

Testing Advanced Requirements in ASP.NET Core UI Apps



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Overview



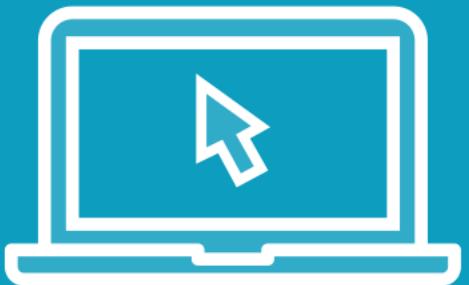
Testing authentication and authorization

Testing pages which render content from a database using Entity Framework

Testing form POST requests which require antiforgery tokens



Demo



Testing authentication requirements

- Configure redirect behaviour for the test client
- Verify restricted content cannot be accessed by an unauthenticated user



Demo



Testing authorization requirements

- Test that only users with the admin role may access admin content



Course author



Roland Guijt

Roland is a Microsoft MVP enjoying a constant curiosity around new techniques in software development. His focus is on all things .Net and browser technologies. As a long-time trainer, he led many...

Course info

Level **Intermediate**

Rating (67)

My rating

Duration 2h 55m

Released 21 Feb 2020

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Authentication and Authorization in ASP.NET Core

by Roland Guijt

Gain a thorough understanding of the modern authentication and authorization aspects of an application architecture and obtain the ability to implement these aspects in an ASP.NET Core application.

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This course is part of: **ASP.NET Core Path**

Course Overview



1m 36s



Understanding Authentication and Authorization in ASP.NET Core



38m 13s



Implementing Authentication with ASP.NET Core Identity



56m 16s



Applying an OpenIdConnect Identity Provider



58m 28s



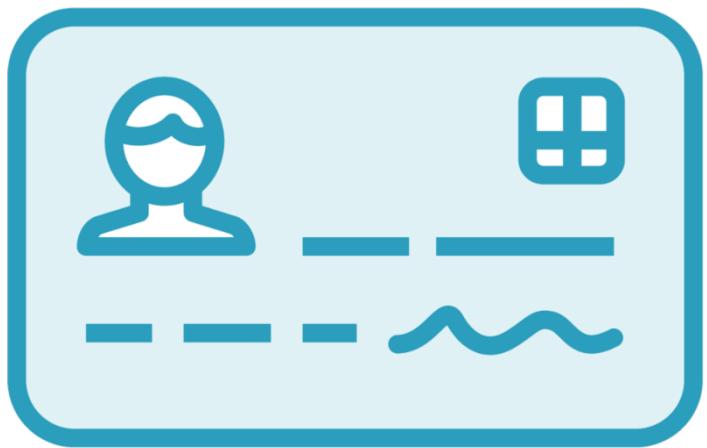
Applying Authorization



20m 35s



Authentication and Authorization



Authentication



Authorization





Requirement

Only users who belong to the admin role may access the admin home page.



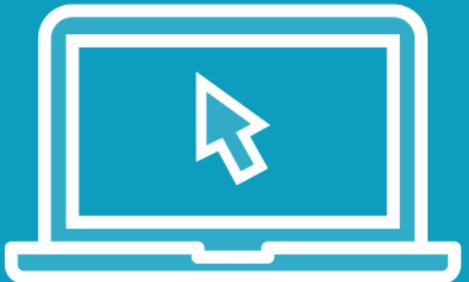


Authentication Schemes

The authentication service uses registered authentication handlers to complete authentication-related actions.



Demo



Testing pages which load data using Entity Framework

- Configure the in-memory provider for Entity Framework
- Seed initial test data



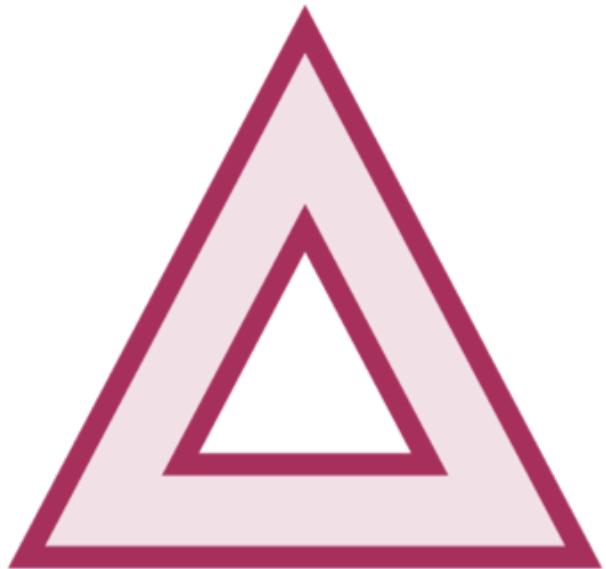


In-Memory Provider

This database provider allows Entity Framework Core to be used with an in-memory database.



Entity Framework In-Memory Provider



Does not replace a relational database

- Does not enforce constraints
- Does not enforce referential integrity
- Does not support transactions
- Does not support raw SQL queries



SQLite Provider





Docker

Consider using Docker to run database dependencies, for more complete integration testing.





**Test that expected data is returned by
LINQ queries**

**Testing the integration between our code
and Entity Framework**



Demo

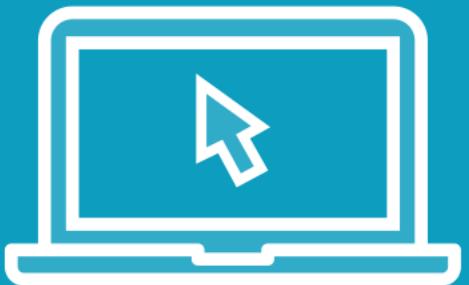


Testing pages which load data using Entity Framework

- Test that member bookings are loaded and displayed correctly



Demo

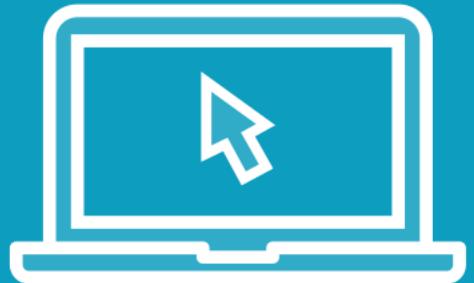


Refactoring test code for reusability

- Reduce test code maintenance burden



Demo

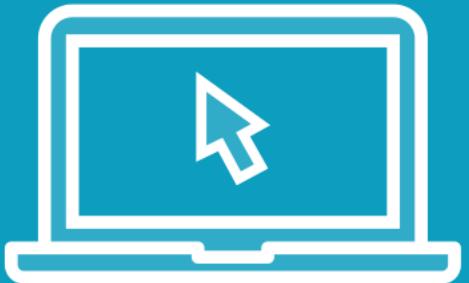


Avoiding brittle tests

- Reduce coupling to HTML content



Demo



Handling antiforgery tokens

- Discuss Cross-Site Request Forgery
- Test a form POST request



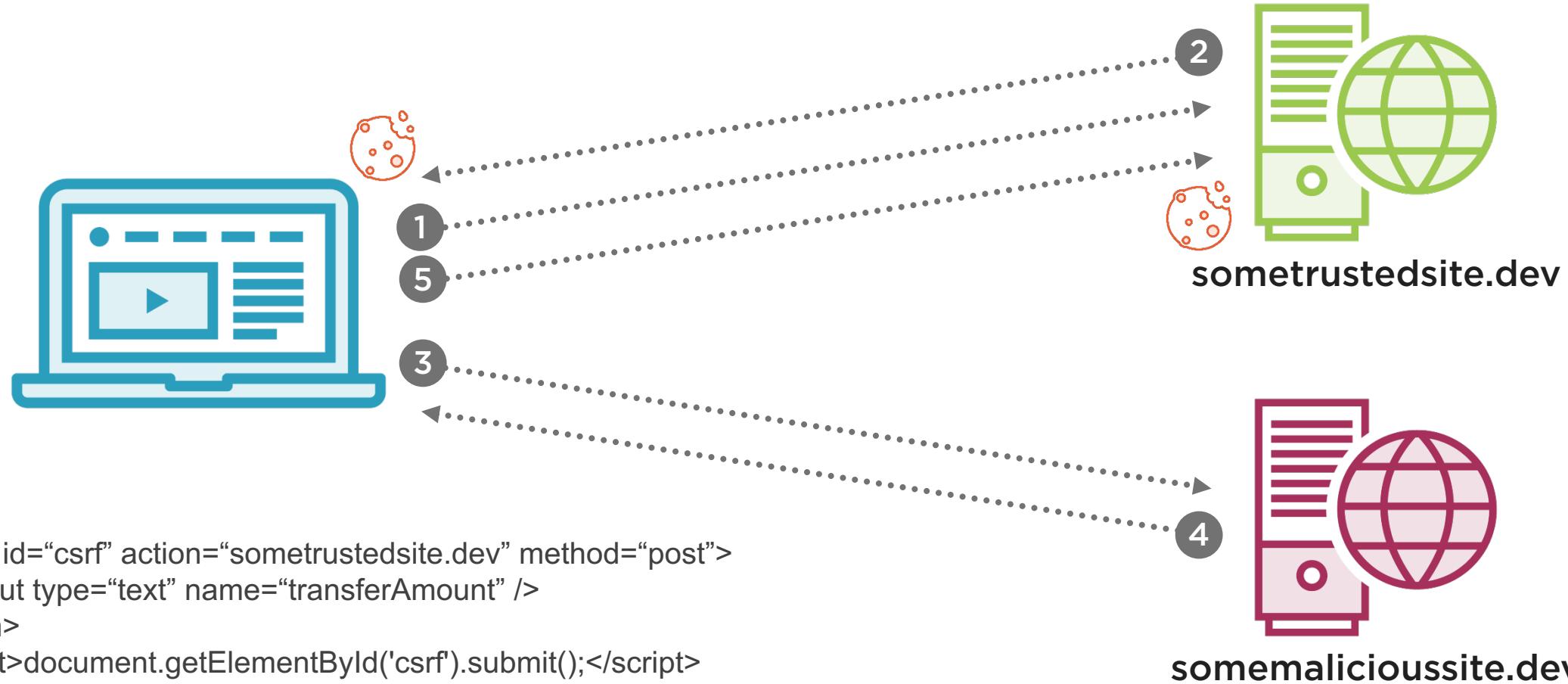


Antiforgery Tokens

To help prevent CSRF attacks, ASP.NET Core uses antiforgery tokens. These are included in forms and as a cookie.



Cross-Site Request Forgery (CSRF)



AUTHOR TOOLS

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Analytics

Author's nest

Author kit

Cross Site Request Forgery (CSRF) Prevention for ASP.NET Core and ASP.NET Applications

by Roland Guijt

Cross Site Request Forgery (CSRF) is high on the OWASP top 10 list of the most used attacks. Learn how to protect your ASP.NET and ASP.NET Core applications against it.

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Course Overview



1m 23s



Understanding and Mitigating CSRF



21m 30s



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Level [Intermediate](#)

Rating (25)

My rating

Duration 0h 22m

Released 10 Apr 2020

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ASP.NET Core Antiforgery Tokens

```
<form method="post">  
    <label for="Email">Email</label>  
  
    <input id="Email" name="Email" value="" />  
  
    <button type="submit">Submit</button>  
  
    <input name="__RequestVerificationToken" type="hidden"  
        value="CfDJ8N6OT9ra-  
        NHq29e6X0Yz335iqOnpEibjt2K73HwTBa7HWWSSsX_7SDw1XKIMgl2IIBFYAQhSqA  
        n8BugoeIcOop9SgCWovNupwqOSTo8JB2iUGsmk5W8GCru_VlmeCodjyznu9Bkq6  
        QJYTdJXtehX-KA" />  
  
</form>
```



Summary



Tested authentication and authorization

Tested use of Entity Framework

Dealt with antiforgery tokens when posting forms





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