TOPIC

Testing di una applicazione Blazor

Introduzione a bUnit

Thanks to our partners

#CodeGen2023

@cloudgen_verona

Quale è il nostro contesto?

Dobbiamo implementare (o abbiamo già implementato) una applicazione in Blazor e dobbiamo avere una suite di test automatici il più completa possibile

Who you gonna call?

bUnit, chi era costui?

bUnit is a testing library for Blazor Components. Its goal is to make it easy to write comprehensive, stable unit tests. With bUnit, you can:

- Setup and define components under tests using C# or Razor syntax
- Verify outcomes using semantic HTML comparer
- Interact with and inspect components as well as trigger event handlers
- Pass parameters, cascading values and inject services into components under test
- Mock IJSRuntime, Blazor authentication and authorization, and others

https://bunit.dev

Prima di partire…

```
dotnet new xunit -n <NomeProgettoDiTest>
```

```
dotnet add package bunit
```

```
<Project Sdk="Microsoft.NET.Sdk.Razor">

  <PropertyGroup>
    <TargetFramework>net7.0</TargetFramework>
  </PropertyGroup>


  ....
</Project>
```

Test in C#

```
[Fact]
public void MyComponent_Should_Render_Correctly()
{
    using var ctx = new TestContext();

    var component = ctx.RenderComponent<MyComponent>(parameters =>
    {
        parameters.Add(c => c.Name, "MyComponent");
    });

    component.MarkupMatches("<div><h1>Hello MyComponent</h1></div>");
}
```

Test in razor

```
@inherits TestContext;

@code {
    [Fact]
    public void MyComponent_Should_Render_Correctly()
    {
        using var ctx = new TestContext();

        var component = ctx.Render(@<MyComponent Name="MyComponent" />);
        component.MarkupMatches(@<div><h1>Hello MyComponent</h1></div>);
    }
}
```

Facciamo parlare il codice…

https://github.com/albx/codegen23-testing-blazor

bUnit…what else?!

Testare il trigger dei custom events:
https://bunit.dev/docs/interaction/trigger-event-handlers.html#triggering-custom-events

Mocking della classe HttpClient:
https://bunit.dev/docs/test-doubles/mocking-httpclient.html

Mocking della classe PersistentComponentState:
https://bunit.dev/docs/test-doubles/faking-persistentcomponentstate.html

Mocking dell'interfaccia IWebAssemblyHostEnvironment
https://bunit.dev/docs/test-doubles/fake-webassemblyhostenvironment.html

Testing del componente InputFile
https://bunit.dev/docs/test-doubles/input-file.html

Link utili

- https://bunit.dev/docs/getting-started/index.html
- https://blazordev.it/articoli/testing-dei-componenti-blazor-con-bunit/
- https://www.ugidotnet.org/articoli/2639/Testare-componenti-Blazor-utilizzando-bUnit
- How to create maintainable and testable Blazor components - Egil Hansen - NDC Oslo 2022 - YouTube

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Alberto Mori, chi?!

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Thank you

Any questions?

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