

C# Unit Testing

Writing Your First Unit Test



Thomas Claudius Huber

Software Developer

@thomasclaudiush | www.thomasclaudiushuber.com



C# Unit Testing

Version Check



Version Check



This course was created by using:

- C# 10
- .NET 6
- Visual Studio 2022



Version Check



This course is 100% applicable to:

- C# 10 to C# 11
- .NET 6 to .NET 7
- Visual Studio 2022



Module Outline

What is unit testing?

What you will learn in this course

Explore the starter project

Add a test project

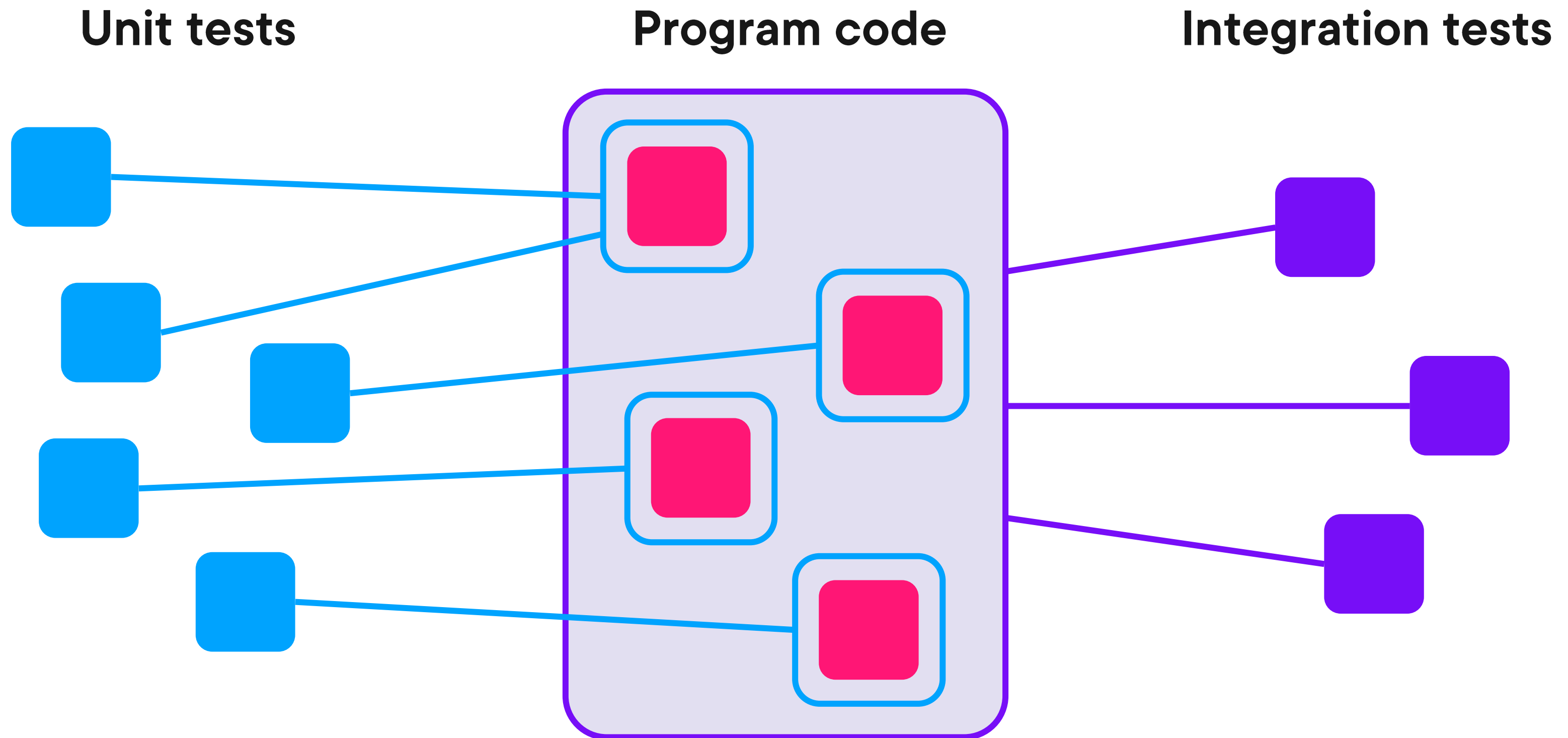
- Create a unit test
- Run and debug the unit test



What Is Unit Testing?



What Is Unit Testing?



Unit Test

A small automated test, coded by a programmer, that verifies whether or not a small piece of production code – a unit – works as expected in isolation.



**Why should you care
about unit tests?**



Michael C. Feathers – author of the book “Working effectively with legacy code”

**“Code without tests
is bad code”**



Advantages of Unit Testing

Make code changes without breaking existing functionality

Tests improve the design and quality of your code

Tests make you think harder about the problem

Good tests are a great documentation



**Unit testing is a tool
to ensure that your code
works as expected**



Different Test Phases

User acceptance testing

Development

Integration testing

Unit testing



What You Will Learn in This Course

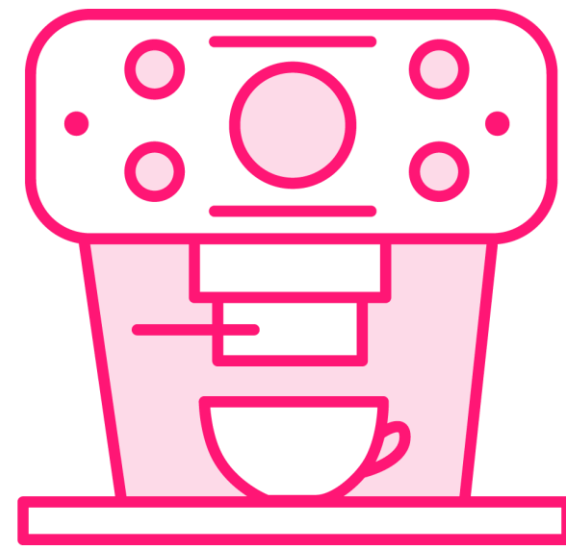
**No prior unit testing
knowledge is
required**

**Unit test your .NET
and C# projects**

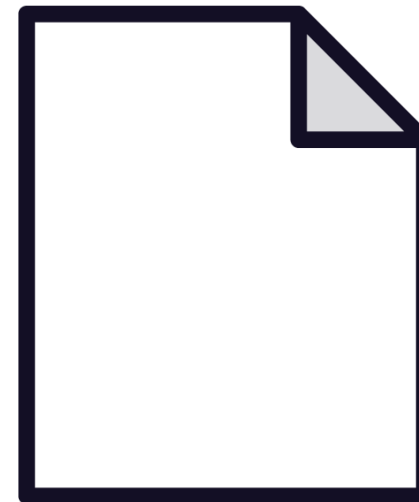
**You will work
with me for the
Wired Brain Coffee
company**



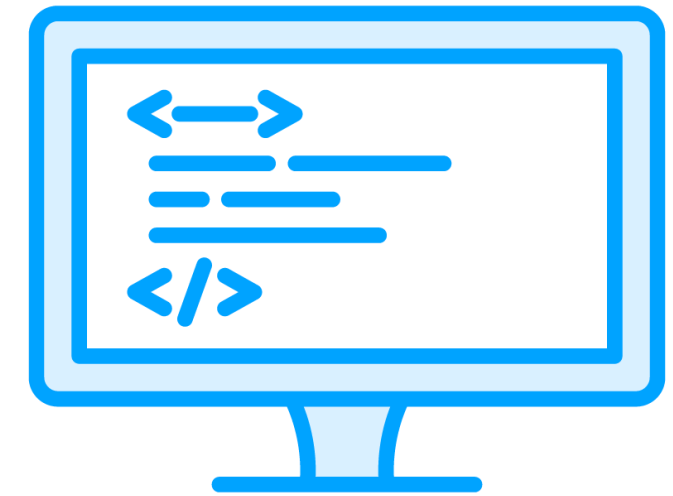
What You Will Learn in This Course



Coffee machine



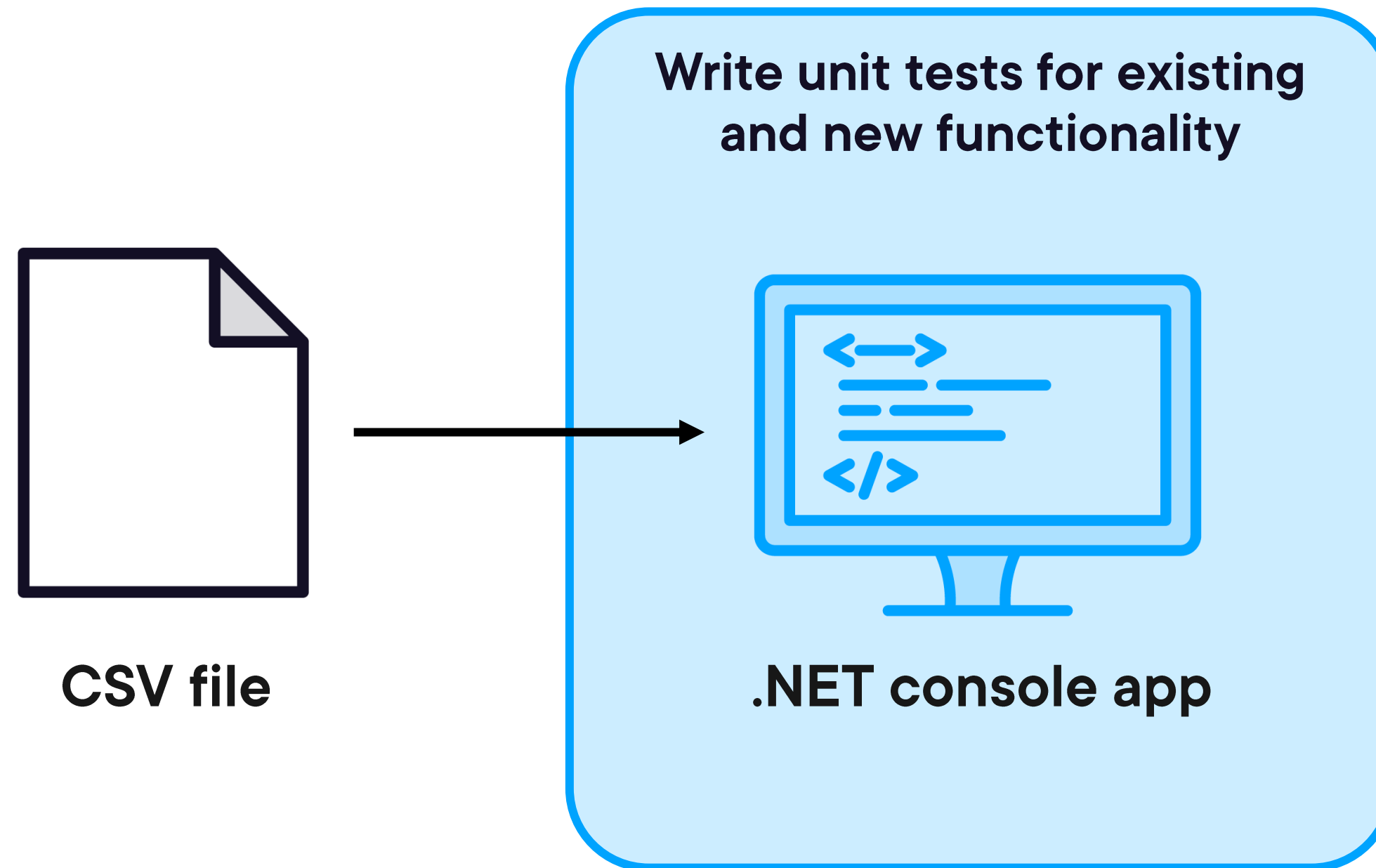
CSV file



.NET console app



What You Will Learn in This Course



Explore the starter project





Add a Test Project



Unit Testing Frameworks for .NET

MSTest

NUnit

xUnit



Add a test project



Write your first unit test



Run and debug the unit test



Summary

What is unit testing

- Ensure your code works as expected

Explore the .NET console application

Add a test project

- Write a unit test
- Run and debug the unit test



Up Next:

Implementing Different Unit Tests

