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INSIDE KNOWLEDGE

Playwright Workshop



2 - Basics

Basic Rules in E2E Testing

- Let your test fail
- Use resilient selectors
 - data-*
 - text
 - role
- Multiple Matchers are allowed
- Stay with locator, not do direct fetching



test: useful methods

- **test.describe**
 - Suite: Defines a collection of tests
 - Can apply generic commands on test cases
- **test.only**
 - Runs only this test (relative to the suite)
- **test.skip**
 - Doesn't run this test
- **beforeEach, beforeAll**
 - setup Code
- **test.use**
 - override some configuration values



Playwright's powerhorse: `page.locator`

- Returns a promise of a DOM query
- Chainable for actions
- Argument for assertions (`expect`)
- Different selectors (not just CSS)
 - Text selectors
 - Data-testid
 - Location-based
 - XPath
 - React/Vue experimental
- Nestable
- Shadow DOM "piercing"



Text selectors

- `await page.locator("text=Welcome to Eternal").waitFor(); // partial match`
- `await page.locator("text='Welcome to Eternal']").waitFor(); // exact match`
- `await page.locator("'Welcome to Eternal']").waitFor(); // exact match`
- `await page.locator("*", { hasText: "Welcome to Eternal" }).waitFor(); // fails on strict mode`
- `await page.locator("h2", { hasText: "Welcome to Eternal" }).waitFor(); // right approach`
- `await page.locator("h2:has-text('Welcome to Eternal')").waitFor(); // 👍`
- `await page.locator(":has-text('Welcome to Eternal')").waitFor(); // 👎`



Selectors via data-testid

```
await page.locator("data-testid=greeting").waitFor();
```

```
await page.locator("[data-testid=greeting]").waitFor();
```

```
await page.locator("css=[data-testid=greeting]").waitFor();
```

```
await page.getByTestId("greeting").waitFor();
```



Engines, combinations & nested selection

```
page.locator("data-testid=holiday-card");
```

Vienna / Wien

Dive into the capital of the Habsburg empire

ON SALE



With a population of almost 2 million, Vienna is the second largest German-speaking city and breathes history in every



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Top 10 of the cosmopolitan cities of the world



This US city is mainly known for the automobile industry. It hosts the GM's headquarters.



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```
page.locator("data-testid=holiday-card >> text=Vienna");
```

Vienna / Wien

data-testid=holiday-card >> text=Vienna
empire



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```
page.locator("*data-testid=holiday-card >> text=Vienna");
```

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```
page.locator("data-testid=holiday-card", {hasText: "Vienna"});
```

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```
page.locator("data-testid=holiday-card", { has: page.locator("text=Vienna") })
```

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Going down - v1

page

```
.locator("data-testid=holiday-card", { has: page.locator("text=Vienna") })  
.locator("data-testid=btn-brochure")
```

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Going down - v2

page.locator("data-testid=btn-brochure >> nth=0")

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Going down - v3

page

```
.locator(`data-testid=holiday-card`, {  
  has: this.page.locator("mat-card-title", { hasText: "Vienna" })  
})  
.locator("data-testid=btn-brochure")
```

Vienna / Wien

Dive into the capital of the Habsburg empire



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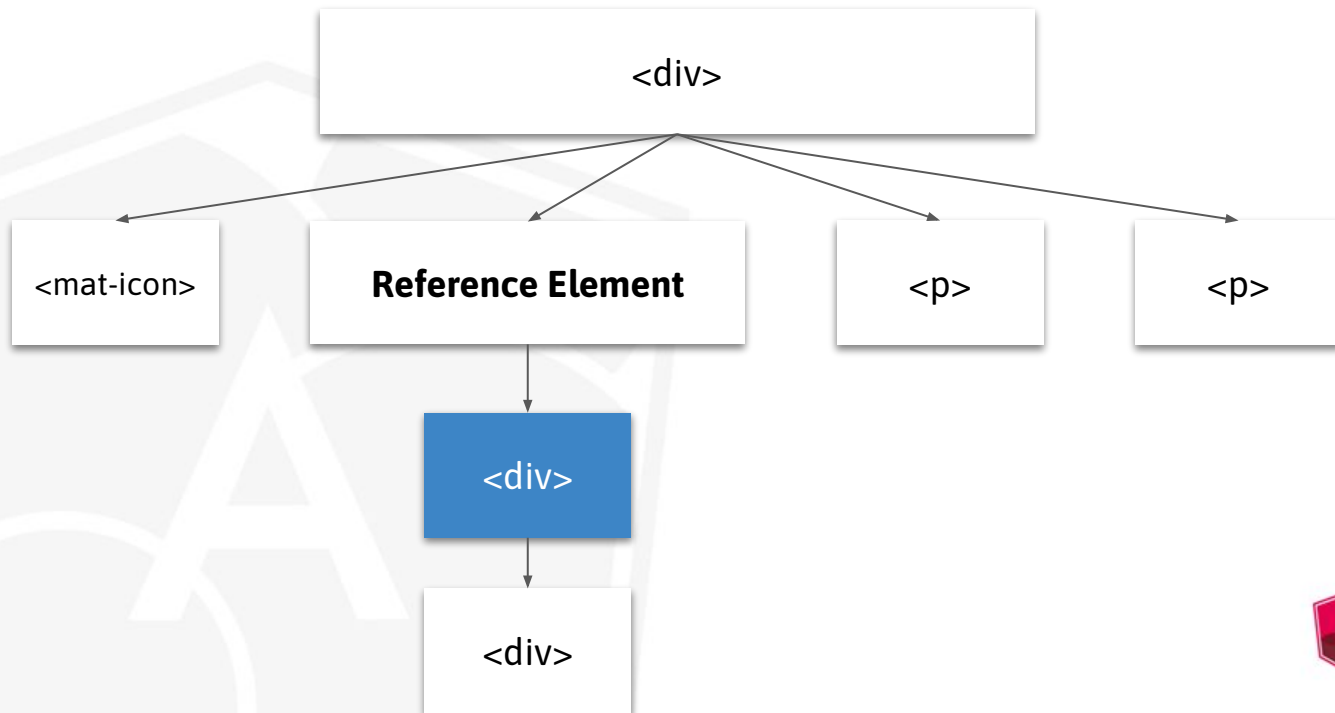
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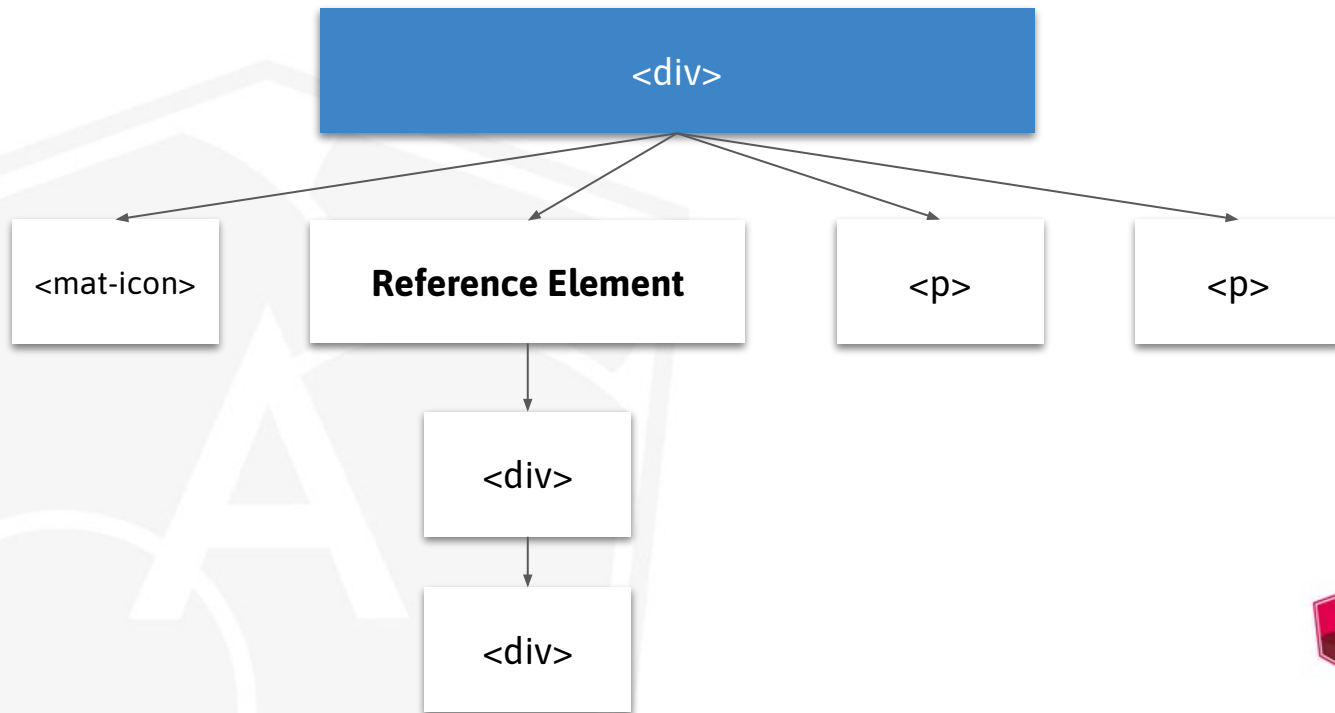
Relative Navigation: Direct Child

`data-testid=reference >> >div`



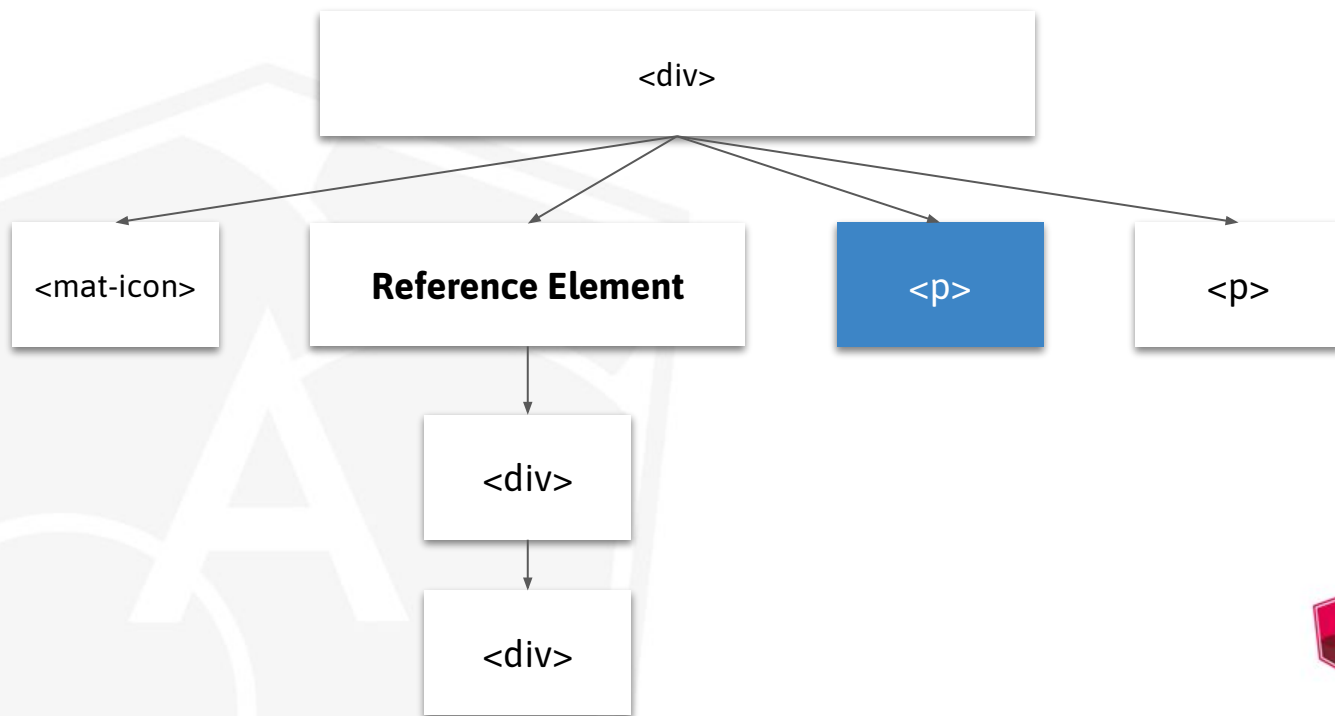
Relative Navigation: Parent

`data-testid=reference >> ..`



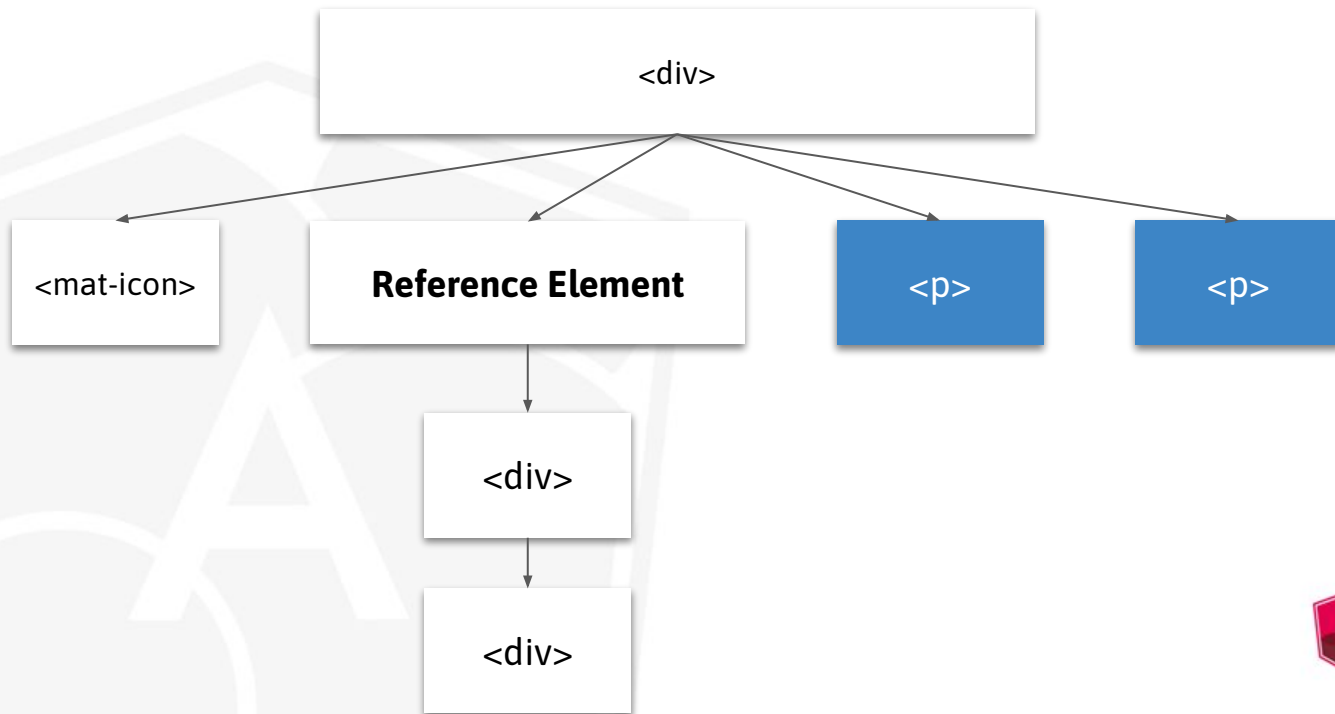
Relative Navigation: Adjacent (Right) Sibling

`[data-testid=reference] + p`



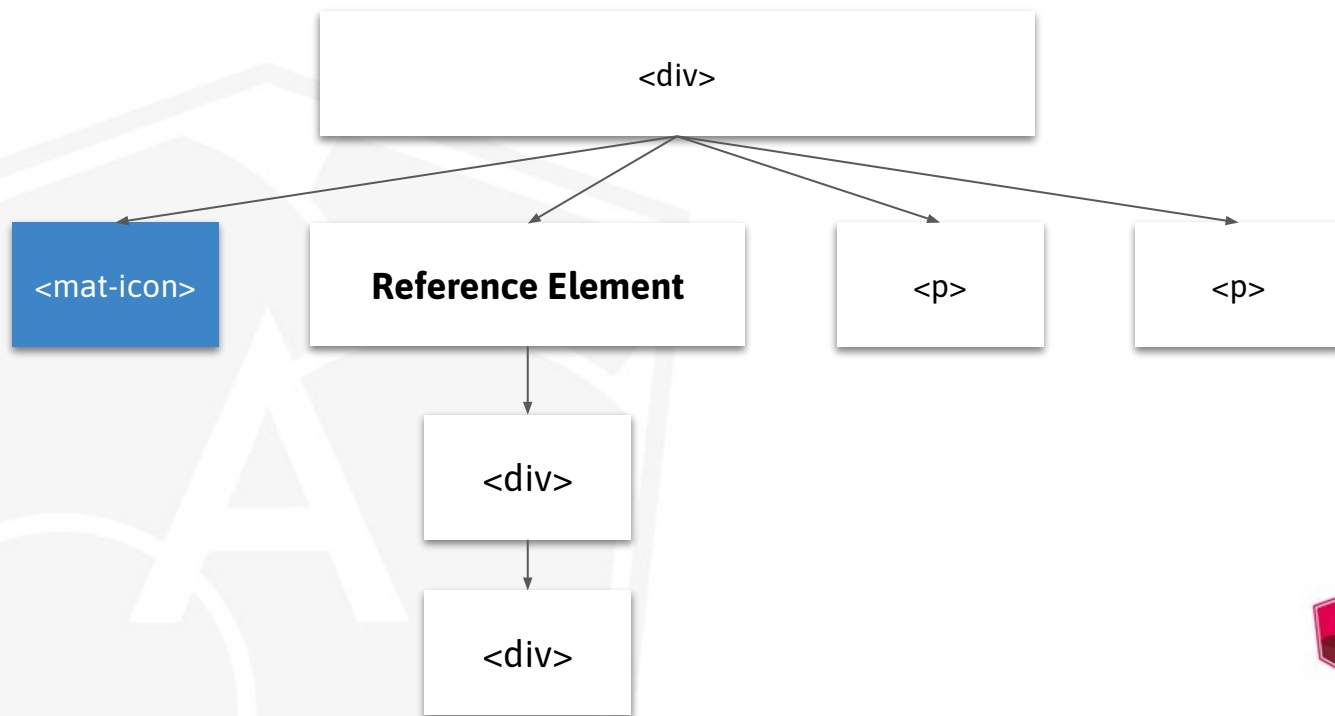
Relative Navigation: Sibling

`[data-testid=reference] ~ p`



Relative Navigation: Preceding Sibling

`data-testid=reference >> .. > mat-icon`



Selector Strategies

DOM-Based

- id Attribute
 - Must be unique
 - Browser-internal meaning
 - Consensus not to use it
- CSS Classes
 - Should be used Layout
 - Don't deal with functionality
- Text
 - cy.contains
 - Better to go with User-Facing Selectors
- data-testid
 - Best Practices
 - Recommended by Cypress

User-Facing

- Use text and/or roles
- Includes partially a11y
- "Testing Library Style"
 - No dependencies in Playwright
- Careful when text changes often
 - Fallback to data-testid



User-Facing Selectors

1. `page.getByRole`
2. `page.getByLabel`
3. `page.getByPlaceholder`
4. `page.getByText`
5. `page.getByAltText`
6. `page.getByTitle`
7. `page.getByTestId`




A11y Tooling

Unforgettable Holidays

mat-card.mat-mdc-card.mdc-card.my-4.mx-4.ng-star-inserted 305 x 416

Welcome Rainer Hahnekamp [Sign Out](#)

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Reykjavik
The northernmost capital of the world and entry to Iceland




Iceland is a small island between Europe and America. It is best known for its nature and landscape which

Copenhagen / København
Europe's most livable city



Copenhagen is the capital of Denmark and is located on Seeland which is one of the three main Danish islands.

Shanghai / 上海市
East meets West



Although not being the capital of China, Shanghai is a good choice to for a China voyage. It can be reached

Elements

Console

Sources

14

RootWebArea "Eternal" focusable: true

- link "Eternal Unforgettable Holidays" focusable: true
 - heading "Eternal Unforgettable Holidays"
- paragraph ""
- button "Sign Out" focusable: true
- list ""
- generic "Vienna / Wien"
- generic "London"
- generic "Detroit"
- generic "Reykjavík"
- generic "Copenhagen / København"
- generic "Shanghai / 上海市"
- generic "Florence/ Firenze"
- generic "Granada"
- generic "Lübeck"

group "grammarty-integration" focusable: true

- StaticText "{"mode":"full","isActive":true,"isUserDisabled":false}"

Styles

Computed

Layout

Event Listeners

DOM Breakpoints

Filter

:hov .cls +

No matching selector or style

Examples

- `page.getByRole('link', { name: 'Holidays', exact: true })`
`.click();`
- `page.getByRole('button', { name: /Save/ })`
`.click();`
- `page.getByLabel(/Firenze/i);`
- `page.getByLabel(/Latitia/)`
`.getByRole('link', { name: 'Edit Customer', exact: true });`



Layout-specific tests

```
test("layout selectors", async ({ page }) => {  
  await expect(  
    page.locator("p:right-of(:has-text('Logout'))")  
  ).not.toBeVisible();  
  await expect(  
    page.locator("p:left-of(:has-text('Logout'))")  
  ).not.toBeVisible();  
  
  await expect(page.locator("p:below(:has-text('Logout'))")).toContainText(  
    "Welcome"  
  );  
});
```



Actions

- click
- fill
- waitFor
 - can be used instead of matcher
- first
 - Required for strict mode
- locator
 - Nested selections



Actionability built-in

- Based on action, Playwright runs checks before the action
- Checks
 - Attached
 - Visible
 - Stable
 - Receive Events (no overlay)
 - Enabled
 - Editable



Assertions

```
await expect([Locator]).[matcher]
```



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Assertions 1/2

- Assertions are build-in (Part of Playwright)
- Apply matchers to element
 - Always use locator
 - Don't forget about the await
- Verify that element(s) can be found
 - use `waitFor()` instead expect



Assertions 2/2 - Common Matchers

- `toBeVisible`
- `toHaveCount`
- `toHaveText`
- `toContainText`
- `toBeVisible`
- `not.[otherMatcher]`

