# Setting Up Tests and Controlling Test Execution

**Kevin Dockx**
Architect

@KevinDockx https://www.kevindockx.com

# Coming Up

**Setting up tests and sharing test context**

- Constructor and dispose
- Class fixture
- Collection fixture

**Integrating test context with ASP.NET Core's dependency injection system**

# Coming Up

**Categorizing tests**

**Skipping tests**

**Customizing test output**

# Setting Up Tests and Sharing Test Context

**Constructor and dispose approach**

# Constructor and Dispose

**Set up test context in the constructor, potentially clean up in Dispose method**

- Context is recreated for each test

# Setting Up Tests and Sharing Test Context

**Constructor and dispose approach**

**Class fixture approach**

# Class Fixture

**Create a single test context shared among all tests in the class**

- Context is cleaned up after all tests in the class have finished

**Use when context creation and clean-up is expensive**

# Class Fixture

**Don’t let a test depend on changes made to the context by other tests**

- Test must remain isolated
- You don’t have control over the order in which tests are run

# Setting Up Tests and Sharing Test Context

**Constructor and dispose approach**

**Class fixture approach**

**Collection fixture approach**

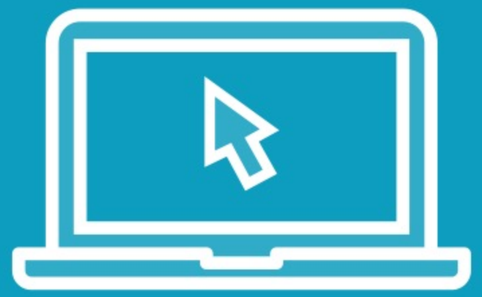
# Collection Fixture

**Create a single test context shared among tests in several test classes**

- Context is cleaned up after all tests across classes have finished

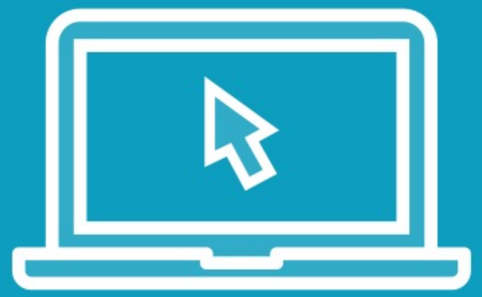
**Use when context creation and clean-up is expensive**

# Demo



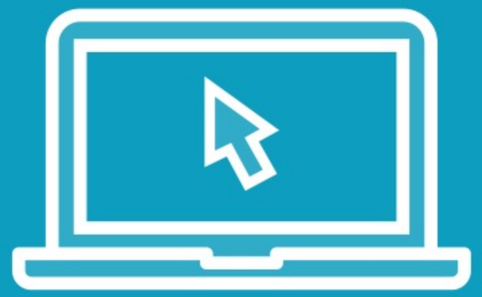
**Sharing context with the constructor and dispose approach**

# Demo



**Sharing context with the class fixture approach**

# Demo



## Sharing context with the collection fixture approach

# Integrating Test Context With ASP.NET Core's Dependency Injection System

**In ASP.NET Core, dependencies are often resolved via the built-in IoC container**

- Can that be integrated with a unit test?

# Integrating Test Context With ASP.NET Core's Dependency Injection System

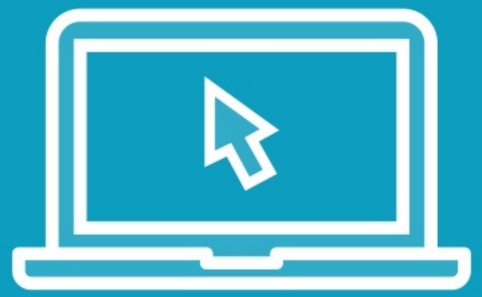
**Newing up dependencies is the preferred approach**

- Simple, fast, concise

**You might want to integrate with the DI system**

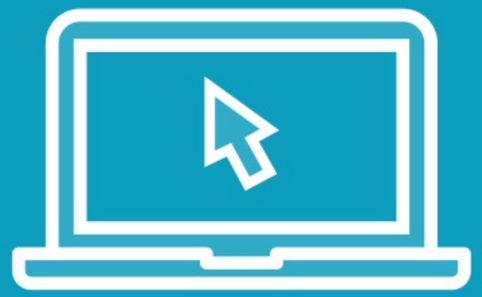
- If the class has got a lot of dependencies
- If the dependency tree is large

# Demo



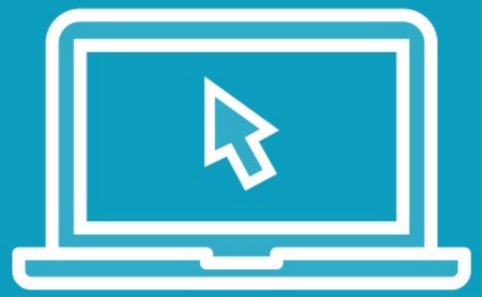
**Integrating test context with the ASP.NET Core dependency injection system**

# Demo



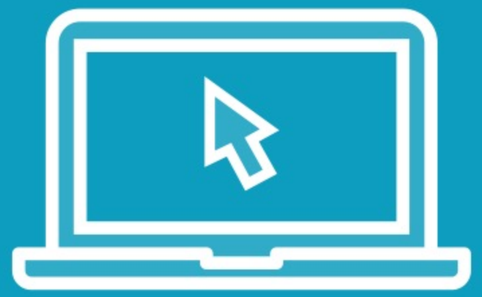
## Categorizing and running subsets of tests

# Demo



## Skipping tests

# Demo



## Adding additional test output

# Summary

**Approaches for sharing test context**

- Constructor and dispose
- Class fixture
- Collection fixture

**Integrating test context with ASP.NET Core's dependency injection system**

# Summary

- Use `[Trait]` to categorize tests
- Use the `Skip` property on `[Fact]` to skip tests
- Use `ITestOutputHelper` to log additional diagnostics info

# Up Next:
# Working with Data-driven Tests