**System Test Report**

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Project: Websockets in a LwIP HTTP Server

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# Scope

The STP (System Test Report) documents the actual results of the tests specified in the STP (System Test Plan)

# Abbreviations

* TC– Testcase
* TS – Testsuite
* GUI – Graphical User Interface
* API – Application Programming Interface

# Test Objects

The following test objects must be verified:

|  |  |  |  |
| --- | --- | --- | --- |
| **Ref.-Id.** | **Product Number** | **Product Name** | **Product Description** |
| 1 | Build v1.0 | Websockets in a LwIP HTTP Server | An implementation of Websockets and an API in LwIP |

# Test Equipment

The following equipment must be available for testing:

* A computer with Windows 10
* A functioning and correctly configured Installation of LwIP (For tests after TC-001-001 / 002)

# References

[[1] SRS TINF20C Websockets with LwIP](https://github.com/TINF20C/Team_4_Websockets-lwIP/wiki/SRS:-System-Requirements-Specification)

# Testcases

## Testsuite <TS-001 WebSocket with its Testclient>

### <TC-001-001> (Choose the correct network adapter)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-001-001** | | |
| **Testcase Name** | | | Choose the correct network adapter | | |
| **Req.-ID** | | | LF10 | | |
| **Description** | | | This test case verifies that lwIP starts correctly after choosing the correct network adapter. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Run lwIP.exe | | | Application starts without problems. | Application starts without problems. |
| **2** | Insert the correct number of your network adapter | | | LwIP accepts the Input and runs correctly | LwIP accepts the Input and runs correctly |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Pass | | | |
|  | | | | | |

### <TC-001-002> (Choose the wrong network adapter)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-001-002** | | |
| **Testcase Name** | | | Choose the wrong network adapter | | |
| **Req.-ID** | | | LF20 | | |
| **Description** | | | This test case verifies that lwIP fails noisy after choosing a wrong network adapter. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Run lwIP.exe | | | Application starts without problems. | Application starts without problems. |
| **2** | Insert a wrong number which does not belong to a network adapter | | | A Pop-Up with an error message should appear and the lwIP window will print an error | A Pop-Up with an error message should appear and the lwIP window will print an error |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Pass | | | |
|  | | | | | |

### <TC-001-003> (Connect to the Websocket)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-001-003** | | |
| **Testcase Name** | | | Connect to the WebSocket | | |
| **Req.-ID** | | | LF30 | | |
| **Description** | | | This test case verifies that the Testclient is able to connect to the WebSocket. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Open the Testclient | | | Application starts without problems. | Since there is no Testclient it cant be started |
| **2** | Select “Connect” Menu point | | | A Pop-Up with an input window should appear | - |
| **3** | Input the IP of the WebSocket and click on “connect” | | | The GUI should show “Connection Established” and display a message field | - |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Fail | | | |
|  | | | | | |

### <TC-001-004> (Message the Server)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-001-004** | | |
| **Testcase Name** | | | Message the Server | | |
| **Req.-ID** | | | LF30, LF40 | | |
| **Description** | | | This test case verifies that a message sent to the server will be echoed back by it. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Connect the Testclient to a running WebSocket | | | Application starts without problems. | Since there is no Testclient it can’t be started |
| **2** | Select “Connect” Menu point | | | A Pop-Up with an input window should appear | - |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Fail | | | |
|  | | | | | |

### <TC-001-005> (Disconnect from WebSocket)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-001-005** | | |
| **Testcase Name** | | | Disconnect from WebSocket | | |
| **Req.-ID** | | | LF30, LF40, LF50 | | |
| **Description** | | | This test case verifies that the Testclient can destroy an existing connection. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Connect the Testclient to a running WebSocket | | | Application starts without problems. | Since there is no Testclient it can’t be started |
| **2** | Click on the “Disconnect” button | | | The Testclient disconnects from the WebSocket and shows the message “Successfully disconnected” | - |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Fail | | | |
|  | | | | | |

## Testsuite <TS-002 API>

### <TC-002-001> (Call API Root)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-002-001** | | |
| **Testcase Name** | | | Call API Root | | |
| **Req.-ID** | | | LF60 | | |
| **Description** | | | This test case verifies that calling the Root Endpoint returns a sample website. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Run the LwIP HttpServer | | | Application starts without problems. | Application starts without problems. |
| **2** | Open the Browser and type the IP of the Server in the Search bar and hit enter | | | A Site should become visible with the Headline “LwIP Test Application”, a Text block and a link to “/identification” | A Site becomes visible with the Headline “LwIP Test Application”, a Text block and a link to “/identification” |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Pass | | | |
|  | | | | | |

### <TC-002-002> (Call API /something)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-002-002** | | |
| **Testcase Name** | | | Call API /something | | |
| **Req.-ID** | | | LF70 | | |
| **Description** | | | This test case verifies that calling a not existing endpoint results in the display of an error message. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Run the LwIP HttpServer | | | Application starts without problems. | Application starts without problems. |
| **2** | Open the Browser and type the IP of the Server in the Search bar plus “/something” and hit enter | | | The Browser should display an error Message depending on the used Browser. | The Browser displays a error Message |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Pass | | | |
|  | | | | | |

### <TC-002-003> (Call API /identification directly)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-002-003** | | |
| **Testcase Name** | | | Call API /identification directly | | |
| **Req.-ID** | | | LF80 | | |
| **Description** | | | This test case verifies whether a direct call displays information about the Server. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Run the LwIP HttpServer | | | Application starts without problems. | Application starts without problems. |
| **2** | Open the Browser and type the IP of the Server in the Search bar plus “/identification” and hit enter | | | The Browser should display the information about the server in JSON. | The Browser displays the information about the server in JSON. |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Pass | | | |
|  | | | | | |

### <TC-002-004> (Call API /identification from root)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID** | | | **TC-002-004** | | |
| **Testcase Name** | | | Call API /identification from root | | |
| **Req.-ID** | | | LF60, LF90 | | |
| **Description** | | | This test case verifies whether a click on the link redirects to displays information about the Server. | | |
| **Test Steps** | | | | | |
| **Step** | Action | | | Expected Result | Actual Result |
| **1** | Run the LwIP HttpServer | | | Application starts without problems. | Application starts without problems. |
|  | Open the Browser and type the IP of the Server in the Search and hit enter | | | A Site should become visible with the Headline “LwIP Test Application”, a Text block and a link to “/identification” | A Site becomes visible with the Headline “LwIP Test Application”, a Text block and a link to “/identification” |
|  | Click on the Link | | | The Browser should display the information about the server in JSON. | The Browser displays the information about the server in JSON. |
|  | | | | | |
| Tester | | Yannis Plaschko | | | |
| Date | | 05.05.2022 | | | |
| Testcase Result | | Pass | | | |
|  | | | | | |