

HTTP Request Sampler (The Heart of JMeter)

1 What is an HTTP Sampler?

The **HTTP Request Sampler** is the component that actually **calls an API or website**.

If JMeter were a human:

- Thread Group = how many people
- Timer = how fast they walk
- **HTTP Sampler = the phone call they make**

Without HTTP Sampler → **nothing happens**

2 Real-World Mapping

Real System	JMeter
Frontend / Mobile App	JMeter
API Endpoint	HTTP Sampler
Request Payload	Body Data
Query Params	Parameters
Headers (Auth, Content-Type)	Header Manager
Response	Sampler Result

3 Types of HTTP Requests

Common Methods

Method	Use Case
GET	Fetch data
POST	Create / submit data
PUT	Update data
DELETE	Remove data

Example (Login API)

```
POST /api/login
```

Body:

```
{
  "username": "user1",
  "password": "pass123"
}
```

4🔗 Anatomy of an HTTP Sampler

Core Fields

Field	Meaning
Protocol	http / https
Server Name	api.example.com
Port	80 / 443
Method	GET / POST
Path	/api/login

Example Setup

```
Protocol: https
Server Name: auth.company.com
Method: POST
Path: /ciam/login
```

5🔗 Parameters vs Body Data (VERY IMPORTANT)

🔗 Parameters Tab

Used when:

- GET request
- Query strings

Example:

```
GET /profile?id=123
```

Name	Value
id	123

🔗 Body Data Tab

Used when:

- POST / PUT
- JSON or XML payload

Example:

```
{
  "email": "test@abc.com",
  "otp": "123456"
}
```

⚠️ Never mix Parameters + Body for JSON APIs

6🔗 Content-Type Header (Mandatory for APIs)

Without this → API may fail silently.

Add via **HTTP Header Manager**:

```
Content-Type: application/json
```

7🔗 Authentication Patterns

1🔗 Basic Auth

Configured directly in HTTP Sampler (rare in modern APIs)

2🔗 Token-based Auth (MOST COMMON)

Flow:

1. Login API → returns token
2. Extract token
3. Send token in headers for next APIs

Header example:

```
Authorization: Bearer ${token}
```

8🔗 One Sampler = One Business Action

🔗 Bad Practice:

```
Login + Profile + Submit in one sampler
```

🔗 Correct:

```
Login Sampler
Profile Sampler
Submit Sampler
```

This helps:

- Debugging
 - Reporting
 - Correlation
-

9🔗 Common Beginner Mistakes

🔗 Putting full URL in Path 🔗 Forgetting Content-Type 🔗 Using GET with Body 🔗 Hardcoding tokens 🔗 Testing without View Results Tree

🔗 Debugging HTTP Sampler

Use:

- View Results Tree
- Request tab
- Response tab
- Headers tab

Ask:

- Did request go out?
- Is payload correct?
- Is status code valid?
- Is response JSON valid?

1❏1❏ Performance Tip

For load tests:

- Disable **View Results Tree**
- Enable **Summary Report / Backend Listener**

1❏2❏ Interview-Level Question

Why do we avoid putting HTTP Samplers directly under Test Plan?

Answer: Because they won't inherit config elements correctly and cause unpredictable execution.

1❏3❏ Mini Exercise (Give to Student)

1. Create HTTP Sampler
2. Call a public GET API
3. Print response
4. Change to POST
5. Send JSON payload
6. Validate status code

Summary

✓ HTTP Sampler = actual API call ✓ One sampler per business action ✓ Parameters ≠ Body ✓ Headers are mandatory ✓ Debug before load
