

# Functional Testing

## GUI Testing

GUI testing refers to testing the Graphical User Interface of an application. Python provides various frameworks for GUI testing and one of the popular ones is Selenium. Selenium is a tool commonly used for automating web browsers. It refers to the process of automating web browser interactions to verify the functionality of the web application.

Selenium provides a range of features and tools for testing, including the ability to interact with various web elements such as buttons, forms, and links, as well as the ability to simulate user actions such as mouse clicks, keystrokes, and scrolling. Additionally, Selenium can be integrated with other testing tools and frameworks, allowing for more comprehensive testing of web applications.

## Testing Login Page

```
16
17 def test_login():
18     driver = webdriver.Chrome()
19
20     driver.maximize_window()
21     driver.get("https://project-management-system.up.railway.app/login/")
22
23     # Find the username input element and enter a value
24     username_input = driver.find_element(By.NAME, "username")
25     username_input.clear()
26     username_input.send_keys("E000001")
27
28     # Find the password input element and enter a value
```

PROBLEMS DEBUG CONSOLE TERMINAL OUTPUT

```
● PS F:\PMS> pytest -rA
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item
[8264:19740:0427/133949.911:ERROR:device_event_log_impl.cc(222)] [13:39:49.911] USB: usb_device_handle_win.cc:1046 Failed to read descriptor from node connection: A device attached to the system is not functioning. (0x1F)
[8264:19740:0427/133949.912:ERROR:device_event_log_impl.cc(222)] [13:39:49.912] USB: usb_device_handle_win.cc:1046 Failed to read descriptor from node connection: A device attached to the system is not functioning. (0x1F)
.
[100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_login
===== 1 passed in 14.24s =====
```

This is an automated functional test script for testing a login functionality of a web application.

It uses the Selenium WebDriver library to automate the web browser actions such as navigating to the login page, entering login credentials, submitting the login form, and asserting the expected result after login.

The test script also includes some additional actions such as maximizing the browser window, waiting for the page to load, and closing the browser after the test execution.

## Testing Log out Button

```
46 def test_logout():
47     driver = webdriver.Chrome()
48
49     driver.maximize_window()
50     driver.get("https://project-management-system.up.railway.app/login/")
51
52     # Find the username input element and enter a value
53     username_input = driver.find_element(By.NAME, "username")
54     username_input.clear()
55     username_input.send_keys("E000001")
56
57     # Find the password input element and enter a value
58     password_input = driver.find_element(By.NAME, "password")
59     password_input.clear()
60     password_input.send_keys("pass")
61
62     # Submit the login form
```

PROBLEMS   DEBUG CONSOLE   TERMINAL   OUTPUT

```
PS F:\PMS> pytest -rA
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_logout
===== 1 passed in 17.88s =====
```

## Testing to view Projects from the employee dashboard

```
ProjectManagementSystemApp > gui_test.py > ...

46
47 def test_view_Projects_employee():
48     driver = webdriver.Chrome()
49
50     driver.maximize_window()
51     driver.get("https://project-management-system.up.railway.app/login/")
52
53     # Find the username input element and enter a value
54     username_input = driver.find_element(By.NAME, "username")
55     username_input.clear()
56     username_input.send_keys("E000002")
57
58     # Find the password input element and enter a value
59     password_input = driver.find_element(By.NAME, "password")
60     password_input.send_keys("E000002")

PROBLEMS  DEBUG CONSOLE  TERMINAL  OUTPUT

● PS F:\PMS> pytest -rA
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
DevTools listening on ws://127.0.0.1:53343/devtools/browser/ac54aed3-77d9-4328-865e-213bbc7ea35b
[6744:11904:0426/212701.200:ERROR:cert issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_Projects_employee
===== 1 passed in 10.41s =====
```

## Testing to view Resources from the employee dashboard

```
gui_test.py x models.py viewProjects.html projectDashboard.html

ProjectManagementSystemApp > gui_test.py > test_view_Resources_employee

72
73
74 def test_view_Resources_employee():
75     driver = webdriver.Chrome()
76
77     driver.maximize_window()
78     driver.get("https://project-management-system.up.railway.app/login/")
79
80     # Find the username input element and enter a value
81     username_input = driver.find_element(By.NAME, "username")
82     username_input.clear()
83     username_input.send_keys("E000002")
84
85     # Find the password input element and enter a value

PROBLEMS  DEBUG CONSOLE  TERMINAL  OUTPUT

PS F:\PMS> pytest -rA
===== test session starts =====
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:55932/devtools/browser/c4fc43f0-ad8f-4ec6-ba25-19baa382b629
[5340:19840:0426/213045.240:ERROR:cert issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_Resources_employee
===== 1 passed in 9.73s =====
```

## Testing to view Teams from the Manager dashboard

```
ProjectManagementSystemApp > gui_test.py > test_view_Teams_Manager

101
102 def test_view_Teams_Manager():
103     driver = webdriver.Chrome()
104
105     driver.maximize_window()
106     driver.get("https://project-management-system.up.railway.app/login/")
107
108     # Find the username input element and enter a value
109     username_input = driver.find_element(By.NAME, "username")
110     username_input.clear()
111     username_input.send_keys("PM00001")
112
113     # Find the password input element and enter a value

PROBLEMS  DEBUG CONSOLE  TERMINAL  OUTPUT

===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:59732/devtools/browser/e50e4e34-7432-49a6-8124-12e425237d09
[7672:24276:0426/213251.408:ERROR:cert issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_Teams_Manager
===== 1 passed in 0.18s =====
```

## Testing to view Tasks from the Manager dashboard

```
198 def test_view_task_manager():
199     driver = webdriver.Chrome()
200
201     driver.maximize_window()
202     driver.get("https://project-management-system.up.railway.app/login/")
203
204     # Find the username input element and enter a value
205     username_input = driver.find_element(By.NAME, "username")
206     username_input.clear()
207     username_input.send_keys("PM00002")
208
209     # Find the password input element and enter a value
210     password_input = driver.find_element(By.NAME, "password")

PROBLEMS  DEBUG CONSOLE  TERMINAL  OUTPUT

===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:57445/devtools/browser/66c8377c-d153-4f6f-9099-a2edb208d43c
[17852:22964:0426/222751.452:ERROR:cert issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_task_manager
===== 1 passed in 14.74s =====
```

## Testing to view Resources from the Employee dashboard

```
74 def test_view_Resources_employee():
75     driver = webdriver.Chrome()
76
77     driver.maximize_window()
78     driver.get("https://project-management-system.up.railway.app/login/")
79
80     # Find the username input element and enter a value
81     username_input = driver.find_element(By.NAME, "username")
82     username_input.clear()
83     username_input.send_keys("E000002")
84
85     # Find the password input element and enter a value
86     password_input = driver.find_element(By.NAME, "password")
```

PROBLEMS    DEBUG CONSOLE    TERMINAL    OUTPUT

```
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:56348/devtools/browser/4400fbcd-4d4b-46c4-a3d7-a26f2feed235
[23792:14736:0426/225340.587:ERROR:cert_issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_Resources_employee
===== 1 passed in 13.80s =====
```

## Testing to Request Resources from the Manager dashboard

```
130 def test_view_Resource_booking():
131     driver = webdriver.Chrome()
132
133     driver.maximize_window()
134     driver.get("https://project-management-system.up.railway.app/login/")
135
136     # Find the username input element and enter a value
137     username_input = driver.find_element(By.NAME, "username")
138     username_input.clear()
139     username_input.send_keys("PM00001")
140
141     # Find the password input element and enter a value
142     password_input = driver.find_element(By.NAME, "password")
```

PROBLEMS    DEBUG CONSOLE    TERMINAL    OUTPUT

```
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:56399/devtools/browser/ed90d434-e99d-4c20-a450-9125b019311b
[20656:17028:0426/225531.183:ERROR:cert_issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_Resource_booking
===== 1 passed in 13.08s =====
```

## Testing to available Resources from the Employee dashboard

```
161 def test_view_available_resources():
162     driver = webdriver.Chrome()
163
164     driver.maximize_window()
165     driver.get("https://project-management-system.up.railway.app/login/")
166
167     # Find the username input element and enter a value
168     username_input = driver.find_element(By.NAME, "username")
169     username_input.clear()
170     username_input.send_keys("E000004")
171
172     # Find the password input element and enter a value
173     password_input = driver.find_element(By.NAME, "password")
```

PROBLEMS   DEBUG CONSOLE   TERMINAL   OUTPUT

```
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:57888/devtools/browser/741c9950-25b6-4ce1-bd18-4fee1cdce4d6
[13200:10868:0426/230314.681:ERROR:cert_issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_view_available_resources
===== 1 passed in 13.41s =====
```

## Testing to create a new team from the owner's dashboard

```
ProjectManagementSystemApp > gui_test.py > test_create_new_team
336
337 def test_create_new_team():
338     driver = webdriver.Chrome()
339
340     driver.maximize_window()
341     driver.get("https://project-management-system.up.railway.app/login/")
342
343     # Find the username input element and enter a value
344     username_input = driver.find_element(By.NAME, "username")
345     username_input.clear()
346     username_input.send_keys("E000010")
347
```

PROBLEMS   DEBUG CONSOLE   TERMINAL   OUTPUT

```
● PS F:\PMS> pytest -rA
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:53585/devtools/browser/720f2fb0-9ff1-4b99-93be-d956ea1826f8
[23160:16624:0427/035941.938:ERROR:cert_issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
[24392:16860:0427/040031.735:ERROR:ssl_client_socket_impl.cc(992)] handshake failed; returned -1, SSL error code 1, net_err
or -101

. [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_create_new_team
===== 1 passed in 58.12s =====
```

## Testing for creating a new project

```
384
385 def test_create_project():
386     driver = webdriver.Chrome()
387
388     driver.maximize_window()
389     driver.get("https://project-management-system.up.railway.app/login/")
390
391     # Find the username input element and enter a value
392     username_input = driver.find_element(By.NAME, "username")
393     username_input.clear()
394     username_input.send_keys("E000010")
395
```

PROBLEMS   DEBUG CONSOLE   TERMINAL   OUTPUT

```
===== test session starts =====
platform win32 -- Python 3.11.0, pytest-7.3.1, pluggy-1.0.0
rootdir: F:\PMS
collected 1 item

ProjectManagementSystemApp\gui_test.py
DevTools listening on ws://127.0.0.1:64025/devtools/browser/95506cee-3d72-4a1e-927e-4e17d3a125cb
[24160:8164:0427/044111.322:ERROR:cert_issuer_source_aia.cc(34)] Error parsing cert retrieved from AIA (as DER):
ERROR: Couldn't read tbsCertificate as SEQUENCE
ERROR: Failed parsing Certificate

.                                                                    [100%]

===== PASSES =====
===== short test summary info =====
PASSED ProjectManagementSystemApp/gui_test.py::test_create_project
===== 1 passed in 9.61s =====
```

Landing page testing

