[Course Overview](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live)

[Course Overview](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live)

[Hi everyone. My name is Harrison Ferrone,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=4.97) [and I'd like to welcome you to the C#](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=6.99) [Design Patterns: Builder course. I'm a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=9.09) [software developer and instructional](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=11.71) [author at my own little corner of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=13.58) [world, Paradigm Shift Development. Most](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=15.27) [days you can find me working with C# in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=18.01) [Unity, doing a bit of freelance iOS](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=20.06) [development or editing technical content](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=22.37) [for the Ray Wenderlich website. Now design](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=25.06) [patterns have been around for more than 25](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=27.7) [years, and in that time they've helped](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=29.78) [many a software developer get his or her](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=32) [head around a difficult problem with their](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=34.31) [tried and true techniques. This course is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=36.79) [a jumping off point into the builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=39.58) [design pattern in the C# language, so you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=41.54) [don't need any prior experience with them](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=44.37) [to get rolling. Some of the major topics](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=46.27) [that we'll cover include: defining a class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=48.63) [object, adding a builder interface,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=51.61) [creating a concrete builder class,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=55.64) [implementing a director, and understanding](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=59.07) [real‑world examples and implications. By](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=62.6) [the end of this course, you'll be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=65.73) [comfortable with identifying and analyzing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=67) [practical use cases for the builder design](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=69.63) [pattern, and be ready to bring the code](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=71.72) [and skills you've learned into your own C#](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=73.93) [projects. Since this is an intermediate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=76.13) [course, you should be familiar with the C#](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=78.63) [programming language and know your way](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=81.25) [around Visual Studio, either on Mac or](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=83.02) [Windows. The beginner‑level C#](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=85.68) [Fundamentals course in our library can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=88.41) [quickly get you up to speed if you're just](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=90.51) [starting out or if you need a refresher. I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=92.36) [hope you'll join me on this journey into](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=94.73) [software design with the C# Design Patterns: Builder course, at Pluralsight.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=f0ec123a-e9bf-4ad7-8c01-312f1d6c1ca6&clip=0&mode=live&start=96.47)

[Implementing the Builder Pattern](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live)

[The Builder Pattern Explained](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live)

[All right, folks, welcome to the course.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=1.04) [Over the next few clips, we're going to be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=3.73) [discussing the theory and application of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=5.95) [the builder design pattern. This is going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=8.47) [to include setting up a base object class,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=11.96) [adding a builder interface, creating a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=15.05) [concrete builder class, implementing a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=17.27) [director, updating to a Fluent Builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=19.69) [variation, and reviewing use cases and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=22.53) [applications. Before we get into that,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=25.25) [let's take a few minutes and talk about](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=27.56) [the pattern itself. As you might already](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=29.48) [know, design patterns are classified into](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=31.44) [three different categories: creational,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=33.74) [structural, and behavioral, as outlined by](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=36.27) [the Gang of Four's famous text on elements](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=39.26) [of reusable object‑oriented software. Now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=41.77) [the builder pattern falls into the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=45.06) [creational category of design patterns](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=46.53) [because, well, it deals with creating](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=48.63) [objects. More specifically, the builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=51.13) [pattern aims to "separate the construction](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=53.8) [of a complex object from its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=56.42) [representation so that the same](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=59) [construction process can create different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=60.13) [representations." In more accessible](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=62.6) [language, the builder pattern removes any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=65.56) [and all construction or initialization](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=67.29) [code from an object class and abstracts it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=69.88) [out to an interface. Any specific](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=72.49) [representations of that base class are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=74.71) [then created as concrete classes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=77.08) [implementing that interface, effectively](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=79.2) [constructing themselves from the blueprint](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=81.34) [provided. The cool part in this process is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=83.7) [that the concrete classes don't deal with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=86.27) [instantiating themselves. That's up to the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=88.47) [director class, which controls where and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=90.74) [with what data the concrete classes are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=93.42) [actually created. I find that visuals can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=95.68) [help out a lot when learning a new design](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=98.06) [topic, so let's take a look at this UML](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=100.56) [pattern diagram. The product on the right](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=102.84) [side is the complex object we're trying to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=105.13) [construct, but in this design pattern, it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=107.61) [doesn't have any initialization logic. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=109.93) [builder is the interface that defines how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=112.56) [the pieces of the complex object are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=114.63) [created. The concrete builder instances](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=117) [construct the complex object according to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=119.82) [the builder interface blueprint. An](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=122.46) [important note, each concrete builder is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=124.55) [in charge of keeping track of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=126.85) [representation of the complex object it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=128.85) [creates, and retrieving that object when](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=131.27) [queried. Finally, the director class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=133.73) [handles the actual call to construct the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=136.35) [complex object using the concrete builder.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=138.57) [Now fair warning, the builder pattern is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=141.71) [not seen too often in production code](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=143.57) [because its proper use case scenarios are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=145.79) [not super common. We will talk about this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=148.13) [in more detail at the end of the course](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=150.56) [and throughout, but I just wanted to throw](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=152.42) [this in here at the beginning so you don't](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=154.24) [run off and start changing all of your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=156.23) [object creation logic to the builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=158.24) [pattern in all the excitement. So, in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=160.28) [summary, the builder pattern is useful](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=162.62) [when the creation of a complex object](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=165.01) [needs to be separate from its parts and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=167.58) [their assembly. This is going to allow](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=169.51) [different representations to be created](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=171.41) [and finer control over how they're put together.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=0&mode=live&start=173.64)

[Creating a Builder Interface](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live)

[With the basic theory under our belts,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=0.93) [it's time to take a look at the starter](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=2.83) [project that I've included in the exercise](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=4.77) [files. Go ahead and open up the Solution](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=7.45) [in the Visual Studio, and you'll see the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=10) [default Program.cs file along with an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=11.71) [InventoryReport class. If you open that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=14.89) [one up, you'll see a FurnitureItem class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=18.24) [with several public fields and a class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=20.53) [constructor. Below FurnitureItem, I've set](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=23.09) [up an InventoryReport class, which is the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=27.4) [complex object we'll be building with the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=29.92) [builder pattern throughout the course.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=32.1) [This class has three string fields that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=34.27) [will hold our report info, separated into](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=36.61) [sections, and a Debug method that's going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=38.98) [to help us see our output in the console.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=41.19) [There's no constructor in this class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=44.31) [because we'll be setting up these values](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=46.14) [one by one in the concrete builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=48.11) [representations. Essentially, what we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=50.48) [going to do is feed a list of items into a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=52.75) [concrete InventoryBuilder class, which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=55.35) [will be in charge of configuring and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=57.92) [returning an InventoryReport. If you take](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=59.84) [a look at the Program.cs file, you'll see](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=64.25) [that I've already created a list of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=66.71) [furniture items so we don't have to spend](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=68.45) [time writing them out later on. With that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=70.29) [done, we're ready to start creating our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=74.15) [interface. And yes, I am going to include](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=75.88) [all the builder pattern code in one file](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=78.47) [because it's easier to reference for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=81.09) [teaching purposes. You being the good](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=82.52) [programmer that you no doubt are, should,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=84.62) [of course, separate these into separate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=86.36) [files. The builder interface we want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=88.31) [create needs to blueprint out the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=91.07) [construction of each section of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=92.97) [report. So I'm going to go down underneath](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=95.22) [InventoryReport, and I'm going to declare](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=97.45) [a new public interface, and this is going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=100.73) [to be called IFurnitureInventoryBuilder.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=103.82499999999999) [Since we have three sections, we're going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=108.84) [to have three methods here. We'll start](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=110.41) [with AddTitle, AddDimensions, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=112.47) [AddLogistics. Since the whole point of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=119.45) [builder pattern is to separate out an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=123.66) [object's construction from its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=125.63) [representation, the builder interface](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=127.3) [needs to be general enough to apply to all](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=129.53) [the different kinds of concrete builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=132.13) [classes that might be created in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=133.94) [future. In this case, the builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=135.82) [interface could be applied to monthly,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=137.95) [quarterly, or even yearly concrete Report](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=139.95) [Builder classes with no issue. The last](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=142.85) [thing we'll add here is returning the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=145.8) [built item once we've finished](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=148.32) [constructing it. In the traditional design](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=150.24) [pattern, each concrete builder class would](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=152.49) [be in charge of implementing its own](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=155.02) [method to do this. But our case is general](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=156.99) [enough that we can add it into the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=159.27) [interface here, and I think it makes it a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=160.79) [little cleaner. So this is going to return](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=162.43) [us an InventoryReport object, and we'll](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=165.01) [call this GetDailyReport. If your scenario](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=168.77) [requires a less generic implementation, by](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=172.54) [all means, leave it out of your builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=175.18) [interface. Just remember to add it into](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=177.04) [every concrete class without exception.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=179.4) [Before we move on to our actual concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=182.04) [builder class, I do want to point out that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=184.63) [our interface has effectively broken up](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=186.86) [the product construction into individual](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=189.38) [steps. This should give you a hint as to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=191.79) [how much more control you have over how an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=194.04) [object is put together using this pattern](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=196.48) [and the possibilities for error handling](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=198.95) [and sequential computation at each step of the way.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=1&mode=live&start=201.27)

[Implementing Concrete Builders](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live)

[At this point, we've got the pieces we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=0.83) [need to declare our first and only](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=2.83) [concrete builder class, which in our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=5.39) [example, is going to represent a daily](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=7.64) [inventory report. This class is going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=10.13) [need to implement our builder interface](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=12.82) [that we just set up, so we'll go](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=14.85) [underneath that and declare a new class.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=16.25) [I'm going to call this DailyReportBuilder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=20.24) [and have it conform to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=24.21) [IFurnitureInventoryBuilder. This class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=25.85) [does need to keep track of the item it's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=29.8) [building, so the first thing we need is a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=32.33) [private variable to keep track of said](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=33.78) [item. So I'll say private InventoryReport,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=36.16) [and we'll call this \_report. Now, I know](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=44.01) [that Visual Studio is yelling at us right](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=46.51) [now because we haven't properly](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=48.49) [implemented the interface yet, but I do](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=50.23) [want to do something to keep our report](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=52.4) [tracking clean and safe, and that's to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=54.68) [declare a Reset method. So we'll say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=56.63) [public void Reset. And all we're going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=60.1) [do in here is make sure that our report is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=64.49) [instantiated with a new InventoryReport](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=69.33) [object. You won't see this done in every](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=72.03) [builder pattern example you might come](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=74.62) [across, but in my mind, it's essential](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=76.36) [defensive programming for this scenario.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=79.01) [Let's do one more thing before taking care](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=81.83) [of the interface, and that's declaring our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=83.85) [class constructor and calling Reset to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=85.97) [make sure that our item is a new instance](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=88.59) [every time our class is constructed. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=91.21) [we'll say public DailyReportBuilder, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=95.06) [we'll just call Reset, and save. This is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=101.16) [going to ensure that a blank product item](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=105.16) [comes with each new concrete builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=107.03) [instance. With that done, we can stub out](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=108.98) [the builder interface methods and finally](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=114.03) [get rid of these errors. We'll say public](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=116.87) [void AddTitle, public void AddDimensions,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=120.35) [public void AddLogistics, and finally,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=131.88) [public InventoryReport GetDailyReport.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=140.38) [Here, when we return the built report to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=148.81) [the client or calling code, the concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=150.87) [builder should be set up to immediately](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=153.38) [start building a new report object. This](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=155.36) [isn't a must have, but like the Reset](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=158.49) [method itself, I find it's a good way of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=160.74) [doing things. So let's create a new](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=162.65) [InventoryReport to hold the return](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=164.9) [product. I'll call this finishedReport and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=167.69) [I'll set it to our built item. I'm going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=176) [to call Reset, and then I'm just going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=180.195) [return our finished report. Now that our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=182.69) [errors are resolved and the report item](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=185.94) [can be returned once it's completed, we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=188.28) [can configure the report sections one by](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=190.65) [one. In many simple examples you'll come](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=192.9) [across, each piece of a concrete builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=196.8) [class is usually hard coded inside its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=199.32) [interface method. To try this out, let's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=202.44) [go into AddTitle and just set the string](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=204.9) [ourselves. So we'll say \_report and we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=208.7) [going to set the TitleSection string and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=212.49) [this is just going to be a little header.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=214.81) [This is just going to say Daily Inventory](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=217.34) [Report. We are going to give it two line](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=220.66) [breaks so that we can distinguish it in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=226.43) [the console. While this approach is fine](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=229.01) [for examples, in most real‑world cases](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=232.33) [you'll no doubt need data from outside the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=234.9) [concrete builder, which can be done in a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=237.61) [number of ways, the most common being](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=239.43) [passing data in through the class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=241.94) [constructor or adding method parameters to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=243.98) [your interface methods. Both of which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=246.49) [we'll demonstrate here so you know what](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=248.5) [your options are. First, let's add a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=250.2) [private field to the top of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=252.92) [DailyReportBuilder, and this is going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=254.94) [hold a list of all our furniture items](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=256.75) [that we'll pass in through our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=259.53) [constructor. So we'll say private](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=261.4) [IEnumerable. This is going to be of type](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=264.5) [FurnitureItem. We'll call this \_items, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=268.58) [in our class constructor we'll add an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=274.18) [argument. It's going to take in an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=276.32) [IEnumerable of type FurnitureItem called](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=279.24) [items. And after we Reset everything,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=283.32) [we're just going to set our private items](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=286.6) [to our constructor items. Now, we can go](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=289.79) [ahead and fill in our AddDimensions](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=294.09) [section by creating a join string, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=296.65) [that's going to print out all of our data](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=299.49) [from each furniture item on a new line. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=301.35) [we'll say report.DimensionsSection. This](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=305.03499999999997) [is going to be equal to string, we'll used](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=310.3) [the Join method, and we're going to join](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=312.77) [by a NewLine and by \_items.Select. We](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=316.55) [actually need a using directive to use](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=326.23) [that, so we'll go to the top of the file](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=328.39) [and say using System.Linq. Back down in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=330.18) [AddDimensions we'll try this again. There](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=337.07) [it is, Select. We'll just say each item is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=339.34) [product, and we're going to do this on a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=344.62) [new line so that it's a little clearer.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=347.84) [This is going to be an interpolated](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=350.01) [string. We'll just say Product is going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=351.42) [be equal to product.Name. Price, we'll do](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=356.16) [the same thing. I'm just keeping these on](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=361.42) [separate lines, just so it's a little more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=367.97) [readable. Of course, you can just put it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=369.52) [all in a single string if you like. But](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=371.1) [we'll do Height as product.Height, put in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=375.02) [Width, and finally we'll put in its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=381.64) [Weight. Now that we've used our passed in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=386.12) [data from the constructor, let's try the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=394.64) [second method of getting data into our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=396.6) [concrete builder and update AddLogistics](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=398.58) [to take in a date. We'll say this is of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=401.52) [type DateTime, we'll just call this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=405.99) [dateTime. And this one's pretty easy,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=410.05) [we'll set report.LogisticsSection to an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=412.89) [interpolated string again, and we'll say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=417.33) [Report generated on our passed in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=420.13) [dateTime. One thing I will point out here](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=424.53) [before moving on is the order that the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=427.07) [build steps are executed, which is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=429.16) [completely under your control. When an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=431.09) [object is built, you don't have to call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=433.17) [the interface methods in the order they're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=435.64) [declared in the actual interface. So keep](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=437.44) [that in mind when you have a scenario](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=439.92) [where data or computations need to be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=441.94) [executed in a specific order while building a complex object.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=2&mode=live&start=444.53)

[Adding a Director Class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live)

[Before we jump into the director class, I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=0.64) [do want to point out that I forgot to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=3.84) [update our AddLogistics method signature](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=6.34) [in the IFurnitureInventoryBuilder, so go](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=9.88) [ahead and do that now if you didn't](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=13.35) [already catch that mistake, and save. Now,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=14.61) [the director class only has one job, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=19.52) [that's to execute the object's build steps](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=22.05) [in a predetermined sequence. You'll see](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=24.8) [director classes in some builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=27.25) [implementations and not in others because](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=29.19) [you can technically call those build steps](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=31.65) [directly from any concrete builder class.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=33.82) [However, this isn't as cleanly abstracted](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=36.54) [as having a director take care of it, so](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=38.82) [we're going to declare one at the bottom](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=40.94) [of our file. We'll say public class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=42.63) [InventoryBuildDirector, and we'll save](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=46.94) [that off. Since the director needs to know](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=53.41) [about the concrete builder class it's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=56.28) [assembling, let's put in a private](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=59.25) [variable to store that builder. We'll say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=60.57) [private, it's going to be of type](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=63.45) [IFurnitureInventoryBuilder, and we'll call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=65.49) [it \_builder. Now we are going to inject](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=68.74) [and set this inside the class constructor,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=71.78) [so let's do that now. We'll say public](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=75.84) [InventoryBuildDirector, and it's going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=78) [take in our builder interface type and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=80.97) [we'll call this concreteBuilder. Now all](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=85.02) [we need to do is set our private builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=88.4125) [to concreteBuilder. Now we can declare any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=91.81) [number of public methods to build out](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=95.22) [different versions of a product. But for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=97.57) [this example, we're going to stick with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=99.71) [building a complete report. So we'll have](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=101.43) [a public method, it's not going to return](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=107.96) [anything, and it's going to be called](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=110.25) [BuildCompleteReport. Inside here, we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=112.57) [going to take our builder, we're going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=117.29) [call AddTitle, then we're going to be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=119.52) [calling AddDimensions, and finally](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=122.89) [AddLogistics. And for the date, we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=128.41) [going to say DateTime.Now. It's important](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=134.76) [to note here that if you construct a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=139.88) [partial item that is not calling all the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=141.85) [builder interface steps, the uninitialized](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=144.39) [values will be set to their default. This](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=147.22) [can cause problems if you're using lists](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=149.71) [or other types that will throw an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=151.89) [initialization error. With that all set](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=153.64) [up, let's go into our main method inside](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=156.61) [Program underneath our items list. And](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=159.02) [we're going to create an instance of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=162.75) [concrete class. So we'll say var, I'm](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=165.11) [going to call this inventoryBuilder, it's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=169.39) [going to be a new DailyReportBuilder, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=172.83) [it's looking for an IEnumerable collection](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=176.02) [of furniture items. So I'm just going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=178.78) [feed it items. Now we can set up a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=180.78) [director class. We'll say var director.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=184.17) [This is going to be a new instance of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=188.09) [InventoryBuildDirector. And we need to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=191.23) [supply it with a concrete builder, which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=193.02) [we've just initialized. And we'll save.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=195.09) [Now for the magic, we're going to have the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=199.91) [director build the item, and then we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=201.46) [just going to debug it out. So we'll say,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=203.33) [director.BuildCompleteReport, and now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=208.17) [we're going to query this from the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=210.51) [concrete builder class, and we're going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=212.98) [store it, directorReport. And we'll say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=214.76) [inventoryBuilder.GetDailyReport, and we'll](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=221.76) [just Console.WriteLine and we'll debug](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=224.87) [this out. We'll say directorReport.Debug.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=228.11) [Before we do this, I did notice that I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=233.84) [forgot a closing parentheses at the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=237.27) [bottom, or end, of our AddDimensions](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=242.61) [section. So go ahead and add that in,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=247.83) [save, and run. When our console boots up](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=250.66) [we'll see a complete report printed out](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=256.7) [with a title, a list of all the furniture](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=259.24) [items we passed into the constructor, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=261.61) [the current date and time we passed in to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=263.97) [AddLogistics. Perfect. You've now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=266.46) [successfully implemented a basic builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=269.05) [pattern. So congrats! In the next clip,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=271.21) [we're going to take a look at a popular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=274.02) [variant of the builder pattern called the Fluent Builder. So let's keep rolling.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=3&mode=live&start=275.87)

[Using a Fluent Builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live)

[If you're not familiar with the concept of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=1.03) [a Fluent Builder, don't worry. You've](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=3.07) [likely come into contact with it more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=5.05) [times than you might think. For instance,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=7.27) [if you look back at the Debug method in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=10.39) [InventoryReport, you'll see that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=12.7) [initialized and configured a string](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=14.61) [builder in a very efficient manner. After](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=17.09) [initialization, we're able to tack on as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=19.85) [many configurations as we like with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=22.51) [methods like AppendLine, then return the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=24.62) [entire modified string with the ToString](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=27.24) [method. This variant of the builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=29.67) [pattern is often chosen for its sensible](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=31.79) [syntax, allowing you to initialize a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=34.25) [concrete builder instance, fire off the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=36.4) [build steps, and finally return the item](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=39.03) [all in one go. Now, making this work with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=41.45) [our current code isn't all that difficult.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=47.17) [All we need to do is have each of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=49.32) [builder interface methods return an object](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=51.47) [of its own type. So instead of void in all](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=54) [these cases, we're going to say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=57.83) [IFurnitureInventoryBuilder. Since](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=60.32) [GetDailyReport is the last, or last build](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=67.41) [step, we're going to leave that one as is.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=70) [Now all we need to do is update our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=72.7) [implementations inside our concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=74.35) [builder. So after AddTitle, after we set](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=77.22) [the TitleSection, we'll just say return](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=81.93) [this and we'll change the method](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=85.35) [signature. We'll do the same thing for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=89.41) [AddDimensions and for AddLogistics.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=93.65) [(Typing) This won't change anything in our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=108.84) [Director class, so we don't need to modify](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=110.75) [any of this code. However, there are now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=113.37) [two choices in front of us as to how we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=115.75) [use the Fluent Builder. In most cases,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=118.16) [you'll see this variation called directly](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=120.5) [from the concrete builder class, bypassing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=122.81) [the director entirely. This is because the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=125.24) [build steps and return item all happen in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=129.01) [the same line and leaves the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=131.88) [responsibility of building and returning](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=133.33) [the object with the concrete class where](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=135.53) [it should. Let's go into our main](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=137.52) [function. I'm going to comment out what](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=140.93) [we've done with our director, leaving the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=143.24) [inventoryBuilder that we've established.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=145.33) [And we're going to say var fluentReport,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=150.09) [because that's what we're going to store](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=152.96) [the return built report. And we're going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=155.1) [to call inventoryBuilder.AddTitle. And we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=158.625) [can just append these directly, so we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=167.06) [could just say AddDimensions,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=168.83) [AddLogistics, pass in DateTime.Now, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=171.8) [finally build the report and return it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=178.07) [with GetDailyReport. Now let's debug this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=181.39) [out just to make sure that we get the same](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=187.28) [result as we had with the director. Say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=189.16) [fluentReport.Debug. Let's save this off](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=192.11) [one last time and run our project. All](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=195.47) [right. Perfect. We've still got our Daily](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=200.29) [Inventory Report with each of our items](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=202.23) [and all their info printed out, and our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=204.96) [report has been generated at the correct](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=208.07) [date and time. Just so you know, you could](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=210.75) [absolutely create another method here in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=214.01) [the director class that executes the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=216.11) [Interface method using the Fluent Builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=218.77) [syntax. However, you won't see this done](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=221.12) [too much because it's a lot of abstraction](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=223.91) [for abstraction's sake, and comes with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=226.43) [very little to no additional added value.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=228.66) [As with all things design pattern related,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=231.82) [it's up to you to decide how to use it in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=233.84) [your projects. Always choose the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=236.01) [implementation that delivers the most bang](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=237.83) [for your code buck without adding](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=240.12) [unnecessary infrastructure. In the last](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=242.22) [clip, we'll discuss some common use cases](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=245.05) [and implications of the pattern itself and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=247.52) [close out the course with some resources](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=249.99) [to take your design pattern game to the next level.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=4&mode=live&start=252.25)

[Use Cases and Implications](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live)

[With our simple builder pattern example in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=0.84) [working order, it's time to take stock of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=2.94) [its implications and appearances in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=5.3) [wilds of real‑world development. First, as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=7.86) [I've said before, this pattern isn't for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=10.88) [everything. It's overkill for most classes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=12.9) [where subclassing, refactoring, or](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=15.9) [abstracted interfaces or classes would be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=18.61) [a better solution. However, if you find](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=20.91) [yourself looking at a class in your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=23.4) [project that has an ever‑expanding and now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=24.96) [bloated constructor that's performing a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=27.64) [variety of computations before setting](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=30.32) [class fields, this is a good indication](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=32.65) [that the builder pattern can be helpful.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=35.11) [On top of that, if you have a finite](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=37.74) [number of related classes that perform the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=39.85) [same general function, but with different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=42.74) [representations, this is also going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=45.23) [qualify for the builder pattern. Think of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=47.47) [a text parsing scenario where you need to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=49.95) [account for general functionality, but](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=52.55) [accommodate different kinds of text input](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=54.83) [and output, as described in the Gang of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=57.02) [Four text. This is an excellent builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=59.28) [pattern scenario because there are a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=61.5) [finite number of complex representations](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=63.13) [that need to share similar object building](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=66.03) [sequences. Let's move on to summarizing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=68.37) [the builder pattern's implications because](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=71.75) [these are the real topics that I want you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=74.36) [to come away from the course with. First,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=76.34) [the builder pattern lets you vary a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=78.73) [product's internal representation, meaning](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=81.22) [that the director doesn't have to know](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=83.39) [about how an object is built or its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=85.37) [internal structure. Changing a product's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=88.02) [internal structure is then as easy as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=90.19) [creating a new concrete builder class.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=92.49) [Second, the pattern isolates code for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=95.62) [construction and representation, meaning](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=98.11) [that your code is going to be more modular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=100.33) [and encapsulated as a result. Object](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=102.39) [creation code is written once in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=105.07) [concrete builders, then the director only](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=106.98) [has to choose which preset build sequence](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=109.24) [to use and reuse. Lastly, it gives you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=111.52) [finer control over the construction](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=115.07) [process, giving the director complete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=117.42) [control over each step of the build and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=119.91) [its sequence. You'll only get a returned](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=122.3) [object when the director has finished](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=124.2) [calling the build sequence, which is a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=125.94) [huge boon when you have error checking and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=128.32) [computations involved in creating your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=130.69) [complex object. As a last side note, if](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=133.23) [you've had experience with design patterns](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=136.37) [before this course, you probably noticed](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=138.2) [that the builder pattern shares](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=140.53) [similarities with the factory pattern. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=142.04) [important difference here to keep in mind](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=144.64) [is that the builder pattern is focused on](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=146.49) [object creation in sequential steps, while](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=148.86) [the factory pattern is concerned with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=152.01) [families or groups of objects being](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=153.98) [created. In summary, we've learned where](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=155.95) [the builder pattern fits into the larger](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=160.78) [design pattern picture. How to create an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=162.83) [object class and abstract out its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=165.04) [constructor into an interface. How to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=167.35) [create and configure concrete builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=169.73) [representations. The role of the director](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=173.08) [class and managing the overall build](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=174.67) [process. How variations of the pattern can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=176.78) [be written to accommodate dependency](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=179.24) [injection, and the most common use cases](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=181.11) [and implications of using the pattern in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=183.5) [real‑world projects. I hope you've come](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=186.015) [away with a real grasp of the builder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=188.68) [pattern and how it can be applied to your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=190.74) [personal projects in the future. If you're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=192.96) [interested in more design patterns with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=195.47) [C#, check out our other courses in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=197.1) [Pluralsight library. If you've enjoyed the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=199.63) [course, which I hope you have, please](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=202.43) [leave a rating, and if you have any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=204.22) [questions or just want to connect, feel](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=205.9) [free to drop me a line. As always, happy coding.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-builder&author=harrison-ferrone&name=a542b9a2-3512-475c-a009-e5f32d29e57d&clip=5&mode=live&start=207.95)