

Assignment No. 4 – API Testing using Postman

Domain: QA (Quality Assurance)

Organization: 10Pearls Pakistan

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Submission Date: 3rd Oct 2025

This document provides a detailed step-by-step guide for creating and executing an API testing collection in Postman. The assignment demonstrates the use of variables, requests, pre-request scripts, test scripts, and verification methods.

Open Postman

- Launch Postman application (Windows/Mac) or open Postman Web.
- Make sure you are signed in (optional).

Step 1: Create the Collection & Variables

- Click New → Collection. Name: Assignment4_API_Testing → Create.
- Click the collection name in the left sidebar → Variables tab → Add these variables:
- Variables: baseUrl, altBaseUrl, clientName, clientEmail, accessToken, bookId, orderId, customerName, randomTitle
- Click Save (top right in collection variables).

1. Click **New** → **Collection**.

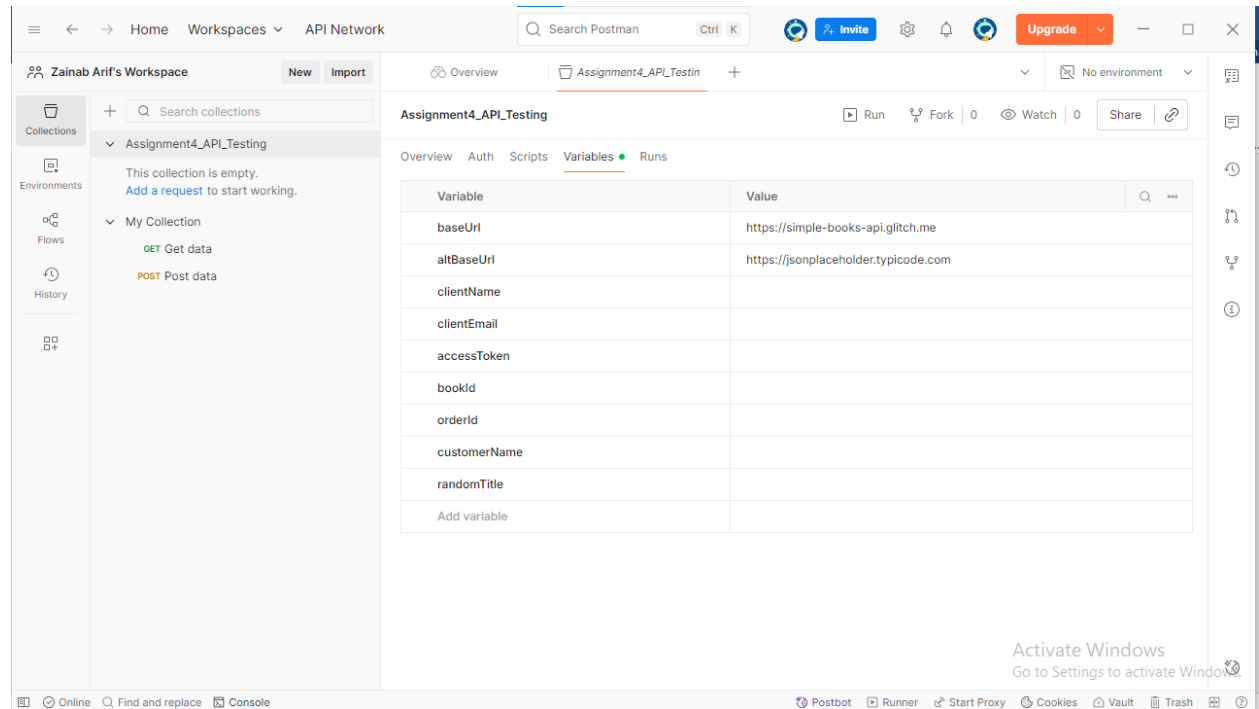
- Name: Assignment4_API_Testing → **Create**.

2. Click the collection name in left sidebar → **Variables** tab → **Add** these variables exactly:

Variable	Initial Value
baseUrl	https://simple-books-api.glitch.me
altBaseUrl	https://jsonplaceholder.typicode.com
clientName	<i>(leave empty)</i>
clientEmail	<i>(leave empty)</i>
accessToken	<i>(leave empty)</i>
bookId	<i>(leave empty)</i>
orderId	<i>(leave empty)</i>
customerName	<i>(leave empty)</i>

Variable	Initial Value
randomTitle	(leave empty)

- Click **Save** (top right in collection variables).



Step 2: Create Request 01 — GET /status

- New → Request. Name it: 01 - GET /status. Save into Assignment4_API_Testing.
- Set Method = GET. URL: {{baseUrl}}/status
- Tests Tab:
- pm.test("Status code is 200", () => { pm.response.to.have.status(200); });
- pm.test("Response is JSON", () => { pm.expect(() => pm.response.json()).not.to.throw(); });
- Check console for output.

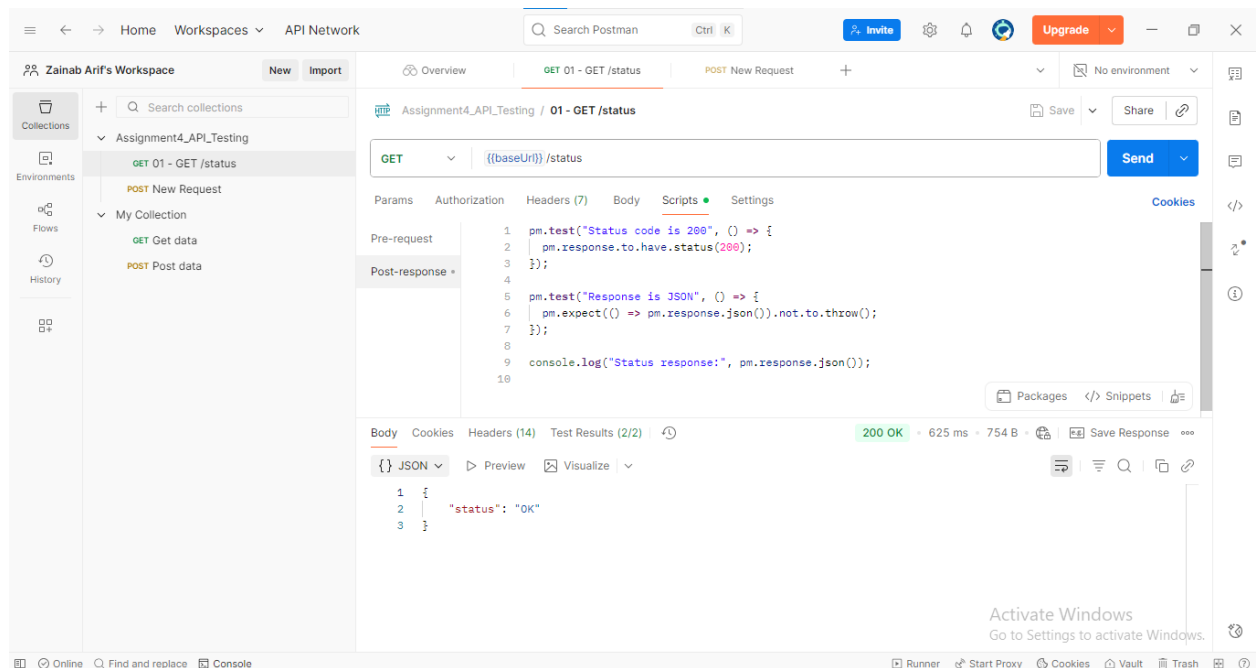
- Click **New** → **Request**. Name it: 01 - GET /status. Save into Assignment4_API_Testing.
- Set Method = **GET**. URL:
- {{baseUrl}}/status
- No Body. Tests tab → paste:

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

```
pm.test("Response is JSON", () => {
  pm.expect(() => pm.response.json()).not.to.throw();
});
```

```
console.log("Status response:", pm.response.json());
```

4. Click **Save** → **Send**. Check response and Postman Console (View → Show Postman Console).



Step 3: GET /books (List of Books + Capture bookId)

- Create new GET request: URL = `{{baseUrl}}/books`
- Expected 200 OK with list of books.
- Add Test Script to capture bookId.
- Store first bookId in a variable.

1. Set the Base URL

- Create a variable named `baseUrl`.
- Assign this value to it:
- `https://simple-books-api.glitch.me`

2. Create a new GET request

- Request URL:
- `{{baseUrl}}/books`

3. Send the request

- If everything is correct, you should receive a **200 OK** response.
- The response body will contain a **list of books** in JSON format. Example:
- [

- { "id": 3, "name": "The Vanishing Half", "available": true },
- { "id": 1, "name": "The Russian", "type": "fiction" }
-]

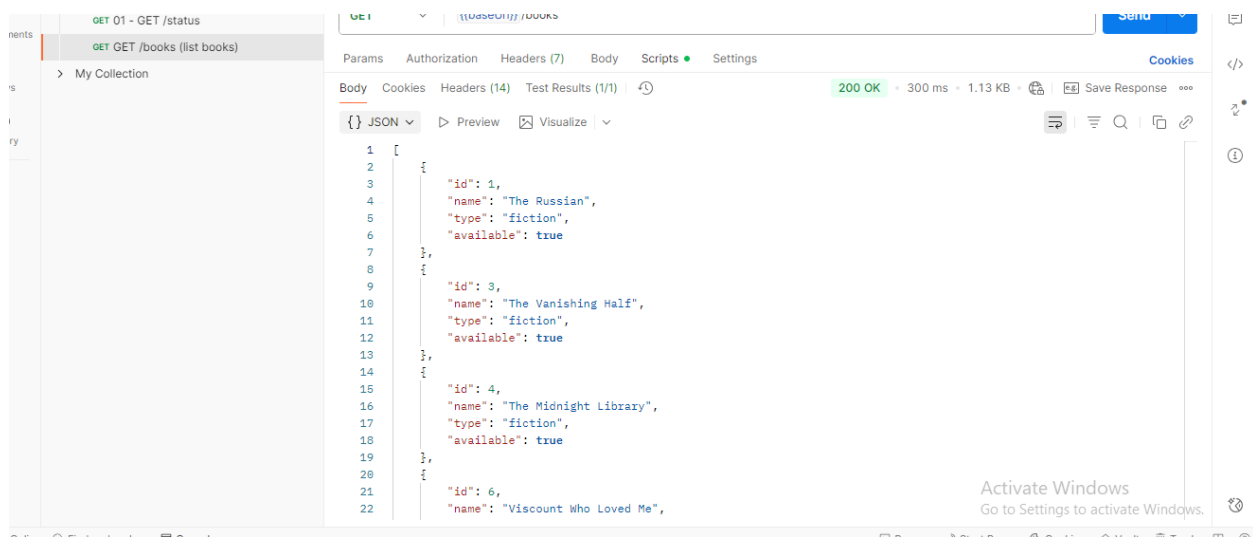
4. Add a Test Script to capture bookId

- Go to the **Tests** (or **Scripts**) tab and paste this code:
- `pm.test("Books list retrieved", () => {`
- `pm.response.to.have.status(200);`
- `});`
-
- `let books = pm.response.json();`
- `console.log("Books:", books);`
-
- `// Save first bookId in a variable`
- `if (books.length > 0) {`
- `pm.collectionVariables.set("bookId", books[0].id);`
- `console.log("Saved bookId:", books[0].id);`
- `}`

5. Check the Console Output

- You should see:
- Saved bookId: 3

(or whichever book ID came first in the list).



Step 4: Create Request 03 — GET /books/{{bookId}}

- New Request: 03 - GET /books/:id
- Tests include validating ID matches and adding an intentional failing test.

1. New Request → 03 - GET /books/:id → save.
2. Method **GET**, URL:

```
{{baseUrl}}/books/{{bookId}}
```

3. Tests tab → paste:

```
pm.test("Status is 200", () => pm.response.to.have.status(200));
```

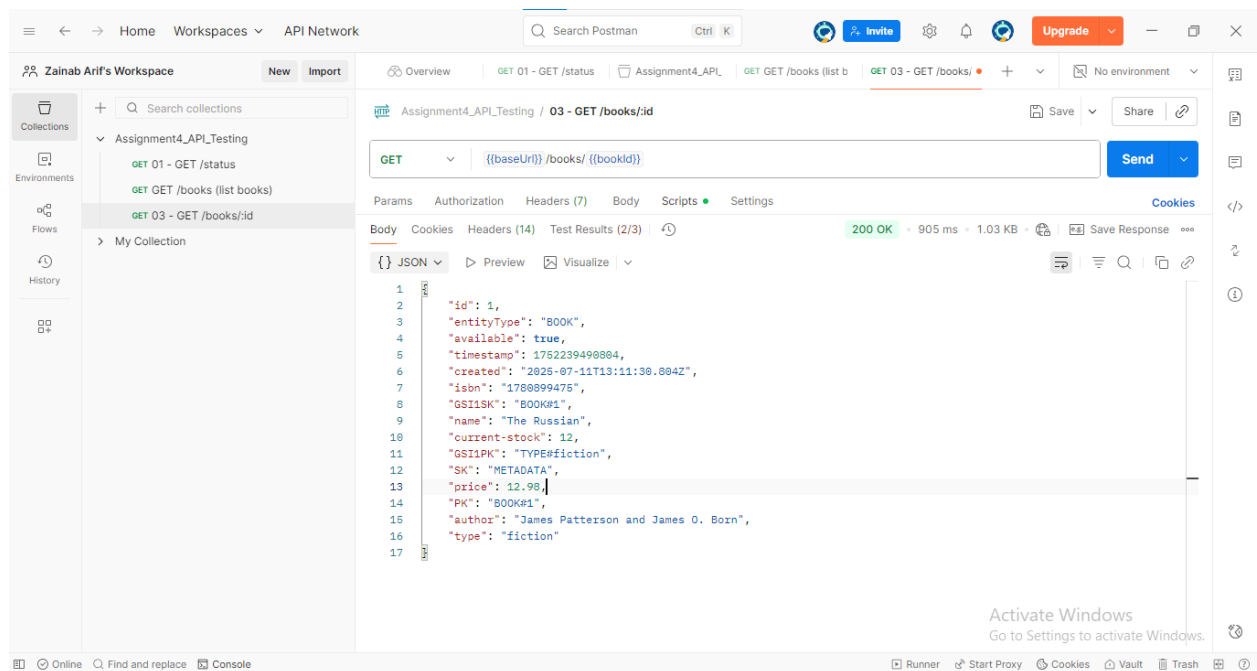
```
pm.test("Returned id matches requested bookId", () => {  
  const json = pm.response.json();  
  const returnedId = json.id;  
  const expectedId = pm.collectionVariables.get("bookId");  
  pm.expect(String(returnedId)).to.eql(String(expectedId));  
});
```

```
console.log("Single book response:", pm.response.json());
```

// Intentionally failing test (task requires a failing assertion)

```
pm.test("Deliberate failing test — book type is 'science'", () => {  
  pm.expect(pm.response.json().type).to.eql("science");  
});
```

4. Save → Send. Expect the last test to **fail** (that's okay — it's by design). Check which assertions pass/fail in the Tests tab.



Step 5: Create Request 04 — POST /api-clients

- Registers client and retrieves accessToken.
- Pre-request script generates random clientName and clientEmail.
- Tests check response status and token presence.

1. New Request → 04 - POST /api-clients → save.
2. Method **POST**, URL:

```
{{baseUrl}}/api-clients
```

3. Headers → Content-Type: application/json
4. Body → raw JSON:

```
{
  "clientName": "{{clientName}}",
  "clientEmail": "{{clientEmail}}"
}
```

5. **Pre-request Script** tab → paste:

```
const r = Math.floor(Math.random() * 1000000);
pm.collectionVariables.set("clientName", `PostmanClient-${r}`);
pm.collectionVariables.set("clientEmail", `client${r}@example.com`);
console.log("clientName & clientEmail set:", pm.collectionVariables.get("clientName"),
pm.collectionVariables.get("clientEmail"));
```

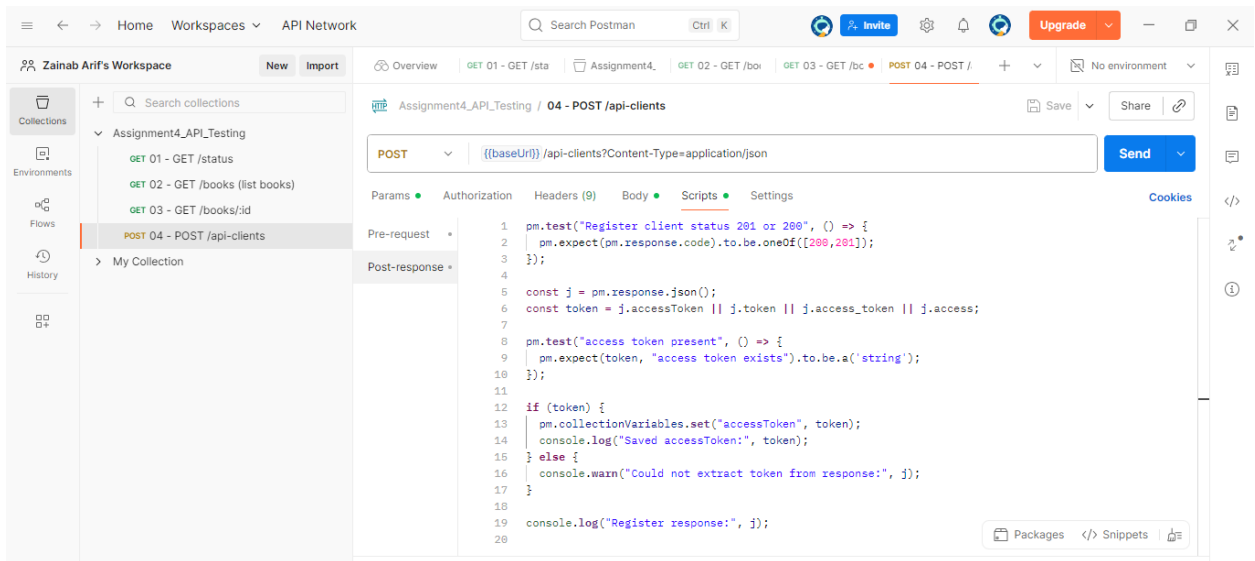
6. **Tests** tab → paste:

```
pm.test("Register client status 201 or 200", () => {
  pm.expect(pm.response.code).to.be.oneOf([200,201]);
});

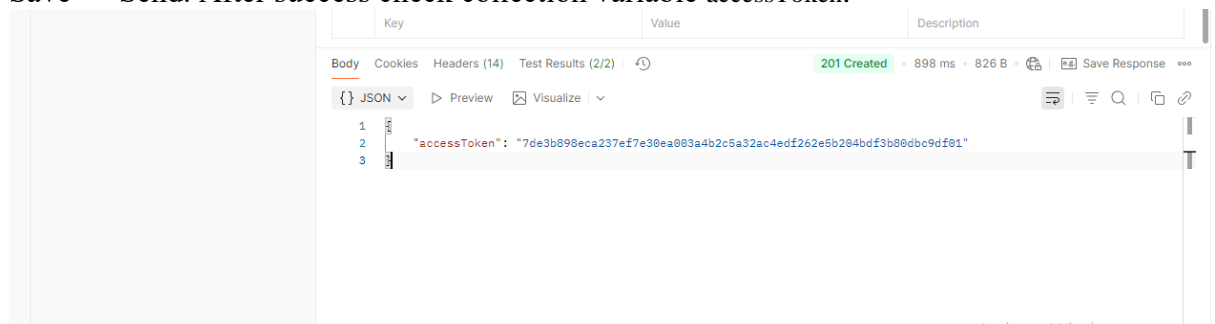
const j = pm.response.json();
const token = j.accessToken || j.token || j.access_token || j.access;
pm.test("access token present", () => {
  pm.expect(token, "access token exists").to.be.a('string');
});

if (token) {
  pm.collectionVariables.set("accessToken", token);
  console.log("Saved accessToken:", token);
} else {
  console.warn("Could not extract token from response:", j);
}

console.log("Register response:", j);
```



7. Save → Send. After success check collection variable accessToken.



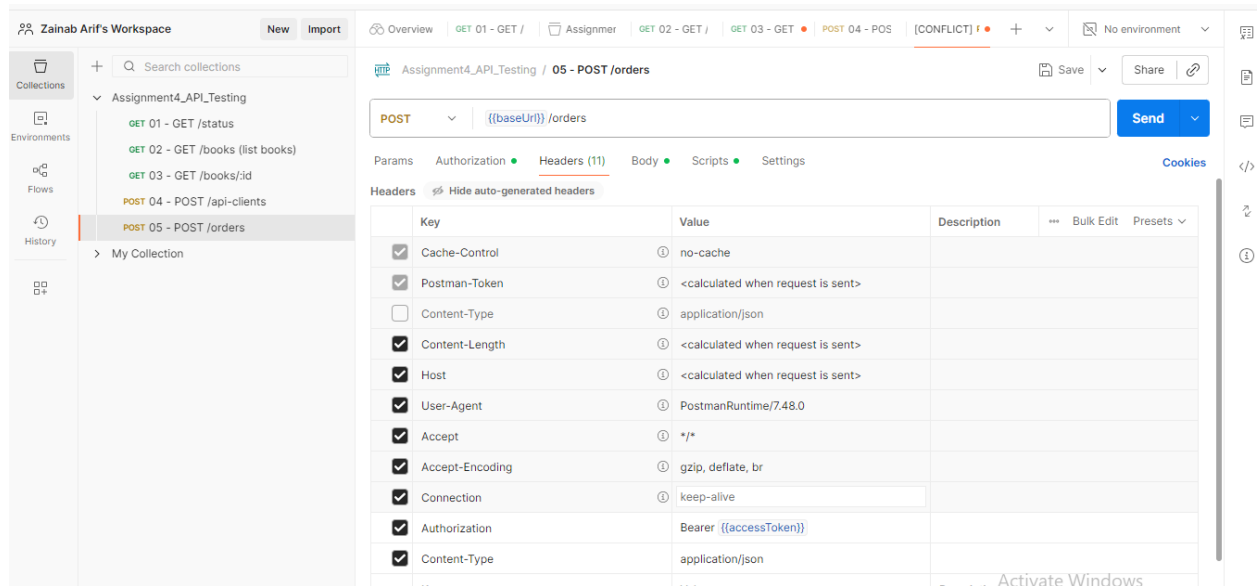
Step 6: Create Request 05 — POST /orders

- Creates an order with bookId and customerName.
- Authorization → Bearer Token with {{accessToken}}.
- Tests capture orderId.

1. New Request → 05 - POST /orders → save.
2. Method **POST**, URL:

{{baseUrl}}/orders

3. Authorization tab → select **Bearer Token** → Token: {{accessToken}}
4. Headers → Content-Type: application/json



5. Body → raw JSON:

```
{
  "bookId": {{bookId}},
  "customerName": "{{customerName}}"
}
```

6. Pre-request Script:

```
const r = Math.floor(Math.random() * 1000000);
pm.collectionVariables.set("customerName", `Cust-${r}`);
console.log("customerName:", pm.collectionVariables.get("customerName"));
```

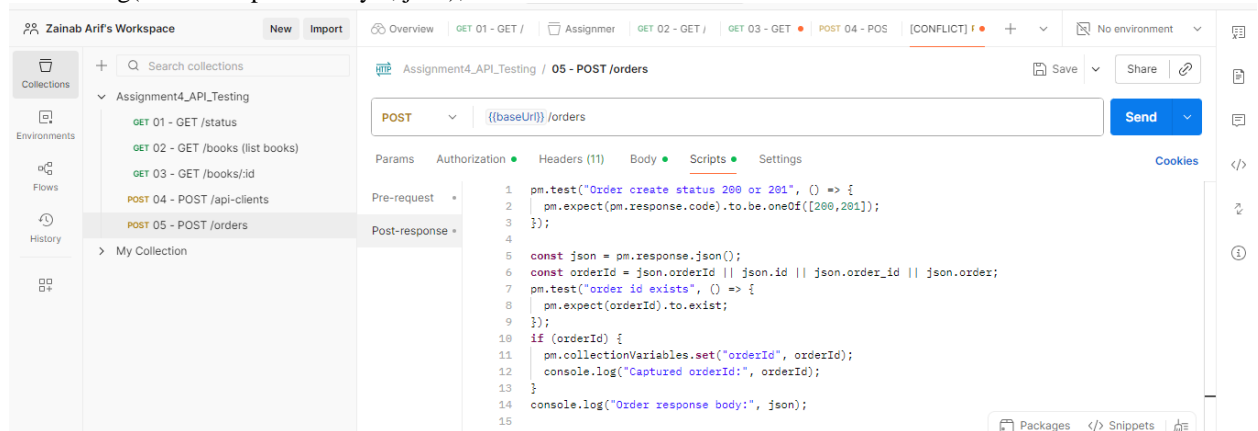
7. Tests:

```
pm.test("Order create status 200 or 201", () => {
  pm.expect(pm.response.code).to.be.oneOf([200,201]);
});

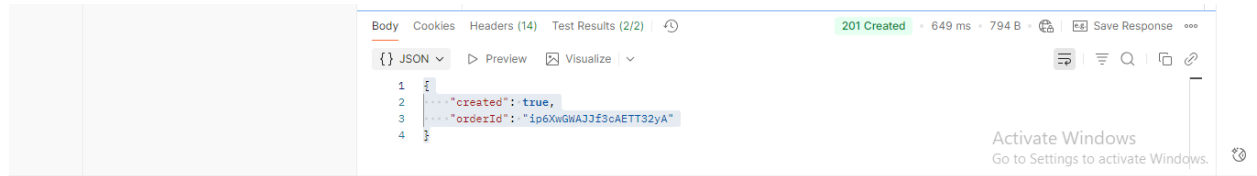
const json = pm.response.json();
const orderId = json.orderId || json.id || json.order_id || json.order;
pm.test("order id exists", () => {
  pm.expect(orderId).to.exist;
});
if (orderId) {
  pm.collectionVariables.set("orderId", orderId);
  console.log("Captured orderId:", orderId);
}
```



```
console.log("Order response body:", json);
```



8. Save → Send. After success check orderId.



Step 7: Create Request 06 — GET /orders/{{orderId}}

- Fetches order details and validates orderId.

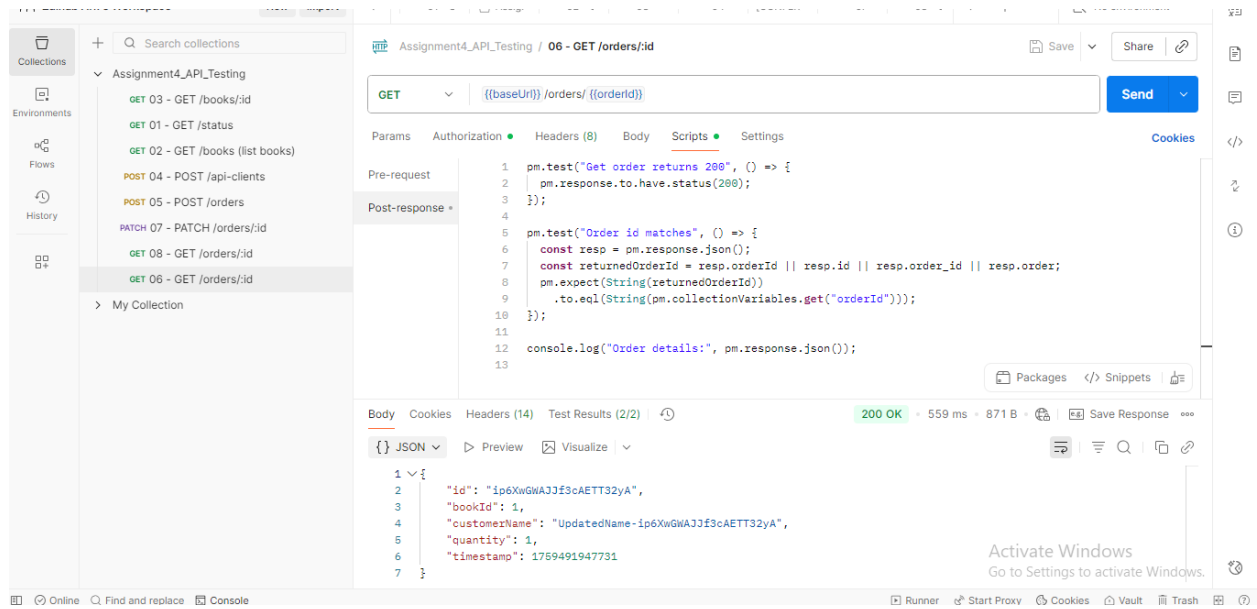
- New Request → 06 - GET /orders/:id → save.
- Method **GET**, URL:

```
{{baseUrl}}/orders/{{orderId}}
```

- Authorization → Bearer {{accessToken}}
- Tests:

```
pm.test("Get order returns 200", () => pm.response.to.have.status(200));
pm.test("Order id matches", () => {
  const resp = pm.response.json();
  const returnedOrderId = resp.orderId || resp.id || resp.order_id || resp.order;
  pm.expect(String(returnedOrderId)).to.eql(String(pm.collectionVariables.get("orderId")));
});
console.log("Order details:", pm.response.json());
```

5.



Step 8: Create Request 07 — PATCH /orders/{{orderId}}

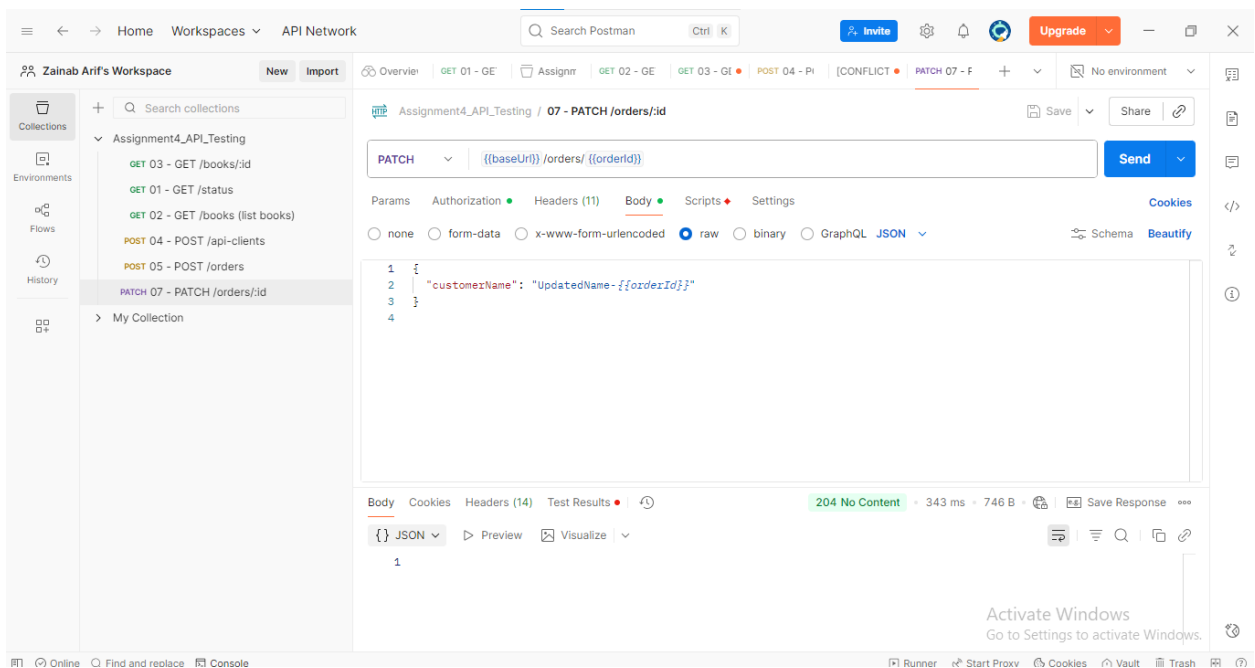
- Updates order partially (customerName).

1. New Request → 07 - PATCH /orders/:id → save.
2. Method **PATCH**, URL:

{{baseUrl}}/orders/{{orderId}}

3. Auth → Bearer {{accessToken}}, Headers → Content-Type: application/json
4. Body:

```
{
  "customerName": "UpdatedName-{{orderId}}"
}
```

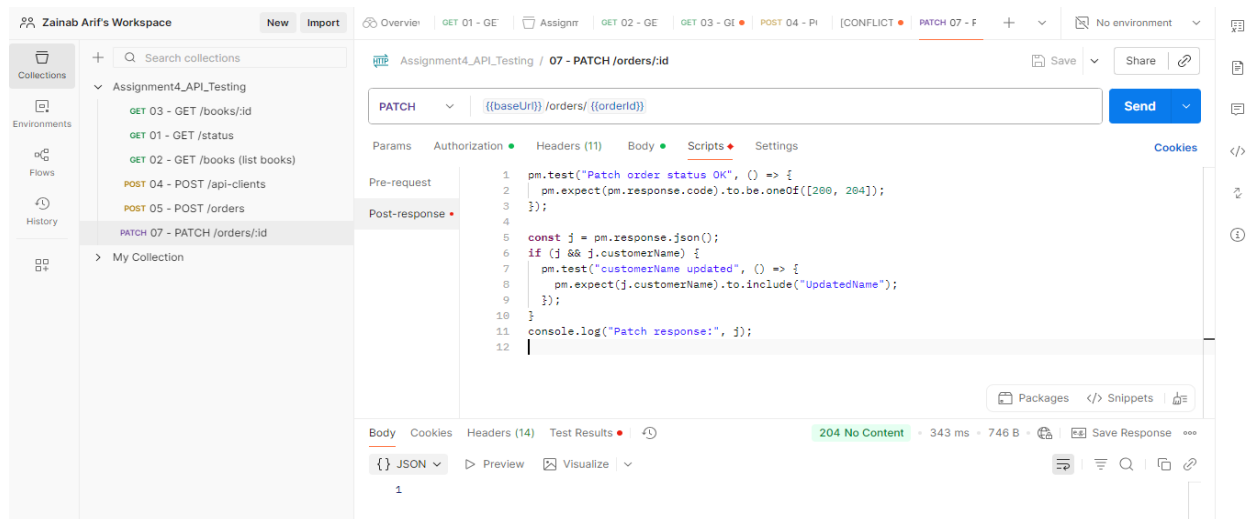


5. Tests:

```
pm.test("Patch order status OK", () => {
  pm.expect(pm.response.code).to.be.oneOf([200,204]);
});

const j = pm.response.json();
if (j && j.customerName) {
  pm.test("customerName updated", () => {
    pm.expect(j.customerName).to.include("UpdatedName");
  });
}
console.log("Patch response:", j);
```

6. Save → Send.



Verification Step: GET after DELETE — GET /orders/{ {orderId} }

Steps:

1. Create a new request named 08 - GET /orders/:id and save it.
 2. Select method **GET**.
 3. Enter the URL:
 4. {{baseUrl}}/orders/{ {orderId} }
 5. Go to **Authorization** tab → select **Bearer Token** and use {{accessToken}}.
 6. Add header:
 7. Content-Type: application/json
 8. Leave the body empty.
-

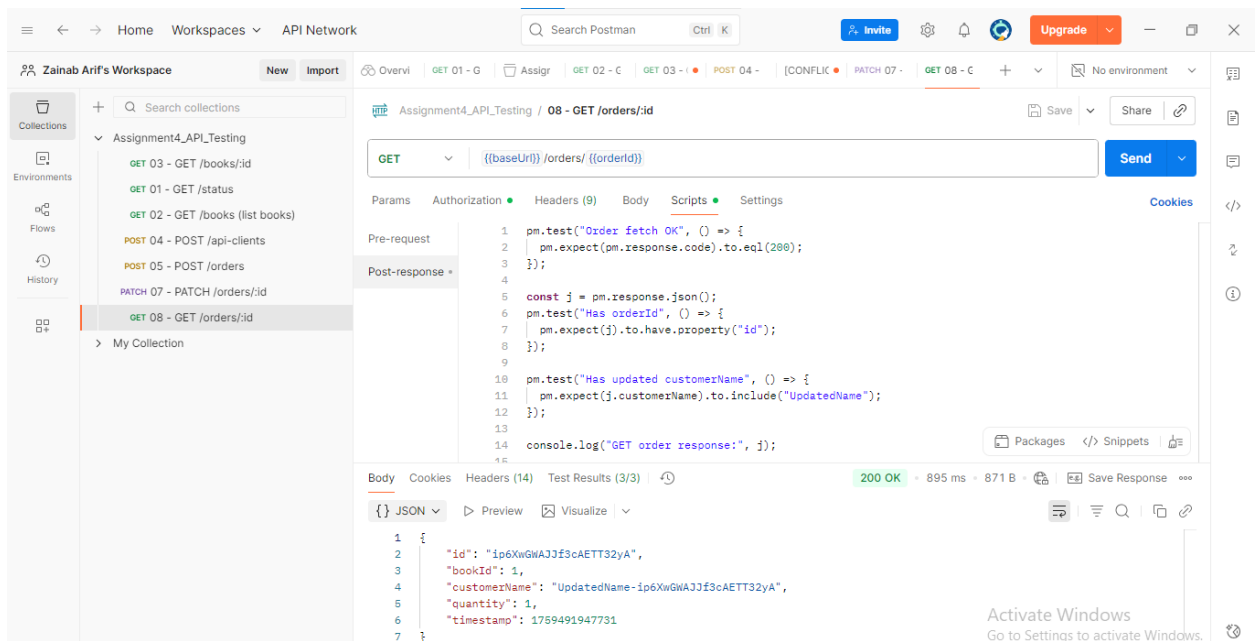
Tests (in Tests tab):

```
pm.test("Order fetch OK", () => {
  pm.expect(pm.response.code).to.eql(200);
});

const j = pm.response.json();
pm.test("Has orderId", () => {
  pm.expect(j).to.have.property("id");
});

pm.test("Has updated customerName", () => {
  pm.expect(j.customerName).to.include("UpdatedName");
});

console.log("GET order response:", j);
```



Step 9: Create Request 08 — DELETE /orders/{{orderId}}

- Deletes order.

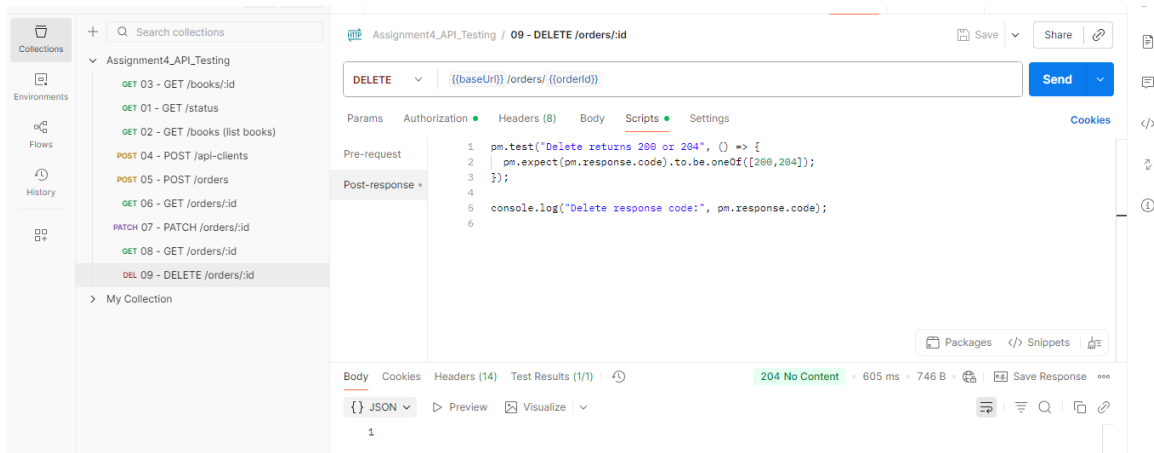
1. New Request → 08 - DELETE /orders/:id → save.
2. Method **DELETE**, URL:

{{baseUrl}}/orders/{{orderId}}

3. Auth → Bearer {{accessToken}}
4. Tests:

```
pm.test("Delete returns 200 or 204", () => {  
  pm.expect(pm.response.code).to.be.oneOf([200,204]);  
});  
console.log("Delete response code:", pm.response.code);
```

5. Save → Send.



Verification: GET after DELETE should return 404.

New Request → Verify Delete – GET /orders/{id} → Save.

Method: **GET**, URL:

{{baseUrl}}/orders/{{orderId}}

Authorization: **Bearer** {{accessToken}}

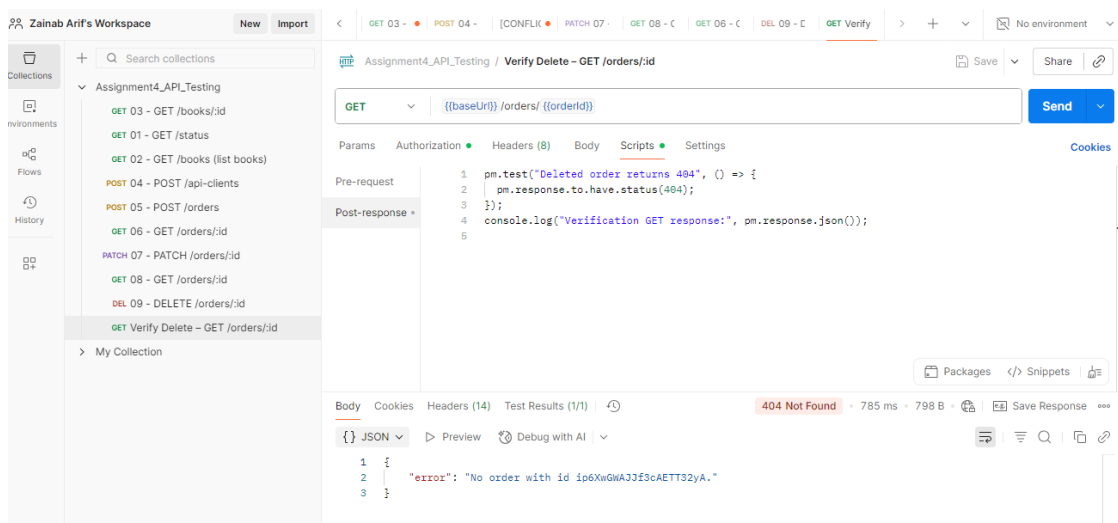
Test script:

```
pm.test("Deleted order returns 404", () => {
  pm.response.to.have.status(404);
});
```

```
console.log("Verification GET response:", pm.response.json());
```

Send → Expected output:

```
{
  "error": "No order with id {{orderId}}"
}
```



Step 10: Create Request 09 — PUT (JSONPlaceholder demo)

- Demonstrates PUT using altBaseUrl.
- Updates title with random value.
- Validates response contains updated title.

(Simple Books API has no PUT — we demonstrate PUT using JSONPlaceholder.)

1. New Request → 09 - PUT /posts/1 (alt) → save.
2. Method **PUT**, URL:

```
{{altBaseUrl}}/posts/1
```

3. Headers → Content-Type: application/json
4. Pre-request Script:

```
pm.collectionVariables.set("randomTitle", "Title-" + Math.floor(Math.random() * 100000));
```

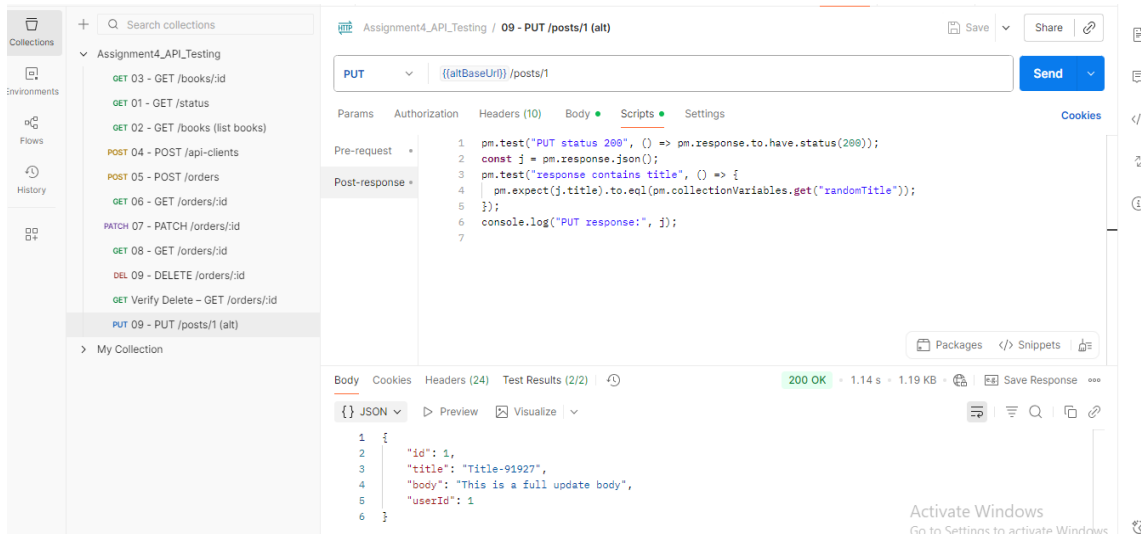
5. Body:

```
{
  "id": 1,
  "title": "{{randomTitle}}",
  "body": "This is a full update body",
  "userId": 1
}
```

6. Tests:

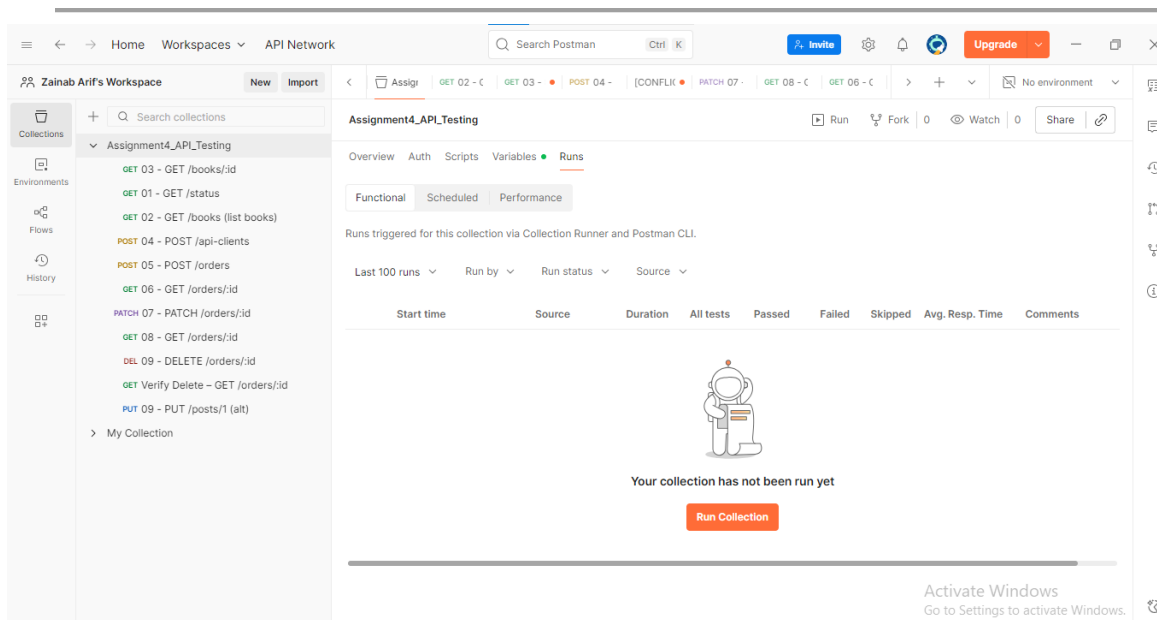
```
pm.test("PUT status 200", () => pm.response.to.have.status(200));
const j = pm.response.json();
pm.test("response contains title", () => {
  pm.expect(j.title).to.eql(pm.collectionVariables.get("randomTitle"));
});
console.log("PUT response:", j);
```

7. Save → Send.



Step 11: Run the entire Collection/ Results History

- Open Collection Runner.
- Run Assignment4_API_Testing with all requests in order.
- Verify test results for pass/fail outcomes.



+

Search collections

Assignement4_API_Testing

GET 03 - GET /books/:id

GET 01 - GET /status

GET 02 - GET /books (list books)

POST 04 - POST /api-clients

POST 05 - POST /orders

GET 06 - GET /orders/:id

PATCH 07 - PATCH /orders/:id

GET 08 - GET /orders/:id

DEL 09 - DELETE /orders/:id

GET Verify Delete - GET /orders/:id

PUT 09 - PUT /posts/1 (alt)

My Collection

Deselect All

Select All

Reset

Run Sequence

1

☒

GET

03 - GET /books/:id

2

☒

GET

01 - GET /status

3

☒

GET

02 - GET /books (list books)

4

☒

POST

04 - POST /api-clients

5

☒

POST

05 - POST /orders

6

☒

GET

06 - GET /orders/:id

7

☒

PATCH

07 - PATCH /orders/:id

8

☒

GET

08 - GET /orders/:id

9

☒

DEL

09 - DELETE /orders/:id

10

☒

GET

Verify Delete - GET /orders/:id

11

☒

PUT

09 - PUT /posts/1 (alt)

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

Test data file

Only JSON and CSV files are accepted.

Select File

Advanced settings

Run Assignment4_API_Testing

Activate Windows

Go to Settings to activate Windows.

Assignment4_API_Testing - Run results

ERROR

Run Again

New Run

Automate Run

Share

Ran today at 07:12:36 PM

View all runs

Source	Environment	Iterations	Duration	All tests	Avg. Resp. Time
Runner	none	1	7s 708ms	13	636 ms

RUN SUMMARY

View Results

1

▶ GET 01 - GET /status

2 | 0

▶ GET 02 - GET /books (list books)

1 | 0

▼ GET 03 - GET /books/:id

2 | 1

✖

PASS Status is 200

PASS Returned id matches requested bookId

FAIL Deliberate failing test — book type is 'scie...

✖

▶ POST 04 - POST /api-clients

2 | 0

▶ POST 05 - POST /orders

2 | 0

▶ GET 06 - GET /orders/:id

2 | 0

▶ PATCH 07 - PATCH /orders/:id

1 | 0

Assignment4_API_Testing - Run results ERROR

Run Again + New Run Automate Run v Share ...

Ran today at 07:12:36 PM · [View all runs](#)

Source	Environment	Iterations	Duration	All tests	Avg. Resp. Time
Runner	none	1	7s 708ms	13	636 ms

All Tests Passed (12) Failed (1) Skipped (0)

[View Summary](#)

Iteration 1

1

GET 01 - GET /status

https://simple-books-api.click/status

200 · 1014 ms · 754 B · 2

PASS Status code is 200

PASS Response is JSON

GET 02 - GET /books (list books)

https://simple-books-api.click/books

200 · 631 ms · 1.157 KB · 1

PASS Books list retrieved

GET 03 - GET /books/:id

https://simple-books-api.click/books/1

200 · 629 ms · 1.056 KB · 2 1

PASS Status is 200

PASS Returned id matches requested bookId

FAIL Deliberate failing test — book type is 'science' | AssertionError: expected 'fiction' to deeply equal 'science'

POST 04 - POST /api-clients

https://simple-books-api.click/api-clients?Content-Type=application/json

201 · 651 ms · 826 B · 2

PASS Register client status 201 or 200

PASS access token present

POST 05 - POST /orders

https://simple-books-api.click/orders

201 · 375 ms · 794 B · 2

PASS Order create status 200 or 201

PASS order id exists

GET 06 - GET /orders/:id

https://simple-books-api.click/orders/4wkZHIMlglMQ66HlexoWd

200 · 810 ms · 849 B · 2

PASS Get order returns 200

PASS Order id matches

PATCH 07 - PATCH /orders/:id

https://simple-books-api.click/orders/4wkZHIMlglMQ66HlexoWd

204 · 339 ms · 746 B · 1

PASS Patch order status OK