Lahore Garrison University

DHA Phase 6 Lahore

Lab Task 2

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Section	**G**
Subject	**Web Technologies Lab**
Instructor Name	**Mr. M Yousaf**

Lab 2: HTTP, URLs and Request/Response Basics Objectives

- Understand how HTTP works by observing request/response cycles.
- Use browser DevTools and Postman/curl to inspect headers and status codes.
- Simulate caching and status code behavior.

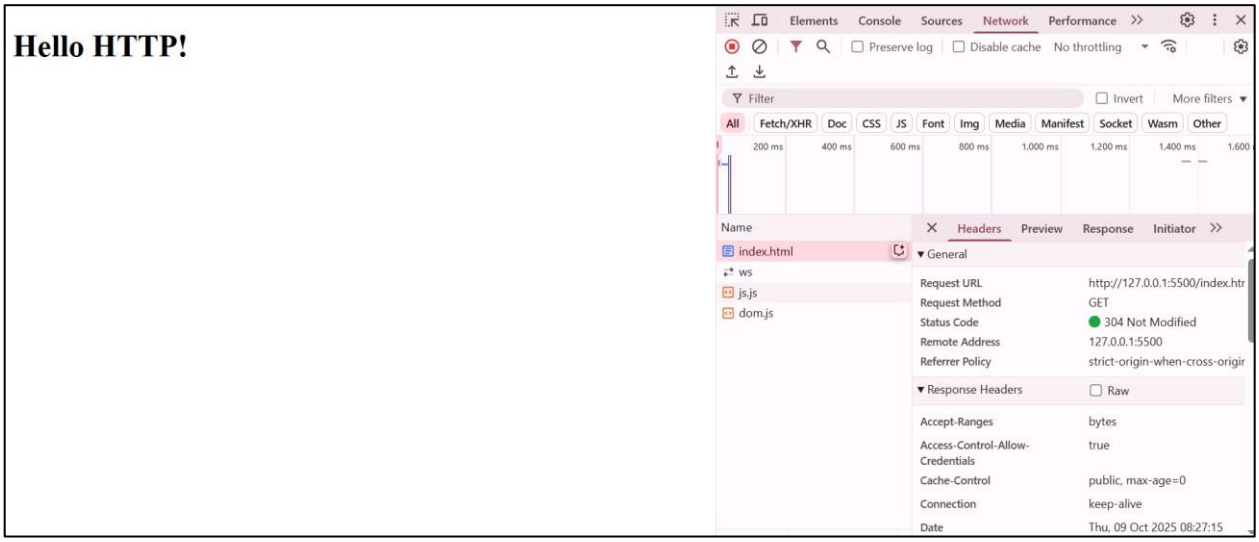
Tools Required:

- Browser DevTools (Chrome, Firefox, Edge)
- Postman or curl (command-line tool)
- Live Server (VS Code extension or any static server)

Tasks

Step 1: Inspect HTTP Requests with DevTools

1. Open any simple HTML page (e.g., index.html) using Live Server.
2. Right-click → Inspect → go to Network tab.
3. Reload the page (F5) to capture network activity.
4. Click on the main request (e.g., index.html) and observe:
    - Request Method (GET) o Status Code (e.g., 200 OK)
    - Request Headers (Host, User-Agent)
    - Response Headers (Content-Type, Cache-Control)



Step 2: Make GET/POST Requests with Postman or curl Using Postman

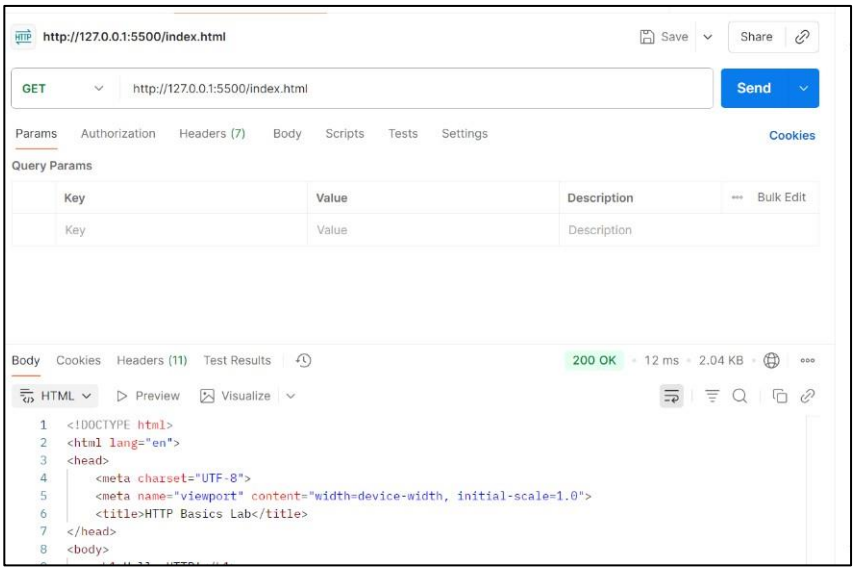
1. Open Postman and create a GET request to your local server (e.g., http://localhost:5500/index.html).
2. Observe the status code, response body, and headers.
3. Create a POST request to a test endpoint (e.g., https://httpbin.org/post).

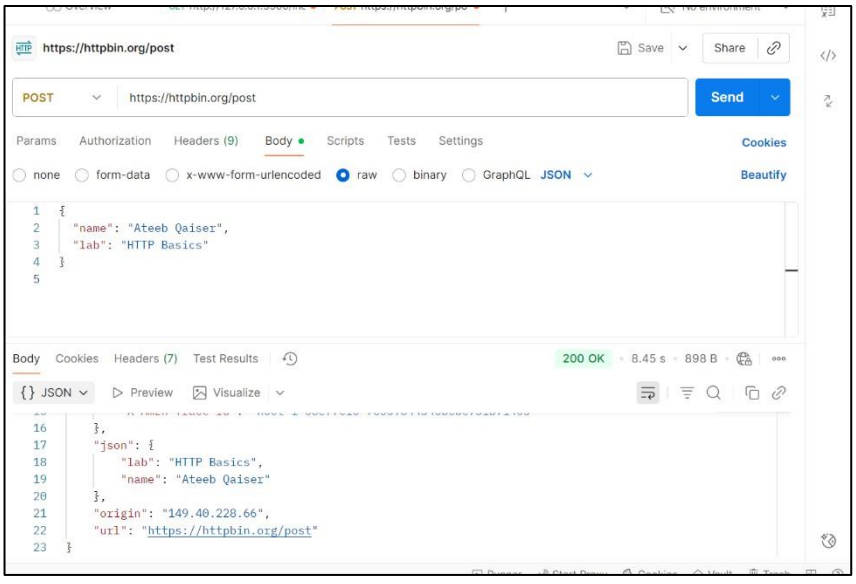
Add a JSON body:

- { o o "name": "Student", "lab": "HTTP Basics" o }
- Send the request and inspect the response.

Using curl (optional)

curl -X POST https://httpbin.org/post -H "Content-Type: application/json" -d '{"name":"Student","lab":"HTTP Basics"}'





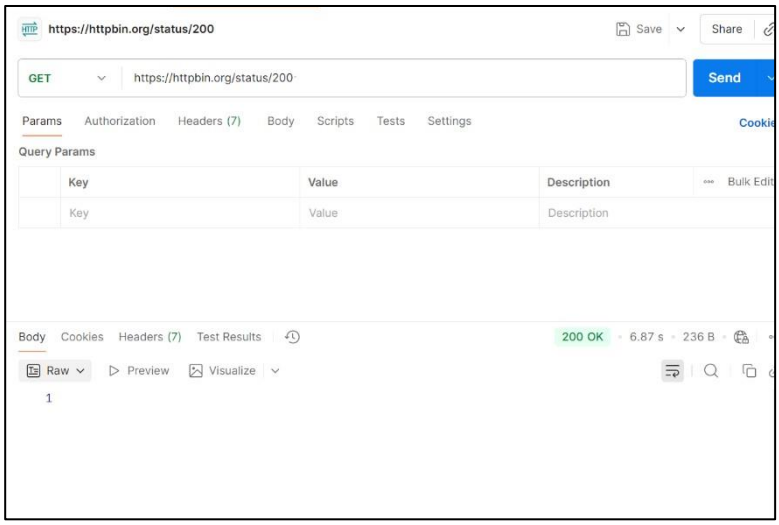
Step 3: Simulate Caching and Status Codes

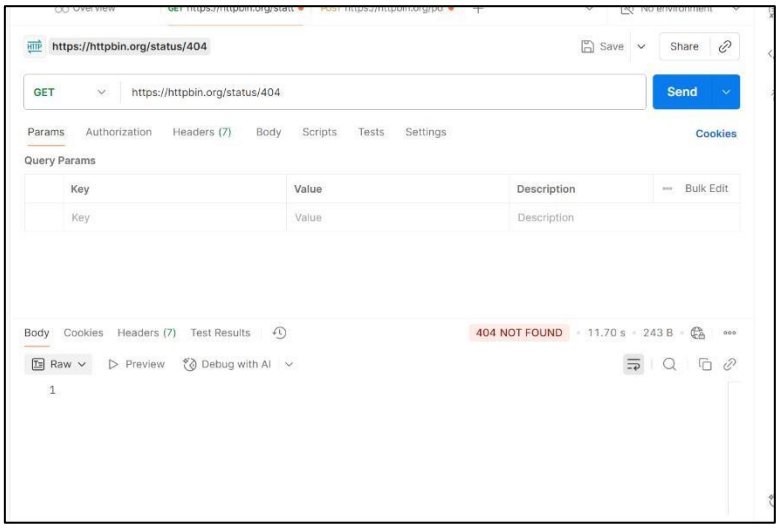
Modify HTML to simulate caching

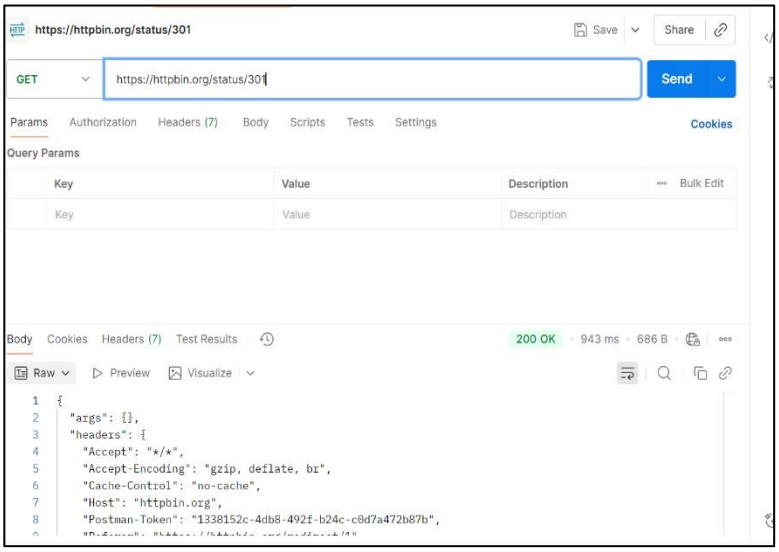
1. Add meta tags to your HTML `<head>`:
2. `<meta http-equiv="Cache-Control" content="no-cache, no-store, mustrevalidate">`
3. `<meta http-equiv="Pragma" content="no-cache">`
4. `<meta http-equiv="Expires" content="0">`
5. Reload the page and observe changes in **response headers**. **Simulate Status Codes** Use these test URLs:

- **200 OK**: `https://httpbin.org/status/200`
- **301 Redirect**: `https://httpbin.org/status/301`
- **404 Not Found**: `https://httpbin.org/status/404`

Screenshot Tip: Capture each status code response in DevTools or Postman.


https://httpbin.org/status/200
Save
Share
GET
https://httpbin.org/status/200
Send
Params
Authorization
Headers (7)
Body
Scripts
Tests
Settings
Cookie
Query Params
Key
Value
Description
Bulk Edit
Key
Value
Description
Body
Cookies
Headers (7)
Test Results
200 OK
6.87 s
236 B
Raw
Preview
Visualize
1


https://httpbin.org/status/404
Save
Share
GET
https://httpbin.org/status/404
Send
Params
Authorization
Headers (7)
Body
Scripts
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Key
Value
Description
Body
Cookies
Headers (7)
Test Results
404 NOT FOUND
11.70 s
243 B
Raw
Preview
Debug with AI
1


https://httpbin.org/status/301
Save
Share
GET
https://httpbin.org/status/301
Send
Params
Authorization
Headers (7)
Body
Scripts
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Key
Value
Description
Body
Cookies
Headers (7)
Test Results
200 OK
943 ms
686 B
Raw
Preview
Visualize
{
"args": {},
"headers": {
"Accept": "*/*",
"Accept-Encoding": "gzip, deflate, br",
"Cache-Control": "no-cache",
"Host": "httpbin.org",
"Postman-Token": "1338152c-4db8-492f-b24c-c0d7a472b87b",

Deliverables

Create a Markdown file or short report with:

Required Sections

Screenshots of:

- DevTools request inspection
- One GET and one POST request (Postman or curl)
- Status code simulations (2xx, 3xx, 4xx)

Explanations:

- Identify parts of request/response (method, headers, status)
- Describe what caching headers do
- Explain the meaning of each status code

CONCLUSION:

This lab helped me understand how HTTP works by observing real-time request and response cycles using DevTools and Postman. I also learned how caching headers and different status codes affect web communication between client and server.

RUBRICS:

Performance			Lab Report		
Description	**Total Marks**	**Marks Obtained**	**Description**	**Total Marks**	**Marks Obtained**
Ability to Conduct practical	5		**Structure**	5	
Data Analysis & Interpretation	5		**Efficiency**	5	
Total Marks obtained			**Total Marks Obtained**		

Instructor Signature _____