

WE TEST ATHENS

— SOFTWARE TESTING CONFERENCE —

7 JUNE 2024



Robot
Framework
Foundation



ROBOT FRAMEWORK & BROWSER KEYWORD-DRIVEN TESTING

René Rohner

(imbus)

PREPARATION GITHUB ACCOUNT

- Open your Notebook or Tablet
- Login to Github.com with your Github account.
 - If not existing, please create one.
- Relax & Listen



WHAT IS ROBOT FRAMEWORK OPEN SOURCE KEYWORD-DRIVEN TESTING

Automation Framework

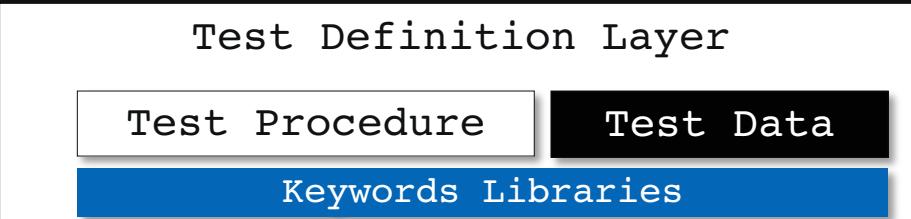
- > 1.500.000 download/month
- ~ 50 Companies
- > 450 Project on PyPI

Keyword-Driven Behaviour-Driven

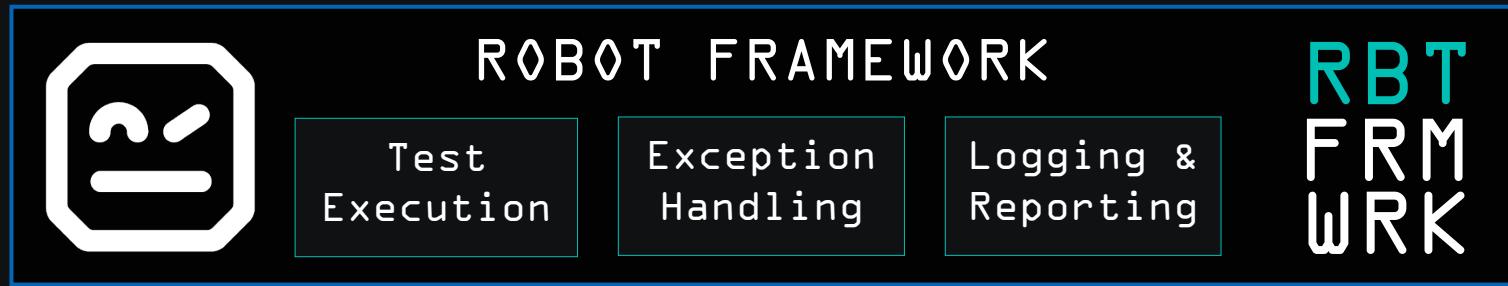
Robotic Process Automation



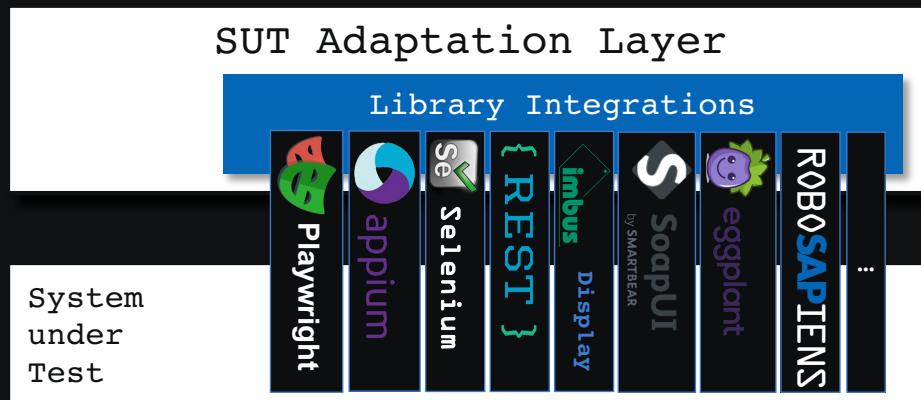
05-Oct-2022



----- Test Data Syntax -----



----- Test Library APIs -----



SPECIFICATION FILE SYNTAX

SPACE MATTERS

```
Tutorial > TestCases > 03_Browser_Tests > 02_Car

1 *** Settings ***
2 Metadata    Conference    Description
3
4 Resource    00_technical_keywords.resource
5
6
7 *** Variables ***
8 space =    ${ }      http://car
9 Value
10
11 *** Test Cases ***
12 Configure Car with Pass
13     [Setup]    Open Web Page    ${TEST_URL}
14     Login User    admin    @RBTFRMWRK@
15     Click New_Car
16     Select Base Model    Minigolf
17     Select Special Model    Jazz
18     Select Accessories    ABS    Außenspiegel    Fußmatten    lenkrad    Radio
19     Verify Total Price    16,619.00    €
20
21
22
```

Recommendation 4 S

1 Space is a valid character
>=2 Spaces are separators

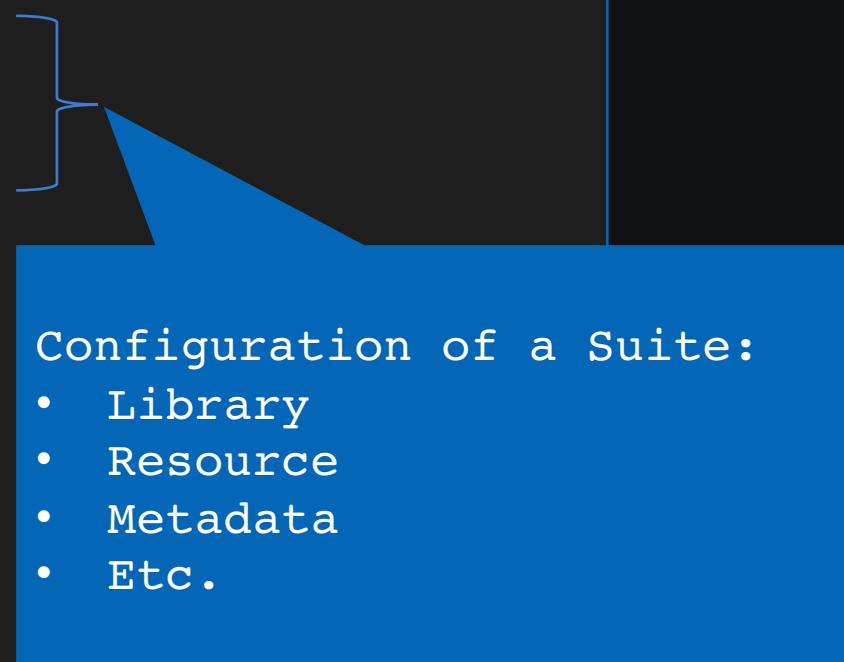
Recommendation 4 Spaces



*.ROBOT / *.RESOURCE - SECTIONS

*** SETTINGS ***

```
Tutorial > TestCases > 03_Browser_Tests > 02_CarConfig.robot > ...  
1  *** Settings ***  
2  Metadata    Conference    RoboCon  
3  
4  Resource    00_technical_keywords.resource  
5  
6  Type        Value  
7  *** Variables ***  
8  ${TEST_URL}    http://car.keyword-driven.de  
9  
10  
11  *** Test Cases ***  
12  Configure Car with Pass  
13      [Setup]    Open Web Page    ${TEST_URL}  
14      Login User    admin    @RBTFRMWRK@  
15      Click New_Car  
16      Select Base Model    Minigolf  
17      Select Special Model    Jazz  
18      Select Accessories    ABS    Außenspiegel  
19      Verify Total Price    05-Oct-2022    16,619.00    €    Fußmatten    lenkrad    Radio  
20
```



*.ROBOT / *.RESOURCE - SECTIONS

*** VARIABLES ***

Tutorial > TestCases > 03_Browser_Tests > 02_CarConfig.robot > ...

```
1 *** Settings ***
2 Metadata    Conference    RoboCon
3
4 Resource    00_technical_keywords
5
6
7 *** Variables ***
8 ${TEST_URL}    http://car.keyword-driven.de
```

Type

Name

Value

Variables of test suite

- Values that are used often
- Values that configures test cases

```
11 *** Test Cases ***
12 Configure Car with Pass
```

```
13 [Setup]    Open Web Page    ${TEST_URL}
14 Login User    admin    @RBTFRMWRK@
15 Click New_Car
16 Select Base Model    Minigolf
17 Select Special Model    Jazz
18 Select Accessories    ABS    Außenspiegel    Fußmatten    lenkrad    Radio
19 Verify Total Price    05-Oct-2022    16,619.00    €    René Rohner (imbus AG)
```

*.ROBOT / *.RESOURCE - SECTIONS

*** TEST CASES ***

Test Case Name

```
11 *** Test Cases ***
12 Configure Car with Pass
13 [Setup] Open Web Page ${TEST_URL}
14 Login User admin @RBTFRMWRK@
15 Click New_Car
16 Select Base Model Minigolf
17 Select Special Model Jazz
18 Select Accessories ABS Außenspiegel Fußmatten lenkrad Radio
19 Verify Total Price 16,619.00 €
20 Set Car Name My New Car
21 Save New_Car
22
23
```

Keyword call

```
** [Arguments] ${user} ${password}
Set Username ${user}
```

Test Cases Section

- Test cases
- Test case specification

Keyword argument values

*.ROBOT / *.RESOURCE - SECTIONS

*** KEYWORDS ***

```
11  *** Test Cases ***
12  Configure Car with Pass
13      [Setup]  Open Web Page  ${TEST_URL}
14      Login User  admin  @RBTFRMWRK@
15      Click New_Car
16      Select Base Model  Minigolf
17      Select Special Model  Jazz
18      Select Accessories  ABS  Außenspiegel
19      Verify Total Price  16,619.00  €
20      Set Car Name  My New Car
21      Save New_Car
22
23
24  *** Keywords ***
25  Login User
26      [Arguments]  ${user}  ${password}
27      Set Username  ${user}
28      Set Password  ${password}
29      Click Login Btn
```

called Keywords

Keyword name

Keyword arguments

Keyword Section

- Local keywords
- Keywords specification

KEYWORD LAYER FROM TECHNOLOGY TO BUSINESS LAYER

```
23 *** Keywords ***
24 Start CarConfig as Administrator
25     [Tags]    business
26     Open CarConfigurator
27     Login User    admin    @RBTFRMWRK@
28
29 Login User
30     [Tags]    functional
31     [Arguments]  ${user}    ${pwd}
32     Type Username    ${user}
33     Type Password    ${pwd}
34     Click Login Button
35
36 Type Username
37     [Documentation]  Types the given \${username} into the user
38     [Tags]    technical
39     [Arguments]  ${username}
40     Type Text    id=input_username    ${username}
41
```

```
722     @keyword(tags=("PageContent",))
723     def type_text(
724         self,
725         selector: str,
726         txt: str,
727         delay: timedelta = timedelta(microseconds=0),
728         clear: bool = True,
729         log_response: bool = True,
730         strict: bool = True,
731     ):
732         selector = self.presenter_mode(selector, strict)
733         with self.playwright.grpc_channel() as stub:
734             delay_ms = self.get_timeout(delay)
735             response = stub.TypeText(
736                 Request().TypeText(
737                     selector=selector,
738                     text=txt,
```



FIRST TEST CASE THIS ONE PASSES

*** Test Cases ***

My Simple Test

Log	Hello	World
Should Be Equal	Hello	Hello

```
E:\RF-Training>robot TestCases\FirstTest.robot
=====
FirstTest
=====
My Simple Test | PASS |
-----
FirstTest | PASS |
1 test total, 1 passed, 0 failed
=====
Output: E:\RF-Training\output.xml
Log: E:\RF-Training\log.html
Report: E:\RF-Training\report.html

E:\RF-Training>
```

FIRST TEST CASE

THIS ONE FAILS

*** Test Cases ***

My Simple Test

Log	Hello World
Should Be Equal	Hello World!

```
Eingabeaufforderung
E:\RF-Training>robot TestCases\FirstTest.robot
=====
FirstTest
=====
My Simple Test | FAIL |
Hello != World
-----
FirstTest | FAIL |
1 test total, 0 passed, 1 failed
=====
Output: E:\RF-Training\output.xml
Log:   E:\RF-Training\log.html
Report: E:\RF-Training\report.html

E:\RF-Training>
```

FIRST TEST CASE

MULTIPLE TESTS IN A SUITE

*** Test Cases ***

My Simple Test

Log	Hello World
Log To Console	Hello World Console
Should Be Equal	Hello Hello

My failing Test

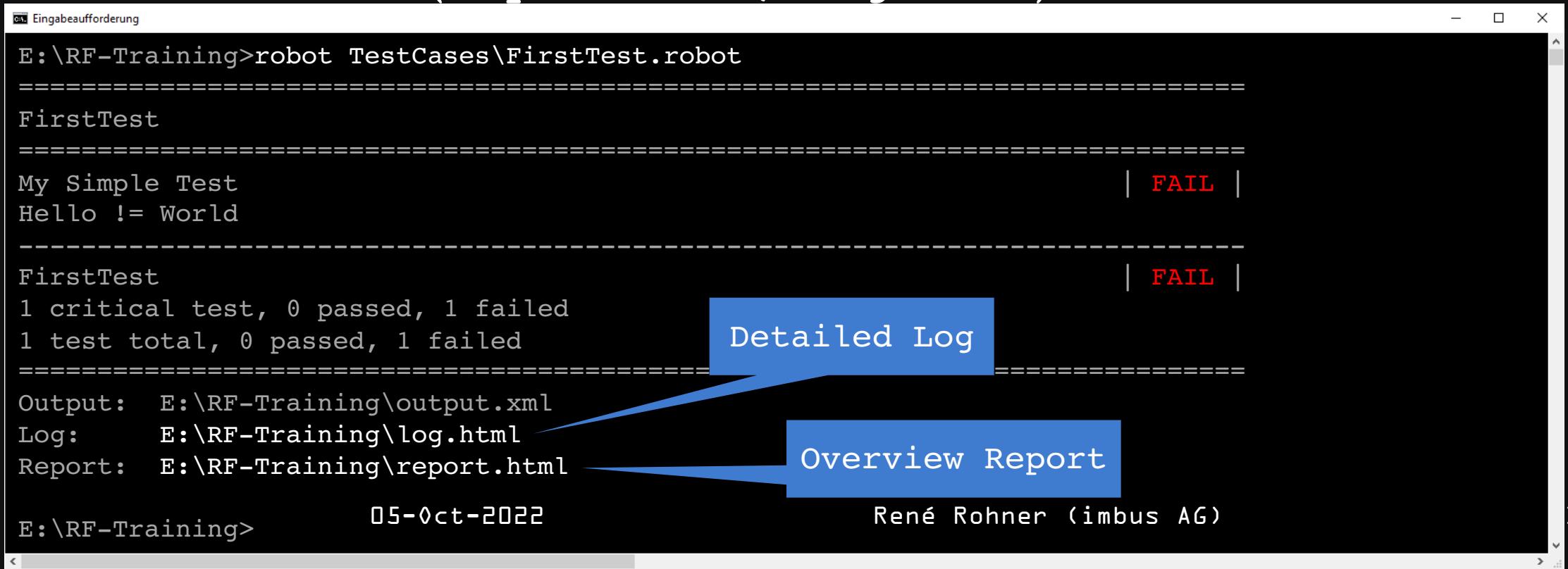
Log To Console	This test case fails
Should Be Equal	Hello World!

```
cmd Eingabeaufforderung
FirstTest
=====
My Simple Test                               .Hello World Console
My Simple Test                               | PASS |
-----
My failing Test                            This test case fails
My failing Test                            | FAIL |
Hello != World!
-----
2 tests total, 1 passed, 1 failed
=====
```



TEST EXECUTION REPORTS FOR HUMANS AND ROBOTS

- Each execution creates protocols
 - Machine readable (`output.xml`)
 - Human readable (`report.html`, `log.html`)



```
E:\RF-Training>robot TestCases\FirstTest.robot
=====
FirstTest
=====
My Simple Test | FAIL |
Hello != World

-----
FirstTest | FAIL |
1 critical test, 0 passed, 1 failed
1 test total, 0 passed, 1 failed
=====

Output: E:\RF-Training\output.xml
Log:   E:\RF-Training\log.html
Report: E:\RF-Training\report.html

E:\RF-Training>
```

Detailed Log



Overview Report

René Rohner (imbus AG)

05-Oct-2022

13

TEST EXECUTOR FOR HUMAN

- Each execution
- Machine readable
- Human readable

```
E:\RF-Training>robot
=====
FirstTest
=====
My Simple Test
Hello != World
-----
FirstTest
1 critical test, 0
1 test total, 0 pa
-----
Output: E:\RF-Tra
Log: E:\RF-Tra
Report: E:\RF-Tra
E:\RF-Training>
```

Simple Browser X https://3100-imbus-robocondetutoria-wioeude4fvp.ws-eu67.gitpod.io/results/log.html REPORT

Total Statistics		Total	Pass	Fail	Skip	Elapsed	Pass / Fail / Skip
All Tests		2	1	1	0	00:00:00	<div style="width: 50%; background-color: green;"></div> <div style="width: 50%; background-color: red;"></div>

Statistics by Tag		Total	Pass	Fail	Skip	Elapsed	Pass / Fail / Skip
No Tags							

Statistics by Suite		Total	Pass	Fail	Skip	Elapsed	Pass / Fail / Skip
01 First Suite		2	1	1	0	00:00:00	<div style="width: 50%; background-color: green;"></div> <div style="width: 50%; background-color: red;"></div>

Test Execution Log

SUITE 01 First Suite		00:00:00.029
Full Name:	01 First Suite	
Source:	/workspace/robocon-de-tutorial/Tutorial/TestCases/01_Simple_Robot_Tests/01_First_Suite.robot	
Start / End / Elapsed:	20221001 14:07:55.422 / 20221001 14:07:55.451 / 00:00:00.029	
Status:	2 tests total, 1 passed, 1 failed, 0 skipped	
+ TEST	Test Case that passes	00:00:00.002
- TEST	Test Case that fails	00:00:00.002
Full Name:	01 First Suite.Test Case that fails	
Documentation:	This test will check if "Hello" is equal to "World" and therefore fail.	
Start / End / Elapsed:	20221001 14:07:55.448 / 20221001 14:07:55.450 / 00:00:00.002	
Status:	FAIL	
Message:	Hello != World	
+ KEYWORD	Builtin.Log Hello This will Fail...	00:00:00.000
- KEYWORD	Builtin.Should Be Equal Hello, World	00:00:00.001
Documentation:	Fails if the given objects are unequal.	
Start / End / Elapsed:	20221001 14:07:55.449 / 20221001 14:07:55.450 / 00:00:00.001	
14:07:55.449	FAIL Hello != World	

TEST EXECUTOR FOR HUMANS

- Each execution
- Machine readable
- Human readable



Simple Browser X

← → ⏪ https://3100-imbus-robocondetutoria-wioeude4fvp.ws-eu67.gitpod.io/results/log.html

LOG

Generated 20221001 14:07:55 UTC+02:00
1 minute 50 seconds ago

01 First Suite Report

Summary Information

Status:	1 test failed
Start Time:	20221001 14:07:55.422
End Time:	20221001 14:07:55.451
Elapsed Time:	00:00:00.029
Log File:	log.html

Test Statistics

	Total Statistics	Total	Pass	Fail	Skip	Elapsed	Pass / Fail / Skip
All Tests		2	1	1	0	00:00:00	<div style="width: 50%; background-color: green;"></div> <div style="width: 50%; background-color: red;"></div>
	Statistics by Tag	Total	Pass	Fail	Skip	Elapsed	Pass / Fail / Skip
No Tags							
	Statistics by Suite	Total	Pass	Fail	Skip	Elapsed	Pass / Fail / Skip
01 First Suite		2	1	1	0	00:00:00	<div style="width: 50%; background-color: green;"></div> <div style="width: 50%; background-color: red;"></div>

Test Details

All Tags Suites Search

Suite:

Test:

Include:

Exclude:

Search Clear Help Focus Lock

15

TUTORIAL ENVIRONMENT



- Kubernetes Based
- Served via Web
- Free to use (50h)
- Free for Open Source



Gitpod

POP-UP DEV-ENV

```

02_CarConfig.robot - roboc... + http://bit.ly/robocon-de
Tutorial > TestCases > 03_Browser_Tests > 02_CarConfig.robot > ...
6
7 *** Variables ***
8 ${TEST_DOCUMENTATION}: '
9 ${TEST_NAME}: 'Configur...
10 @${TEST_TAGS}: []
11
12 *** Test Cases ***
13 Configure Car with Pass
14 [Setup] Open Web Page ${TEST_URL} ${TEST_URL} = 'http://
15 Login User admin @RBTFRMWRK@
16 Click New_Car
17 Select Base Model Minigolf
18 Select Special Model Jazz
19 Select Accessories ABS Außenspiegel Fußmatten lenk
20 Verify Total Price 17,453.00 €
21 Set Car Name My New Car
22 Save New_Car
23
24 *** Keywords ***
25 Login User
26 [Arguments] ${user} ${password}
27 Set Username ${user}
28 Set Password ${password}
29 Click Login Btn
30
31 Select Base Model
32 [Arguments] ${basemodel}
33 Wait For Elements State ${select_CarBaseModel}
34 Select Options By ${select_CarBaseModel} text ${basem
35
36 Select Accessories
37 [Arguments] @accessory_list
38 Go To Accessories
39 FOR ${acc} IN @accessory_list
40 Select Accessory ${acc}
41 END
42

```

Simple Browser X https://6080-imbus-robocondetutoria-2am69929b8b.ws-eu67.gitpod.io

Thu 29 Sep, 21:04 gitpod

Applications: CarConfigurator - Chrome

CarConfigurator x + Not secure | car.keyword-driven.de/config/basemodel

Liste Basismodell Edition Zusatzausstattung Zusammenfassung Logout

Basismodell Neues Auto

Minigolf

Preis Basismodell: Vorläufiger Gesamtpreis: 15,000.00€ 15,000.00€

Select Options By "Basismodell" > ... > select text Minigolf

Elements Console Sources Network Performance

Robot Framework Layout: U.S. Ports: 3100, 5900, 6080, 45773, 37373, 37759

PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL

Robocon-De-Tutorial

Robocon-De-Tutorial.Tutorial

Robocon-De-Tutorial.Tutorial.TestCases

Robocon-De-Tutorial.Tutorial.TestCases.03 Browser Tests

Robocon-De-Tutorial.Tutorial.TestCases.03 Browser Tests.02 CarConfig

Configure Car with Pass

PREVIEW

W

Gitpod main* Running tests... Share

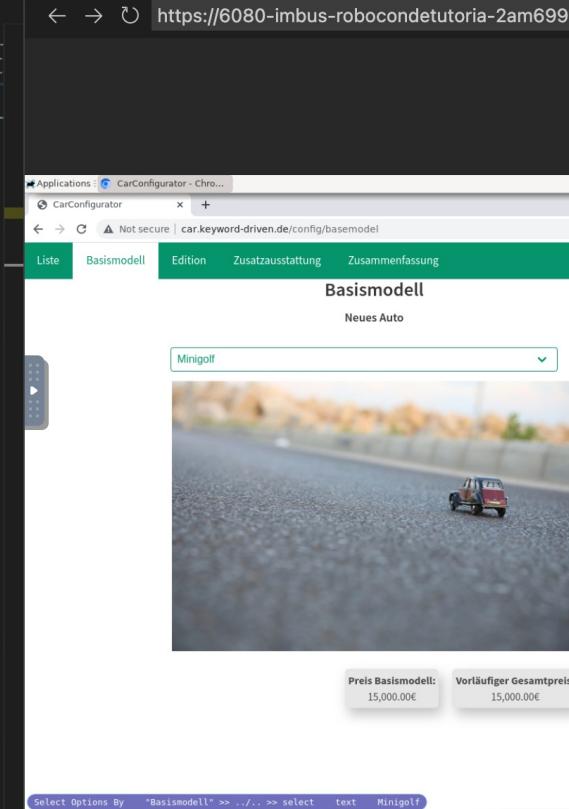
Ln 22, Col 1 Spaces: 4 UTF-8 LF Robot Framework Layout: U.S. Ports: 3100, 5900, 6080, 45773, 37373, 37759



The screenshot shows the Robocon IDE interface with the following details:

- Toolbar:** Includes standard file operations (New, Open, Save, etc.) and a search bar.
- Sidebar:** Contains sections for **VARIABLES**, **WATCH**, and **CALL STACK**. The **CALL STACK** is currently paused on the step "Robocon-De-Tutorial.Tutor".
- Editor Area:** Displays the test script "02_CarConfig.robot".

```
6
7    *** Variables ***
8    ${TEST_URL}      http://car.keyword-driven.de ${TEST_URL} = 'http://
9
10
11   *** Test Cases ***
12   Configure Car with Pass
13
14     [Setup]  Open Web Page  ${TEST_URL} ${TEST_URL} = 'http://
15     Login User  admin  @RBTFRMWRK@
16     Click New_Car
17     Select Base Model  Minigolf
18     Select Special Model  Jazz
19     Select Accessories  ABS  Außenspiegel  Fußmatten  lenk
20     Verify Total Price  17,453.00  €
21     Set Car Name  My New Car
22     Save New_Car
23
24   *** Keywords ***
25   Login User
26     [Arguments]  ${user}  ${password}
27     Set Username  ${user}
28     Set Password  ${password}
29     Click Login Btn
30
31   Select Base Model
32     [Arguments]  ${basemodel}
33     Wait For Elements State  ${select_CarBaseModel}
34     Select Options By  ${select_CarBaseModel}  text  ${basem
35
36   Select Accessories
37     [Arguments]  @{accessory_list}
38     Go To Accessories
39     FOR  ${acc}  IN  @{accessory_list}
40       |  Select Accessory  ${acc}
41     END
42
```
- Bottom Navigation:** PROBLEMS, OUTPUT, DEBUG CONSOLE, PORTS, TERMINAL.
- Breakpoints:** A sidebar showing breakpoints for "Failed Keywords", "Uncaught Failed Ke...", "Failed Test", "Failed Suite", and two entries for "02_CarConfig.ro...".





- > Suite
- > Global



✓ WATCH

◀ CALL STACK Paused on step

```
*** Test Cases ***
Configure Car with Pass
[Setup]    Open Web Page    ${TEST_URL} ${TEST_URL} = 'http://
Login User    admin    @RBTFRMWRK@
Click New_Car
Select Base Model    Minigolf
Select Special Model    Jazz
Select Accessories    ABS    Außenspiegel    Fußmatten    lenk
Verify Total Price    17,453.00    €
Set Car Name    My New Car
Save New_Car

*** Keywords ***
Login User
[Arguments]    ${user}    ${password}
Set Username    ${user}
Set Password    ${password}
Click Login Btn

Select Base Model
[Arguments]    ${basemodel}
Wait For Elements State    ${select_CarBaseModel}
Select Options By    ${select_CarBaseModel}    text    ${basem
Select Accessories
[Arguments]    @{accessory_list}
Go To Accessories
```

Applications CarConfigurator - Chro... Thu 29 Sep, 21:04 gitpod

CarConfigurator Not secure | car.keyword-driven.de/config/basemodel

Liste Basismodell Edition Zusatzausstattung Zusammenfassung Logout

Basismodell

Neues Auto

Minigolf >



Preis Basismodell: 15,000.00€

Vorläufiger Gesamtpreis: 15,000.00€

Elements Console Sources Network Performance

```
<!DOCTYPE html>
<html lang="en">
  <head>...
    <body>
      :before
      <app-root _nghost-c0 ng-version="7.2.7">
        <router-outlet _ngcontent-c0></router-outlet>
        <app-basemodel-configurator _nghost-c7 class="ng-star-inserted">
          <app-navigation-line _ngcontent-c7 _nghost-c5></app-navigation-line>
          <!-->
          <!-->
          <div _ngcontent-c7 class="pageStyle alignCenter ng-star-inserted">
            <div _ngcontent-c7 class="content">...
              <div _ngcontent-c7 class="displayFlexStyleRow" flex>
                <div _ngcontent-c7 class="extraPaddingRight extraPaddingLeft">
                  <!-->
                  <!-->
                  
                  <div _ngcontent-c7 class="clearElement">
                    <div _ngcontent-c7 class="divStyle boxShadow roundedEdges floatRight exposedVerticallyTop paddingSmallAllOver">...
                    ...
                    <div _ngcontent-c7 class="divStyle boxShadow roundedEdges floatRight exposedVerticallyTop paddingSmallAllOver">... == $0
                  </div>
                  </div>
                </div>
                <!-->
              </div>
            </div>
          </app-basemodel-configurator>
        ... arElement div.divStyle.boxShadow.roundedEdges.floatRight.exposedVerticallyTop.paddingSmallAllOver ...
        Styles Computed Layout Event Listeners DOM Breakpoints Properties Accessibility
        Filter
        element.style {
        }
        .floatRight {
          float: right;
        }
        .roundedEdges {
          border-radius: 6px;
        }
        .exposedVerticallyTop {
          margin-top: 20px;
        }
        .paddingSmallAllOver {
          padding: 5px;
        }
        .divStyle {
          background-color: #e6e6e6;
        }
      
```

Select Options By "Basismodell" >> ../../ >> select text Minigolf

```
30
31 Select Base Model
32     [Arguments]    ${basemodel}
33     Wait For Elements State    ${select_CarBaseModel}
34     Select Options By    ${select_CarBaseModel}    text    ${basem
35
36 Select Accessories
37     [Arguments]    @{accessory_list}
38     Go To Accessories
39     FOR    ${acc}    IN    @{accessory_list}
40     |     Select Accessory    ${acc}
41     END
42
```

Select Options By "Basismodell" >> ... >> ...

PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL

=====
Robocon-De-Tutorial
=====

=====
Robocon-De-Tutorial.Tutorial
=====

=====
Robocon-De-Tutorial.Tutorial.TestCases
=====

=====
Robocon-De-Tutorial.Tutorial.TestCases.03 Browser Tests
=====

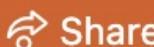
=====
Robocon-De-Tutorial.Tutorial.TestCases.03 Browser Tests.02 CarConfig
=====

=====
Configure Car with Pass

....□



Running tests...



Share

Ln 22, Col 1 Spaces: 4

The screenshot shows a Gitpod workspace interface with the following components:

- Left Sidebar:** Contains icons for file operations, a search bar, and a "W" logo.
- Top Bar:** Shows the title "02_CarConfig.robot — robocon" and a URL "http://bit.ly/robocon-de".
- Code Editor:** Displays a Robot Framework test script titled "Configure Car with Pass".

```
*** Variables ***
${TEST_DOCUMENTATION}: 'Tutorial > TestCases > 03_Browser_Tests > 02_CarConfig.robot'
${TEST_NAME}: 'Configure Car with Pass'
@{TEST_TAGS}: []

*** Test Cases ***
Configure Car with Pass
    [Setup]    Open Web Page    ${TEST_URL}    ${TEST_URL} = 'http://car.keyword-driven.de'
    Login User    admin    @RBTFRMWRK@
    Click New_Car
    Select Base Model    Minigolf
    Select Special Model    Jazz
    Select Accessories    ABS    Außenspiegel    Fußmatten    lenk
    Verify Total Price    17,453.00    €
    Set Car Name    My New Car
    Save New_Car

*** Keywords ***
Login User
    [Arguments]    ${user}    ${password}
    Set Username    ${user}
    Set Password    ${password}
    Click Login Btn

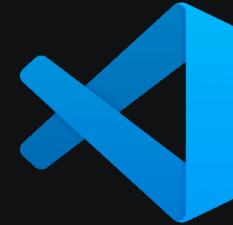
Select Base Model
    [Arguments]    ${basemodel}
    Wait For Elements State    ${select_CarBaseModel}
    Select Options By    ${select_CarBaseModel}    text    ${basemodel}

Select Accessories
    [Arguments]    @${accessory_list}
    Go To Accessories
    FOR    ${acc}    IN    @${accessory_list}
        | Select Accessory    ${acc}
    END
```
- Call Stack:** Shows the current step is "Paused on step" in "Robocon-De-Tutorial.Tutor".
- Breakpoints:** Lists failed keywords, uncaught failed keywords, and specific breakpoints for "02_CarConfig.robot".
- PROBLEMS:** Lists errors for "Robocon-De-Tutorial", "Robocon-De-Tutorial.Tutorial", "Robocon-De-Tutorial.Tutorial.TestCases", "Robocon-De-Tutorial.Tutorial.TestCases.03 Browser Tests", "Robocon-De-Tutorial.Tutorial.TestCases.03 Browser Tests.02 CarConfig", and "Configure Car with Pass".
- OUTPUT:** Shows the output of the test execution.
- DEBUG CONSOLE:** Shows the output of the debug console.
- PORTS:** Shows the output of the ports.
- TERMINAL:** Shows the output of the terminal.
- Right Side:** A browser window titled "CarConfigurator - Chrome" showing a car configurator interface for a "Minigolf" model. The browser's developer tools are open, showing the DOM structure of the page.
- Bottom:** A terminal window with tabs for "prepare: bash", "install System: bash", "Command: bash", and "RobotCode: Run Tests".

ENVIRONMENT



BROWSER



A screenshot of a development environment. On the left, a code editor shows a Robot Framework test case named '02_CarConfig.robot'. The test steps include opening a web page, logging in, selecting a car model, and adding accessories. On the right, a browser window displays a car configuration application with a small toy car on a road. Below the browser, a terminal window shows command-line options like 'prepare: bash', 'install System: bash', 'Command: bash', and 'RobotCode: Run Tests'.

```
02_CarConfig.robot
...
*** Test Cases ***
Configure Car with Pass
    [Setup]  Open Web Page  ${TEST_URL} ${TEST_URL} = 'http://car.keyword-driven.de'
    Login User  admin  @RBTFRMWRK@
    Click New_Car
    Select Base Model  Minigolf
    Select Special Model  Jazz
    Select Accessories  ABS  Außenspiegel  Fußmatten  lenk
    Verify Total Price  17,453.00  €
    Set Car Name  My New Car
    Save New_Car

*** Keywords ***
Login User
    [Arguments]  ${user}  ${password}
    Set Username  ${user}
    Set Password  ${password}
    Click Login Btn

Select Base Model
    [Arguments]  ${basemodel}
    Wait For Elements State  ${select_CarBaseModel}
    Select Options By  ${select_CarBaseModel}  text  ${basemodel}

Select accessories
    [Arguments]  @accessory_list
    Go To Accessories
    FOR  ${acc}  IN  @accessory_list
        Select Accessory  ${acc}
    END

configure car with pass
    [Arguments]  ${TEST_URL}
    Open Web Page  ${TEST_URL} ${TEST_URL} = 'http://car.keyword-driven.de'
    Login User  admin  @RBTFRMWRK@
    Click New_Car
    Select Base Model  Minigolf
    Select Special Model  Jazz
    Select Accessories  ABS  Außenspiegel  Fußmatten  lenk
    Verify Total Price  17,453.00  €
    Set Car Name  My New Car
    Save New_Car
```

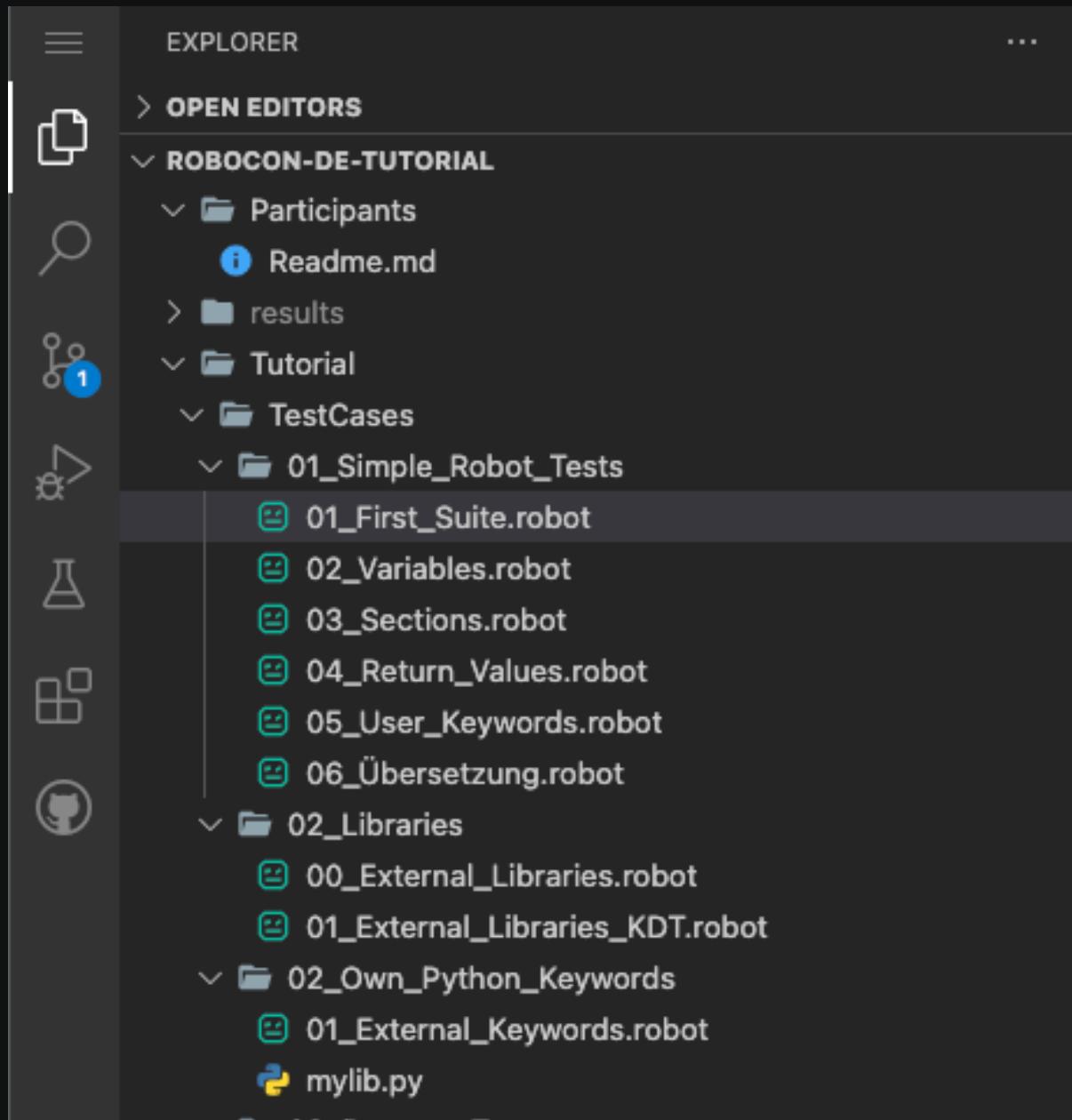
<https://bit.ly/robot-wetest>



FILE TREE

Participant folder
to try it yourself

Tutorial folder
for prepared examples



NOW
HAND
S-ON
RBT

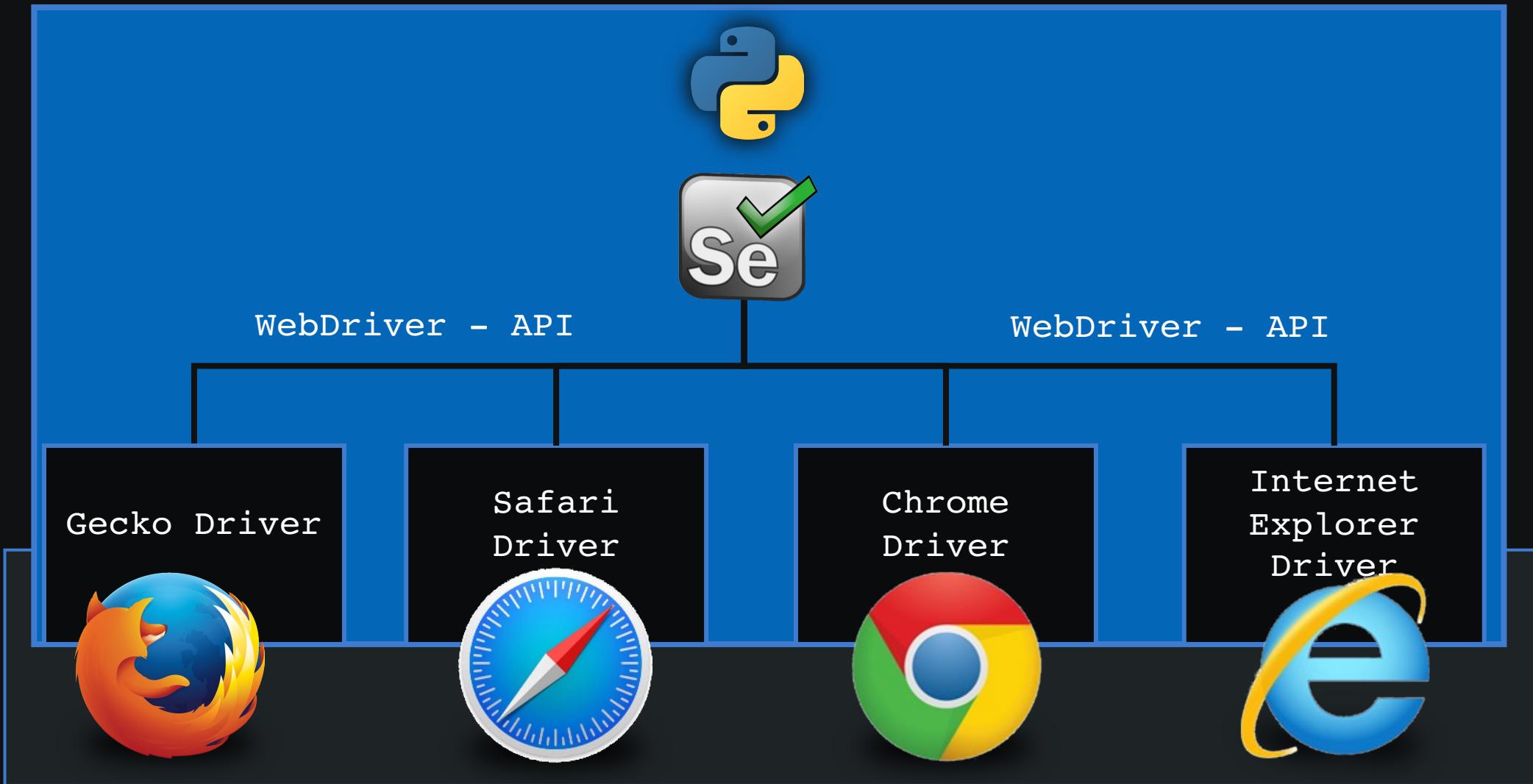


Robotframework.org

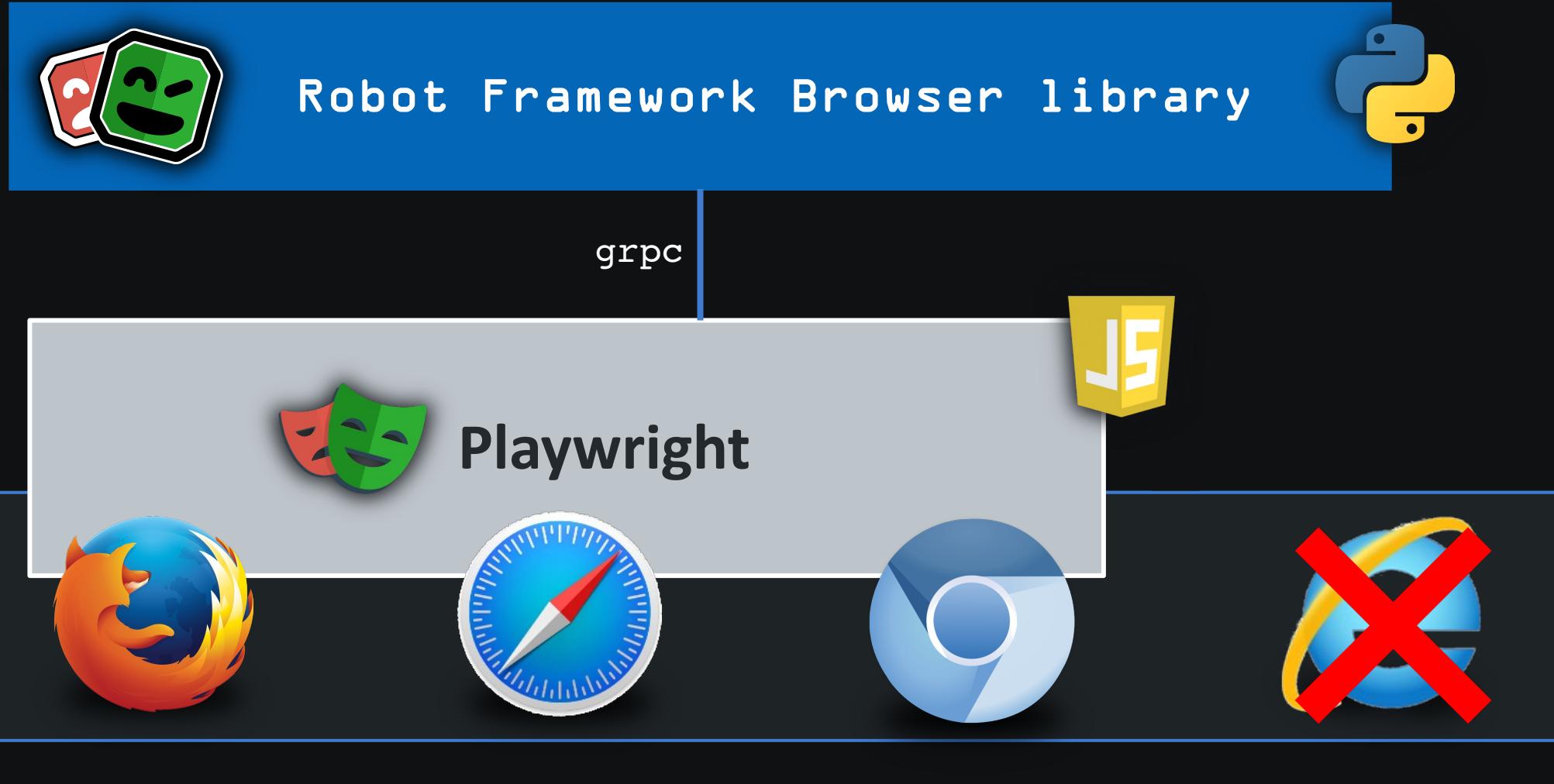


René Rohner (imbus AG)

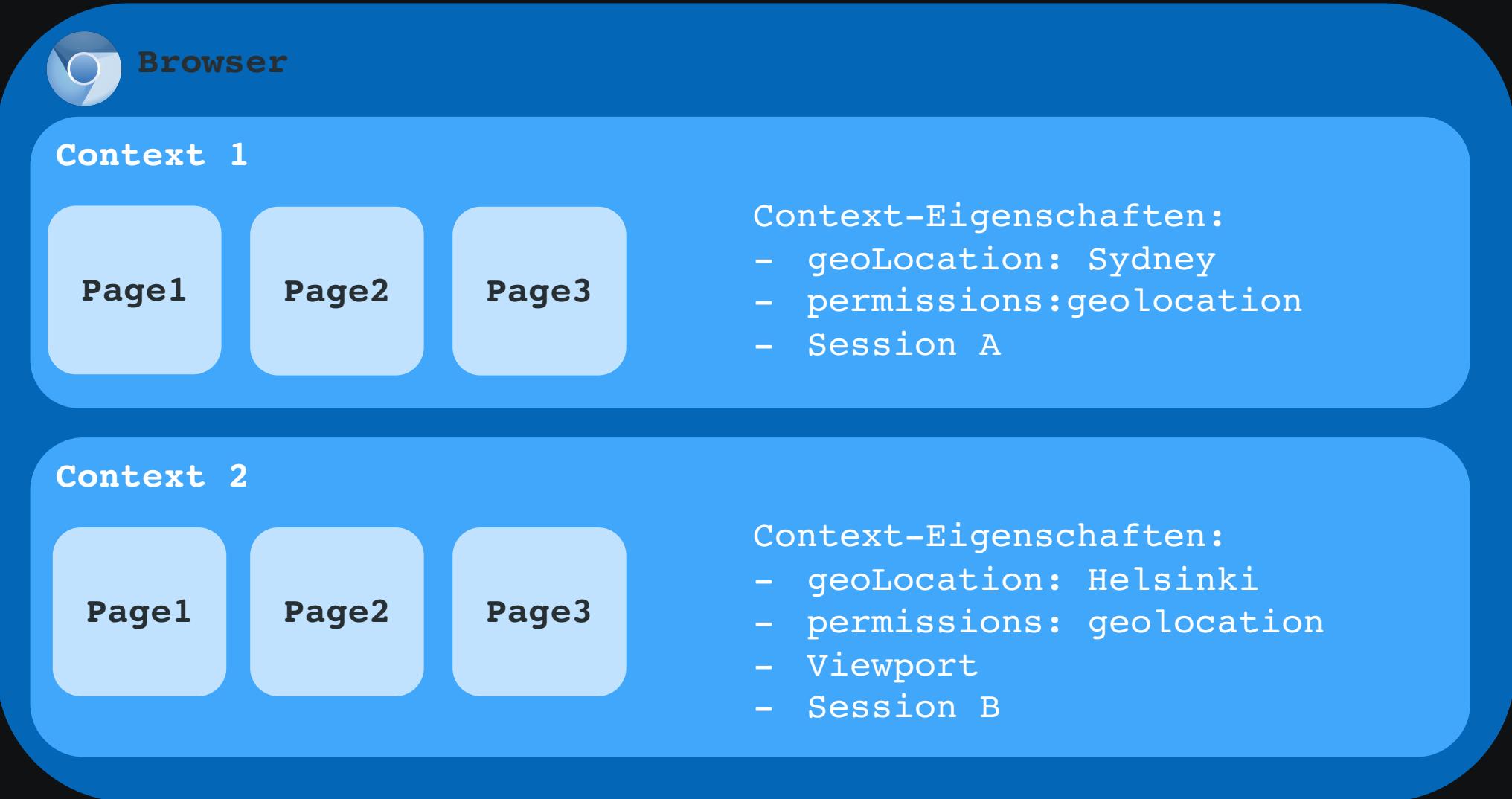
SELENIUMLIBRARY / WEBDRIVER (TECHNOLOGIE STACK)



PLAYWRIGHT (TECHNOLOGIE STACK)



BROWSER, CONTEXT, PAGE



NOW
HAND
S-ON
RBT



Robotframework.org



René Rohner (imbus AG)

BASIC SYNTAX XPATH

„somewhere“ in dom

selects
attribute

value of the
attribute

xpath=//**parent**/node[@**attribute**="**Value**"]

nodes like
input, div, a, href, ...

attribute
name



BASIC SYNTAX XPATH

„somewhere“ in dom

selects
attribute

value of the
attribute

//**parent**/node[@**attribute**="**Value**"]

nodes like
input, div, a, href, ...

attribute
name



XPATH IN ACTION

XPATH= OR //

- Unspecific path with //

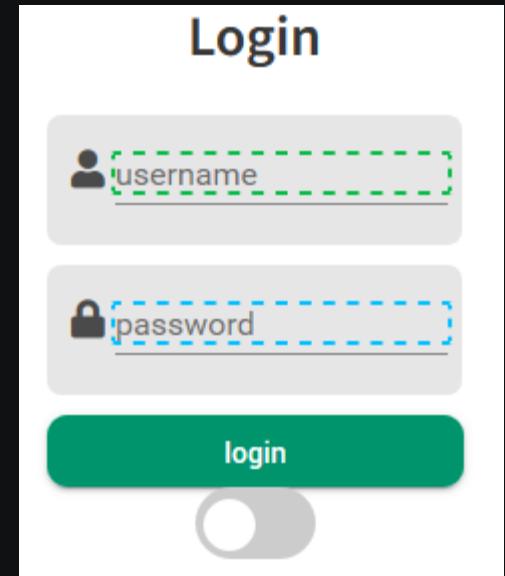
```
//node[@attribute="value"]
```

- <input> node with id

```
//input[@id="input_username"]
```

- All input nodes below the div with two classes

```
//div[@class="loginFieldStyle divStyle"]//input
```



THE RARE REAL USAGE OF XPATH GOING UP THE DOM OR TEXT

- Going up to parent with ..

```
//label[text()="E-Mail"] ../../input
```

If possible, avoid Xpath whenever possible.

- Devs are not using Xpath
- Xpath is not specifically made for Web (i.e. class)
- It's verbose and unreadable (too many characters)



USE CSS INSTEAD (DEFAULT) CSS= OR NOTHING

node#id > direct_child.class some_child[attribute="value"]

div.class.other_class vs. //div[@class="class other_class"]
(but only if it is exact)
//div[contains(@class, "class")]
and contains(@class, "other_class")]



USE CSS

`node#id > direct_child.class some_child[attribute="value"]`

`div.class.other_class` vs. `//div[@class="class other_class"]`

`#id`

`.class`

`> direct child (space = some decendent)`



NOW
HAND
S-ON
RBT



Robotframework.org



René Rohner (imbus AG)

ID=
DATA-TESTID=

id=content_container_8

css=#content_container_8
(at the start \# in robot)

```
▼ <div class="large-12 small-12 columns content-container">
  ▼ <div class="row">
    ::before
    ▼ <div class="large-8 columns">
      ▶ <div id="content_container_8" class="row">...</div>
    </div>
    ▼ <div class="large-4 columns">
      ▶ <div id="content_container_4" class="row">...</div>
    </div>
    ::after
  </div>
  ▼ <div class="row" id="content">
    ::before
    ▼ <div class="large-12 columns background-white">
      ▶ <div id="content_container_12" class="row">...</div>
    </div>
    ::after
  </div>
  ::after
</div>
```



NOW
HAND
S-ON
RBT



Robotframework.org



René Rohner (imbus AG)

TEXT= “EXACT MATCH”

text=console

text="Console output"

“Console output”

text=/^c.*put\$/i

```
▼<div data-v-e18b6dc6 data-v-fae5bece class="bg-grey-dark color-white editor-container">
  ▶<div data-v-e18b6dc6 class="flex between bottom p-xsm all mt-medium bg-grey-darkest border-bottom-theme border-thin" style="flex">...
```

▼<div data-v-e18b6dc6 id="monaco-container" class="data-keybinding-context="1" data-mode-id="robotframework" style="--codelens-font-features_eelf61: "liga" off, "calt" off;">...

▼<div data-v-e18b6dc6 class="ml-medium">

<h4 data-v-e18b6dc6 class="mt-medium ml-medium">Console output </h4> == \$0

<pre data-v-e18b6dc6 class="console bg-grey-darkest p-medium" id="console" style="flex">...

</div>

▶<div data-v-e18b6dc6 class="row between">...



NOW
HAND
S-ON
RBT



Robotframework.org



René Rohner (imbus AG)

COMBINE SELECTORS WITH >>

Concatenate multiple different Selectors

```
text=Moped, Roller >> xpath=.. >> text=46 km/h
```



```
<div class="tk-prov-border-teaser tk-prov-border-teaser-rounded tk-prov-border-teaser">
  <i>...</i>
  <p class="h4 ta-center text-fixheight">
    ::before
    "Moped, Roller,"
    <br>
    "(Leicht-) Mofa, Mokick"
    ::after
  </p>
  <!-->
  <!-->
  <div class="radio-input">...</div>
  <br>
  <!-->
  <div class="radio-input">
    <input autocomplete="off" formcontrolname="fahrzeugart" name="fahrzeugart" type="radio" value="60kmh" class="ng-untouched ng-pristine ng-invalid">
    <label for="moped60kmh">
      ::before
      "46&nbsp;km/h bis 60&nbsp;km/h"
    </label>
  </div>
```



COMBINE SELECTORS WITH >>

Concatenate multiple different Selectors

text=Moped, Roller >> xpath=.. >> text=46 km/h



```
<div class="tk-prov-border-teaser tk-prov-border-teaser-rounded tk-prov-border-teaser">
  <i>...</i>
  <p class="h4 ta-center text-fixheight">
    ::before
    "Moped, Roller,"
    <br>
    "(Leicht-) Mofa, Mokick"
    ::after
  </p>
  <!---->
  <!---->
  <div class="radio-input">...</div>
  <br>
  <!---->
  <div class="radio-input">
    <input autocomplete="off" formcontrolname="fahrzeugart" name="fahrzeugart" type="checkbox" value="60kmh" class="ng-untouched ng-pristine ng-invalid">
    <label for="moped60kmh">
      ::before
      "46&nbsp;km/h bis 60&nbsp;km/h"
    </label>
  </div>
```



COMBINE SELECTORS WITH >>

Concatenate multiple different Selectors

text=Moped, Roller >> xpath=.. >> text=46 km/h



```
<div class="tk-prov-border-teaser tk-prov-border-teaser-rounded tk-prov-border-teaser">
  <i>...</i>
  <p class="h4 ta-center text-fixheight">
    ::before
    "Moped, Roller,"
    <br>
    "(Leicht-) Mofa, Mokick"
    ::after
  </p>
  <!-->
  <!-->
  <div class="radio-input">...</div>
  <br>
  <!-->
  <div class="radio-input">
    <input autocomplete="off" formcontrolname="fahrzeugart" name="fahrzeugart" type="checkbox" value="60kmh" class="ng-untouched ng-pristine ng-invalid">
    <label for="moped60kmh">
      ::before
      "46&nbsp;km/h bis 60&nbsp;km/h"
    </label>
  </div>
```



NOW
HAND
S-ON
RBT



Robotframework.org



René Rohner (imbus AG)

BROWSER LIBRARY KEYWORD DOCUMENTATION

<https://robotframework-browser.org>

Keyword Design

Assertions





THANKS!
QUESTIONS?

YES
WE'RE
OPEN
SRC



Robotframework.org

