

Test Cases

TC 1.1

Use case: 1 main scenario

Requirement: 3

Scenario: Start the server

test steps

- open the source code in your IDE
- In terminal run: "cd bin"
- In terminal run: "java se.lnu.http.HTTPServerConsole 9000
~/YourFilePath/MyWebServer-master/bin/se/lnu/http/resources/inner/"

expected

- The following messages is shown in the IDE Terminal:
"HTTP Server object constructed"
"HTTP Server started"
"Accept"

TC 1.2

Use case: 1 main scenario

Requirement: 3

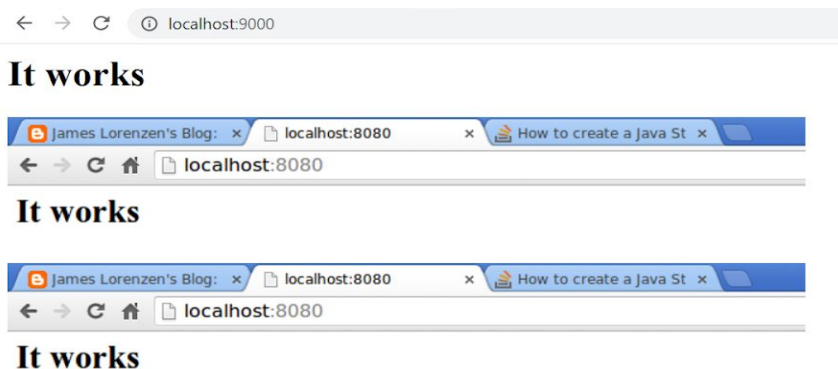
Scenario: Navigate to page

test steps

- Test case 1.1 (start server)
- in your browser search for localhost:9000

expected

- The following messages is shown in the IDE Terminal:
 - “ClientThread started nr: 1”
 - “ClientThread started nr: 2”
 - “ClientThread 2 served file : index.html”
 - “ClientThread 2 served file : works.png”
 - “ClientThread 1 served file : works2.png”
 - “ClientThread stopped nr: 2”
 - “ClientThread stopped nr: 1”
- The text “It works” is displayed in your browser
- Two images is shown



TC 1.3

Use case: 1 alternative scenario 4a

Requirement: N/A

Scenario: The server should not be able to start with a taken port

test steps

- Start a server on port 9000 for another project
- Start the server with the taken port 9000

expected

- The system should present the message:
"Socket 9000 was taken"
- Server stops

TC 1.4

Use case: 1 alternative scenario 4b

Requirement: N/A

Scenario: The web server could not be started due to restriction on the shared resource container

test steps

- Try to start the webserver using a restricted folder path: /resources/

expected

- The system should present the error message:
“No access to folder /resources”

TC 1.5

Use case: 1 alternative scenario 4c

Requirement: N/A

Scenario: Can not write to access log

test steps

- Start the server without permission to write

expected

- The system should present the error message. "Cannot write to server log file log.txt"

TC 2.1

Use case: 2

Requirement: N/A

Scenario: Stop the server (server needs to be started)

test steps

- In your IDE Terminal write “stop” and press enter.

expected

- The following messages should be shown in your terminal:
“HTTP Server Accept thread stopped”
“HTTP Server stopped”

TC 3.1

Use case: 3

Requirement: 2

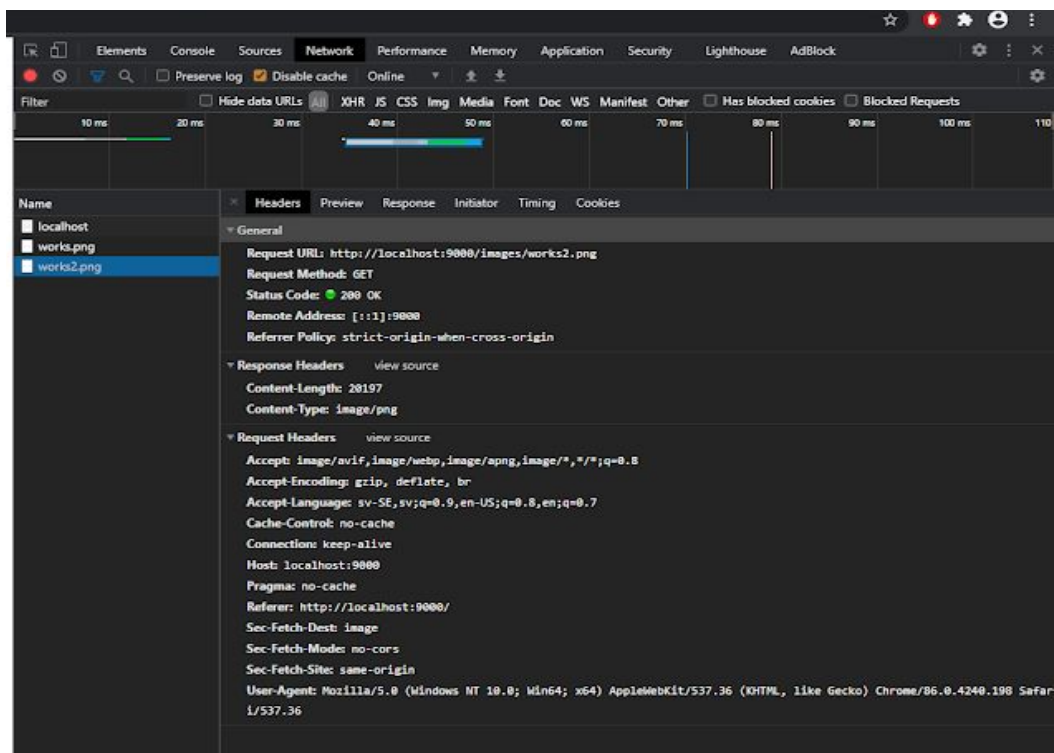
Scenario: Successfully access a shared resource

test steps

- Start the server
- Go to your browser and navigate to the page

expected

- The shared resource is shown in the browser and a success message is written to the access log
- In network section in your browser get the status code 200 OK



TC 3.2

Use case: 3

Requirement: 2

Scenario: A shared resource can not be found

test steps

- Start the server
- Go to your browser and navigate to the page
- Try to access a non existing resource ex "localhost:9000/page"

expected

- The system presents that the resource cannot be found
- In your browser you will receive the message: "404 Not found"



TC 3.3

Use case: 3

Requirement: 2

Scenario: Shared resource is outside the shared resource container

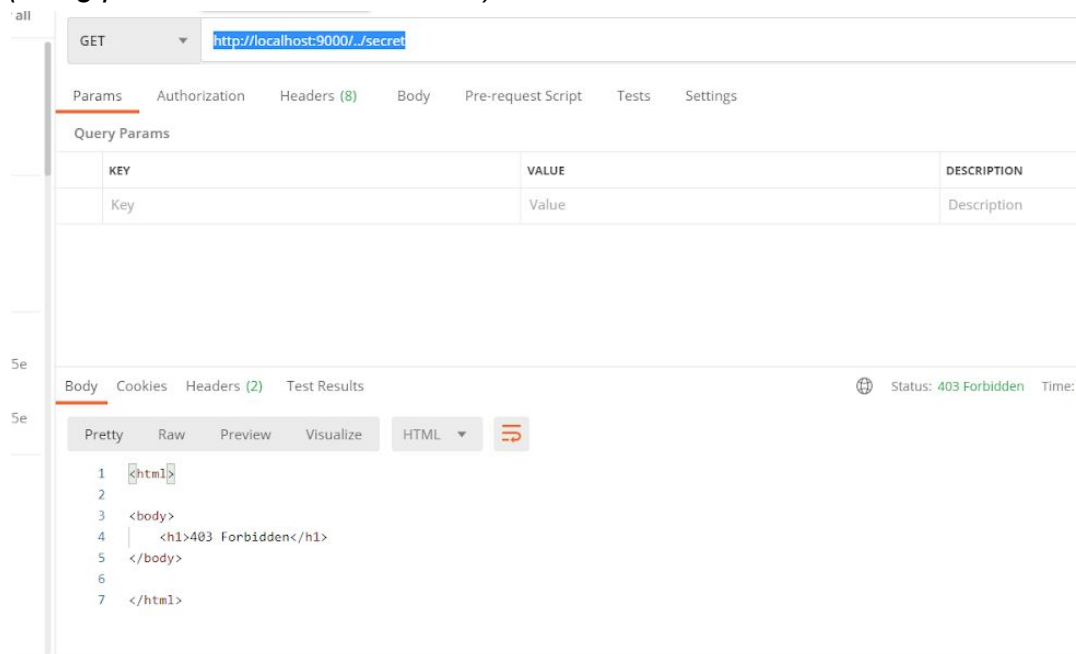
test steps

- Start the server
- Try to access a resource outside of the shared container :
“http://localhost:9000/../../secret”

expected

- The system presents that the resource is forbidden
- In your browser you will receive the message: “403 Forbidden”

(using postman it looks like below)



TC 3.4

Use case: 3

Requirement: 2

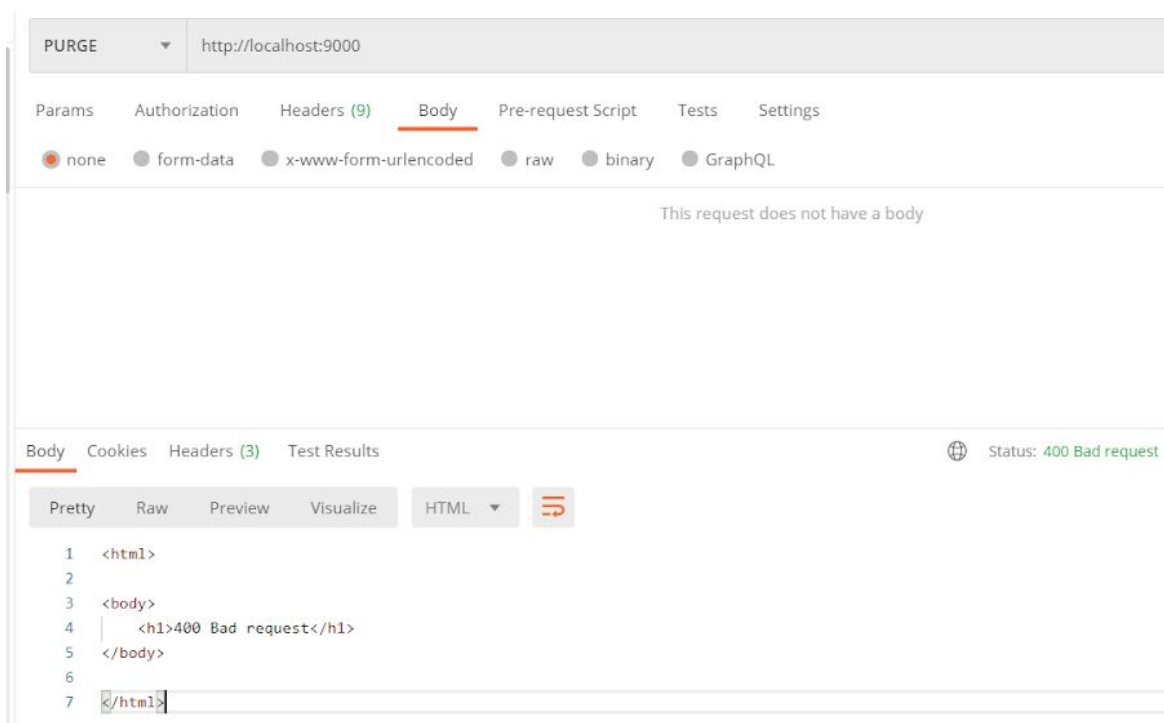
Scenario: Resource request is invalid or malformed

test steps

- Start the server
- Send a Purge request for localhost:9000 using Postman

expected

- The system presents that the request cannot be handled
- You will receive the message: "400 Bad request"



TC 4.1

Use case: N/A

Requirement: 1

Scenario: The web server should be responsive under high load.

test steps

- Test case 1.1(start server)
- Open Jmeter
- Create a Thread group in the Test Plan
- Write 500 in number of threads
- Write ramp-up period of 1 sec
- Add a sampler from thread group http protocol
- Add a listener from sampler
- Press start test
- Repeat 5 times
- check so no one crashes
- Take the median worth of latency

expected

- No crashes or latency over 200

TC 4.2

Use case: N/A

Requirement: 1

Scenario: The web server should be responsive under high load.

test steps

- Test case 1.1(start server)
- Open Jmeter
- Create a Thread group in the Test Plan
- Write 200 in number of threads
- Write ramp-up period of 1 sec
- Add a sampler from thread group http protocol
- Add a listener from sampler
- Press start test
- Repeat 5 times
- check so no one crashes
- Take the median worth of latency

expected

- No crashes or latency over 200

TC 5.1

Use case: N/A

Requirement: 5

Scenario: Access log should be viewable from a text editor

test steps

- Test case 1.1 (start server)
- Open the access log in your IDE and read content

expected

- The access log should have some content

TC 6.1

Use case: N/A

Requirement: 4

Scenario: The source code should be released under GPL-2.0

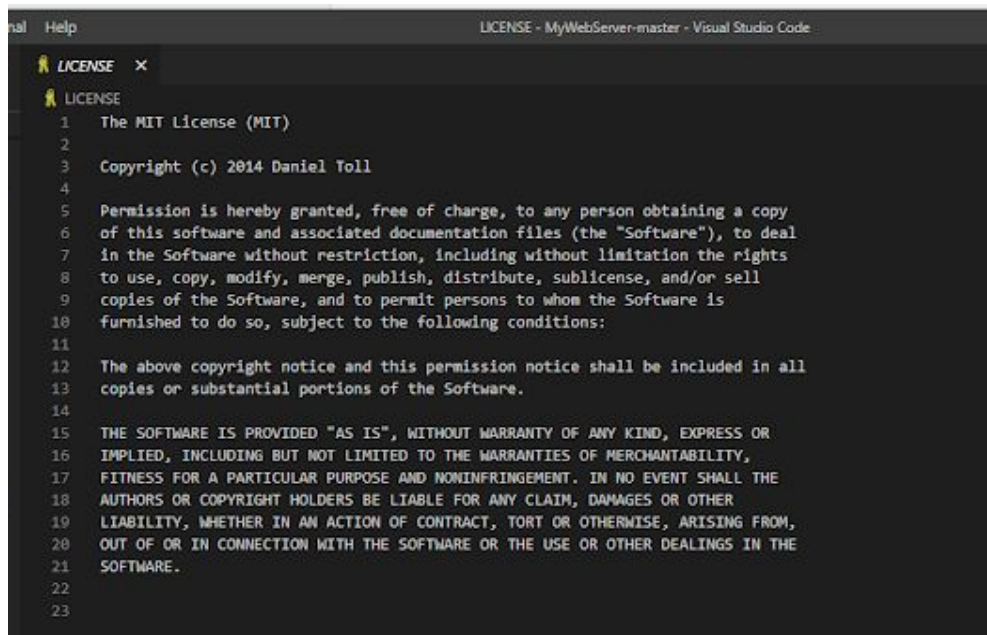
test steps

- Go to your IDE and open the file called LICENCE
- Check content

expected

- Content should be compatible with GPL-2.0

expected content



```

  File      Help
LICENSE - MyWebServer-master - Visual Studio Code

LICENSE
1  The MIT License (MIT)
2
3  Copyright (c) 2014 Daniel Toll
4
5  Permission is hereby granted, free of charge, to any person obtaining a copy
6  of this software and associated documentation files (the "Software"), to deal
7  in the Software without restriction, including without limitation the rights
8  to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
9  copies of the Software, and to permit persons to whom the Software is
10 furnished to do so, subject to the following conditions:
11
12 The above copyright notice and this permission notice shall be included in all
13 copies or substantial portions of the Software.
14
15 THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
16 IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
17 FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
18 AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
19 LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
20 OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
21 SOFTWARE.
22
23
```