Playwright

Live de Python #222

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Checando ações

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Ajude o projeto <3

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Obrigado você

Playwright

Uma introdução

Playwright

Uma biblioteca para manipulação do navegador em testes.

- Criada pelo time opensource da Microsoft
- Criada em Jan de 2020
- Original do JavaScript
- Baseada na arquitetura do Puppeteer (Sem webdriver)
- Tem suporte a programação assíncrona
- Integração com Selenium Grid

```
pip install playwright
```

Instalação

playwright install

Instalação dos browsers

Exemplo inicial

```python
# exemplo_00.py
from playwright.sync_api import sync_playwright

with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page()
    page.goto("http://playwright.dev")

    print(page.title())

    browser.close()
```

https://playwright.dev/python/docs/library#usage

Objetos

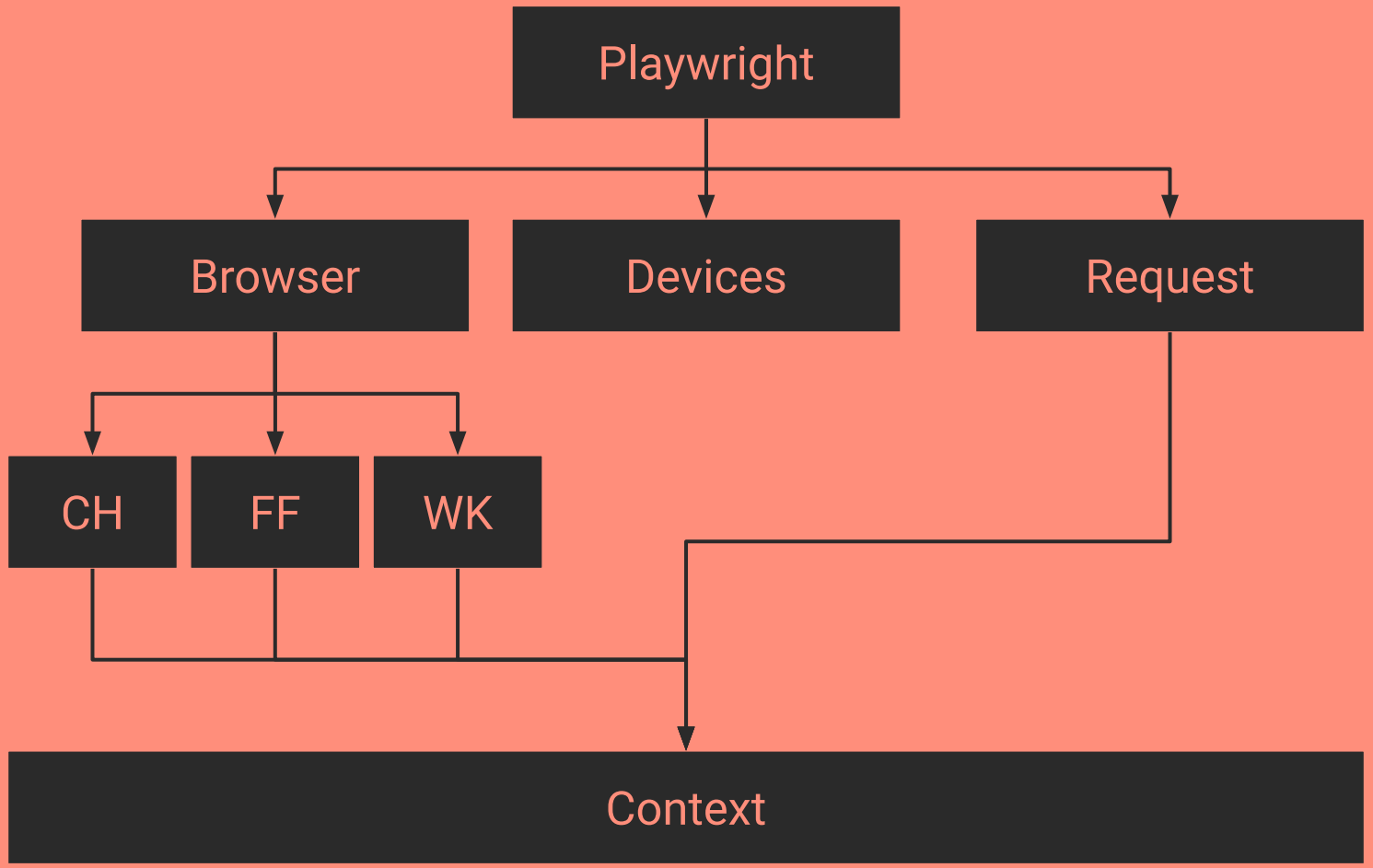
Entendendo o exemplo inicial

A composição de objetos

```python
# exemplo_00.py
from playwright.sync_api import sync_playwright

with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page()
    page.goto("http://playwright.dev")

    print(page.title())

    browser.close()
```

Playwright

O objeto Playwright



Browser x Context

```python
# exemplo_01.py
from playwright.sync_api import (
    Browser, BrowserContext, Page, Playwright, sync_playwright
)
from time import sleep

with sync_playwright() as p:
    p: Playwright

    browser: Browser = p.chromium.launch(headless=False)
    context: BrowserContext = browser.new_context(
        color_scheme='dark',
        record_video_dir='.',
        viewport={'width': 1280, 'height': 1024},
    )
    page: Page = context.new_page()
    page.goto('http://ddg.gg')

    sleep(3)

    browser.close()
```

https://playwright.dev/python/docs/api/class-browsercontext

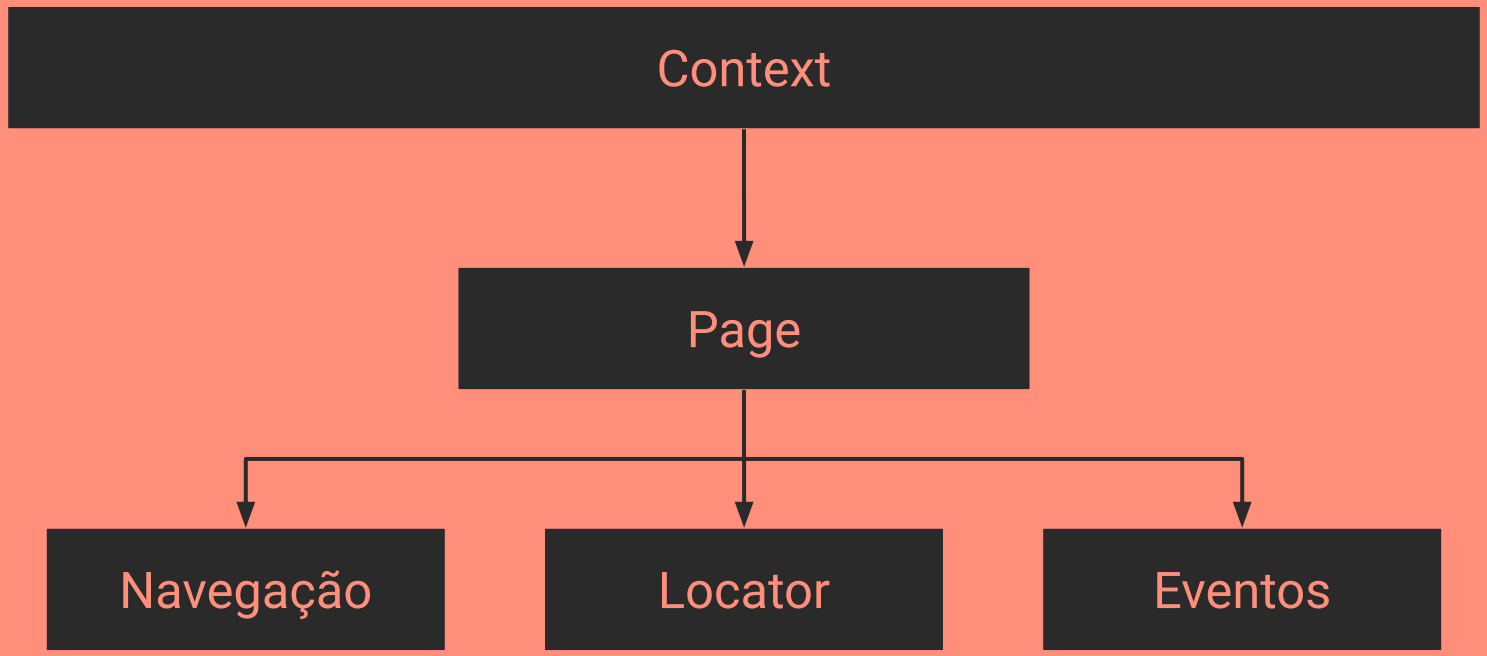
Devices

```python
# exemplo_02.py
from time import sleep
from playwright.sync_api import sync_playwright


with sync_playwright() as p:
    browser = p.chromium.launch(headless=False)

    context = browser.new_context(
        **p.devices['iPhone 6']
    )

    page = context.new_page()
    page.goto('http://ddg.gg')
    # ...
```

Request

```python
# exemplo_03.py
from playwright.sync_api import sync_playwright

with sync_playwright() as p:
    request = p.request.new_context()

    response = request.get('http://ddg.gg')

    print(response.status)
    print(response.status_text)
    print(response.text())
    print(response.json())
```

O restante do diagrama



Navegação

```python
# exemplo_04.py
from playwright.sync_api import sync_playwright
from time import sleep

with sync_playwright() as p:
    browser = p.chromium.launch(headless=False)
    page = browser.new_page()

    page.goto('http://ddg.gg')
    sleep(1)
    page.goto('http://google.com')
    sleep(1)
    page.go_back()
    sleep(1)
    page.go_forward()
```

Eventos

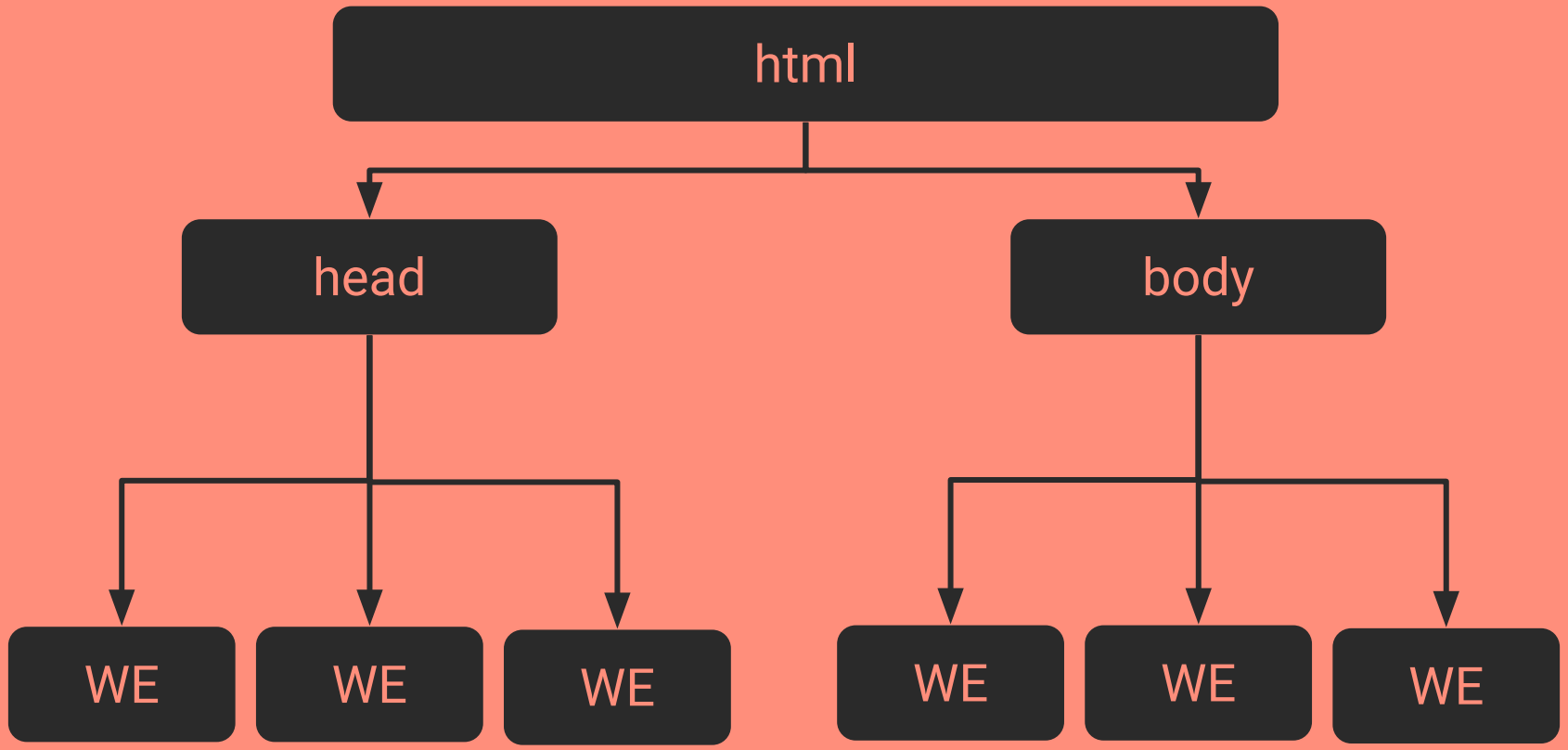
```python
# exemplo_05.py
from playwright.sync_api import sync_playwright
from time import sleep


def event_handler(request):
    print(request.url)


with sync_playwright() as p:
    browser = p.chromium.launch(headless=False)
    page = browser.new_page()

    page.on('request', event_handler)
    # ...
```

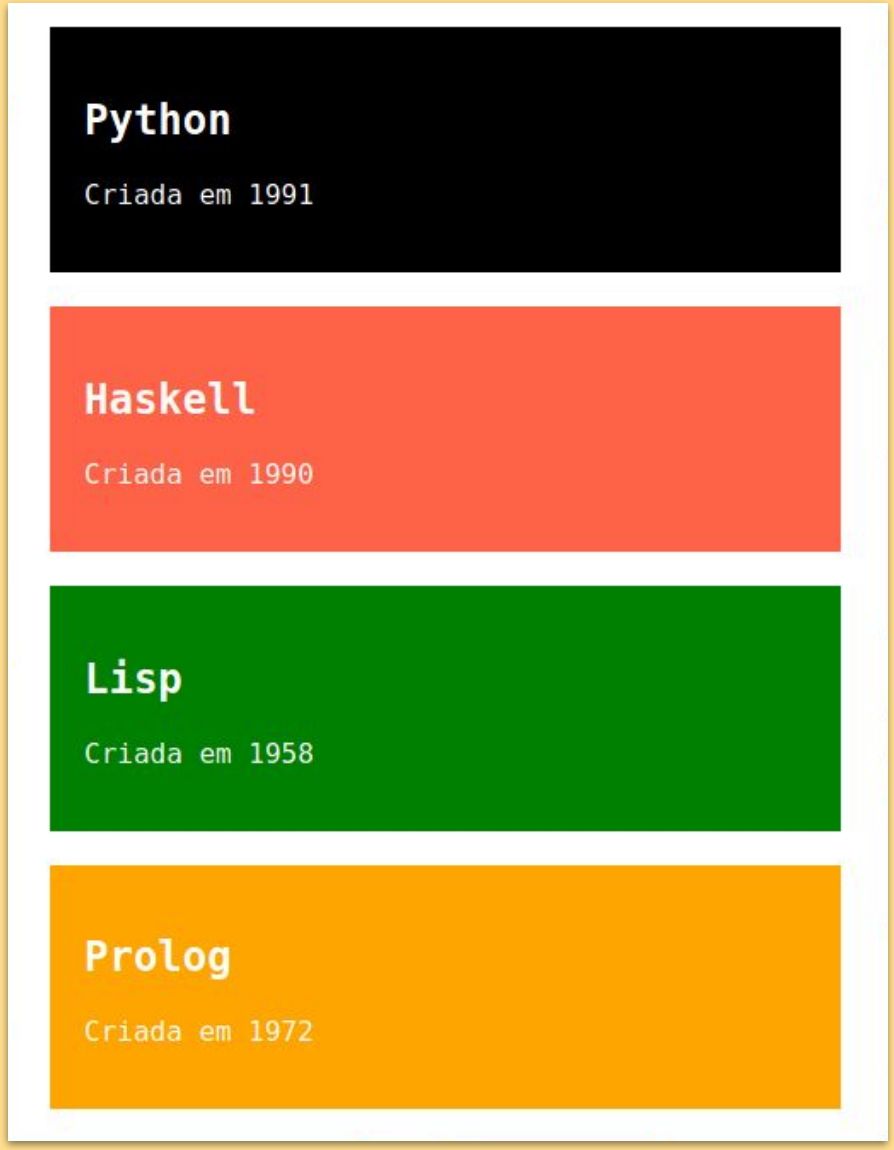
Locators

Interação com elementos

Locators

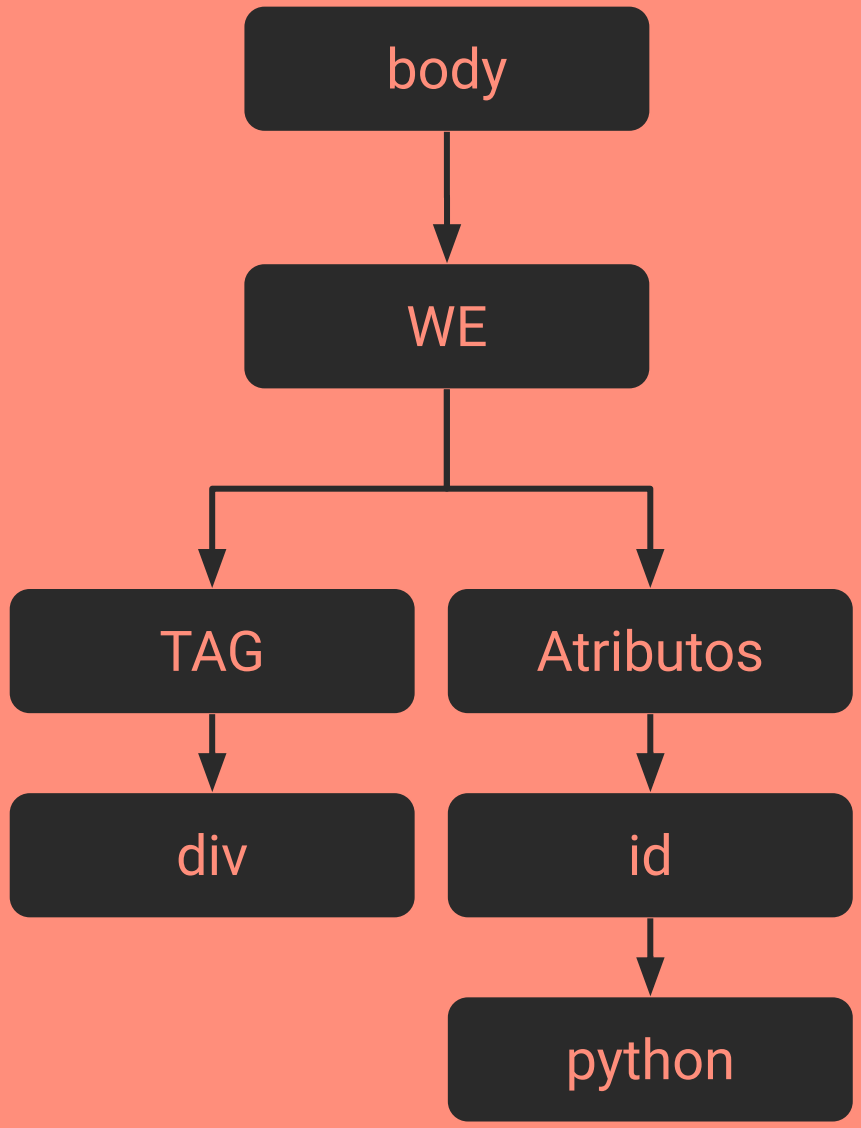
São formas de localizar elementos no DOM e interagir com eles.





https://selenium.dunossauro.live/aula_05_a.html

```html
<body>
  <div id="python">
    <h2>Python</h2>
    <p>Criada em 1991</p>
  </div>

  <div id="haskell">
    <h2>Haskell</h2>
    <p>Criada em 1990</p>
  </div>

  <div id="lisp">
    <h2>Lisp</h2>
    <p>Criada em 1958</p>
  </div>

  <div id="prolog">
    <h2>Prolog</h2>
    <p>Criada em 1972</p>
  </div>
</body>
```



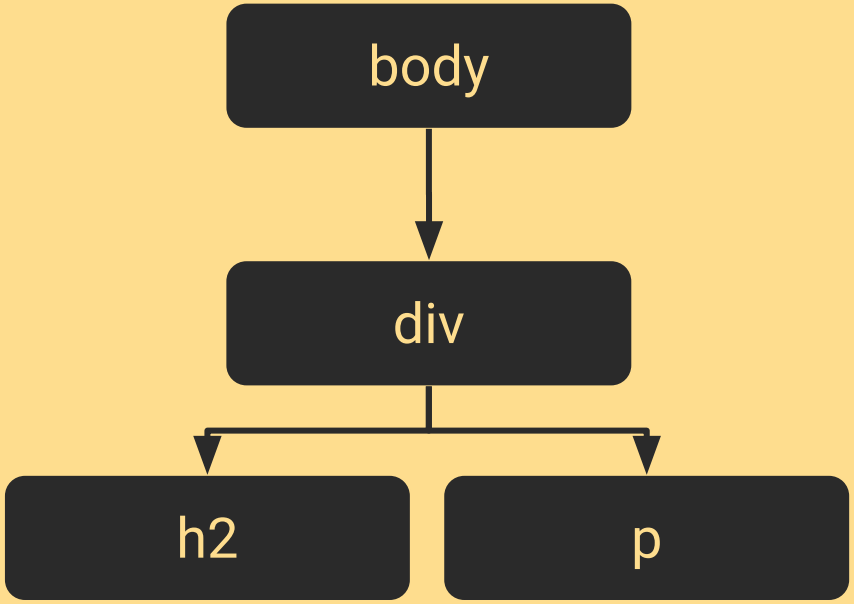

```
<body>
  <div id="python">
    <h2>Python</h2>
    <p>Criada em 1991</p>
  </div>

  <div id="haskell">
    <h2>Haskell</h2>
    <p>Criada em 1990</p>
  </div>

  <div id="lisp">
    <h2>Lisp</h2>
    <p>Criada em 1958</p>
  </div>

  <div id="prolog">
    <h2>Prolog</h2>
    <p>Criada em 1972</p>
  </div>
</body>
```

Acesso pelo atributo

```python
# exemplo_06.py
from playwright.sync_api import sync_playwright

with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page(base_url='https://selenium.dunossauro.live/')
    page.goto('aula_05_a.html')

    locator = page.locator('id=python')  # sugar
    print(locator.text_content())

    locator2 = page.locator('#python')  # CSS
    print(locator2.text_content())

    locator3 = page.locator('//*[@id="python"]')  # XPATH
    print(locator3.text_content())

    browser.close()
```

Acesso pela tag

```python
# exemplo_07.py
from playwright.sync_api import sync_playwright


with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page(base_url='https://selenium.dunossauro.live/')
    page.goto('aula_05_a.html')

    locator = page.locator('div')
    result = locator.nth(0).text_content()

    print(result)
    browser.close()
```



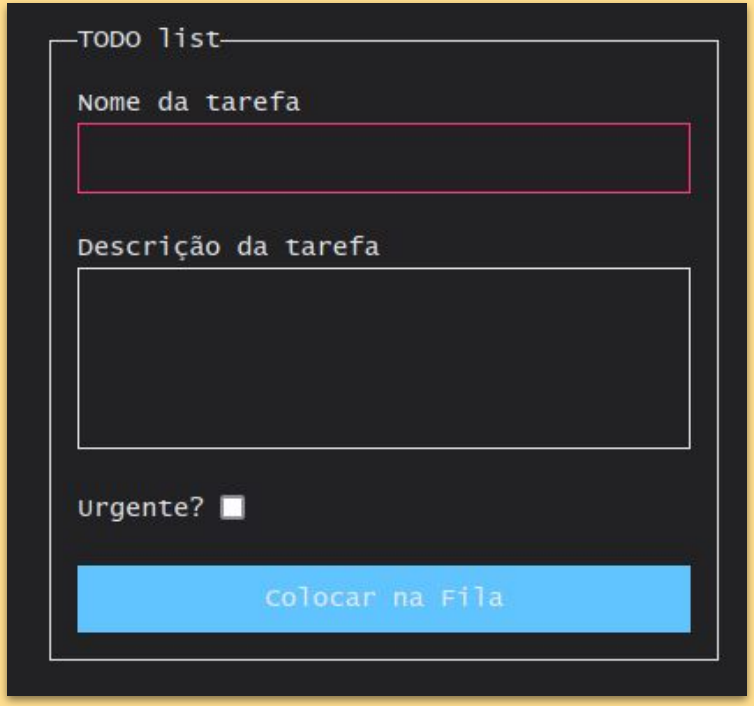

```python
# exemplo_08.py
l_h2 = page.locator('div#python > h2')
l_p = page.locator('div#python > p')
```

```html
<body>
  <div id="python">
    <h2>Python</h2>
    <p>Criada em 1991</p>
  </div>

  <div id="haskell">
    <h2>Haskell</h2>
    <p>Criada em 1990</p>
  </div>

  <div id="lisp">
    <h2>Lisp</h2>
    <p>Criada em 1958</p>
  </div>

  <div id="prolog">
    <h2>Prolog</h2>
    <p>Criada em 1972</p>
  </div>
</body>
```

Interação com os elementos

O locator tem dois métodos principais para interações:

- fill(): Envia texto para elemento
- click(): Clica no elemento



https://selenium.dunossauro.live/todo_list.html

```html
<legend>TODO list</legend>

<div class="form-group">
  <label for="terefa">Nome da tarefa</label>
  <input id="todo-name" type="text"
         name="Tarefa" required="">
</div>

<div class="form-group">
  <label for="tarea">Descrição da tarefa</label>
  <textarea id="todo-desc" name="tarea"
            rows="5" cols="30">
  </textarea>
</div>

<div class="form-group">
  <label for="check">Urgente?</label>
  <input id="todo-next" type="checkbox" name="check">
</div>

<button id="todo-submit"
        type="button"
  class="btn btn-primary btn-block">
  Colocar na Fila
</button>
```

```python
# exemplo_09.py
from playwright.sync_api import sync_playwright

url = 'https://selenium.dunossauro.live/todo_list.html'

with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page()
    page.goto(url)

    page.locator('#todo-name').fill('Fazer Live 222')
    page.locator('#todo-desc').fill('Live sobre playwright')
    page.locator('#todo-next').click()
    page.locator('#todo-submit').click()

    page.screenshot(path='result.png', full_page=True)

    page.close()
```

Fazendo a checagem!

Expects

Expects

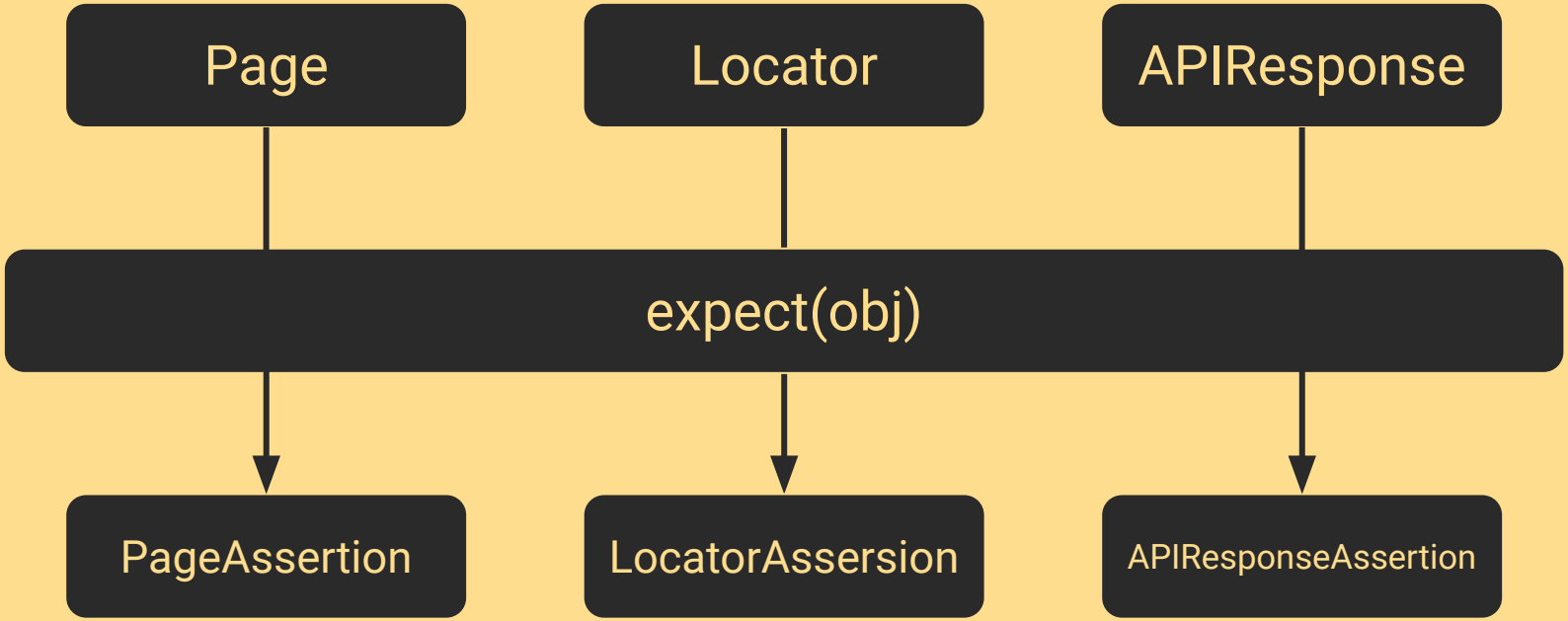
São forma de fazer validação de condições esperadas para ações.

Por exemplo, "Quando clicar no botão X, Então Y deve aparecer na tela"

E vamos checar se Y está mesmo na tela

Despacho

O expects do playwright funciona como uma forma de despacho. Ele vai oferecer métodos diferentes em relação ao objeto passado para ele



PageAssertion

```python
# exemplo_10.py
import re
from playwright.sync_api import expect, sync_playwright

with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page()

    page.goto('https://selenium.dunossauro.live/')

    expect(page).to_have_title('Curso de selenium com Python')
    expect(page).to_have_title(re.compile(r'Curso.*Python'))

    expect(page).to_have_url(re.compile(r'.*dunossauro.live'))

    page.close()
```

APIRequestAssertion

```python
# exemplo_11.py
from playwright.sync_api import expect, sync_playwright

with sync_playwright() as p:
    req = p.request.new_context()

    response = req.get('http://ddg.gg')

    expect(response).to_be_ok()
```

LocatorAssertion

```python
# exmeplo_12.py
# ...
with sync_playwright() as p:
    browser = p.chromium.launch()
    page = browser.new_page()
    page.goto(url)

    create_task(page)

    expect_header = expect(
      page.locator('.terminal-card > header')
    )
    expect_header.to_have_text('Fazer Live 222')
    expect_header.to_have_class('name')

    browser.close()
```

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