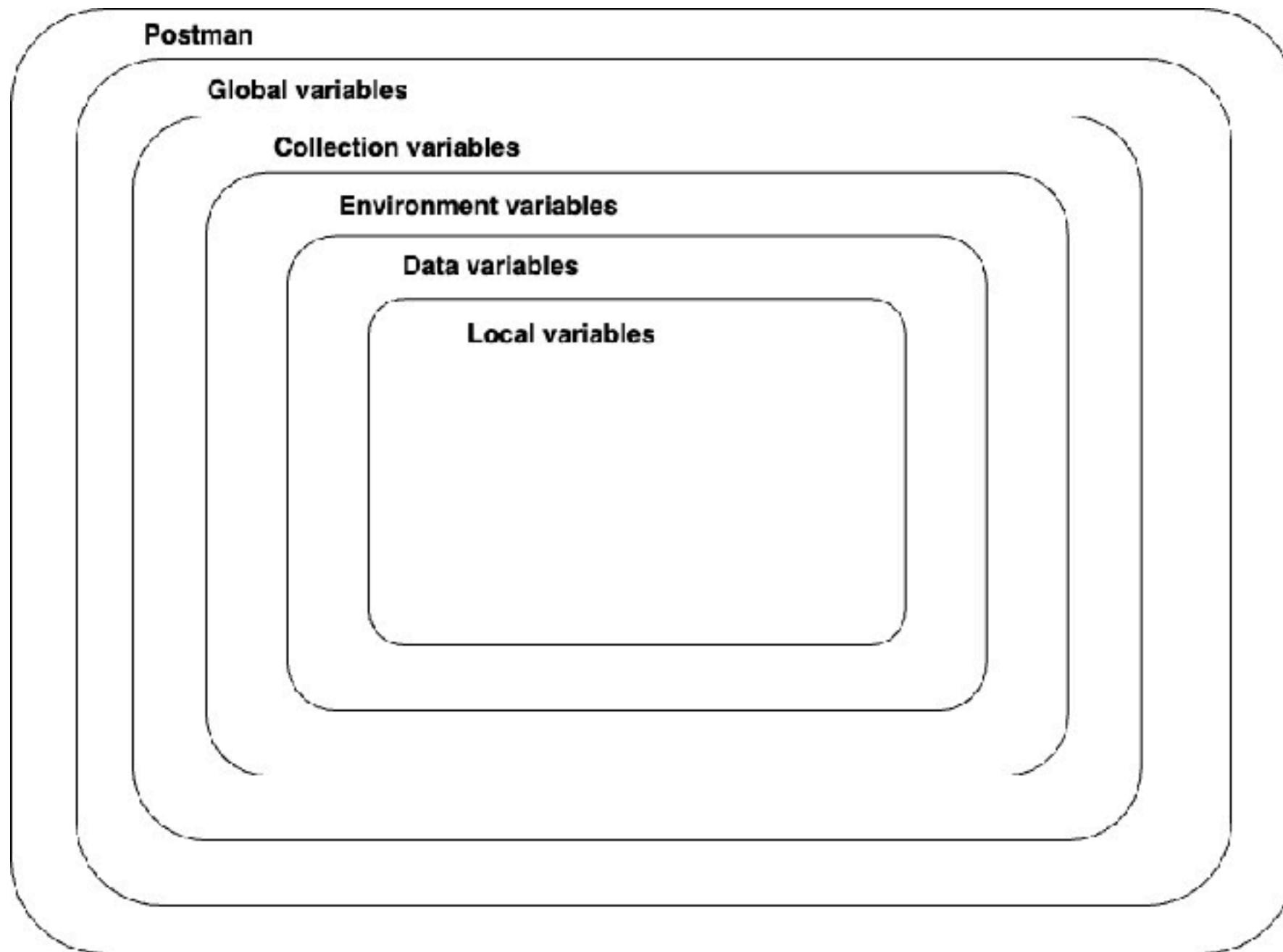


Variables

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



Variables Scopes



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



Variables

Global variables

Collection variables

Local variables

{{VARIABLE_NAME}}



Variable Types

Plain text

Secret for sensitive data

Globals

Global variables for a workspace are a set of variables that are always available within the scope of that workspace. [Learn more about globals](#) ↗

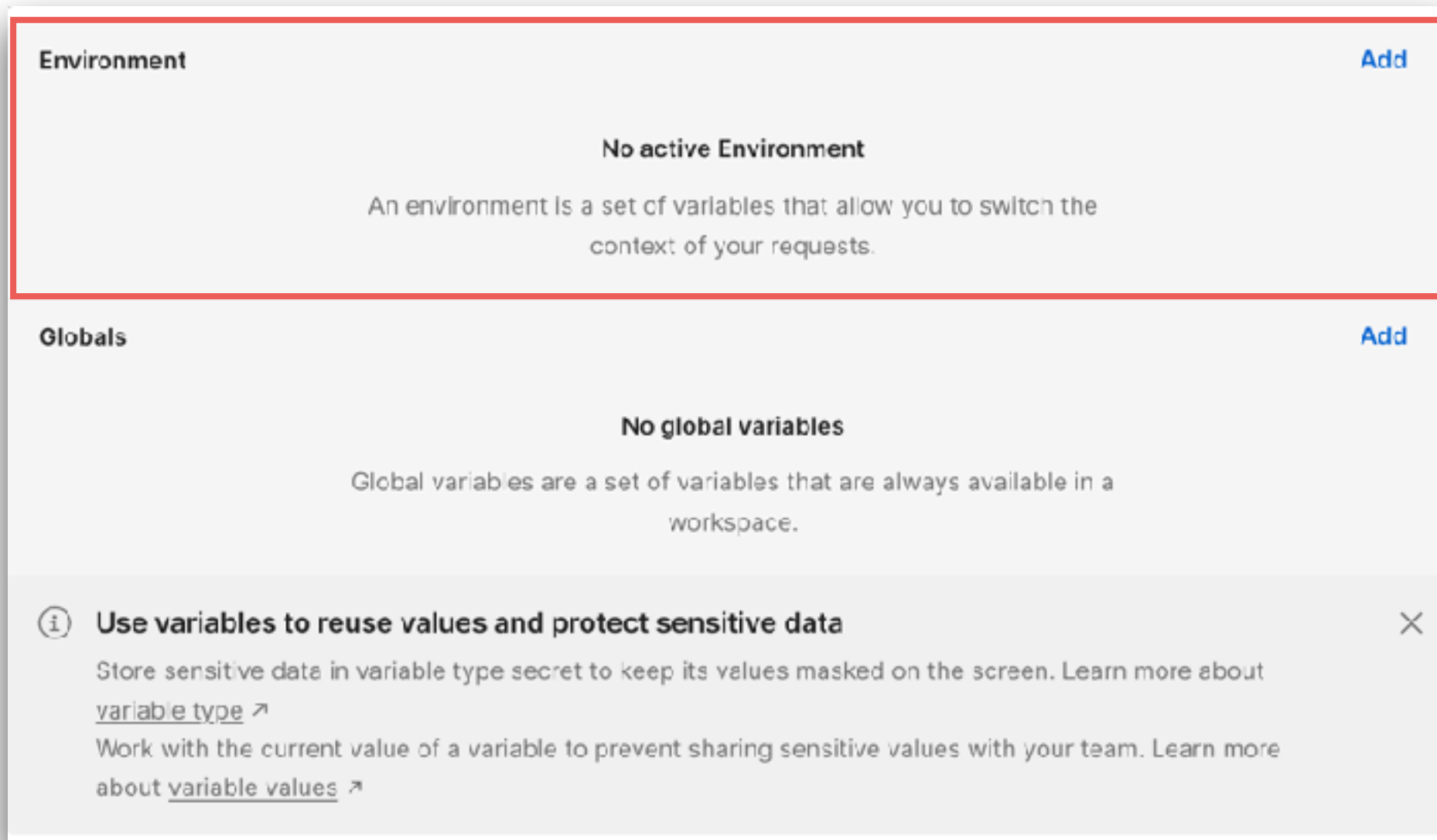
	Variable	Type	Initial value	Current value
<input checked="" type="checkbox"/>	USERNAME	default ▾	somkiat	somkiat
<input checked="" type="checkbox"/>	PASSWORD	secret ▾
	Add new variable			



Environment to test



Environment in Postman



Working with more data

Data-Driven Testing

Duplicate
requests

Use external
data files

Use pre-
request script

CSV, JSON



Working with CSV/JSON

Run order Deselect All Select All Reset

☒ GET New Request

Functional Performance

Choose how to run your collection

- ☒ Run manually
Run this collection in the Collection Runner.
- ☐ Schedule runs
Periodically run collection at a specified time on the Postman Cloud.
- ☐ Automate runs via CLI
Configure CLI command to run on your build pipeline.

Run configuration

Iterations
1

Delay
0 ms

Data
Select File

☐ Persist responses for a session ⓘ

> Advanced settings

Run Demo01

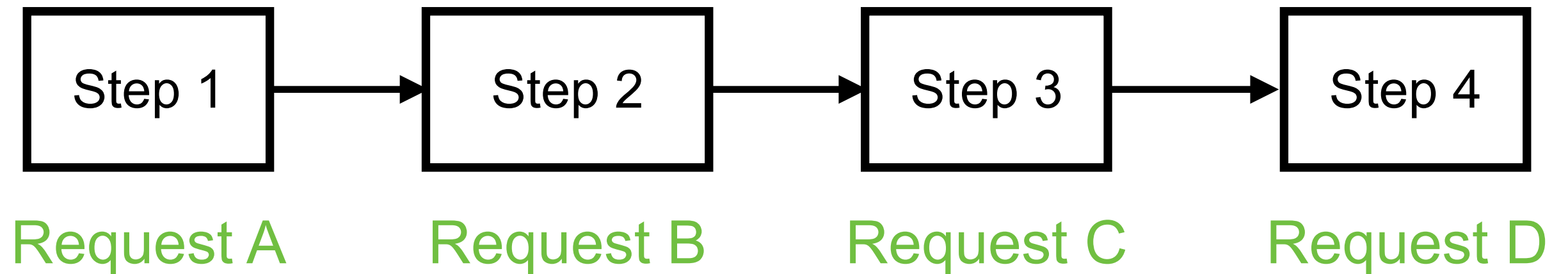
<https://learning.postman.com/docs/collections/running-collections/working-with-data-files/>



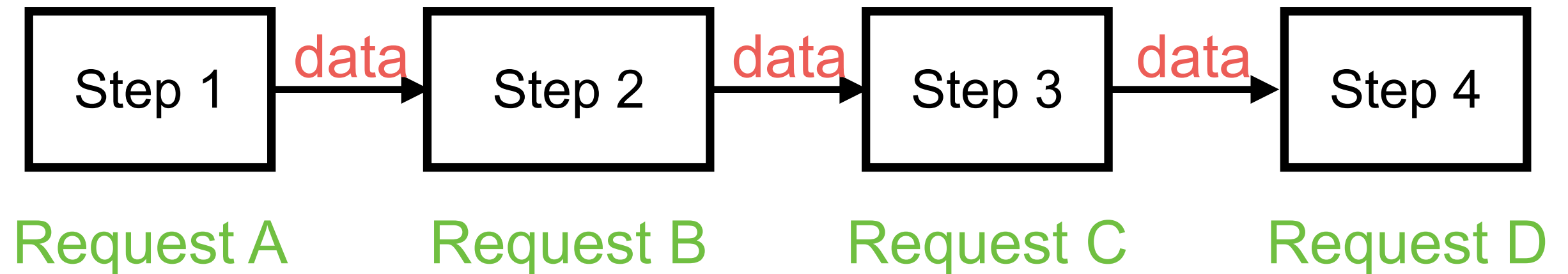
Workflow in postman



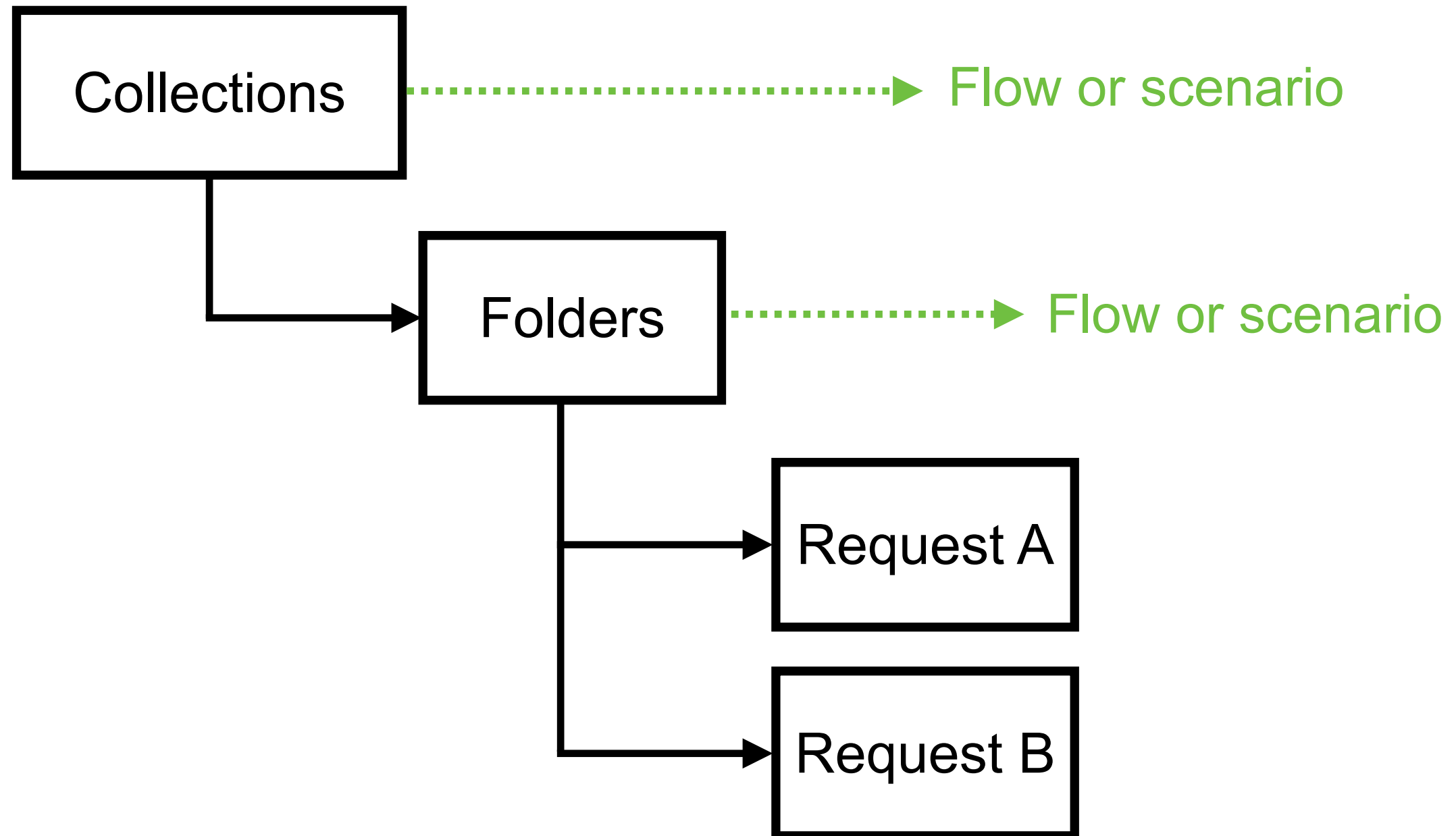
Workflow



Workflow in postman ?



Postman structure



Workshop



Fake store rest API for your e-commerce or shopping website prototype.

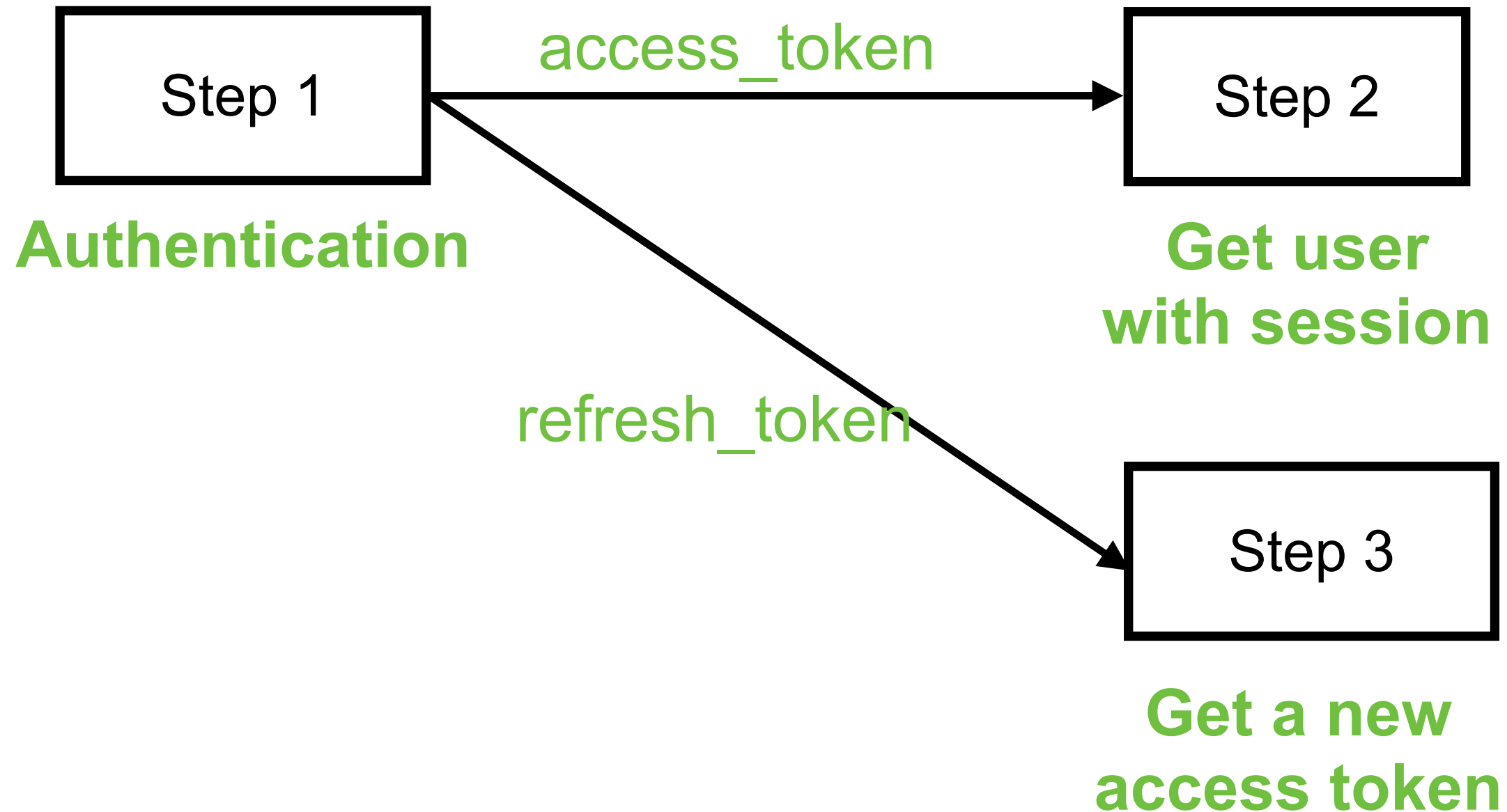
[VIEW DOCS](#)



<https://fakeapi.platzi.com/>



Workflow



Solutions

Hard code !!

Variables and Test scripts


Test scripts



Exposed Tokens in Postman

[Action Required] Exposed Tokens In Postman Collection 🔔 Inbox x

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



Hi somkidat pui-sungnoon,

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*****IIQjEslmIhdGIGMTYSNTMSODetNCwlZXhwtjoxNjk3MTI2NzU0bQ.1A.svCEkdpWlGumscUyleWwrgSGUzthd2XGBXB18a5Dk	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-masa-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](#).



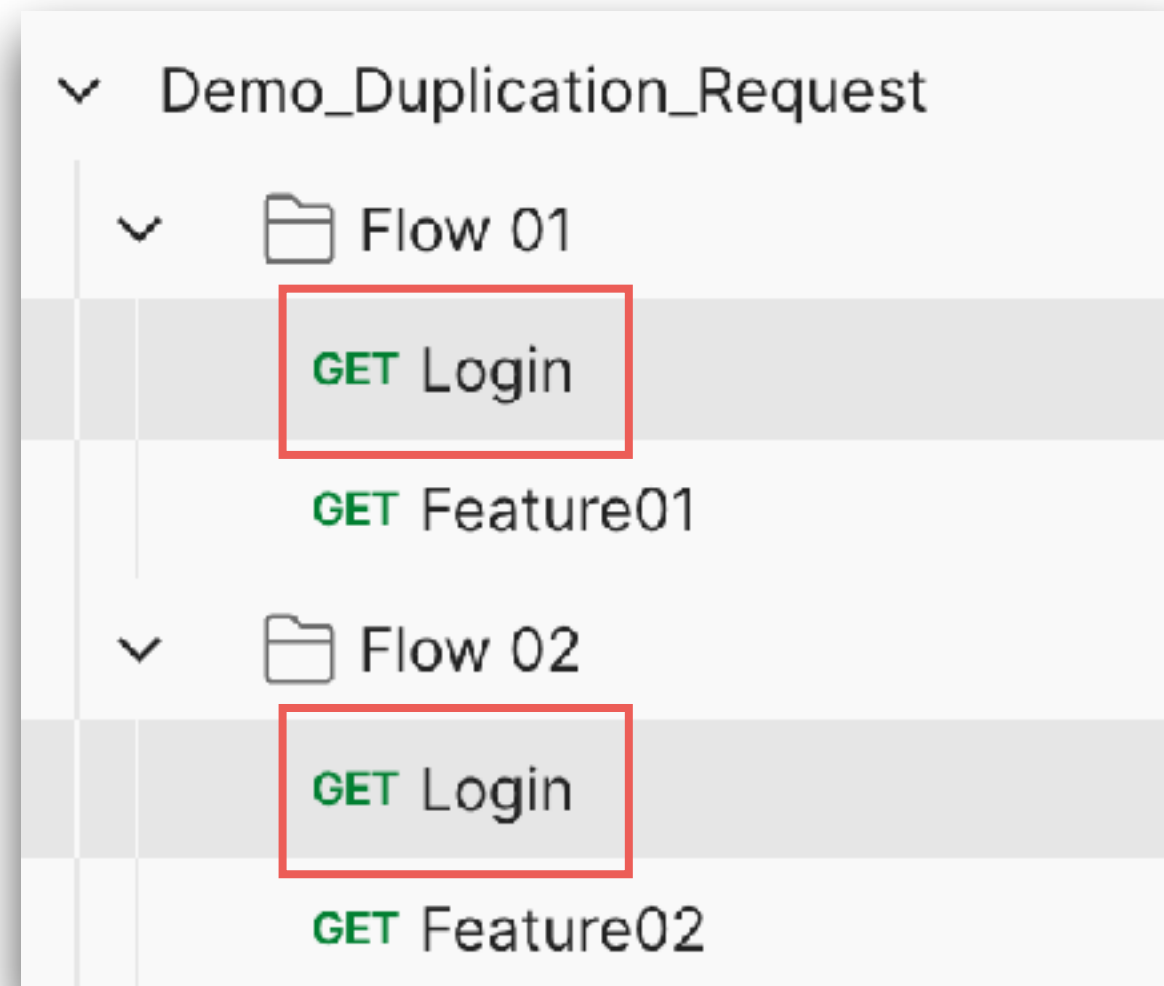
Use Variables in test script

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);
```



Duplication Requests !!



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



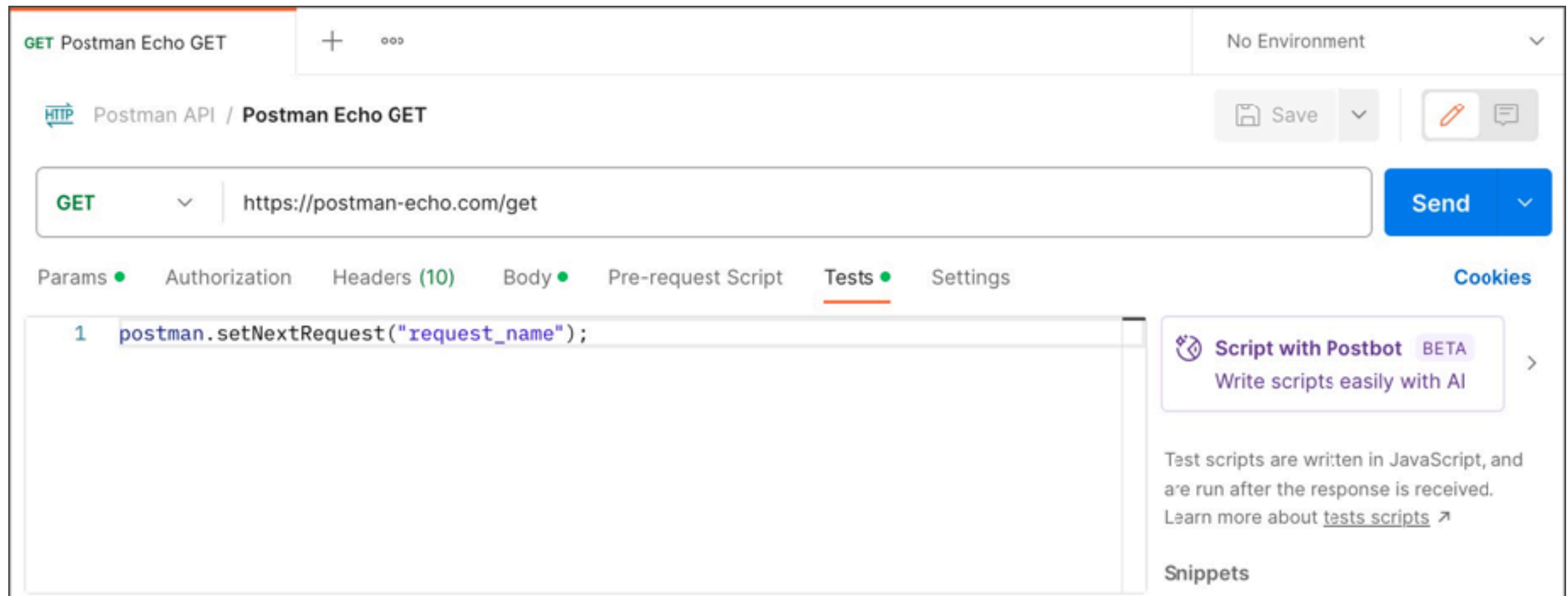
Write code

```
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>



Call request in collection



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



Terminate execution !!

postman.setNextRequest(null);

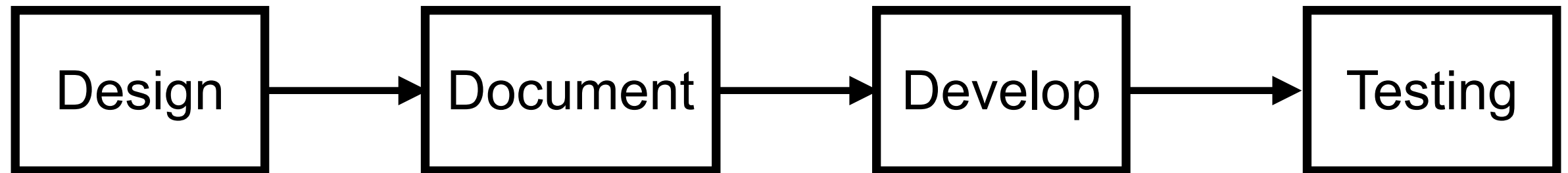
<https://learning.postman.com/docs/collections/running-collections/building-workflows/>



Software Delivery Process



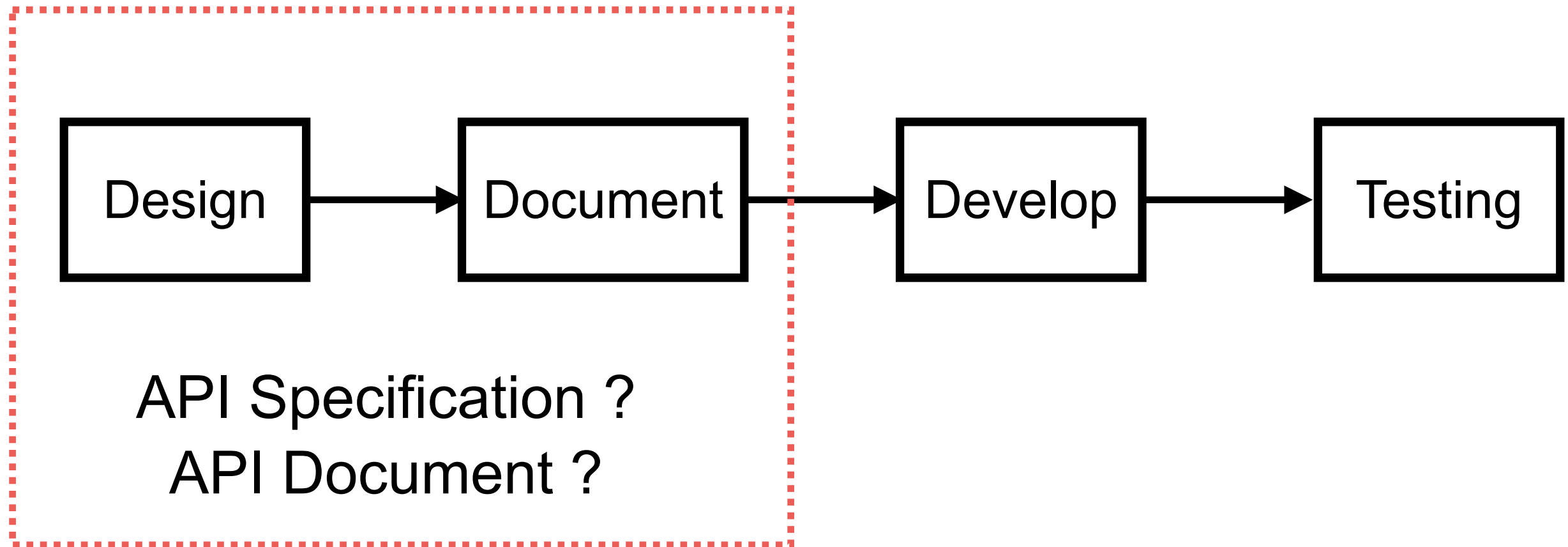
Software Delivery Process



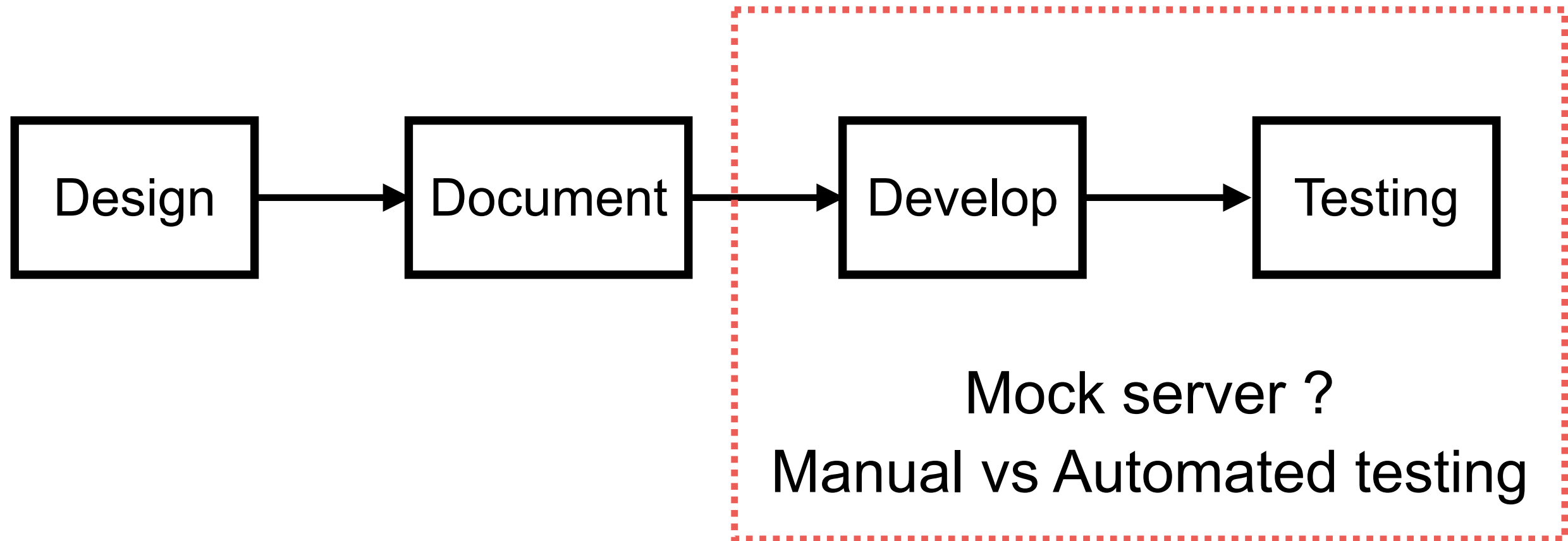
API Development



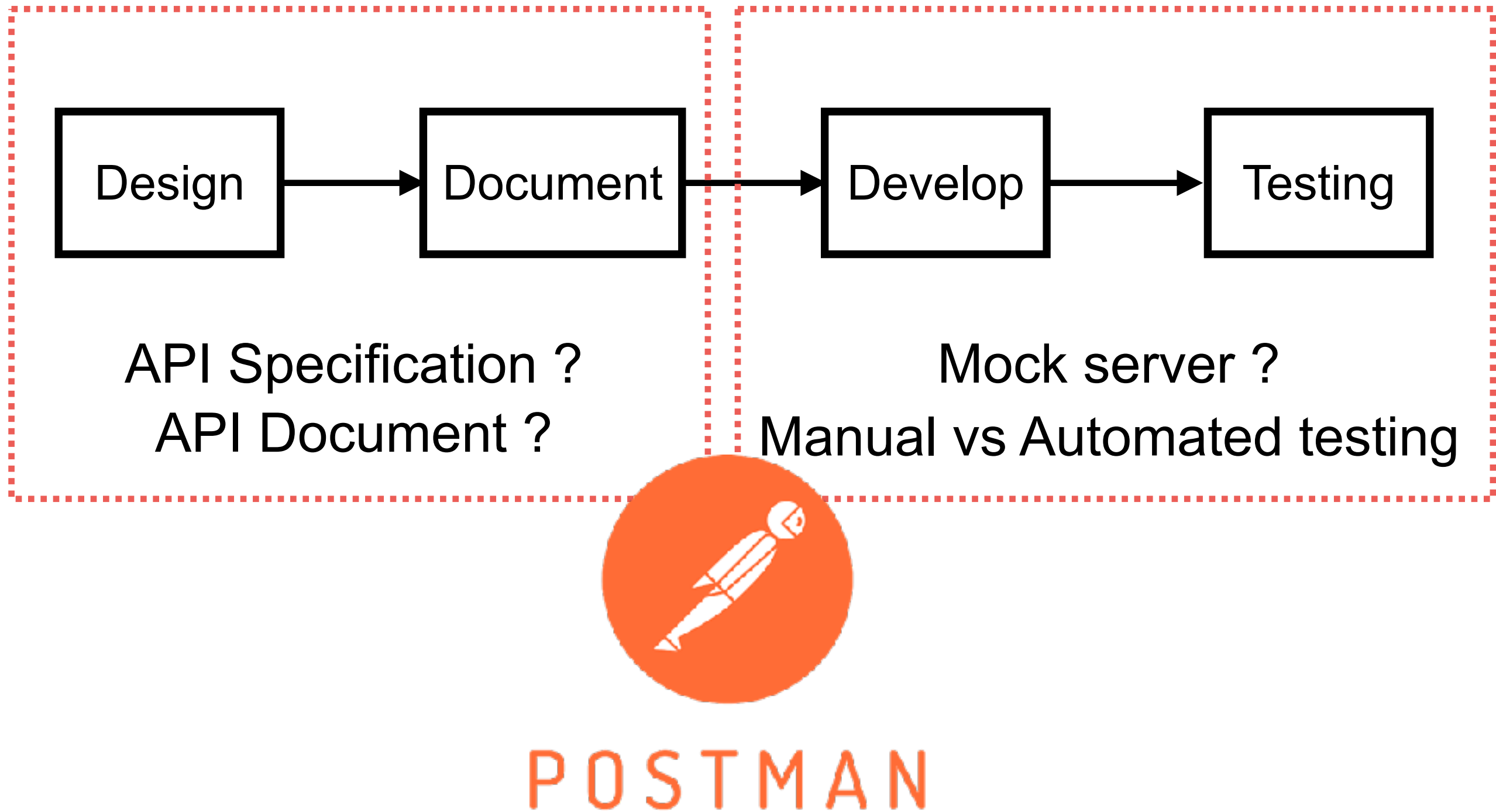
APIs



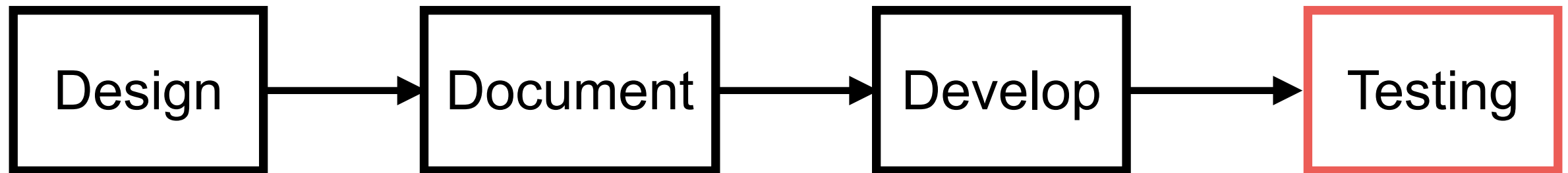
APIs



Working with Postman



ทำก่อนคิด (ทดสอบอย่างไร)



คิดก่อนทำ

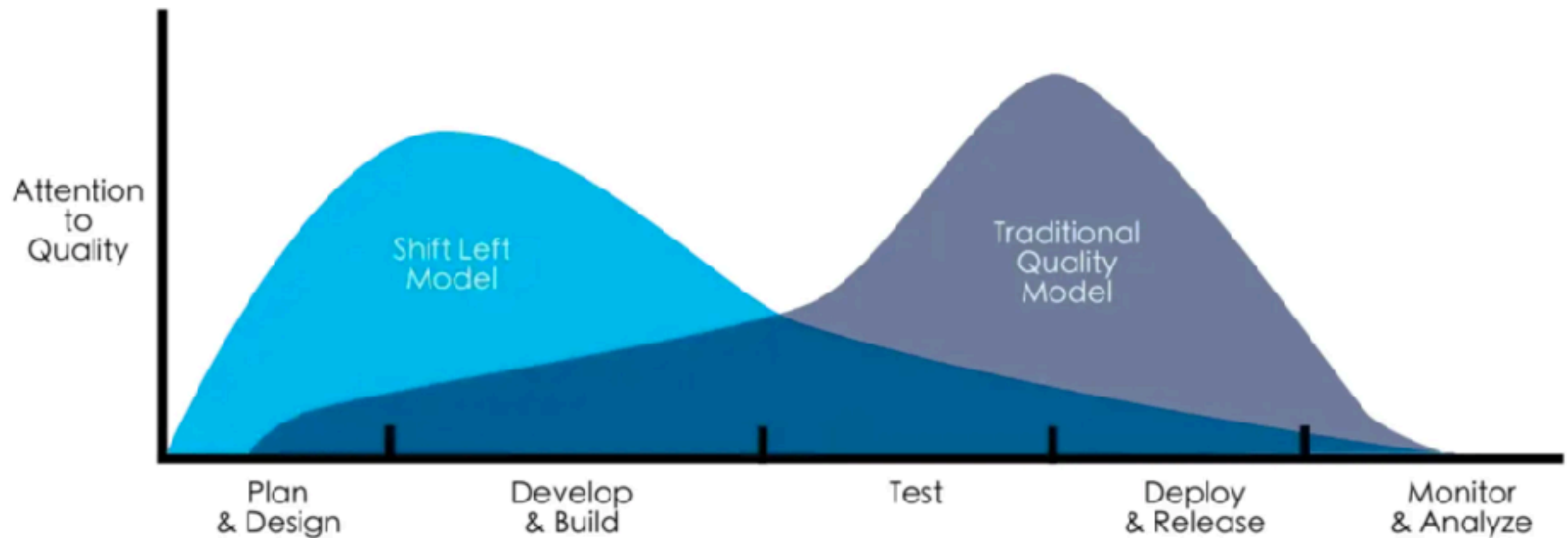


Why and What to test ?

Validation
Verification



คิดก่อนทำ



High Quality



Why and What to test ?

Validation
Verification



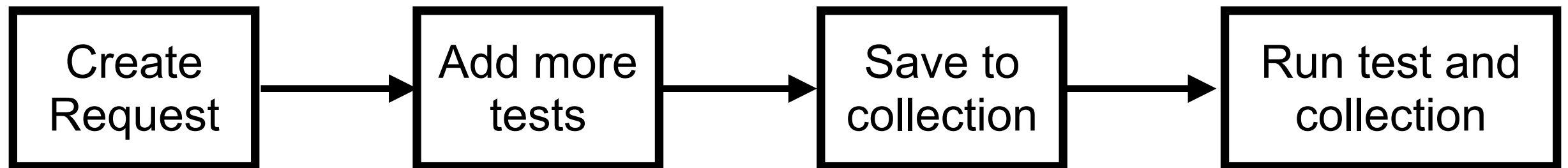
POSTMAN



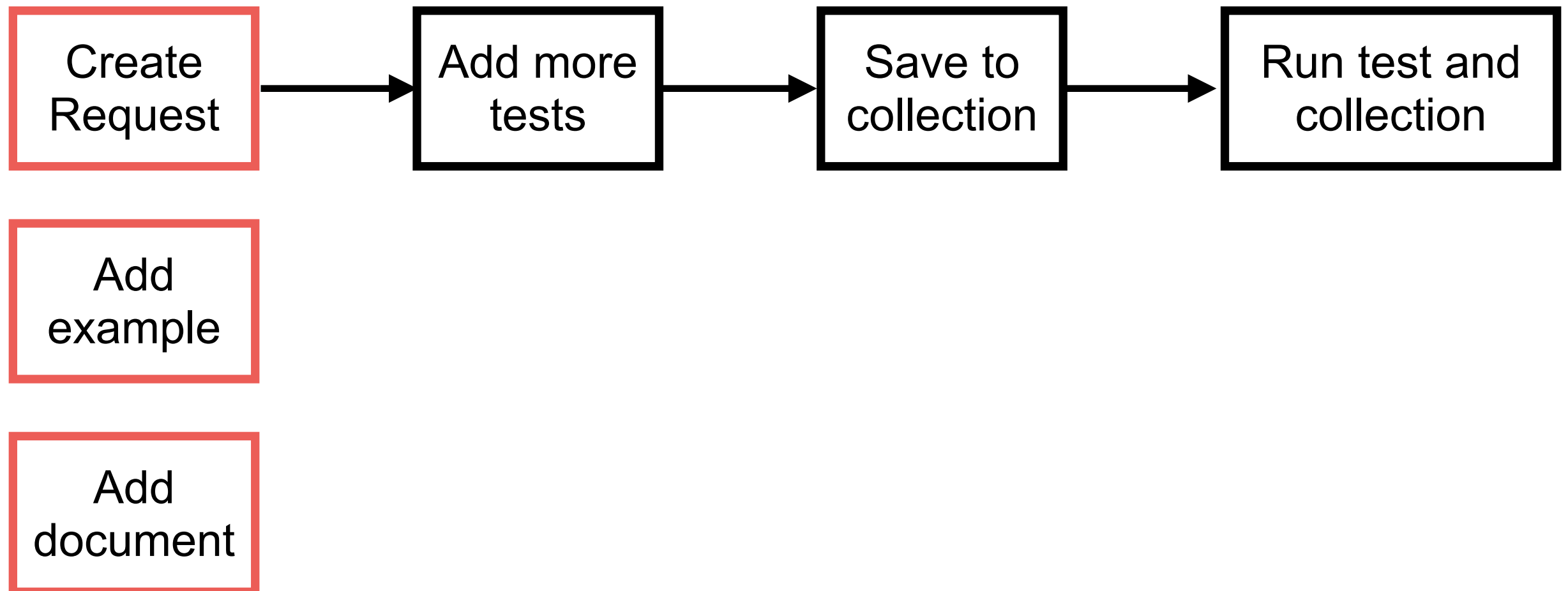
Workshop



Simple Process



Design first with Postman

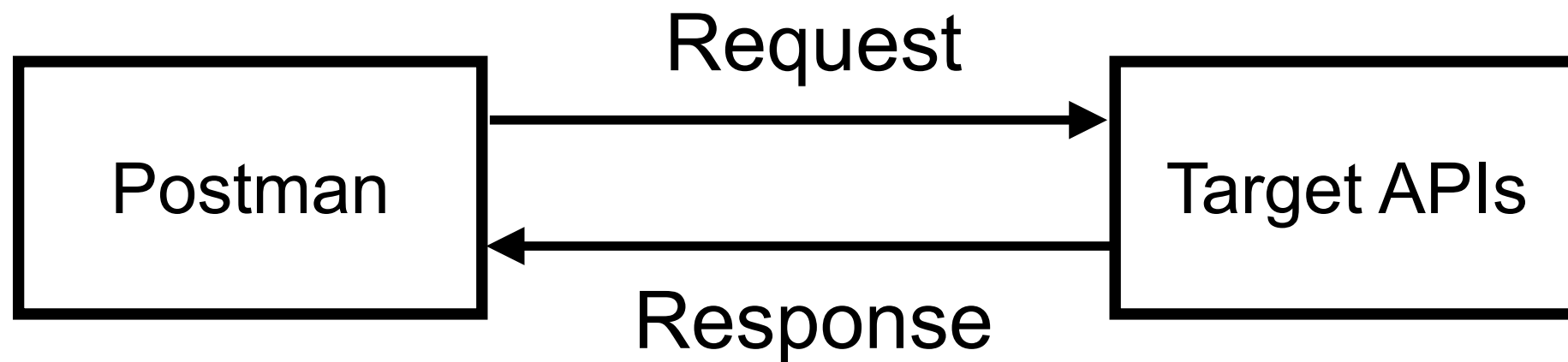


Add more tests !!



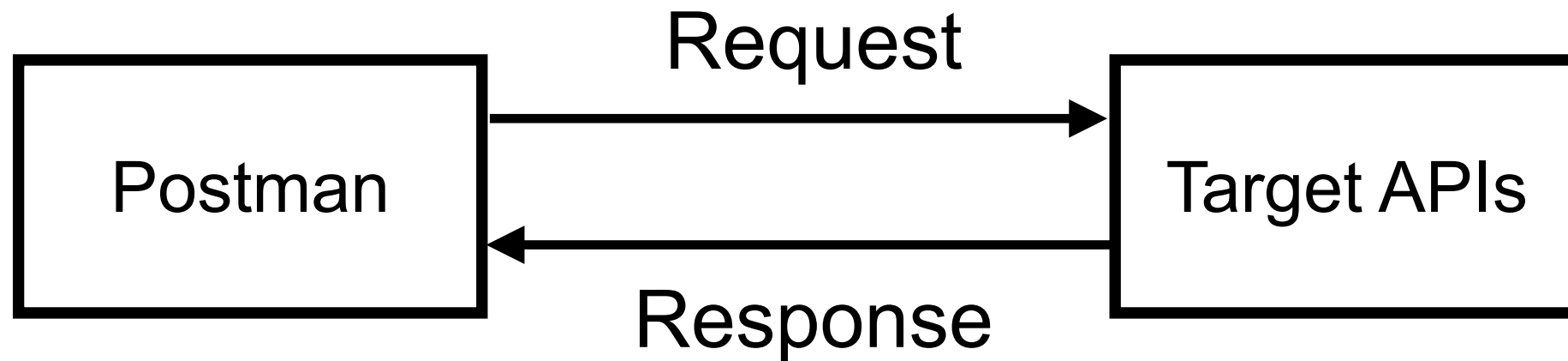
Why and What to test ?

Thinking about testing (API)



Why and What to test ?

Thinking about testing (API)



Status code

Response
time

Response
body

Response
schema



Add test cases in request and collections

JavaScript



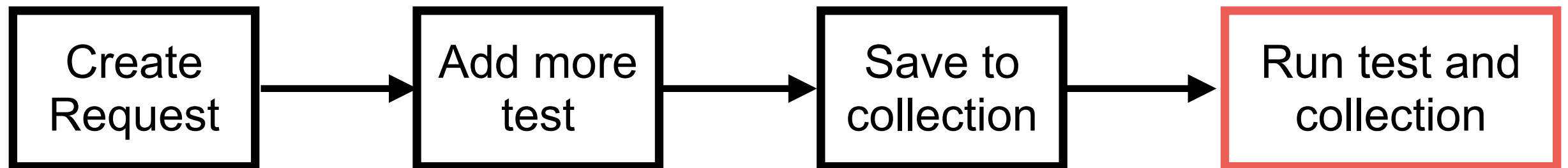
<https://learning.postman.com/docs/writing-scripts/test-scripts/>



Automation process with Postman



Testing process ?



Testing with Postman

Collection runner

Postman CLI

Newman CLI



Newman CLI

Send request and receive response

Run collections in command line

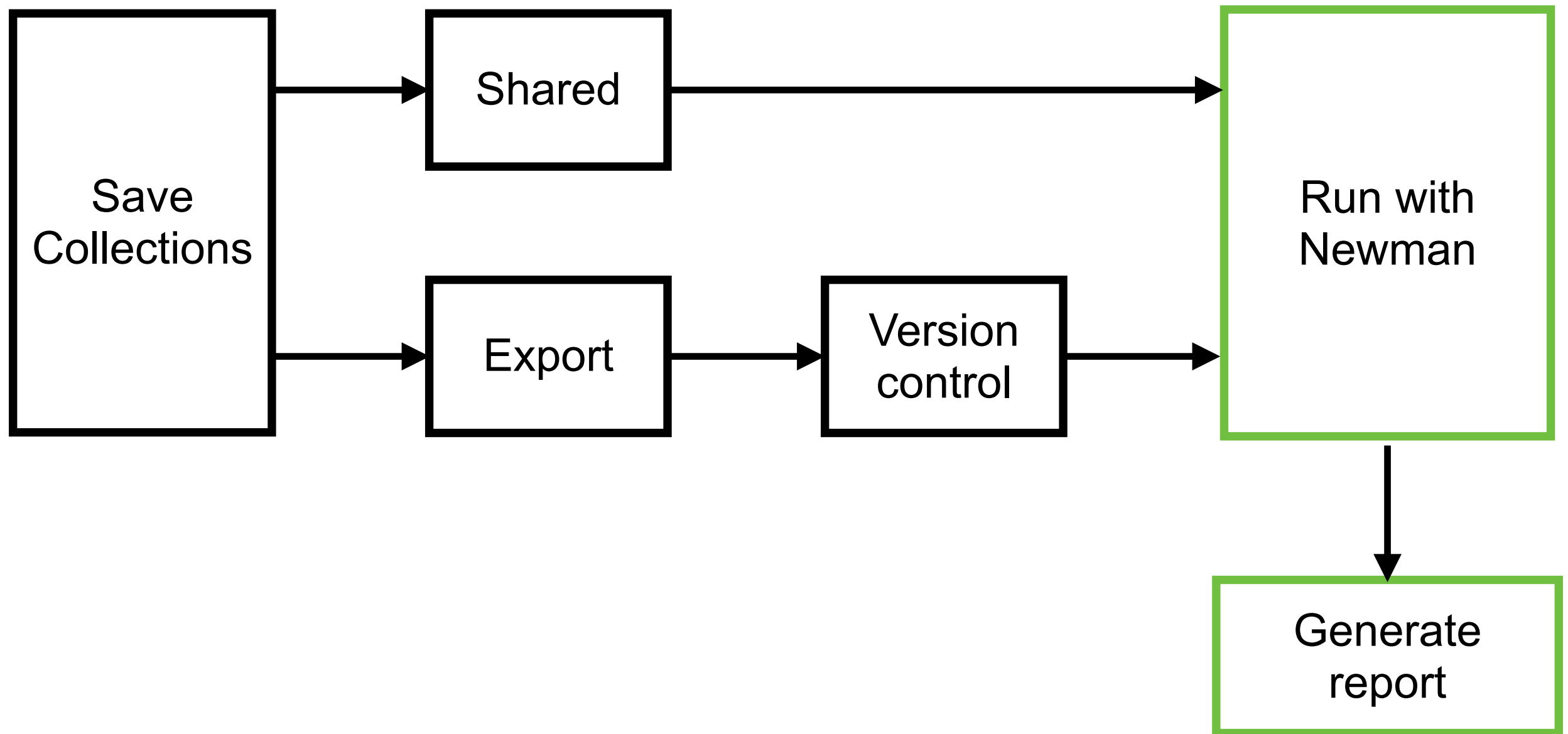
Integrate with CI/CD tools

\$npm install -g newman

<https://github.com/postmanlabs/newman>



Working with Newman



Newman CLI

Run collection

Run requests in folder

Working with data

Working with environments

Working with OS variables



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
```



Test Report

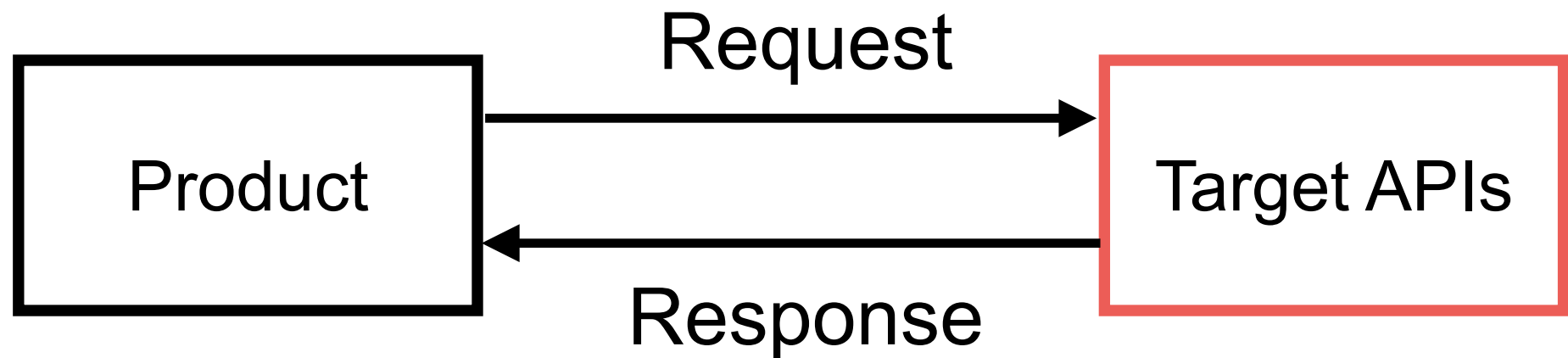
CLI
JUNIT
JSON
HTML



Mock Server



Problems ?



Unstable !!

Developing !!

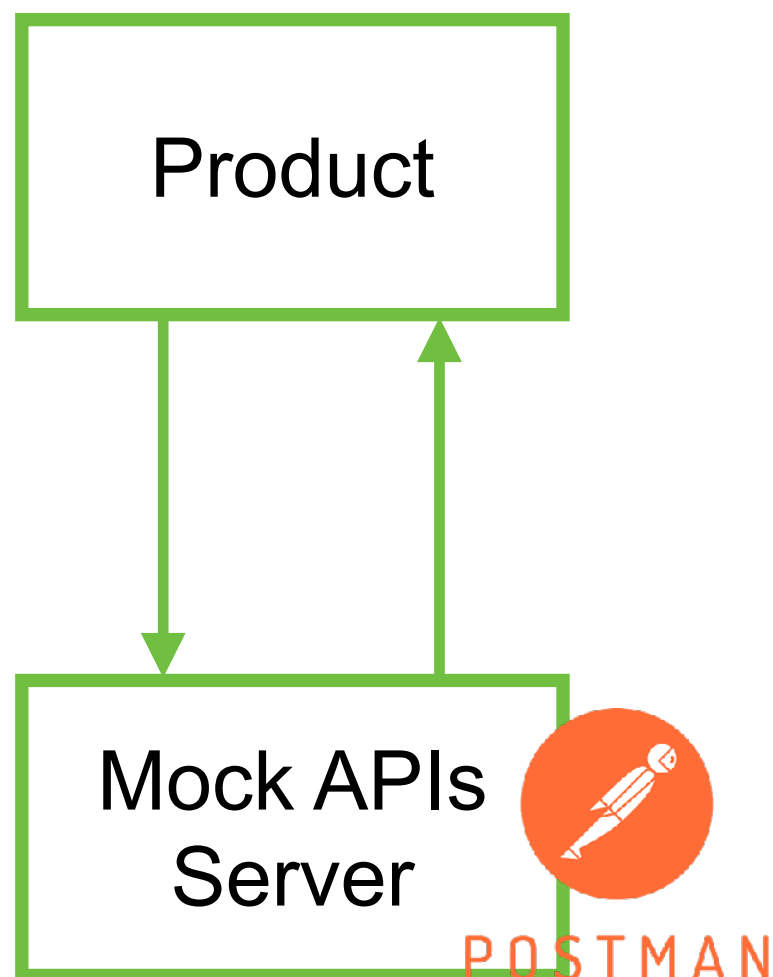
Slow !!

Flaky testing !!

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



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/>



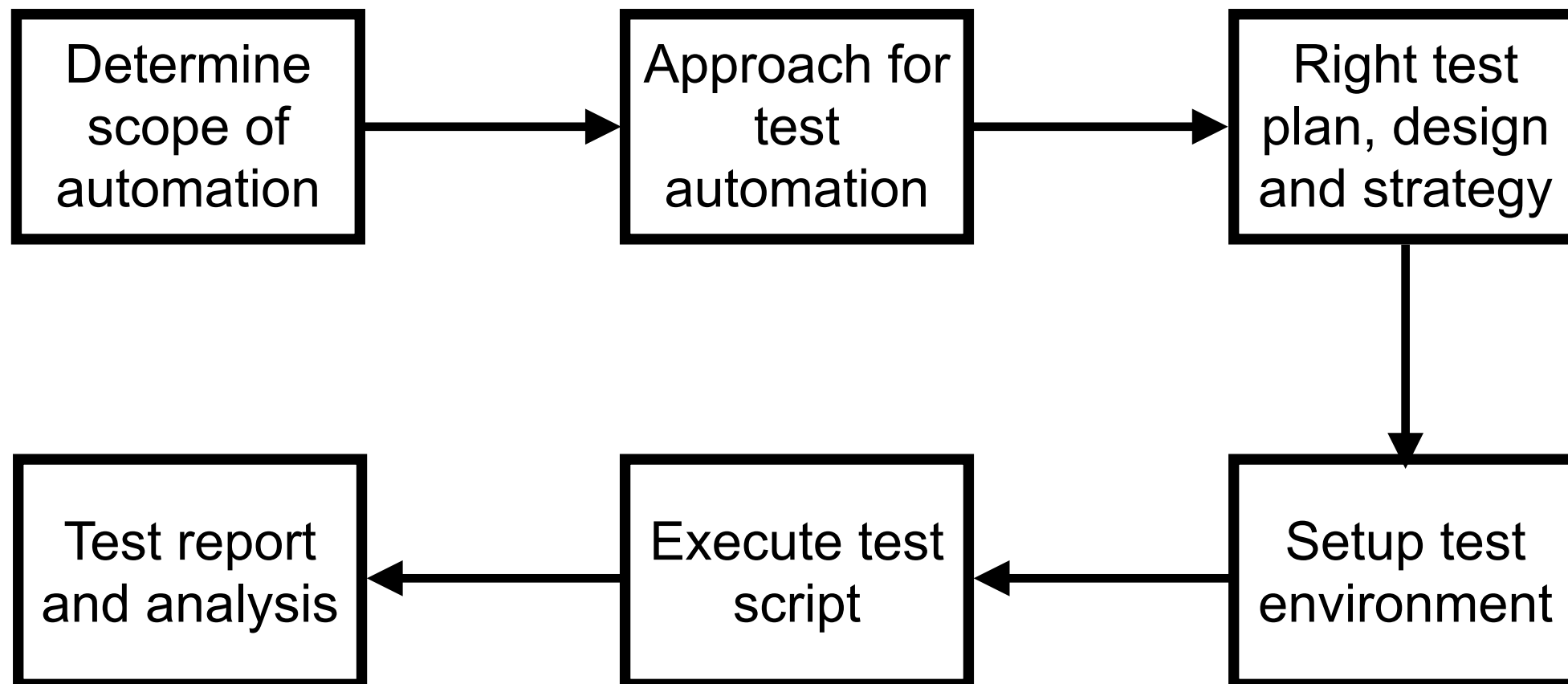
Workshop MockServer



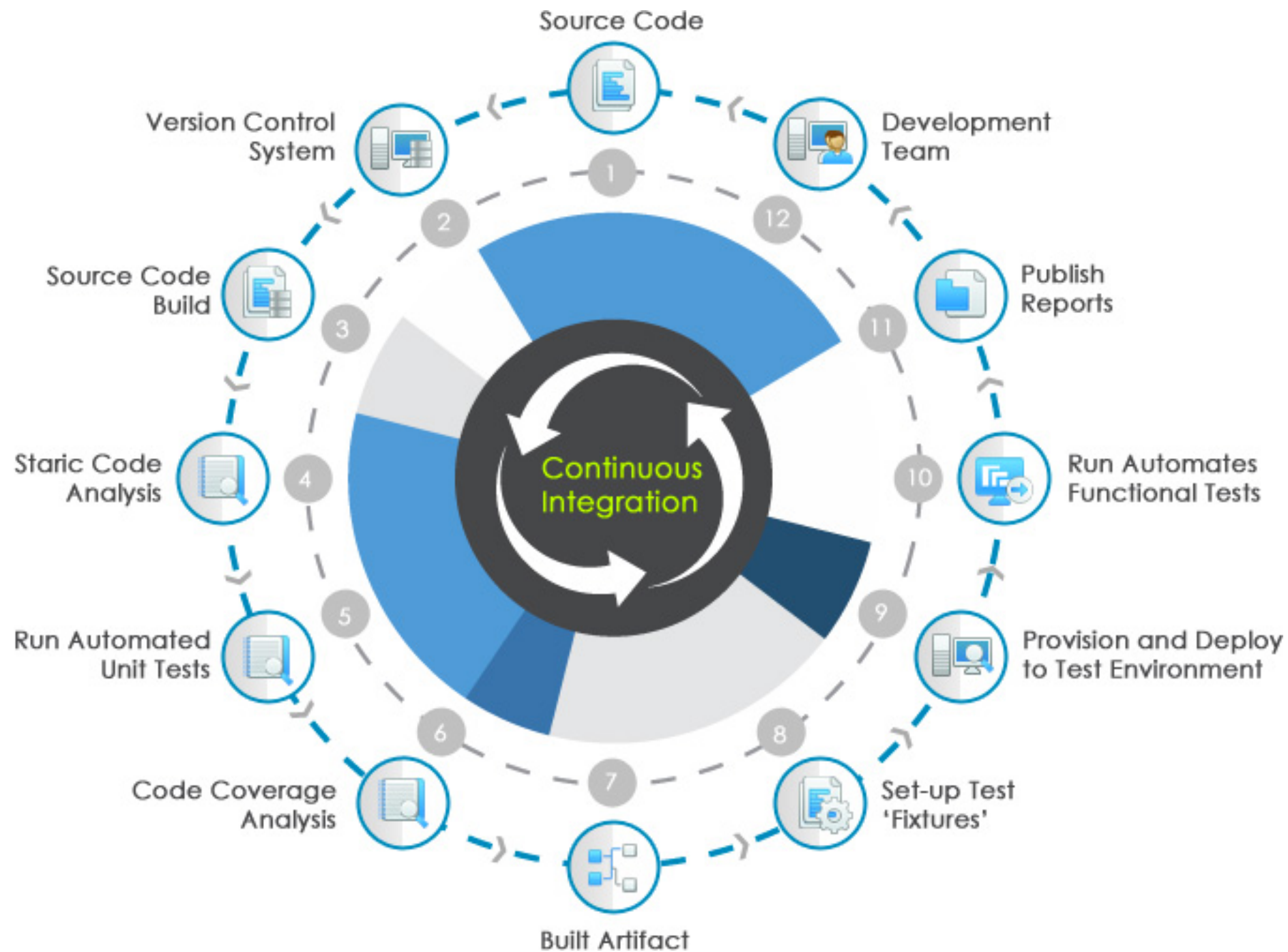
Automated Testing Lifecycle



Automated Testing Lifecycle



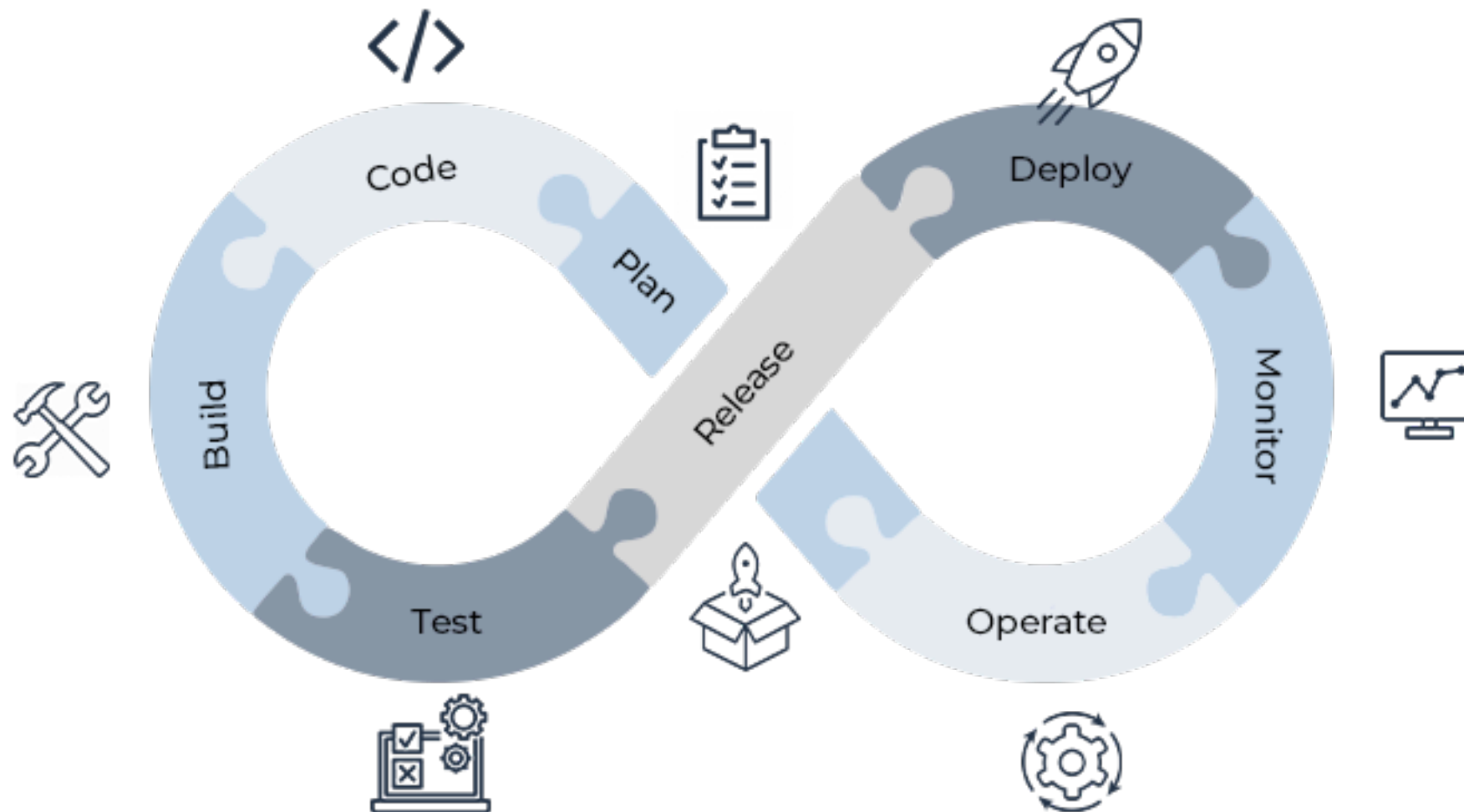
Continuous Integration



Continuous Testing



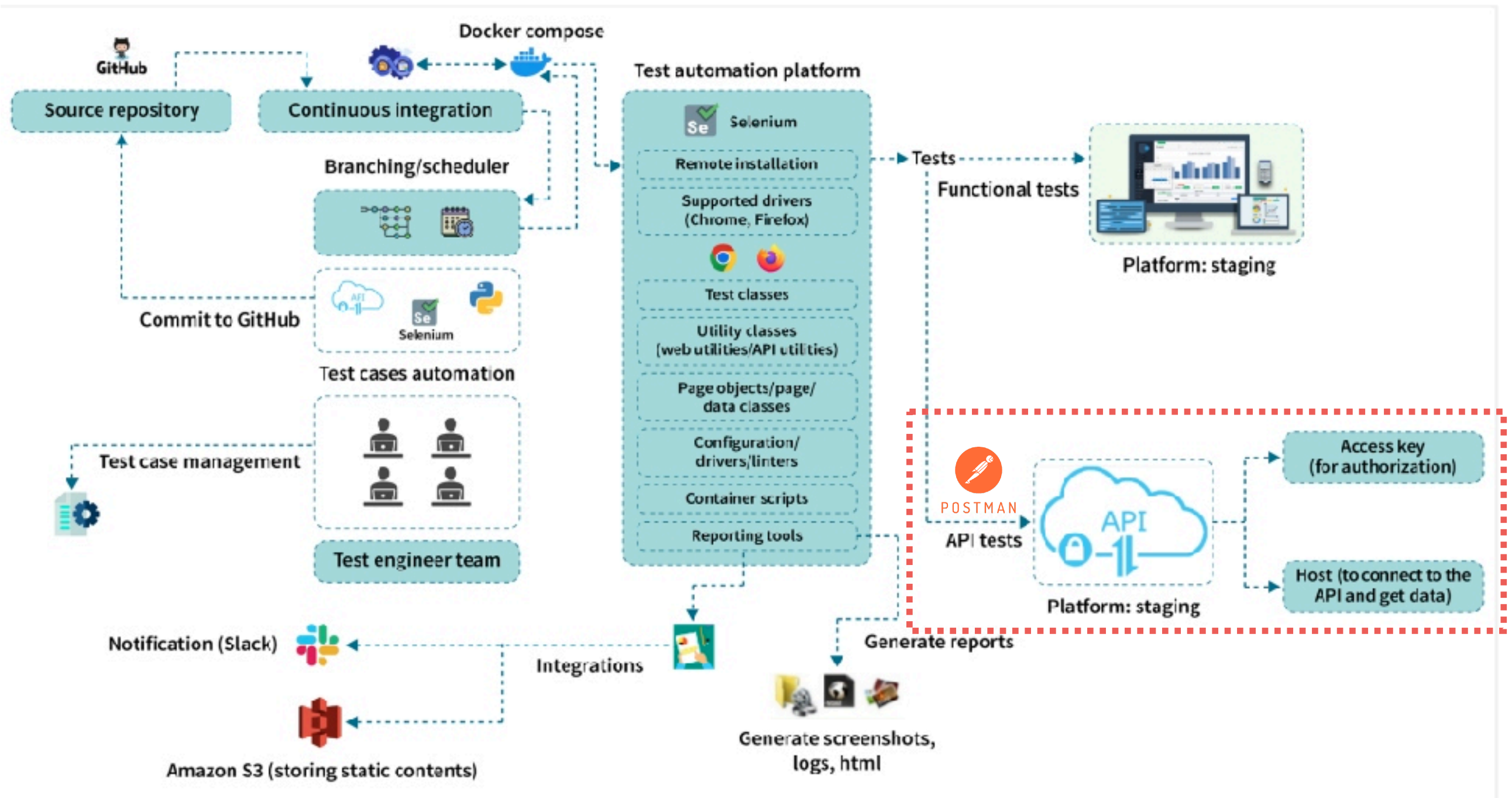
DevTestOps



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



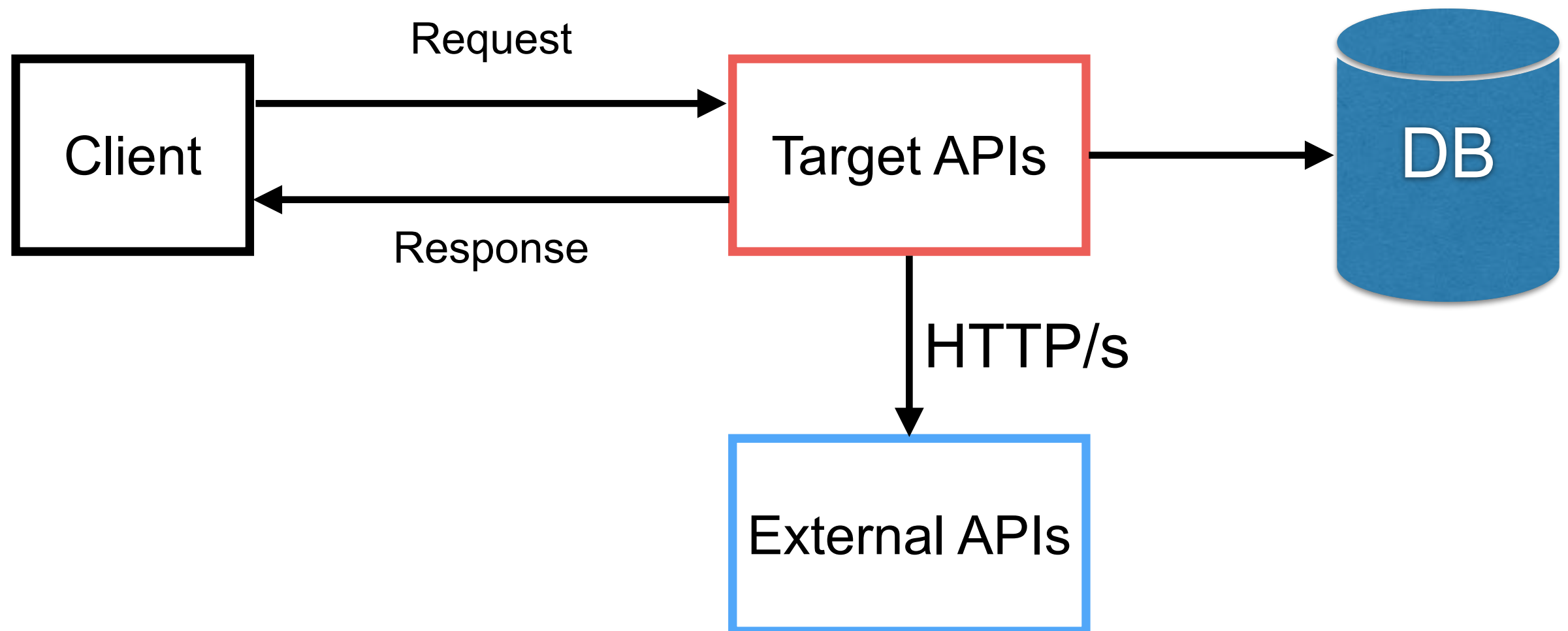
Example



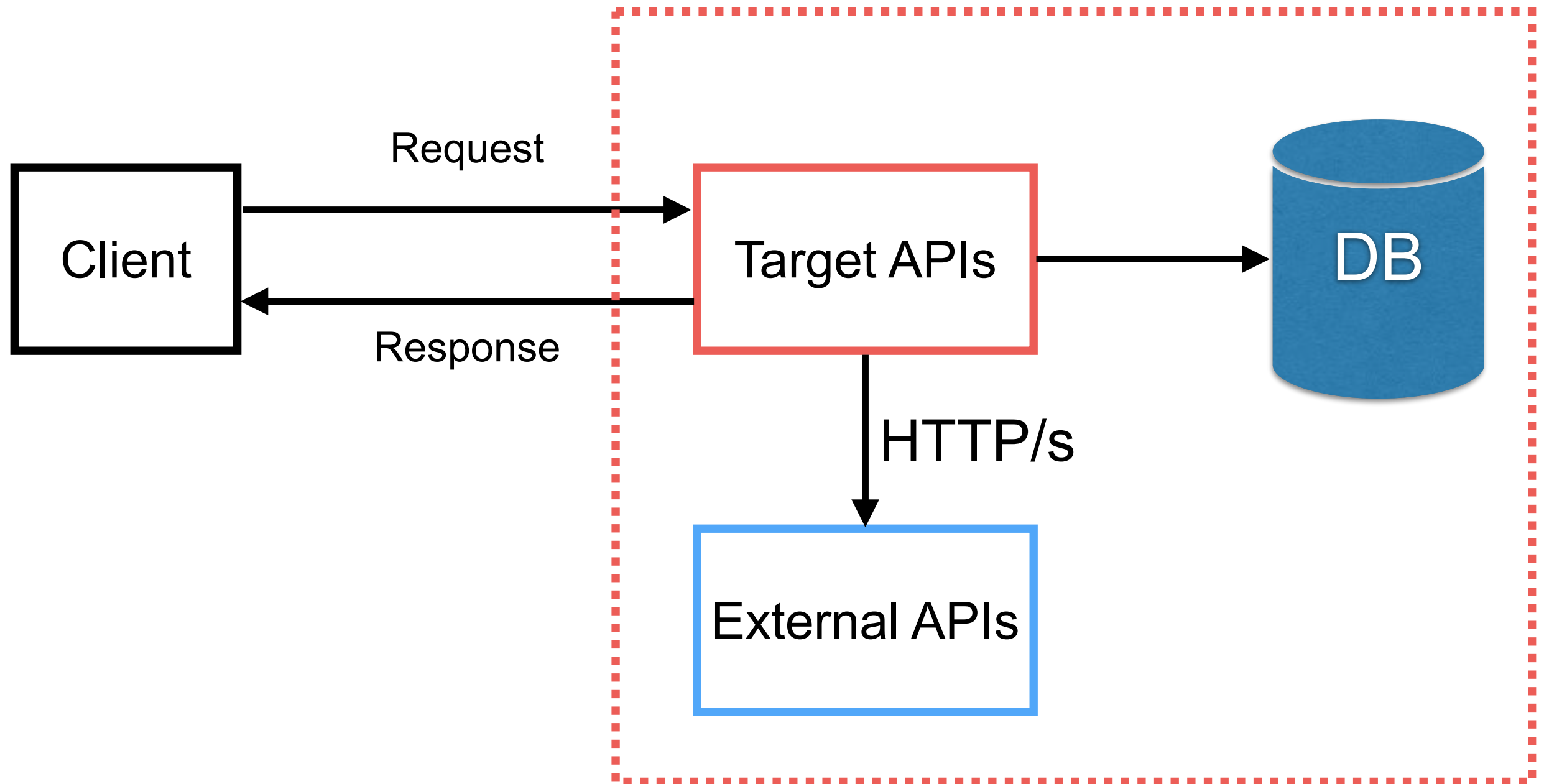
Test Strategies ?



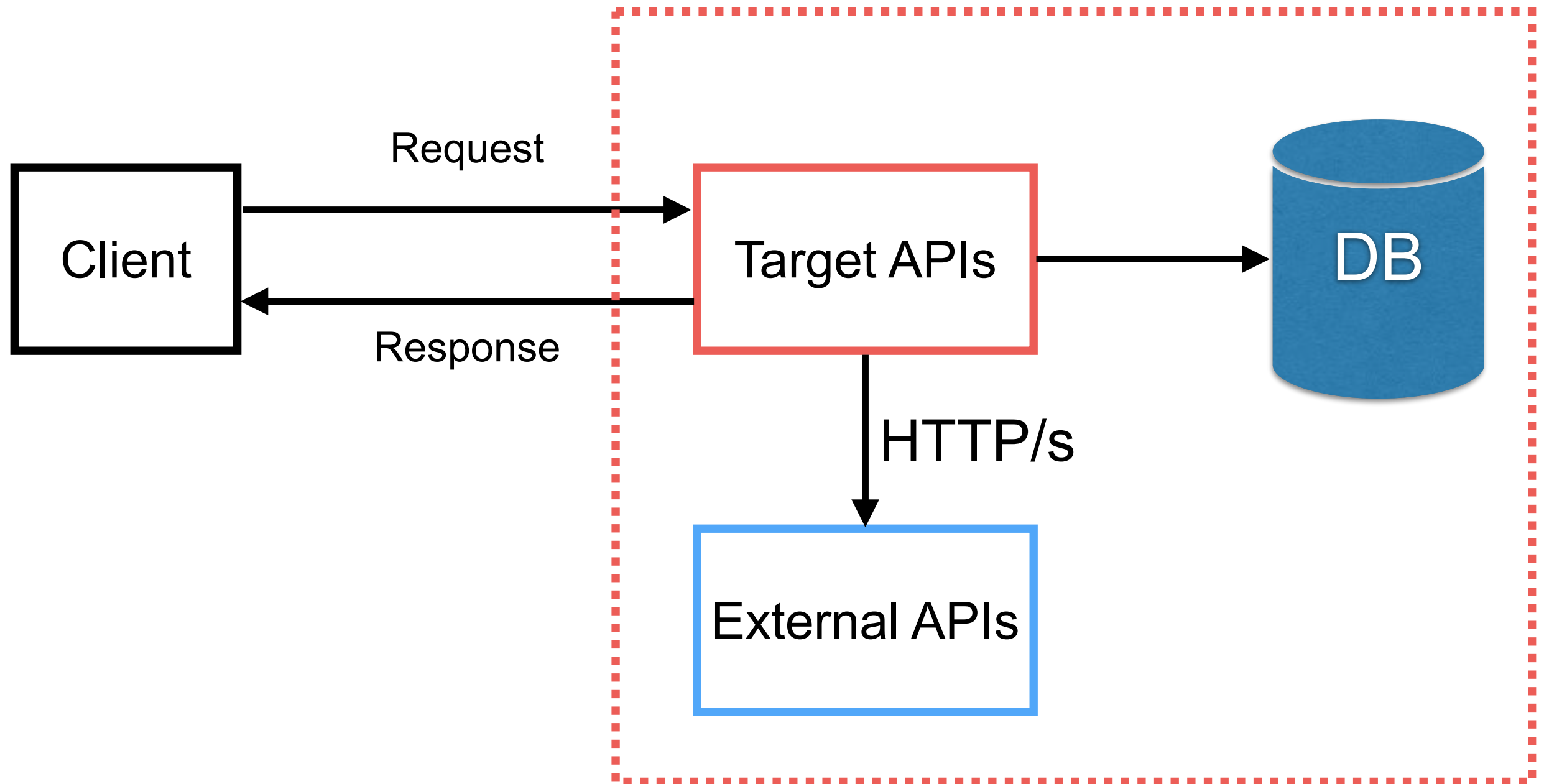
Architecture



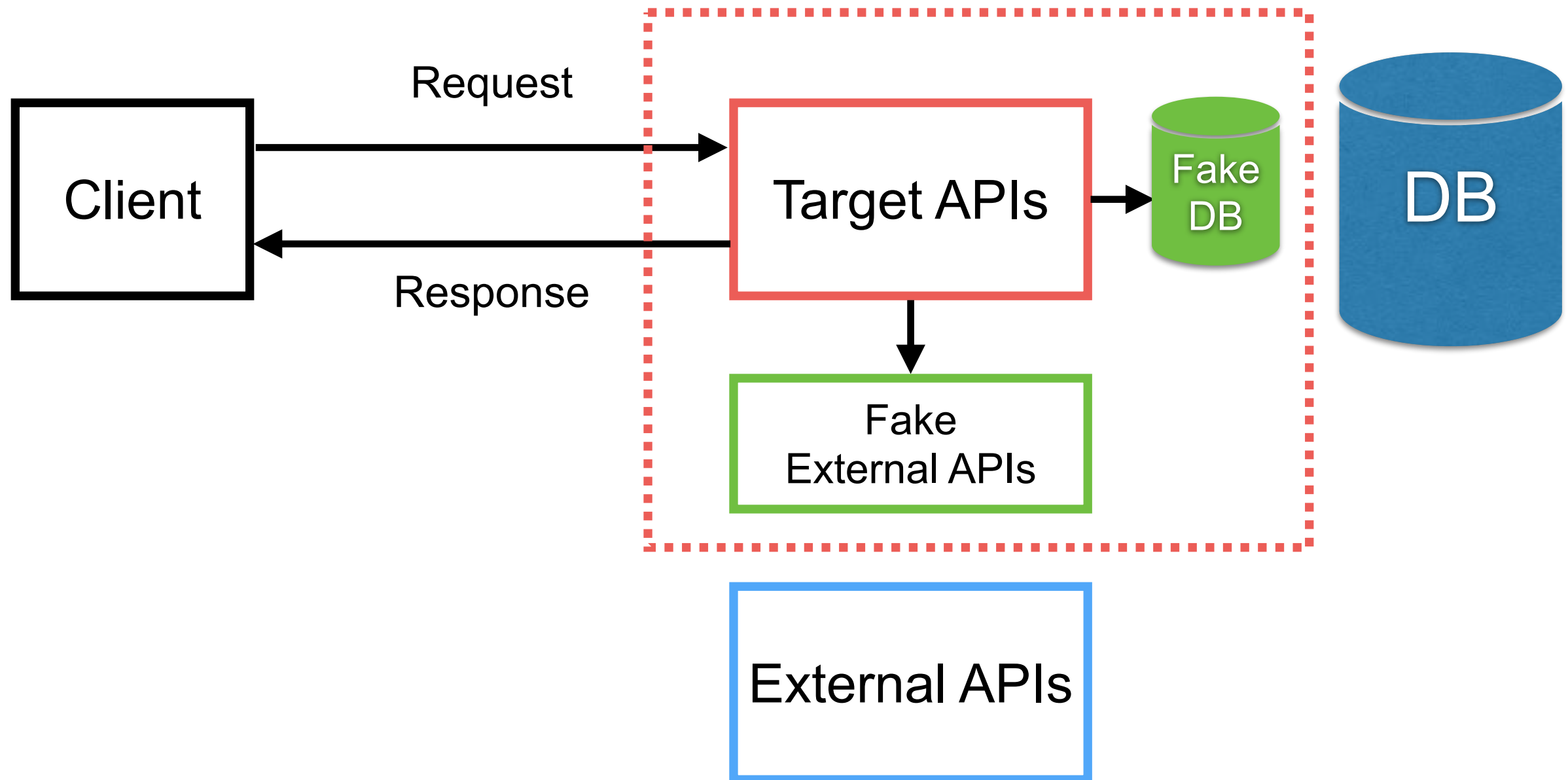
What and Why to test ?



Testing with real dependencies



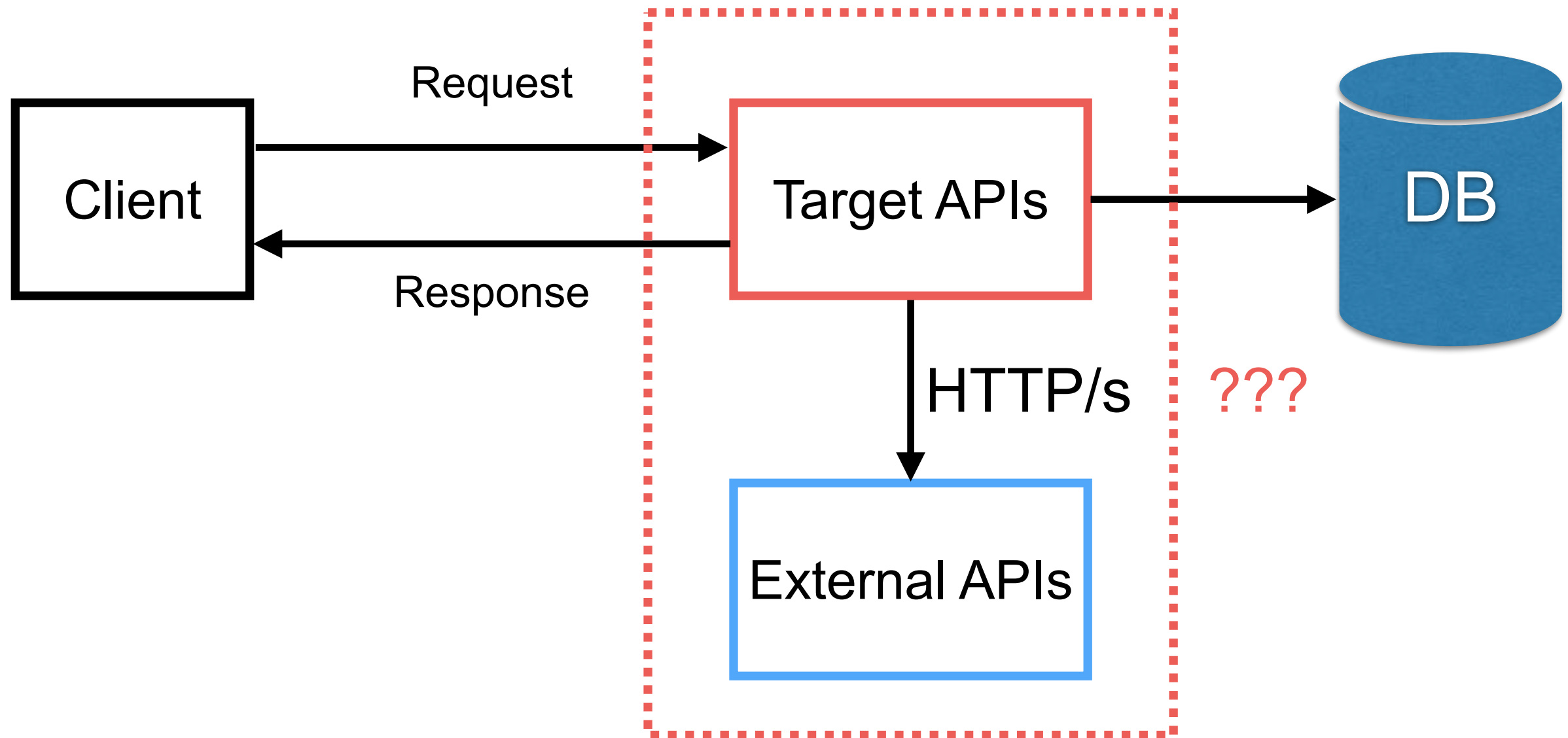
Testing with fake dependencies

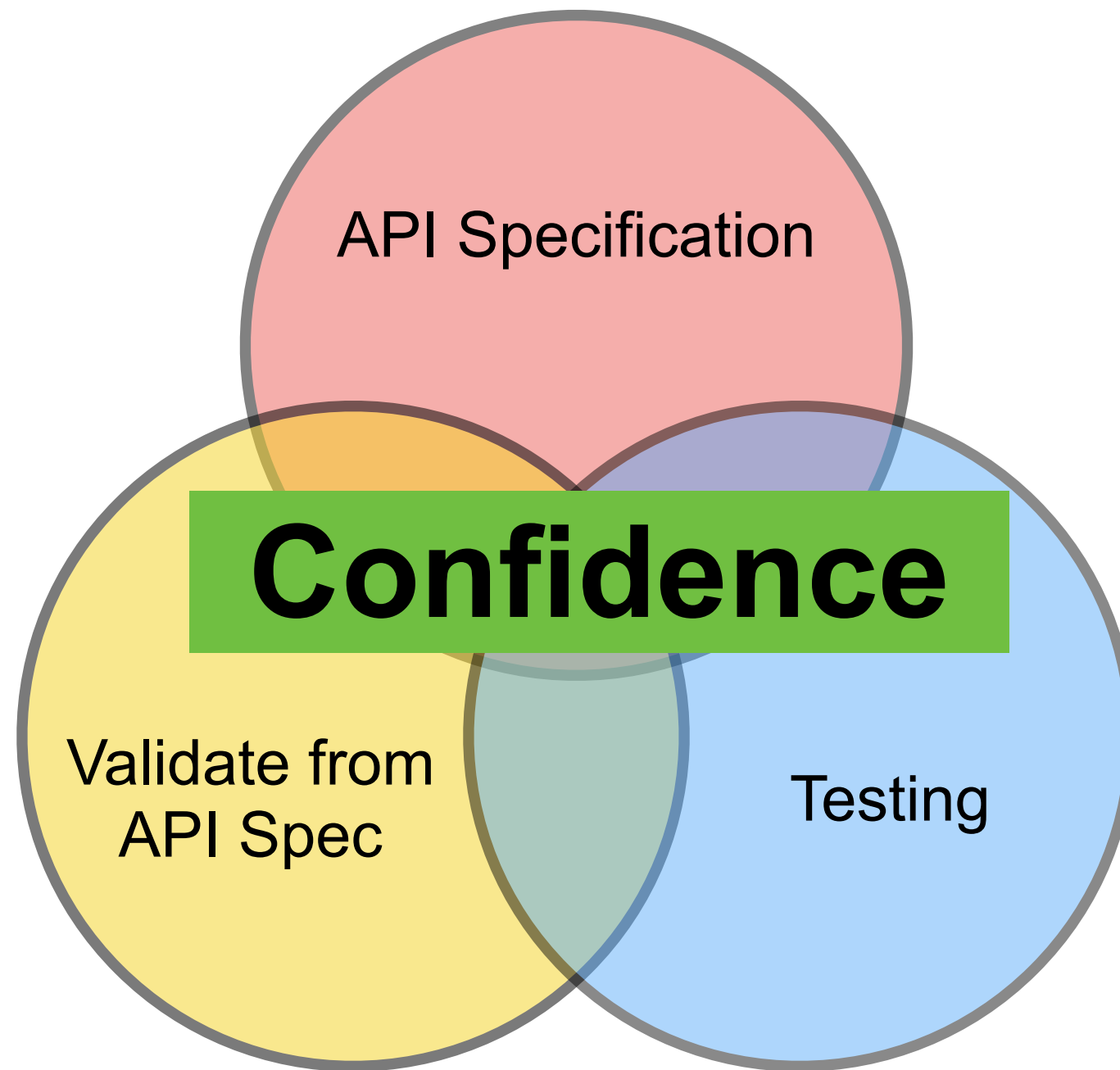


Contract Testing

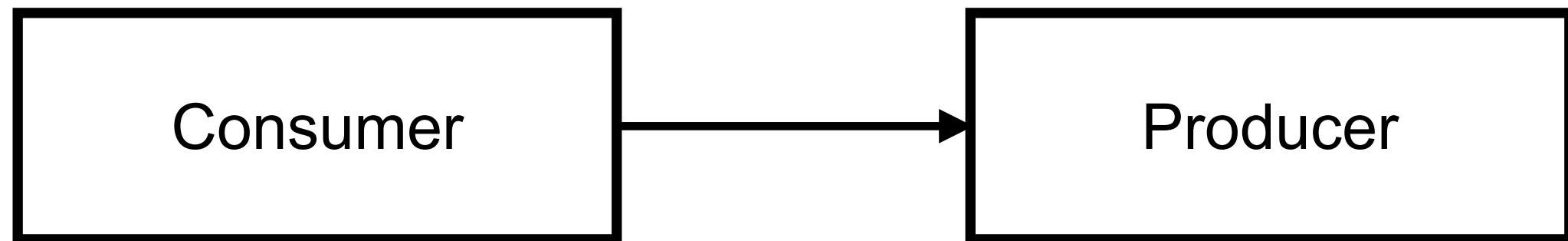


Contract Testing ?





Testing ?

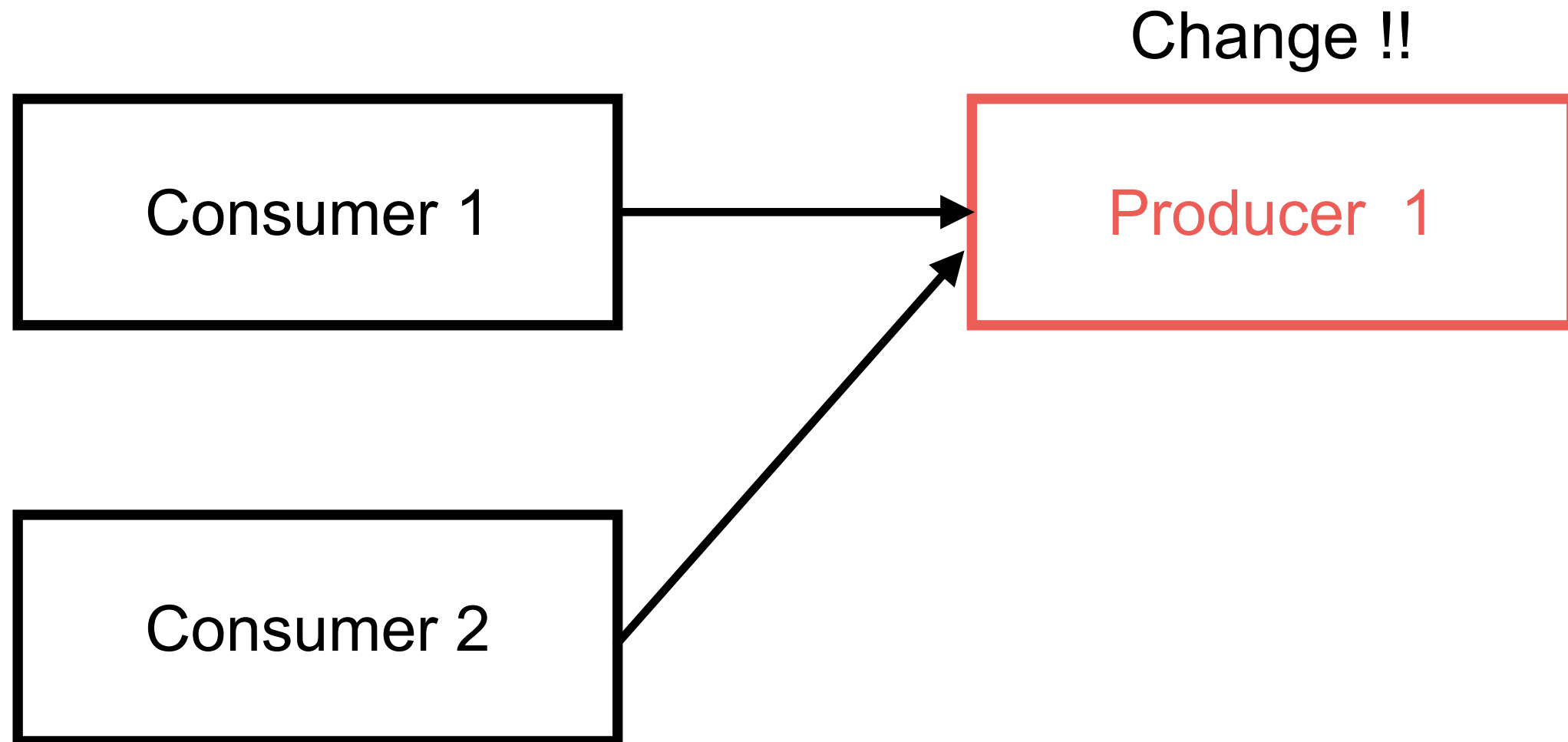


How to call/use API ?

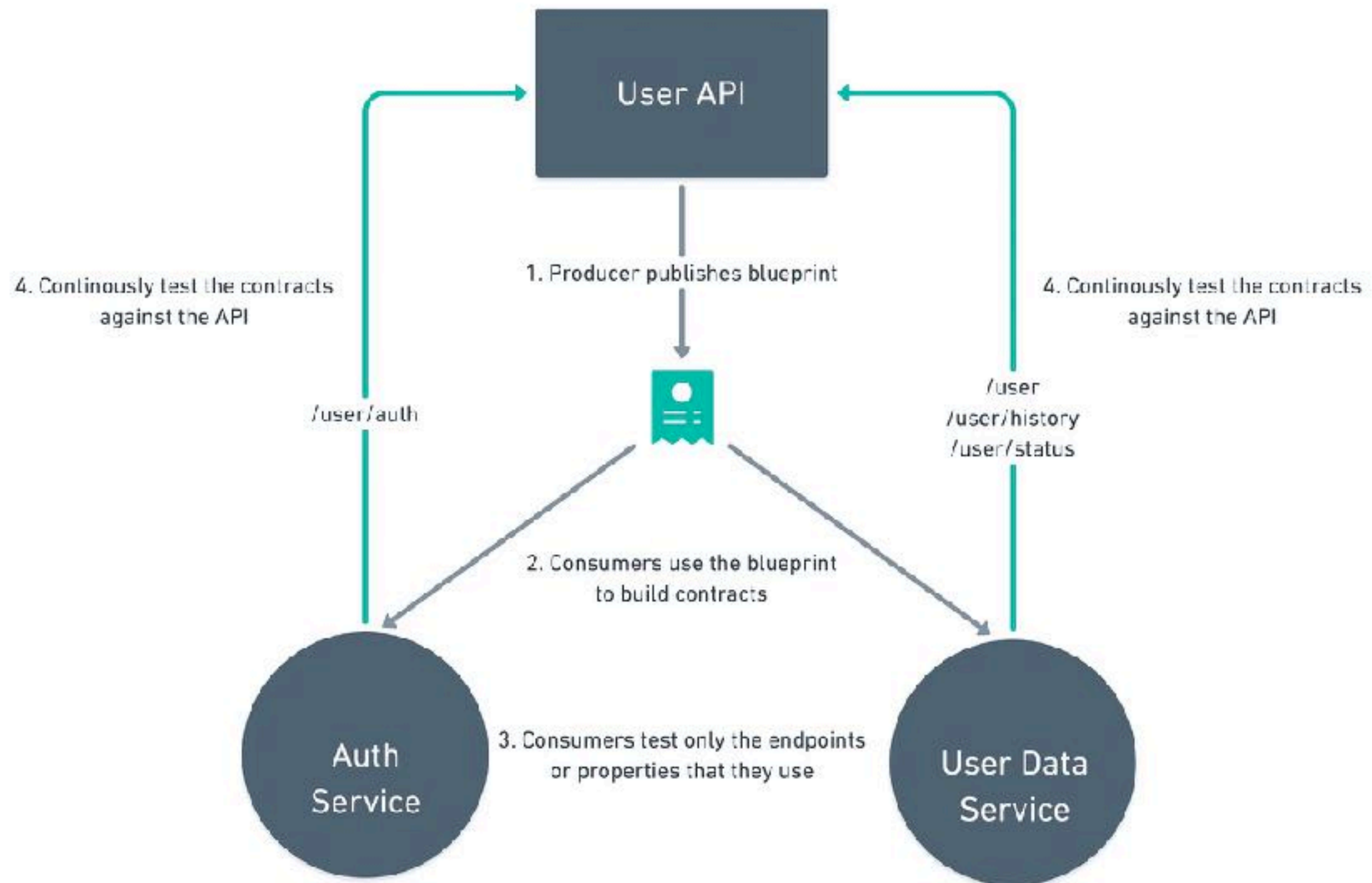
How consumer use my API ?



Testing ?



Example



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



Workshop

<https://postman-echo.com>



1. Producer publish blueprint

Design API Specification Validate schema

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



2. Consumer create contract

Call APIs from provider

Define inputs and expected results

Create requests

Write test scripts to verify



3. Mock provider in consumer-side

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



More testing !!



Snapshot testing



Performance testing



Security testing



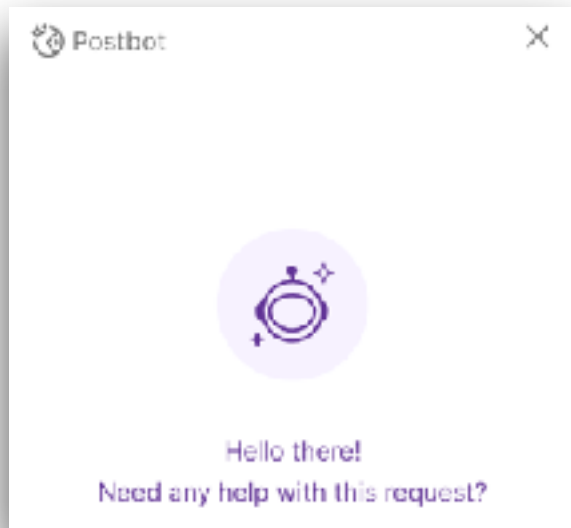
More features



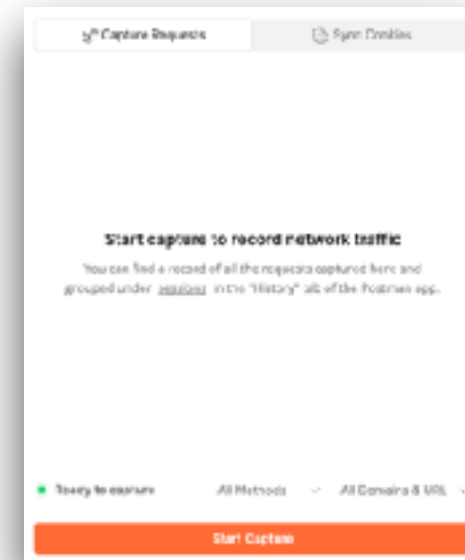
POSTMAN



More features



AI assistant for API testing



Postman interceptor



Working with OpenAPI/Swagger



Postman extension in VSCode



Summary



Better delivery process

Think about testing
Fast feedback
High quality
Working as a team



Q/A

Be Skilled Software Tester the Series



Stay Tuned



<https://www.facebook.com/beSkilledSoftwareTester>

