Assignment No 4

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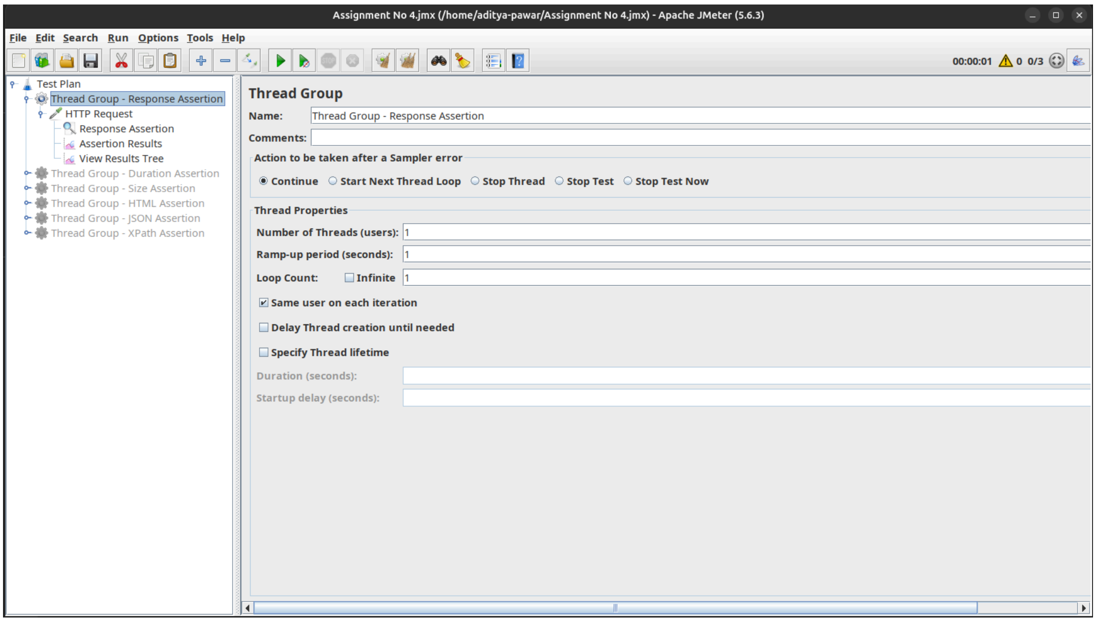
Assertions:

> Assertions in JMeter are used to check whether the server response matches the expected result or not. If the assertion fails, JMeter marks the sampler as a failure.

- To implement Assertions we must follow the basic Steps:
  1. Create New Test Plan
  2. Create new Thread Group
     - Test Plan → Add → Threads (Users) → Thread Group



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:01 ⚠ 0 0/3
Test Plan
Thread Group - Response Assertion
HTTP Request
Response Assertion
Assertion Results
View Results Tree
Thread Group - Duration Assertion
Thread Group - Size Assertion
Thread Group - HTML Assertion
Thread Group - JSON Assertion
Thread Group - XPath Assertion

Thread Group

Name: Thread Group - Response Assertion

Comments:

Action to be taken after a Sampler error

● Continue ○ Start Next Thread Loop ○ Stop Thread ○ Stop Test ○ Stop Test Now

Thread Properties

Number of Threads (users): 1

Ramp-up period (seconds): 1

Loop Count: □ Infinite 1

☑ Same user on each iteration

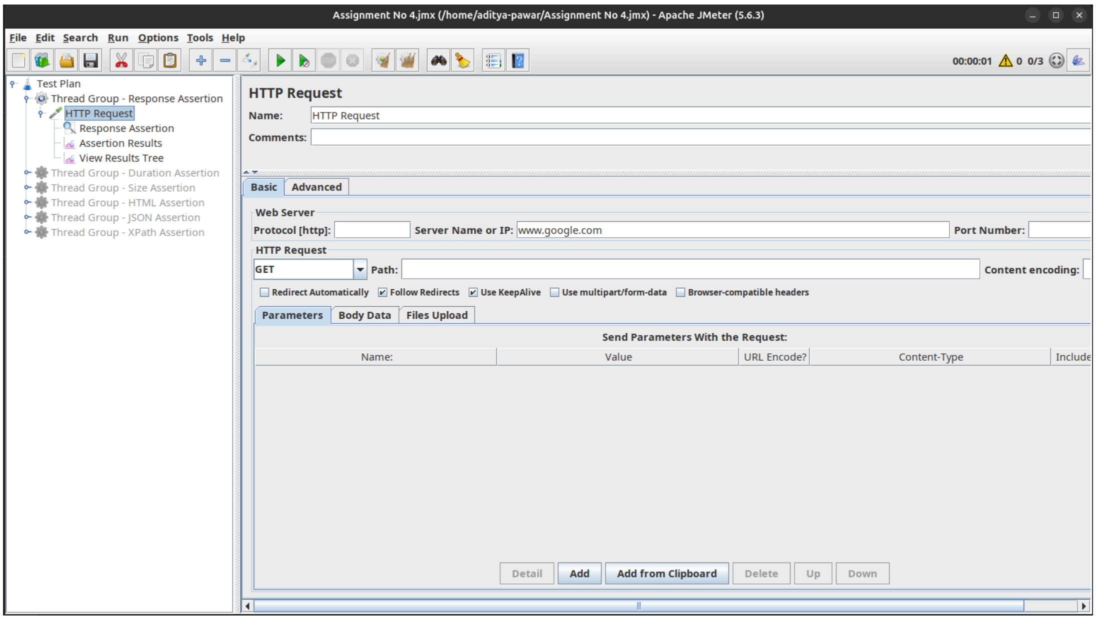
□ Delay Thread creation until needed

□ Specify Thread lifetime

Duration (seconds):

Startup delay (seconds):

  3. Add Sampler → HTTP Request



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

- Test Plan
  - Thread Group - Response Assertion
    - HTTP Request
      - Response Assertion
      - Assertion Results
      - View Results Tree
  - Thread Group - Duration Assertion
  - Thread Group - Size Assertion
  - Thread Group - HTML Assertion
  - Thread Group - JSON Assertion
  - Thread Group - XPath Assertion

HTTP Request

Name: HTTP Request

Comments:

Web Server

Protocol [http]: Server Name or IP: www.google.com Port Number:

HTTP Request

GET Path: Content encoding:

□ Redirect Automatically ☑ Follow Redirects ☑ Use KeepAlive □ Use multipart/form-data □ Browser-compatible headers

Send Parameters With the Request:

Name:	Value	URL Encode?	Content-Type	Include

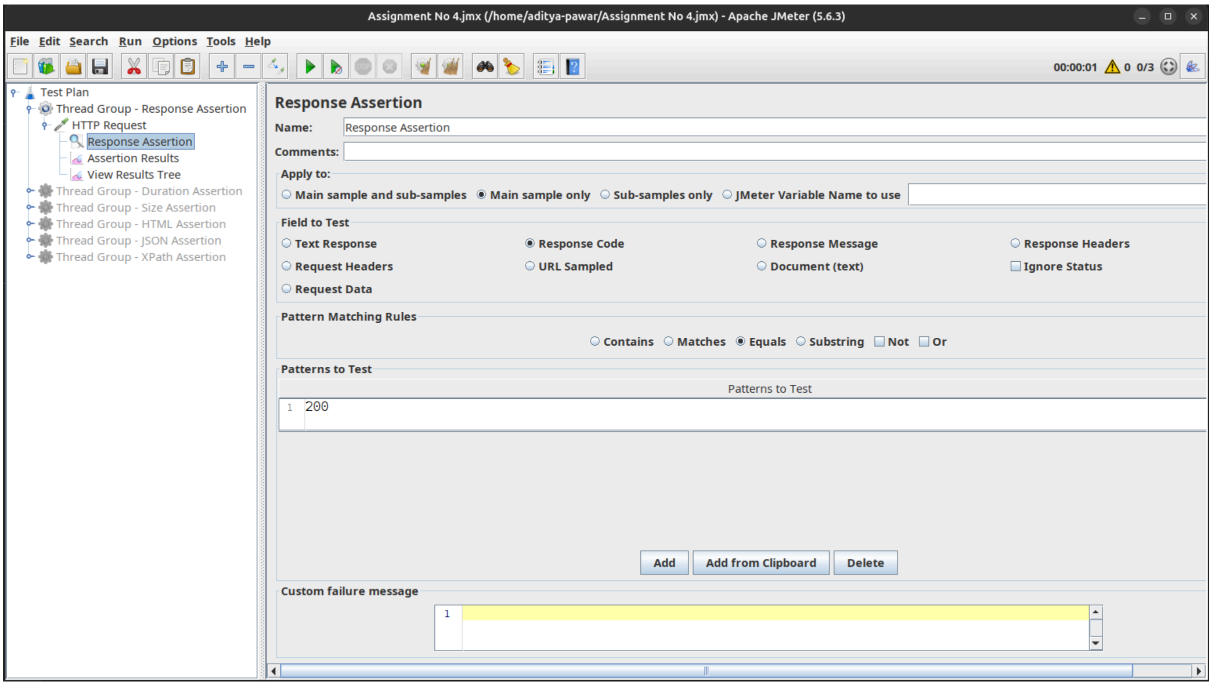
4. Add Assertion by....Thread Group → Assertion → Assertion_type
5. Add the Listners like Assertions Results & View Results Tree

1. Response Assertion

- **Response Assertion** in JMeter is used to **validate that a server's response contains, matches, or equals specific text or patterns** (e.g., checking if the response body includes "Login successful").

- Add the Response Assertion

  Thread Group → Assertion → Response Assertion



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

Response Assertion

Name: Response Assertion

Comments:

Apply to:
○ Main sample and sub-samples ● Main sample only ○ Sub-samples only ○ JMeter Variable Name to use

Field to Test
○ Text Response ● Response Code ○ Response Message ○ Response Headers
○ Request Headers ○ URL Sampled ○ Document (text) □ Ignore Status
○ Request Data

Pattern Matching Rules
○ Contains ○ Matches ● Equals ○ Substring □ Not □ Or

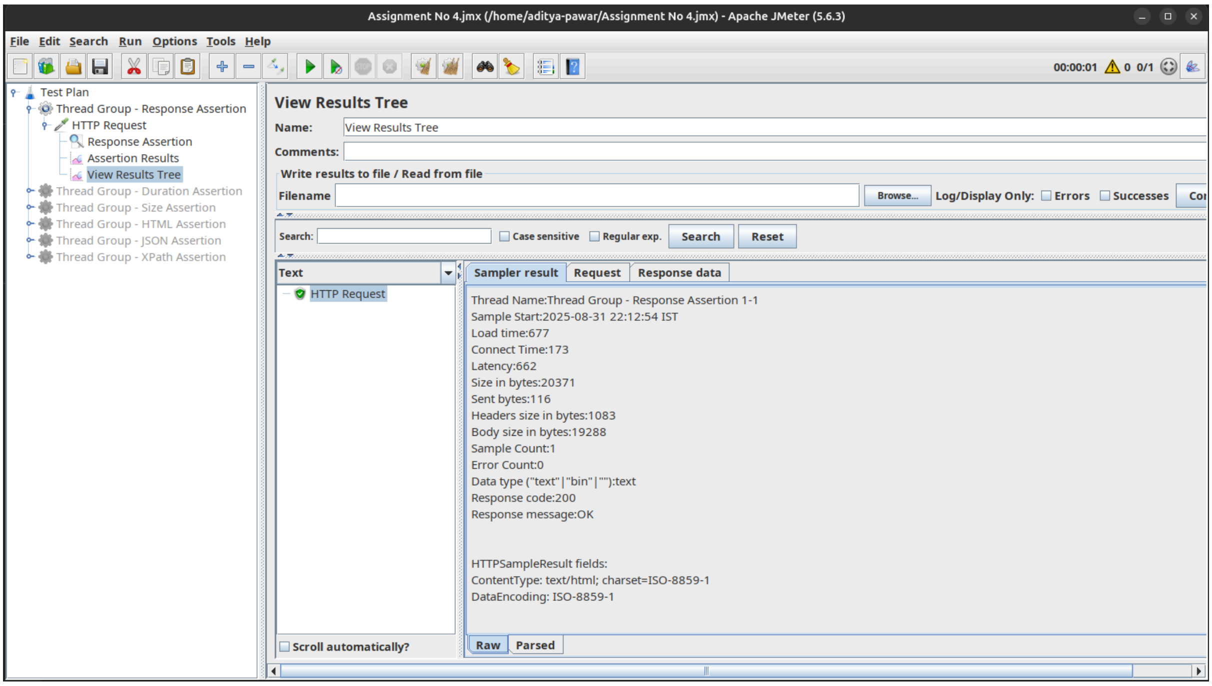
Patterns to Test

```
200
```

Custom failure message

- make the required changes … (here response code == 200 is validated)

- output →



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

View Results Tree

Name: View Results Tree

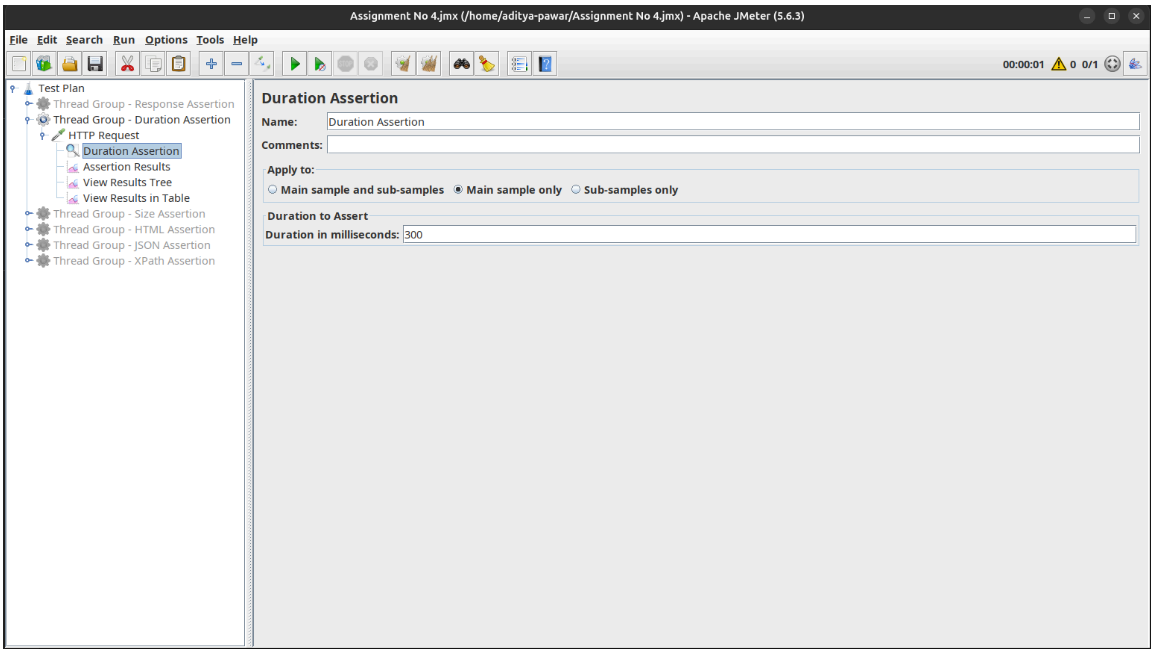
```
Thread Name:Thread Group - Response Assertion 1-1
Sample Start:2025-08-31 22:12:54 IST
Load time:677
Connect Time:173
Latency:662
Size in bytes:20371
Sent bytes:116
Headers size in bytes:1083
Body size in bytes:19288
Sample Count:1
Error Count:0
Data type ("text"|"bin"|""):text
Response code:200
Response message:OK


HTTPSampleResult fields:
ContentType: text/html; charset=ISO-8859-1
DataEncoding: ISO-8859-1
```

2. Duration Assertion

- **Duration Assertion** in JMeter is used to **verify that the server response is received within a specified time limit (in milliseconds)**, ensuring performance requirements are met.

- Add the Duration Assertion

  Thread Group → Assertion → Duration Assertion



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:01 ⚠ 0 0/1
Test Plan
Thread Group - Response Assertion
Thread Group - Duration Assertion
HTTP Request
Duration Assertion
Assertion Results
View Results Tree
View Results in Table
Thread Group - Size Assertion
Thread Group - HTML Assertion
Thread Group - JSON Assertion
Thread Group - XPath Assertion

Duration Assertion

Name: Duration Assertion

Comments:

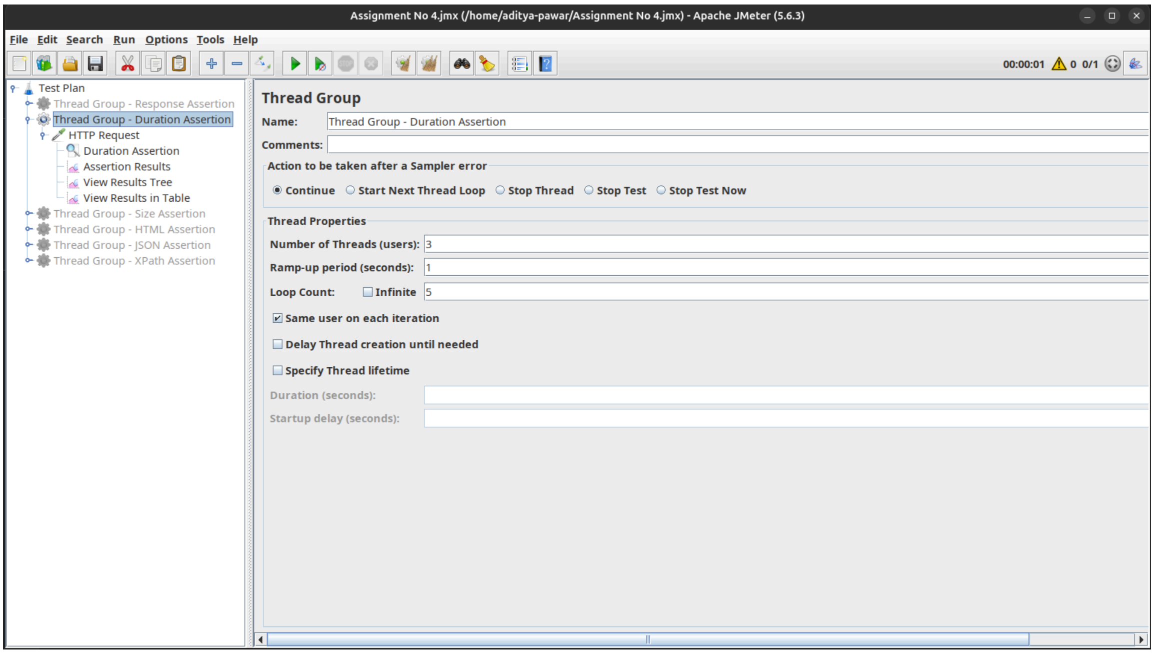
Apply to:

○ Main sample and sub-samples ● Main sample only ○ Sub-samples only

Duration to Assert

Duration in milliseconds: 300

- add thred details like this



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

Test Plan
- Thread Group - Response Assertion
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  - HTTP Request
    - Duration Assertion
    - Assertion Results
    - View Results Tree
    - View Results in Table
- Thread Group - Size Assertion
- Thread Group - HTML Assertion
- Thread Group - JSON Assertion
- Thread Group - XPath Assertion

Thread Group

Name: Thread Group - Duration Assertion

Comments:

Action to be taken after a Sampler error

● Continue ○ Start Next Thread Loop ○ Stop Thread ○ Stop Test ○ Stop Test Now

Thread Properties

Number of Threads (users): 3

Ramp-up period (seconds): 1

Loop Count: □ Infinite 5

☑ Same user on each iteration

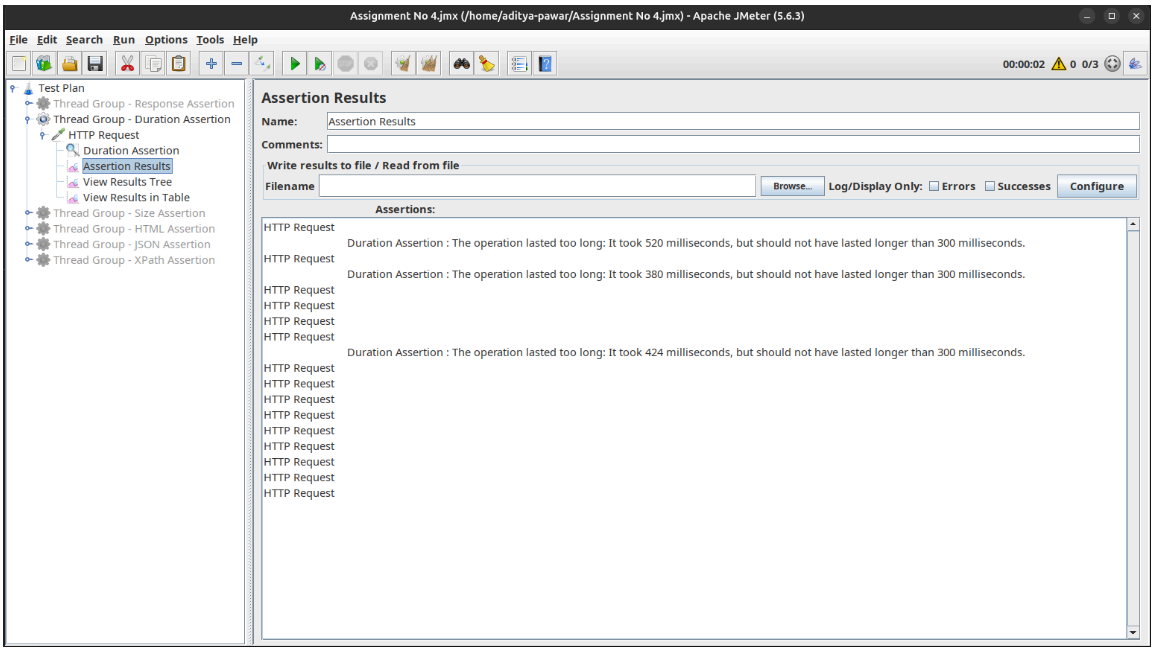
□ Delay Thread creation until needed

□ Specify Thread lifetime

Duration (seconds):

Startup delay (seconds):

- output -



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

Assertion Results

Name: Assertion Results

Comments:

Write results to file / Read from file

Filename Browse... Log/Display Only: □ Errors □ Successes Configure

Assertions:

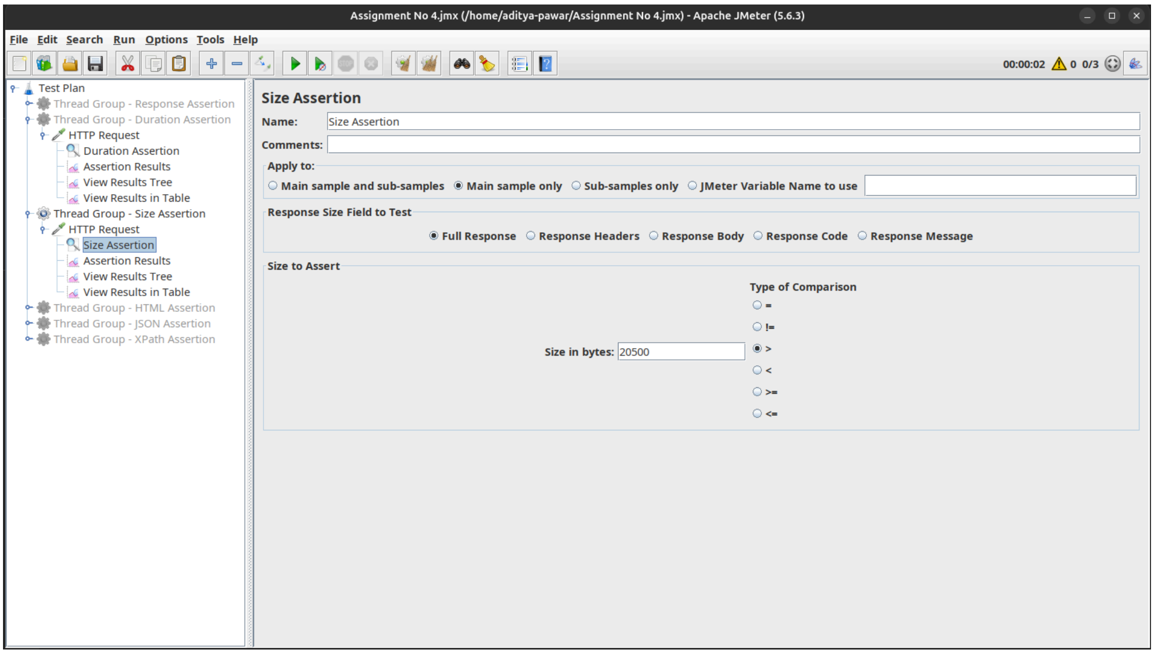
```
HTTP Request
            Duration Assertion : The operation lasted too long: It took 520 milliseconds, but should not have lasted longer than 300 milliseconds.
HTTP Request
            Duration Assertion : The operation lasted too long: It took 380 milliseconds, but should not have lasted longer than 300 milliseconds.
HTTP Request
HTTP Request
HTTP Request
HTTP Request
            Duration Assertion : The operation lasted too long: It took 424 milliseconds, but should not have lasted longer than 300 milliseconds.
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
```

3. Size Assertions

- **Size Assertion** in JMeter is used to **validate that the response size (in bytes) falls within a specified range or matches an exact value**, helping ensure correct data load and performance.

- Add the Size Asserion

  Thread Group → Assertion → Size Assertion



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

- Test Plan
  - Thread Group - Response Assertion
  - Thread Group - Duration Assertion
    - HTTP Request
      - Duration Assertion
      - Assertion Results
      - View Results Tree
      - View Results in Table
  - Thread Group - Size Assertion
    - HTTP Request
      - Size Assertion
      - Assertion Results
      - View Results Tree
      - View Results in Table
  - Thread Group - HTML Assertion
  - Thread Group - JSON Assertion
  - Thread Group - XPath Assertion

Size Assertion

Name: Size Assertion

Comments:

Apply to: ○ Main sample and sub-samples ● Main sample only ○ Sub-samples only ○ JMeter Variable Name to use

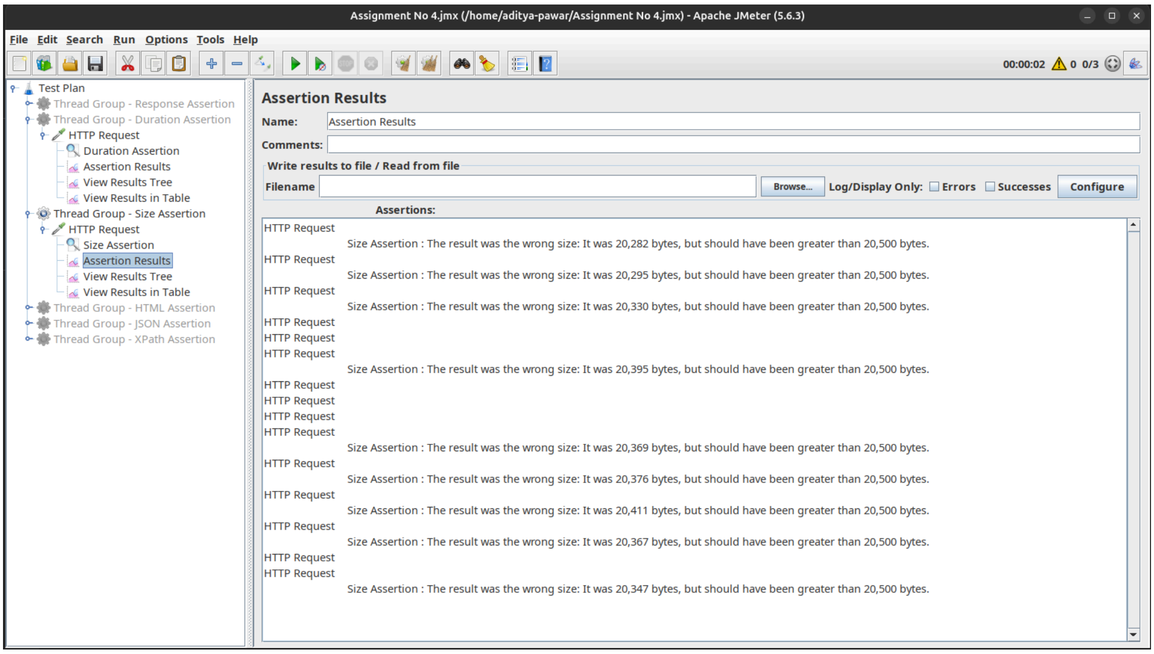
Response Size Field to Test: ● Full Response ○ Response Headers ○ Response Body ○ Response Code ○ Response Message

Size to Assert

Size in bytes: 20500

Type of Comparison: ○ = ○ != ● > ○ < ○ >= ○ <=

- output -



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

Assertion Results

Name: Assertion Results

Comments:

Write results to file / Read from file

Filename Browse... Log/Display Only: □ Errors □ Successes Configure

Assertions:

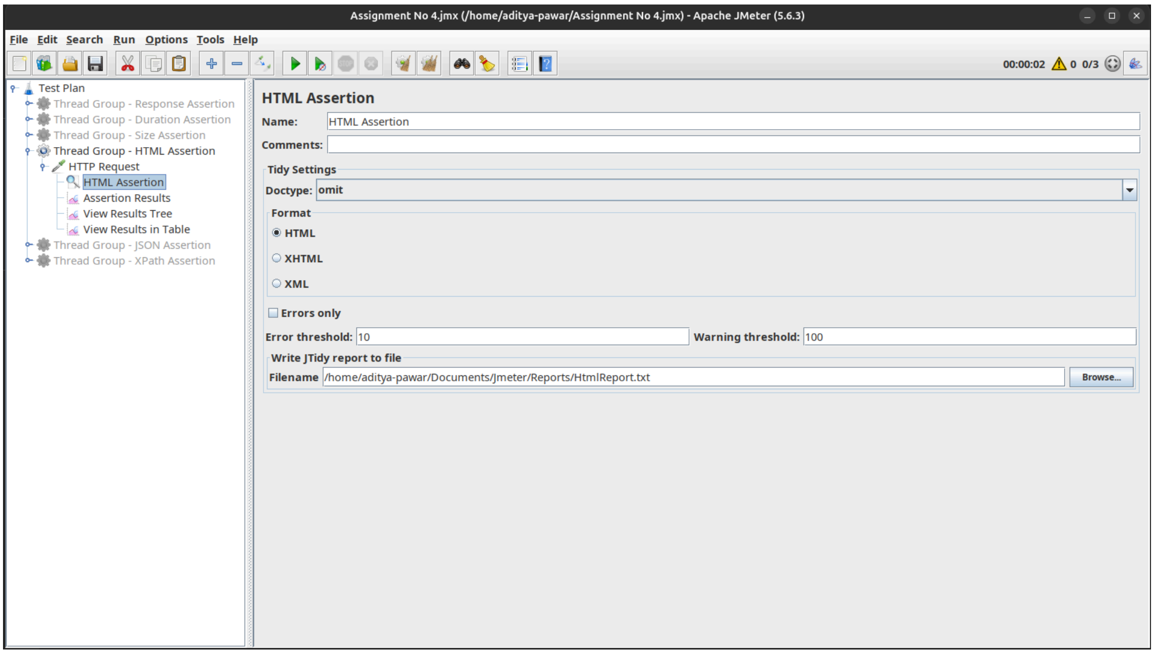
```
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,282 bytes, but should have been greater than 20,500 bytes.
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,295 bytes, but should have been greater than 20,500 bytes.
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,330 bytes, but should have been greater than 20,500 bytes.
HTTP Request
HTTP Request
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,395 bytes, but should have been greater than 20,500 bytes.
HTTP Request
HTTP Request
HTTP Request
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,369 bytes, but should have been greater than 20,500 bytes.
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,376 bytes, but should have been greater than 20,500 bytes.
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,411 bytes, but should have been greater than 20,500 bytes.
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,367 bytes, but should have been greater than 20,500 bytes.
HTTP Request
HTTP Request
        Size Assertion : The result was the wrong size: It was 20,347 bytes, but should have been greater than 20,500 bytes.
```

4. HTML Assertions

- **HTML Assertion** in JMeter is used to **validate the correctness of HTML in a server response**, by checking for well-formed structure and compliance with W3C HTML standards.

- Add the HTML Assertion

  Thread Group → Assertion → HTML Assertion


Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:02 0 0/3
Test Plan
Thread Group - Response Assertion
Thread Group - Duration Assertion
Thread Group - Size Assertion
Thread Group - HTML Assertion
HTTP Request
HTML Assertion
Assertion Results
View Results Tree
View Results in Table
Thread Group - JSON Assertion
Thread Group - XPath Assertion
Browse...

HTML Assertion

Name: HTML Assertion

Comments:

Tidy Settings

Doctype: omit

Format

● HTML

○ XHTML

○ XML

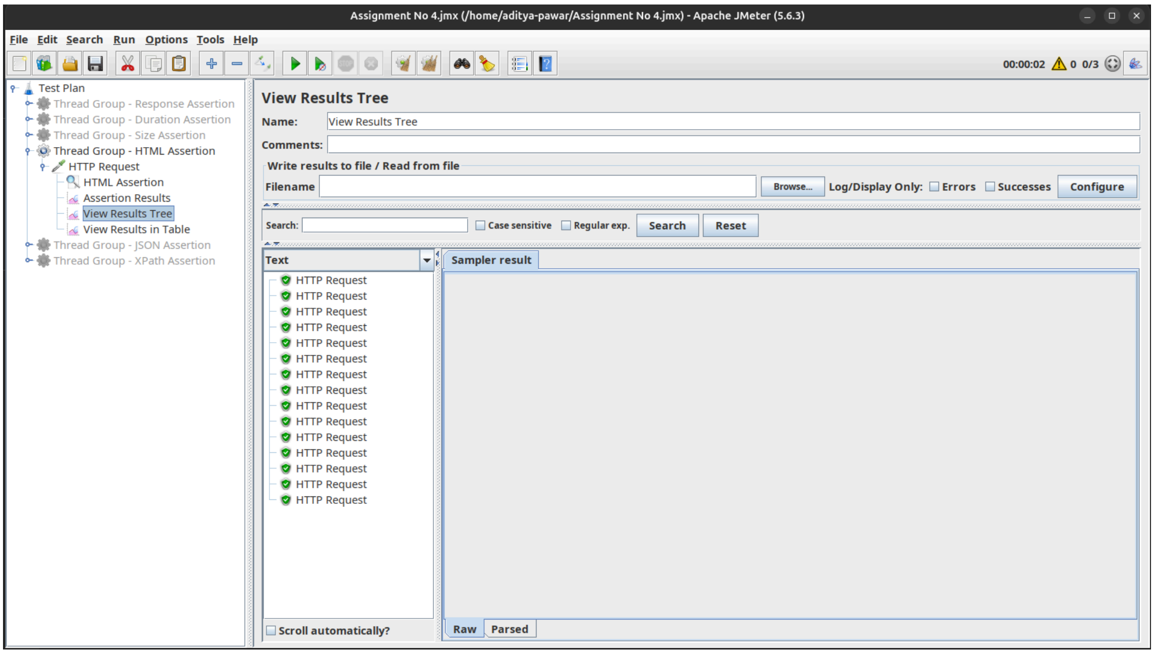
□ Errors only

Error threshold: 10 Warning threshold: 100

Write JTidy report to file

Filename /home/aditya-pawar/Documents/Jmeter/Reports/HtmlReport.txt

- output —



- HTML Report output →

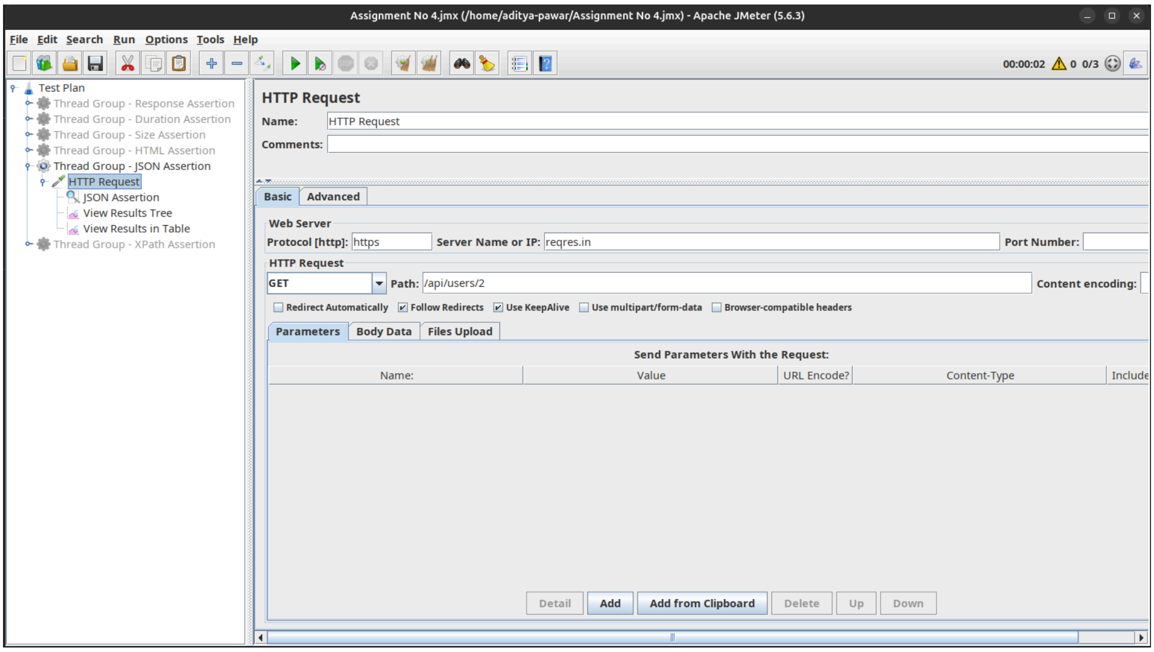
```
line 1 column 16 - Warning: unknown attribute "itemtype"
line 1 column 16 - Warning: unknown attribute "itemscope"
line 1 column 158 - Warning: unknown attribute "itemprop"
line 1 column 273 - Warning: unknown attribute "nonce"
line 1 column 273 - Warning: <script> lacks "type" attribute
line 4 column 494 - Warning: <style> lacks "type" attribute
line 5 column 14 - Warning: <style> lacks "type" attribute
line 5 column 1,086 - Warning: unknown attribute "nonce"
line 5 column 1,086 - Warning: <script> lacks "type" attribute
line 7 column 918 - Warning: <body> attribute "bgcolor" has invalid val
ue "#fff"
line 7 column 939 - Warning: unknown attribute "nonce"
line 7 column 939 - Warning: <script> lacks "type" attribute
line 10 column 49 - Warning: <nobr> is not approved by W3C
line 10 column 132 - Warning: Warning: unescaped & or unknown entity
"&tab"
line 10 column 206 - Warning: Warning: unescaped & or unknown entity
"&tab"
line 10 column 273 - Warning: Warning: unescaped & or unknown entity
"&tab"
line 10 column 711 - Warning: <nobr> is not approved by W3C
line 10 column 1,011 - Warning: Warning: unescaped & or unknown entit
```

```
y "&passive"
line 10 column 1,024 - Warning: Warning: unescaped & or unknown enti
ty "&continue"
line 10 column 1,056 - Warning: Warning: unescaped & or unknown enti
ty "&ec"
line 10 column 1,126 - Warning: trimming empty <div>
line 10 column 1,161 - Warning: trimming empty <div>
line 10 column 1,496 - Warning: <td> attribute "width" has invalid value
"25%"
line 10 column 1,806 - Warning: unknown attribute "autocomplete"
line 10 column 2,276 - Warning: unknown attribute "nonce"
line 10 column 2,276 - Warning: <script> lacks "type" attribute
line 11 column 160 - Warning: <td> attribute "width" has invalid value "2
5%"
line 11 column 354 - Warning: unknown attribute "nonce"
line 11 column 354 - Warning: <script> lacks "type" attribute
line 11 column 1,020 - Warning: <style> lacks "type" attribute
line 11 column 1,020 - Warning: <style> isn't allowed in <div> elements
line 11 column 3,305 - Warning: missing </span> before <div>
line 11 column 3,852 - Warning: discarding unexpected </span>
line 11 column 3,872 - Warning: unknown attribute "nonce"
line 11 column 3,872 - Warning: <script> lacks "type" attribute
InputStream: Doctype given is ""
InputStream: Document content looks like HTML proprietary
35 warnings, no errors were found!
The table summary attribute should be used to describe
the table structure. It is very helpful for people using
non-visual browsers. The scope and headers attributes for
table cells are useful for specifying which headers apply
to each table cell, enabling non-visual browsers to provide
a meaningful context for each cell.
For further advice on how to make your pages accessible
see "http://www.w3.org/WAI/GL". You may also want to try
"http://www.cast.org/bobby/" which is a free Web-based
service for checking URLs for accessibility.
You are recommended to use CSS to control line wrapping.
Use "white-space: nowrap" to inhibit wrapping in place
of inserting <NOBR>...</NOBR> into the markup.
```

5. JSON Assertion

- **JSON Assertion** in JMeter is used to **validate specific fields or values in a JSON response**, ensuring the response contains the expected keys, values, or structure.

- Add the HTML Request path that provides JSON data



Assignment No 4.jmx (/home/aditya-pawar/Assignment No 4.jmx) - Apache JMeter (5.6.3)

Test Plan
- Thread Group - Response Assertion
- Thread Group - Duration Assertion
- Thread Group - Size Assertion
- Thread Group - HTML Assertion
- Thread Group - JSON Assertion
  - HTTP Request
    - JSON Assertion
    - View Results Tree
    - View Results in Table
- Thread Group - XPath Assertion

HTTP Request

Name: HTTP Request

Comments:

Basic | Advanced

Web Server

Protocol [http]: https Server Name or IP: reqres.in Port Number:

HTTP Request

GET Path: /api/users/2 Content encoding:

□ Redirect Automatically ☑ Follow Redirects ☑ Use KeepAlive □ Use multipart/form-data □ Browser-compatible headers

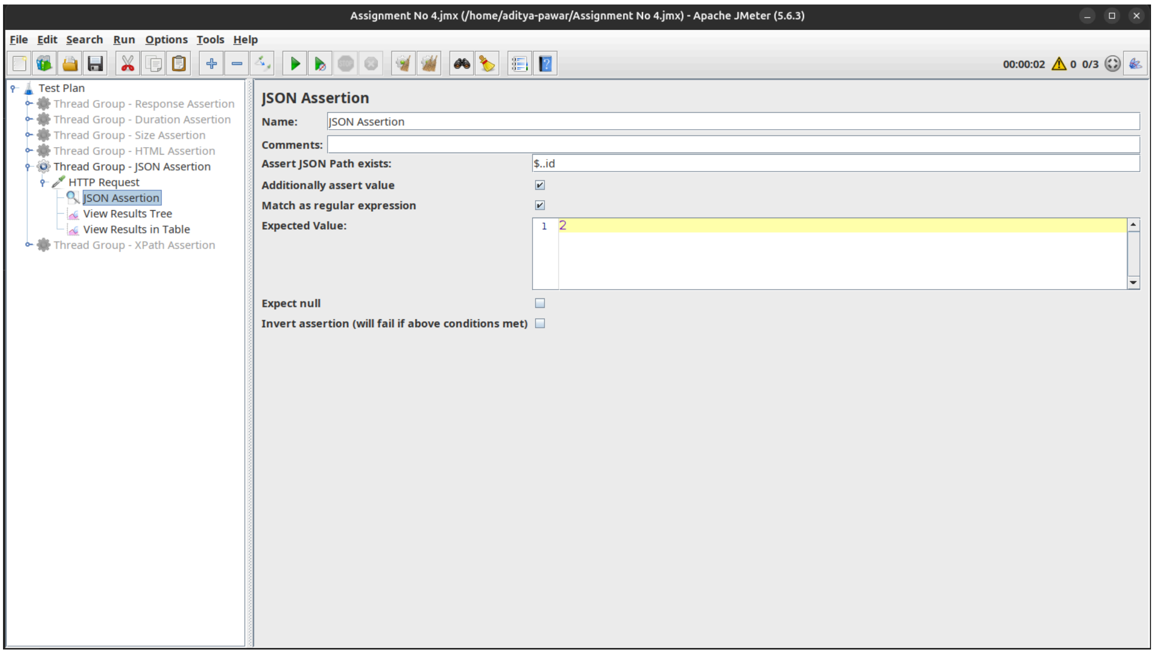
Parameters | Body Data | Files Upload

Send Parameters With the Request:

Name:	Value	URL Encode?	Content-Type	Include

- Add the JSON Assertion

  Thread Group → Assertion → JSON Assertion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Thread Group - HTML Assertion
Thread Group - JSON Assertion
HTTP Request
JSON Assertion
View Results Tree
View Results in Table
Thread Group - XPath Assertion

JSON Assertion

Name: JSON Assertion

Comments:

Assert JSON Path exists: $..id

Additionally assert value ☑

Match as regular expression ☑

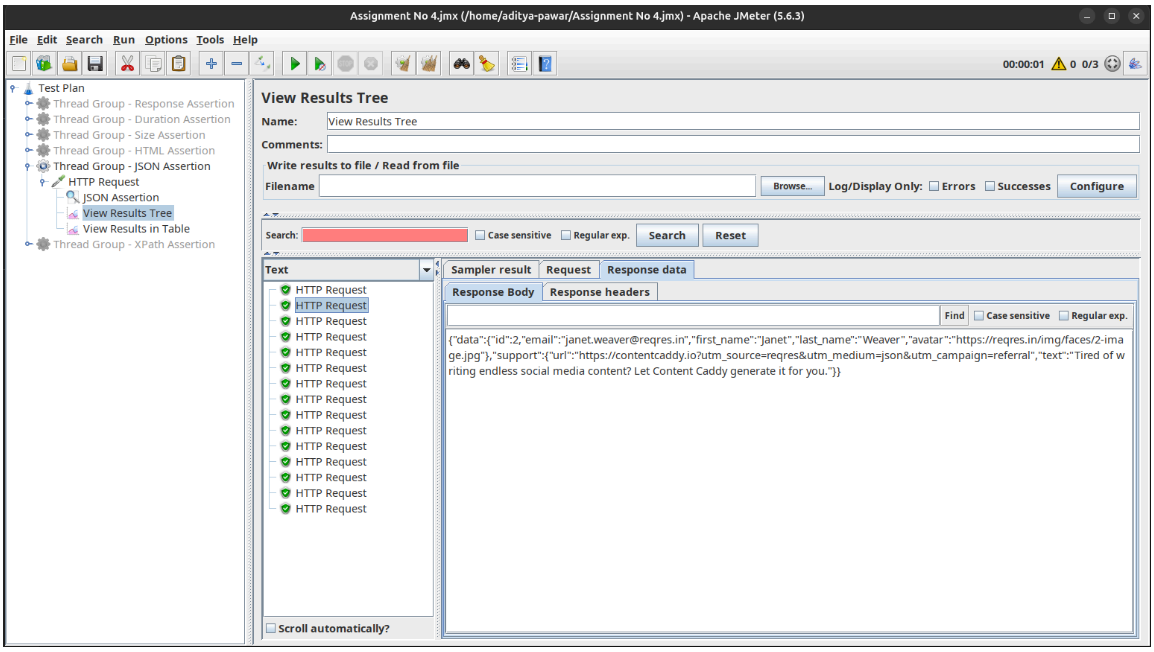
Expected Value: 2

Expect null □

Invert assertion (will fail if above conditions met) □

- Add the Path — $..id that validates the id for value 2 here

- output —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Thread Group - JSON Assertion
HTTP Request
JSON Assertion
View Results Tree
View Results in Table
Thread Group - XPath Assertion
Browse...
Search
Reset
Text
Sampler result
Request
Response data
Response Body
Response headers
Find
Configure

View Results Tree

Name: View Results Tree

Comments:

Write results to file / Read from file

Filename

Log/Display Only: □ Errors □ Successes

Search: □ Case sensitive □ Regular exp.

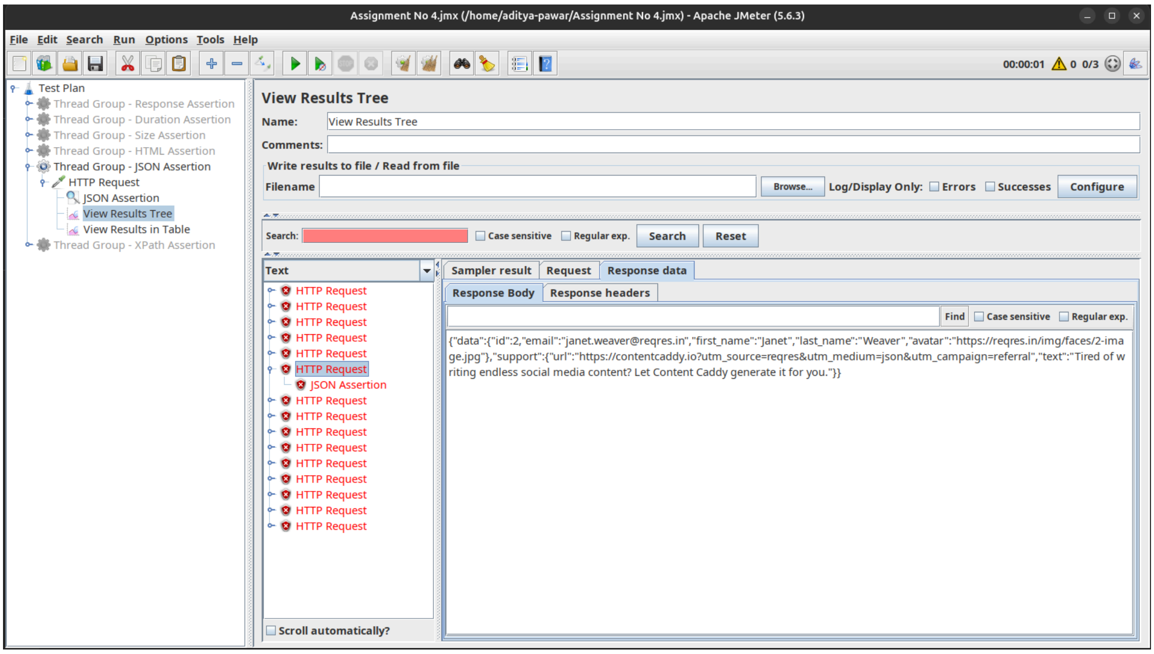
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request

□ Case sensitive □ Regular exp.

```
{"data":{"id":2,"email":"janet.weaver@reqres.in","first_name":"Janet","last_name":"Weaver","avatar":"https://reqres.in/img/faces/2-ima
ge.jpg"},"support":{"url":"https://contentcaddy.io?utm_source=reqres&utm_medium=json&utm_campaign=referral","text":"Tired of w
riting endless social media content? Let Content Caddy generate it for you."}}
```

□ Scroll automatically?

- if i provide id == 3 (wrong intentionally)



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Thread Group - JSON Assertion
HTTP Request
JSON Assertion
View Results Tree
View Results in Table
Thread Group - XPath Assertion
Write results to file / Read from file
Browse...
Log/Display Only:
Configure
Search
Reset
Text
HTTP Request
JSON Assertion
Scroll automatically?
Sampler result
Request
Response data
Response Body
Response headers
Find

View Results Tree

Name: View Results Tree

Comments:

Filename

Log/Display Only: □ Errors □ Successes

Search: □ Case sensitive □ Regular exp.

□ Case sensitive □ Regular exp.

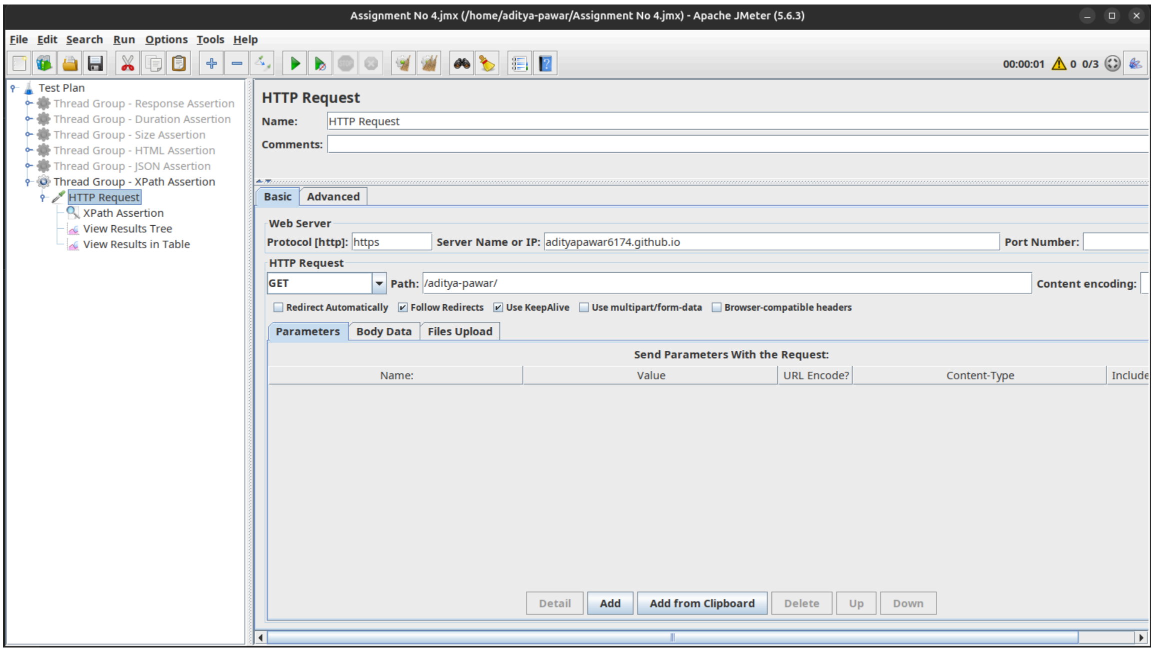
```
{"data":{"id":2,"email":"janet.weaver@reqres.in","first_name":"Janet","last_name":"Weaver","avatar":"https://reqres.in/img/faces/2-image.jpg"},"support":{"url":"https://contentcaddy.io?utm_source=reqres&utm_medium=json&utm_campaign=referral","text":"Tired of writing endless social media content? Let Content Caddy generate it for you."}}
```

□ Scroll automatically?

6. XPath Assertion

- **XPath Assertion** in JMeter is used to **validate XML responses by applying an XPath expression**, ensuring that specific elements, attributes, or values exist or match in the response.

- provide site path to validate the XML PATH from the website



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Thread Group - JSON Assertion
Thread Group - XPath Assertion
HTTP Request
XPath Assertion
View Results Tree
View Results in Table
Basic
Advanced
Web Server
HTTP Request
Parameters
Body Data
Files Upload
Detail
Add
Add from Clipboard
Delete
Up
Down

HTTP Request

Name: HTTP Request

Comments:

Protocol [http]: https Server Name or IP: adityapawar6174.github.io Port Number:

GET Path: /aditya-pawar/ Content encoding:

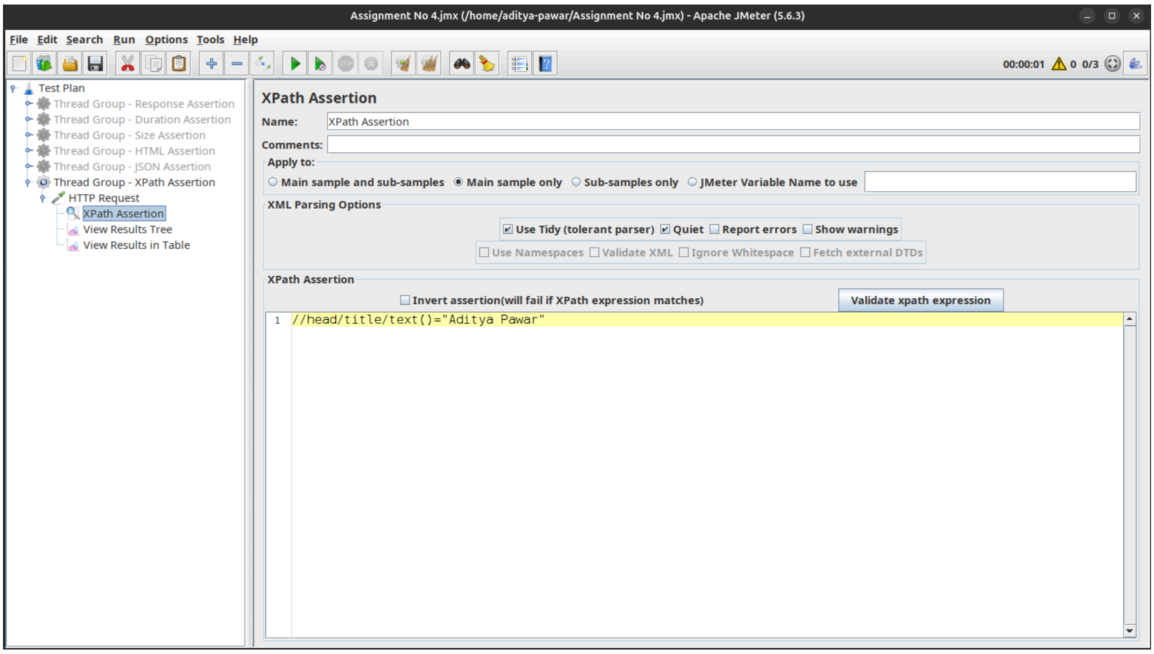
□ Redirect Automatically ☑ Follow Redirects ☑ Use KeepAlive □ Use multipart/form-data □ Browser-compatible headers

Send Parameters With the Request:

Name:	Value	URL Encode?	Content-Type	Include

- add this assertion

  Thread Group → Assertion → XPath Assertion



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Thread Group - Size Assertion
Thread Group - HTML Assertion
Thread Group - JSON Assertion
Thread Group - XPath Assertion
HTTP Request
XPath Assertion
View Results Tree
View Results in Table
Validate xpath expression

XPath Assertion

Name: XPath Assertion

Comments:

Apply to:
○ Main sample and sub-samples ● Main sample only ○ Sub-samples only ○ JMeter Variable Name to use

XML Parsing Options
☑ Use Tidy (tolerant parser) ☑ Quiet □ Report errors □ Show warnings
□ Use Namespaces □ Validate XML □ Ignore Whitespace □ Fetch external DTDs

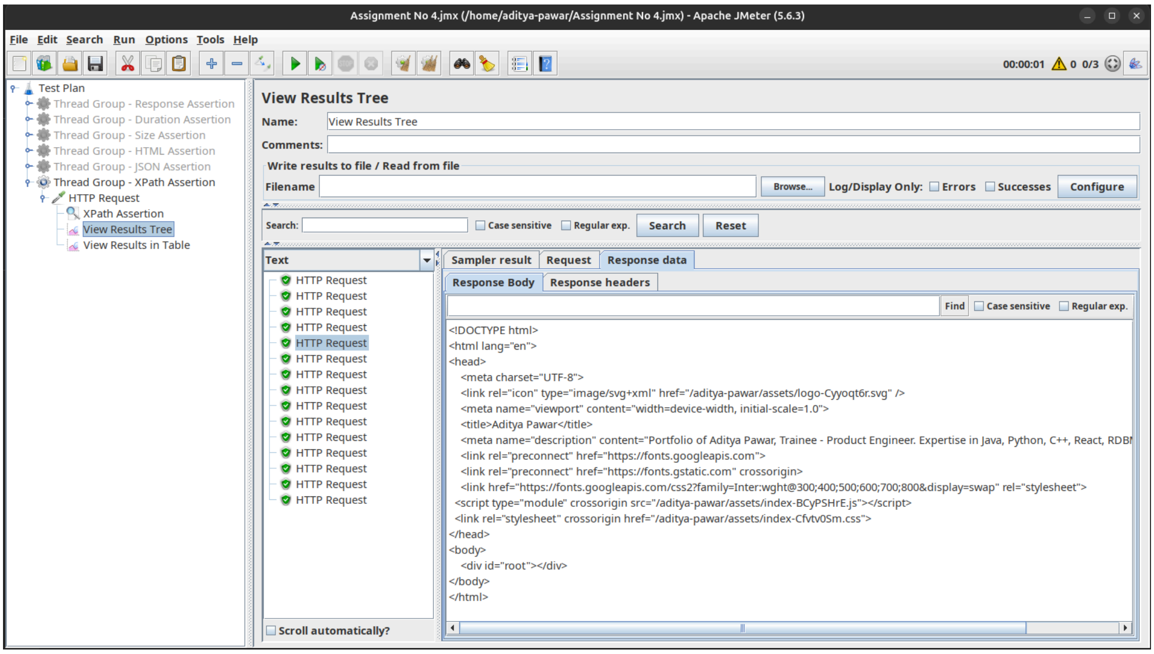
XPath Assertion
□ Invert assertion(will fail if XPath expression matches)

```
//head/title/text()="Aditya Pawar"
```

Explanation

- `//head` → Selects the `<head>` element anywhere in the document.
- `/title` → Selects the `<title>` element inside `<head>`.
- `/text()` → Gets the **text node** inside the `<title>` tag.
- `="Aditya Pawar"` → Compares the extracted text to the exact string **"Aditya Pawar"**.

- output —



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Thread Group - Duration Assertion
Thread Group - Size Assertion
Thread Group - HTML Assertion
Thread Group - JSON Assertion
Thread Group - XPath Assertion
HTTP Request
XPath Assertion
View Results Tree
View Results in Table
Write results to file / Read from file
Filename
Browse...
Log/Display Only:
Errors
Successes
Configure
Search
Reset
Text
Sampler result
Request
Response data
Response Body
Response headers
Find
Scroll automatically?

View Results Tree

Name: View Results Tree

Comments:

Log/Display Only: □ Errors □ Successes

Search: □ Case sensitive □ Regular exp.

HTTP Request
HTTP Request
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HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request
HTTP Request

□ Scroll automatically?

Find □ Case sensitive □ Regular exp.

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <link rel="icon" type="image/svg+xml" href="/aditya-pawar/assets/logo-Cyyoqt6r.svg" />
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Aditya Pawar</title>
   <meta name="description" content="Portfolio of Aditya Pawar, Trainee - Product Engineer. Expertise in Java, Python, C++, React, RDBM
   <link rel="preconnect" href="https://fonts.googleapis.com">
   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
   <link href="https://fonts.googleapis.com/css2?family=Inter:wght@300;400;500;600;700;800&display=swap" rel="stylesheet">
  <script type="module" crossorigin src="/aditya-pawar/assets/index-BCyPSHrE.js"></script>
  <link rel="stylesheet" crossorigin href="/aditya-pawar/assets/index-Cfvtv0Sm.css">
</head>
<body>
   <div id="root"></div>
</body>
</html>
```