[Course Overview](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live" \t "psplayer)

[Course Overview](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live)

[Hi everyone My name is David Starr, and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=5.23) [welcome to my course, C# Design Patterns:](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=7.87) [Facade, one in a series of patterns](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=10.53) [courses. I'm a principal cloud architect](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=13.17) [at Microsoft and have been a strong and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=15.93) [consistent supporter of using design](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=18.09) [patterns where they make sense. I've been](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=20.54) [teaching patterns at various levels for](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=22.76) [several years. You can find me on Twitter](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=24.7) [talking about it @elegantcoder. This](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=27.15) [course is going to teach you the facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=30.57) [design pattern, when to use it, and how to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=32.61) [do so appropriately. Some of the major](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=35.61) [topics that we'll cover include: the ball](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=38.41) [of mud situation, the multiple worker](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=40.88) [situation, and how the facade pattern can](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=43.62) [be flexible enough to appropriately be](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=46.54) [used to solve for both of these](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=49.09) [situations. By the end of this course,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=51.22) [you'll have seen the facade in practice in](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=54.04) [various ways. And before beginning the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=55.97) [course, you should be familiar with some](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=58.34) [basic C# or other object‑oriented](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=60.17) [language. From here, you should feel](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=63) [comfortable diving into other C# design](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=65.51) [patterns courses. I hope you'll join me on](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=67.77) [this journey to learn the facade design](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=70.54) [pattern with this C# patterns course at Pluralsight.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=689e8684-d3ac-4d1b-8196-0381a20a8004&clip=0&mode=live&start=72.6)

[Introduction Overview](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live)

[Hello, my name is David Starr, and I've](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=1.27) [been writing software for many years. I've](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=2.74) [found design patterns to be helpful when](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=5.18) [talking with other developers about a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=7.33) [solution or trying to fix a problem on my](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=9.02) [own. A design pattern is essentially a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=12.02) [known solution to a commonly recurring](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=14.66) [problem. In this short course, we will](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=16.87) [look at the facade design pattern and see](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=19.02) [how it can improve our software. First,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=21.68) [we'll take a look at the problem to solve](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=25.31) [and examine the underlying issue. Second,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=26.92) [we'll introduce the facade pattern itself](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=30.44) [and see how it can help improve our code.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=33.28) [There are two situations in which the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=36.04) [facade pattern is very useful, and we'll](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=37.66) [look at both. Finally, we'll look at a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=39.74) [facade in practice, we'll jump into code](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=42.46) [and see things work for real, several times.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=0&mode=live&start=45.36)

[The Big Class Facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live)

[Here's one problem we can solve with the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=0.24) [facade pattern. You may have heard of the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=3.4) [big ball of mud class, made famous by](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=5.71) [Martin Fowler. This is one that tries to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=7.82) [solve all the world's problems. It's](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=10.02) [bloated, it's too big, missing the point](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=12.44) [of object‑oriented programming altogether.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=14.43) [In this case, my program only needs to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=17.4) [call four methods. But we'll likely need](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=19.79) [to examine and dig around in the internals](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=22.12) [of class A to the determine which four](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=24.57) [they are. I can place a facade between my](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=26.47) [program and the giant ball of mud class](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=30.78) [being called. In this case, the facade has](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=33.46) [an internal reference to the giant class](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=36.21) [and orchestrates calls on behalf of the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=38.95) [program. We're using a facade class to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=41.29) [contain the big class and only expose the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=44.52) [methods needed by the program. We can use](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=47.32) [more meaningful method names, and the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=50.75) [program now talks to the facade without](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=52.95) [knowing about the big class at all. Here's](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=55.54) [an example of what the resulting program](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=59.62) [code might look like. Note we're only](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=61.81) [calling two methods on the facade, but the facade may well be orchestrating calls.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=1&mode=live&start=64.63)

[Demo: The Big Class Facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live)

[Let's make this more tangible. Let's see](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=0.74) [how some of these situations play out to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=2.85) [make things a bit more clear in our minds.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=4.95) [And let's do that with real code. Here's a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=7.98) [very simple program that instantiates one](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=11.92) [of those big balls of mud classes we were](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=14.42) [talking about, BigClass. In BigClass, we](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=16.46) [set a value for I, we suppose that must be](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=19.69) [something on the inside of the class, and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=22.91) [we set it to 3. So we then increment I](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=25.12) [three times and then we decrement it once,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=28.09) [and so we have finally a Console.WriteLine](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=30.41) [that should give us whatever the output of](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=33.67) [GetValueB is. Let's see that run. And it](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=36.32) [looks like the output of that function](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=40.38) [gives us Ball of Mud, probably not what we](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=43.42) [were looking for. We're going to have to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=46.36) [go into our BigClass and search for it.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=48.04) [It's kind of difficult to see all of the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=50.74) [functions that are in here. So let's go to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=53.63) [our Structure view and we can look at](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=56.65) [BigClass and all of its available methods.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=58.5) [It turns out, if we were to go through and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=62.1) [look, we would find that GetValueA returns](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=64.6) [the value that we're actually looking for](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=66.925) [in our class. So let's go back over and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=68.98) [change our method to GetValueA, rerun our](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=72.05) [class, and this time we get that number 5](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=76.66) [we were looking for. Let's take a deeper](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=81.22) [look at our program, our base program. I](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=84.83) [shouldn't have to live this way, right?](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=87.34) [So, let's do something about it. Let's not](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=89.4) [have to look into our BigClass, let's only](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=92.64) [call methods on it that we really need to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=96.47) [call. So, I'm going to add a class here,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=98.67) [and we're going to call it, of course,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=102.45) [BigClassFacade. You knew that's what we'd](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=105.19) [call it. And I'll just paste the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=108.32) [implementation in here so you don't have](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=111.88) [to watch me type it out. Now over here in](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=113.66) [BigClassFacade in our structure, you can](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=117.84) [see that all we've got is GetCurrent,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=119.3) [DecreaseBy, IncreaseBy, and a constructor.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=122.95) [We also happen to have an instance, a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=126.64) [field instance, of our BigClass. So, what](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=129.07) [we're doing is selecting what to call, but](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=133.17) [in the facade. So, you can see here that](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=135.85) [we're making two calls to BigClass, we're](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=138.88) [instantiating it and then we're setting an](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=140.86) [initial value, and we call the various](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=142.67) [BigClass methods that do the things we](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=144.97) [want it to do. All right, great. So, now](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=147.63) [we need to look at our program and not use](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=151.06) [our BigClass anymore. Instead, we're going](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=154.51) [to use our BigClassFacade, as I'm sure you](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=156.97) [guessed. And now we're down to an](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=160.15) [instantiation of our BigClassFacade. We](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=162.06) [increased by 50, decreased by 20. And](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=164.92) [hopefully when we write out the current](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=168.33) [value, we'll see something like 30. And](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=170.13) [there's our 30. So we successfully put a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=174.04) [facade on top of some of the methods that are provided by the BigClass type.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=2&mode=live&start=176.88)

[The Worker Classes Facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live)

[Remember I mentioned there are two](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=1.21) [variants of the same problem we can](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=2.15) [address with the facade pattern. This is](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=4.3) [an explanation of the second and more](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=6.89) [common situation. In this example, we have](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=8.93) [several service classes, each with a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=11.93) [specific method that needs to be called by](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=15) [another program, class, or what have you.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=17.59) [The program on the right must new up each](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=20.61) [of these services. It must then call each](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=23.13) [of the methods on these services, and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=25.83) [believe it or not, in a poorly designed](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=27.75) [system, order of calling the methods, even](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=30.34) [across classes, is sometimes significant,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=32.64) [which may indicate they share an](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=35.585) [underlying subsystem, like data storage.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=37.51) [This is what that ends up looking like.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=42.07) [Here's a visual. Code like this is common,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=44.19) [and truthfully, we see it mostly in](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=46.9) [controller‑type classes where several](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=48.52) [services are injected via the constructor.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=50.44) [In this case, we must instantiate the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=53.87) [classes and then call the methods we need.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=55.77) [Notice we're dealing with three services,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=59.35) [two of which are giving us results to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=61.290000000000006) [display. This repetitive code is, well,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=63.65) [repetitive. Consider how it would look if](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=67.58) [you put it behind a facade. Maybe we can](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=70.28) [get away with one class and one function](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=72.41) [call. Just like working with the ball of](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=75.37) [mud class, we can introduce a facade class](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=78.57) [to obfuscate all the calls needed to be](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=81.21) [invoked on the various classes this facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=83.89) [hides from the caller. This abstraction](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=86.18) [allows the calling program to work solely](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=89.3) [with the facade and simplifies the code.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=91.7) [And introducing an interface here really](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=94.73) [tidies things up for the caller and allows](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=97.1) [easily adding new facade classes should](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=100.49) [the underlying service classes change in the future.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=3&mode=live&start=103.34)

[Demo: The Worker Classes Facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live)

[Let's see how some of these situations](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=0.52) [play out to make things a bit more](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=2.4) [tangible. And let's do that with some real](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=3.94) [code this time. We'll start by dissecting](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=7.51) [our initial main method. And here we're](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=11.62) [using three services, a GeoLookupService,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=14.5) [a WeatherService, and a ConverterService,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=17.85) [all to find out that the current](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=19.97) [temperature in both Fahrenheit and Celsius](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=21.79) [is a certain value, in a given city, in a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=24.64) [given state, when our input value is a zip](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=27.75) [code. Notice we're newing up three](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=31.06) [services and using them here. Well,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=33.59) [certainly that's a viable way to go about](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=36.36) [solving this, but we're orchestrating and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=38.54) [managing a lot of variables here. So, what](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=40.29) [if we put these services behind a facade,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=43.28) [and we wouldn't have to worry about this](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=45.98) [level of complexity. To start, I'm going](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=47.64) [to come into my facade project. I'm going](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=50.605000000000004) [to add a new class, and instead of just](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=53.295) [going and creating the facade itself, I'm](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=57.8) [going to create an IWeatherFacade, and an](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=59.54) [IWeatherFacade is obviously going to be an](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=65.07) [interface, not a class. But why would I](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=68.17) [start off with an interface? Well, I](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=73.96) [normally wouldn't do this, I would](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=75.43) [normally refactor an interface out of a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=77) [concrete type once I needed to generalize](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=79.8) [that concrete type. In this case, we're](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=82.24) [going to start with an interface just to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=84.36) [show what top‑down development looks like](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=85.92) [given the system architecture we saw on](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=88.84) [our slides. Okay, so what goes in our](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=90.67) [interface? One method, that's all we need,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=93.12) [GetTempInCity, given a certain zip code.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=96.13) [Well, we're returning a](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=100.61) [WeatherFacadeResults class, which we don't](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=102.5) [have yet. So, let's create that,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=104.73) [WeatherFacadeResults. We're just going to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=108.85) [pop in some getters and setters here. This](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=110.19) [is nothing more than a simple data](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=112.54) [transfer object. And notice, we're going](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=115.33) [to be setting properties of Fahrenheit,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=118.15) [Celsius, City, and State. Those are the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=120.27) [things we need to output in our main](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=122.4) [method. Let's take our public class and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=124.31) [send it to its own code file. By](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=127.68) [convention, perfect. Now let's go back](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=131.48) [over to our IWeatherFacade. Well, we don't](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=134.2) [actually have a weather facade yet, so](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=137.04) [let's create a drive type. We'll make it](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=139.47) [public, and we're going to implement the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=141.92) [missing members of IWeatherFacade. There](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=145.76) [they are, it is, I should say, it's that](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=148.06) [simple. GetTempInCity. So what is our](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=150.28) [weather facade going to need to do? We're](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=153.18) [actually going to put in a lot of setup](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=155.33) [code here. What we're doing is we're](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=156.8) [holding our services as fields in our](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=160.27) [class. We've got one constructor that will](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=164.68) [new them up for us, and we've got another](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=167.88) [constructor that can take them in as](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=170.76) [parameters. Some talk about this pattern](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=172.29) [as being poor man's Inversion of Control.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=175.66) [Now let's come down a bit. What do we put](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=178.7) [inside our GetTempInCity? Well, here's](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=180.49) [where we're actually making use of these](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=183.2) [services and storing them back into](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=185.97) [variables. Just go ahead and clean that](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=188.22) [up, convert Fahrenheit to Celsius, and you](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=191.16) [can see that we're newing up our result](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=194.32) [that's got City, State, Fahrenheit, and](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=197.35) [Celsius on it. And we return that as a set](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=199.81) [of results. Now, finally, let's come back](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=202.4) [and look at our program. Our program no](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=205.52) [longer needs to manage any of these](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=208.68) [things. What we can do instead is so much](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=210.49) [simpler. We can instantiate a weather](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=214.34) [facade behind an interface that we might](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=216.57) [use for a different implementation later.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=219.2) [We then get our results by calling the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=222.12) [weatherFacade.GetTempInCity method,](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=224.57) [passing a zipCode. Now, we've got those](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=225.85) [results and we can write them out. Let's](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=228.21) [run and see if we've got everything in](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=231.34) [place. Run the project, and it looks like](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=233.62) [it's 53 degrees Fahrenheit, 11 degrees](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=238.44) [Celsius in Redmond, Washington. That's just about right.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=4&mode=live&start=240.8)

[Summary](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live)

[This course presented several concepts.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=0.54) [First, use facade to provide a single](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=2.97) [interface to lower‑level worker classes.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=6.91) [Now in this course, we talked about these](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=9.515) [classes as being services. Use a facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=12.07) [interface, it's a best practice. Providing](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=17.8) [an interface for this facade to implement](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=19.79) [means future implementations of them can](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=22.38) [be made when sub‑systems below the facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=25.54) [change. And in this way, we may not need](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=28.68) [to change the code that calls the facades](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=31.5) [at all. They can be used to effectively](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=34.02) [mask giant classes. Recall, we saw this](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=37.27) [when we reduced our big ball of mud from](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=40.67) [many, many methods down into just three](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=43.87) [with the facade we created. And the facade](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=46.28) [becomes testable, even if testing a big](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=49.61) [ball of mud is daunting. I hope that the](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=51.96) [facade pattern provides as much value to](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=55.12) [you as it has to me over the years in my code.](https://app.pluralsight.com/player?course=csharp-design-patterns-facade&author=david-starr&name=17119292-d6c8-41a2-8d57-30f8dc1e5c41&clip=5&mode=live&start=57.58)