Integrating Unit Tests in Your Development and Release Flows

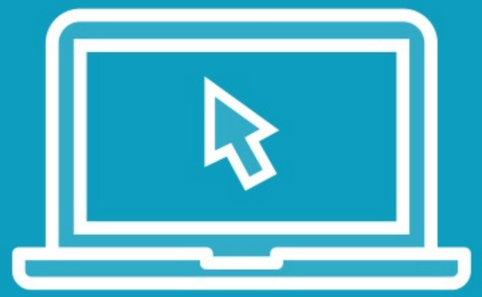
Kevin Dockx
Architect

@KevinDockx https://www.kevindockx.com

Coming Up

- Running tests with the CLI
- Comparing test runners with test frameworks
- Testing in parallel
- Testing against multiple target frameworks
- Integrating testing in your CI/CD pipeline

Demo



Running tests with the CLI

Test runner

The program (or maybe a third party plugin to a program) that is responsible for looking for one or more assemblies with tests in them and activating the test frameworks that it finds in those assemblies

Test framework

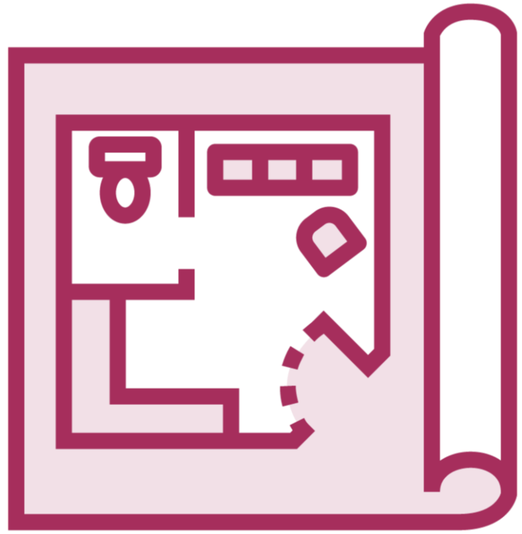
The code that has detailed knowledge of how to discover and run unit tests

Running tests in parallel allows a set of tests to finish faster, locally and on your build server

Running tests in parallel

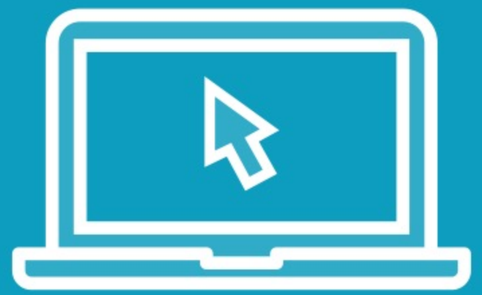
Running Tests in Parallel

Test runner
A runner can support running different test assemblies in parallel



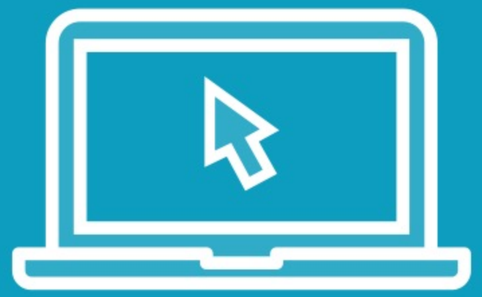
Test framework
A framework can support running tests within a single assembly in parallel

Demo



Parallelism in test frameworks

Demo



Parallelism in test runners

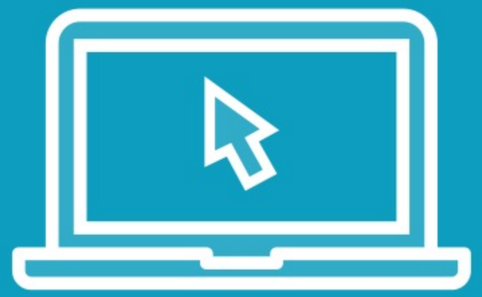
Running Tests Against Multiple Target Frameworks

xUnit supports running tests against multiple target frameworks

- Useful when developing frameworks or libraries

You want to ensure your library correctly functions across target frameworks

Demo



Running tests against multiple target frameworks

Integrating Unit Tests in Your CI/CD Pipeline

Run tests locally

Don’t commit code if they fail

Compile on build server

Report results to developers

Apply quality control

Run automated tests, analyze code and performance, ...

Deploy the artifact

Deployment can be automatic

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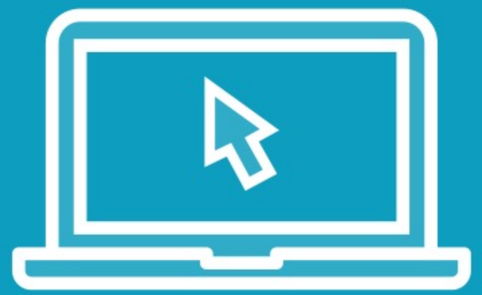

Integrating unit tests in your CI/CD pipeline

Summary

A test runner: the program responsible for looking for one or more assemblies with tests in them and activating the test frameworks that it finds in those assemblies

A test framework: the code that has detailed knowledge of how to discover and run unit tests

Summary

Run tests with the CLI via `dotnet test`

Integrate test in your CI/CD pipeline

Tests can run in parallel and target different frameworks

The End is Nigh...

Questions?
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