[Course Overview](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live)

[Course Overview](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live)

[(Music) Hi everyone. My name is Filip](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=0) [Ekberg, and welcome to my C# Design](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=7.465714285714287) [Patterns course, covering the Chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=9.435285714285715) [Responsibility pattern. I'm a principal](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=11.556) [consultant and CEO at a consultant agency](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=14.902500000000002) [operating out of Gothenburg in Sweden. I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=17.0132) [started this company a few years ago,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=20.769125000000003) [focusing on building fast, powerful, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=22.24) [easy-to-maintain solutions. This course is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=25.538666666666668) [for those of you that want to learn how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=27.98166666666667) [the chain of responsibility pattern works](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=29.87671428571429) [and how to implement that in your C#](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=31.704) [applications. We will cover everything](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=35.543) [that you need to know to master this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=37.01699999999999) [pattern. This includes what the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=40.015400000000014) [responsibility pattern is and its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=42.391) [characteristics, understanding the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=44.64160000000001) [benefits and tradeoffs when using the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=45.93300000000001) [chain of responsibility pattern, how to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=48.054500000000004) [implement the chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=50.05857142857142) [pattern in new and existing solutions, as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=51.868833333333335) [well as identifying and leveraging](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=54.669666666666664) [existing implementations. By the end of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=57.47366666666667) [this course, you will feel comfortable](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=59.767) [with implementing the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=60.96066666666667) [responsibility pattern in your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=62.979) [applications. This will allow you to build](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=65.4518) [extensible, more robust, and testable](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=67.71828571428568) [applications. Before beginning the course,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=70.34820000000002) [you should be familiar with the C# syntax](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=71.88100000000001) [and how to build and run .NET](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=74.06400000000001) [applications. No other prior knowledge is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=76.78739999999998) [necessary. I hope you'll join me on this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=79.36700000000002) [journey to learn all about working with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=81.39244444444445) [this very powerful C# design pattern, with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=83.16714285714288) [the Chain of Responsibility Pattern course, here at Pluralsight.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=bb2ccb5b-e0d6-4f55-8f9a-d9d0fc2cdb8e&clip=0&mode=live&start=86.626)

[Chain of Responsibility Pattern](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live)

[Welcome to a C# Design Patterns course. My](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=0) [name is Filip Ekberg, and I will guide you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=4.544333333333333) [through understanding the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=6.566833333333333) [responsibility pattern. This behavioral](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=8.306) [design pattern will drastically change the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=10.9356) [way that you build software, so stay tuned](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=12.874285714285712) [for learning all about this amazing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=15.580000000000004) [pattern, which you will most definitely be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=17.713857142857144) [able to leverage in any type of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=19.90575) [application that you're building. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=22.512666666666668) [primary goal of this course is for you to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=24.847777777777775) [understand and learn how you can implement](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=26.892428571428574) [the chain of responsibility pattern in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=28.8322) [your applications. You will then be able](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=31.682000000000002) [to identify and leverage existing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=34.130250000000004) [implementations of this pattern in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=35.895799999999994) [different types of applications. You will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=38.48566666666667) [most definitely find situations in your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=41.18242857142857) [applications where this pattern has been](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=42.93) [applied, although you might have not known](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=44.91385714285714) [that this has been the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=46.68575) [responsibility pattern. And as with any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=48.007) [design pattern, it comes with benefits and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=51.336) [tradeoffs. And after watching this course,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=53.78616666666668) [you will know when it's appropriate and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=55.646) [not to apply the chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=57.45200000000002) [pattern in your applications. This pattern](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=59.051) [can most definitely be applied in any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=62.63728571428571) [different type of application, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=64.79533333333333) [throughout the course we'll be looking at](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=66.339) [different situations of how we can apply](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=67.86475) [this pattern. Before we look at the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=69.767) [particular implementation details for this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=72.6498333333333) [pattern, we need to talk about the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=75.18339999999999) [characteristics. The chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=78.00442857142858) [responsibility pattern is commonly](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=79.29650000000001) [identified by these three different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=80.5866) [things. We have a sender, which invokes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=82.824) [something in the application, so we have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=85.13528571428571) [handler that runs through a chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=87.285125) [receivers, and the receiver itself can be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=89.4415714285714) [something that handles that given command.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=90.99114285714285) [And of course, this sounds very much like](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=93.813) [a standard process when we're building](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=95.18722222222222) [applications. If we translate this into](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=98.54483333333336) [something that we could be using in our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=100.131375) [applications, imagine the situation where](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=102.75099999999998) [we have a logger. The sender, which can be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=104.62700000000001) [anything in our applications, calls](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=106.76862500000001) [Logger.Log. This invokes our handler, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=109.30066666666667) [the handler that we communicate with will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=111.82614285714287) [have a list of concrete implementations of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=113.57975) [loggers. The chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=116.76420000000002) [pattern allows us to execute one or many](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=118.37633333333333) [of the different handlers that we are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=120.95800000000001) [appending to our chain of handlers. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=123.1335) [receiver itself can be something like a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=125.20114285714287) [console logger, a file logger or a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=127.47340000000001) [database logger. The receiver contains the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=130.1505714285714) [logic to decide if it should act upon the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=132.17599999999996) [request or not. The handler will make sure](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=134.643) [that each receiver gets the request passed](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=136.6588571428572) [into it. The receiver then decides if it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=139.35028571428566) [should act on that given request or not.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=141.65149999999994) [Even though the request might not be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=143.952) [processed by that particular receiver, the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=146.426) [request will still be passed along the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=148.92475) [chain to the next receiver in line. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=151.065) [what's interesting with this architecture](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=154.4884) [is that the sender doesn't have to know](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=156.00533333333334) [about the concrete implementation, and we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=158.30849999999998) [can easily now extend our chain of loggers](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=159.951) [with more ways to handle how we want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=162.82637499999996) [log our messages. The sender often invokes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=166.3966666666667) [this handler with a request. The request](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=169.09028571428567) [object contains all of the information](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=171.7221428571428) [that the handlers need in order for it to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=174.11571428571432) [complete. With the file logger, that could](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=177.18866666666665) [be the message, as well as the logger](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=178.519) [severity. Then the logger takes care of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=181.84600000000006) [invoking one or many of the handlers that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=184.06325000000007) [we have in our chain of responsibility. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=186.209) [the chain of responsibility pattern is a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=189.5665) [very powerful, yet pretty simple pattern](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=191.005) [to implement in our applications. It boils](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=192.99271428571427) [down to allowing us to decouple our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=196.13850000000002) [applications to make it more extensible and maintainable.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=0&mode=live&start=198.1342857142857)

[Chain of Responsibility: First Look](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live)

[Let's now have a first look at how the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=1.3208110000000162) [chain of responsibility pattern can be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=2.669811000000016) [applied in one of our applications. We are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=4.465811000000016) [now inside Visual Studio. This particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=7.430144333333349) [application is a simple console](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=9.386477666666684) [application. That's because for the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=11.103211000000016) [purpose of the demos, I want to keep them](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=13.015811000000017) [simple so it's easier for you to follow](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=14.466061000000016) [along when we change the application to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=16.741811000000016) [apply the chain of responsibility pattern.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=19.1695252857143) [So let's have a look at the main entry](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=20.919811000000017) [point of the application. This very simple](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=22.215811000000016) [application will allow us to process one](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=24.825525285714303) [of the users that we want to register in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=26.509911000000017) [our system. We first of all will set up a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=28.78931100000002) [new user. The user has a name, a social](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=31.73021100000001) [security number, the region of where this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=33.982811000000034) [user is a citizen, and then finally we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=36.342477666666674) [have a date of birth for that particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=38.7305887777778) [person. When we register a user in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=41.13761100000002) [system, I want to be able to validate that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=43.41618600000002) [the user has met a few different criteria.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=45.69221100000002) [So let's head in to our user processor and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=49.088811000000014) [have a look at how we validate our current](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=51.17581100000002) [user. You'll see here that inside our user](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=54.132311) [processor we have a social security number](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=55.609811000000015) [validator, and then inside our Register](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=57.67881100000002) [method, we validate the social security](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=60.16581100000002) [number. This is of course dependent on](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=62.66095385714287) [where the user is a citizen, because](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=63.98131100000003) [different countries and different regions](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=66.19781100000002) [have different types of social security](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=67.68514433333335) [numbers. And then we want to validate that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=69.53581100000001) [the user is over 18 years, and then we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=71.48756100000003) [want to validate the length of the name.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=73.64847766666671) [The system that I'm building here doesn't](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=75.15123957142859) [support the Norwegian region, but even](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=77.27381100000002) [though I personally love Norwegians, I'm](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=79.708811) [sorry my friends, but in this application](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=81.668411) [if you have a citizenship in Norway, you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=84.01431100000002) [won't be able to register for this system.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=85.97581100000001) [So even though that this method here looks](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=88.12881100000001) [fairly simple, there's quite a few things](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=90.24781100000001) [happening in here, and this method here](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=92.62081100000002) [becomes a little bit fragile. So in order](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=94.62581100000001) [for us to take a little bit more of an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=96.82411100000003) [object-oriented approach, we want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=98.950811) [refactor this and apply the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=100.425561) [responsibility pattern. The chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=102.72731100000001) [responsibility pattern is a way for us to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=104.73452528571431) [pretty much change the if, else if, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=107.22214433333338) [else idiom to a more object-oriented](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=109.94393600000004) [manner. So the first thing that we want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=112.460811) [do is that we look at each of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=114.57801099999999) [different conditions and we break that out](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=116.55068600000006) [to a particular handler for that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=118.73256099999998) [particular case. So in this case we'll](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=121.10981100000004) [have a handler that allows us to validate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=122.79758877777778) [that our social security number is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=124.96381099999999) [correct, we'll validate our age, we'll](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=127.15681100000002) [validate the name, and then we'll validate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=128.8965252857143) [the region. So what we'll end up doing is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=131.99438242857147) [that each of these different conditions](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=134.19341100000005) [will have its own hander. The handler will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=135.93131100000005) [be in charge of validating that particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=138.55281099999996) [condition, and then call the next handler.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=141.43561100000005) [If one of the handlers in the chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=143.959811) [reaches a point of where it fails, it can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=146.11625544444456) [either return a value or throw an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=148.86225544444451) [exception. To do this, we'll simply add a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=151.631811) [few handlers to our applications, which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=153.47292211111116) [will allow us to run through a chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=154.896811) [validation to allow us to check if the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=157.283686) [user can be registered or not. I'm going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=159.12347766666662) [to add a new folder inside the business](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=160.88481099999998) [layer of my application and call it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=162.84381100000004) [Handler. We will now then proceed to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=165.01356100000004) [increase the way that we build our chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=167.01506100000003) [of handlers. The handler will implement](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=169.805811) [this particular interface. We have an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=172.2386681428572) [IHandler of T where T has to be a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=174.06808372727275) [reference type. We can append more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=175.84409671428574) [handlers to this particular handler, which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=177.42381100000003) [will allow us to set up a chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=179.72935645454547) [handlers. And then of course we will be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=183.03726554545452) [able to handle this particular request.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=184.5535887777778) [The interface here describes that we can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=186.615811) [now append handlers to each other, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=188.24981100000002) [then when we call Handle, what will happen](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=191.3304776666667) [is that the particular handler will run](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=193.2692395714286) [some logic and then invoke the next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=195.09431100000003) [handler in line. So let's create the first](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=197.615411) [abstract implementation of our handler. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=200.12247766666664) [the idea here now is that when we call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=202.660511) [Handle, it will run some logic and then it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=204.277811) [will execute the next handler in line. But](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=207.05981100000002) [the abstract handler doesn't have any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=211.41695385714286) [logic to it, so it will only execute the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=212.62381100000002) [next handler in the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=214.72681100000003) [responsibility. So how do we know what](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=217.23138242857138) [thing to execute next? Well, we need to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=218.83201100000008) [introduce the next handler to execute. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=220.69631100000004) [now what happens here is that our abstract](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=222.842811) [handler will simply execute the next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=225.73331100000004) [handler in line. If we have a next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=228.129811) [handler, it will simply pass on the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=230.52247766666673) [request to that particular handler. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=232.27868600000005) [when we create the concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=234.0459776666667) [implementations of our handlers, that's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=235.591811) [when we will be using the request object](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=237.67193600000002) [to validate some particular data before](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=239.90381100000002) [calling the next handler in line. In order](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=242.0942395714286) [for us to be able to change the behavior](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=244.71641100000002) [of Handle in one of the subclasses, we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=246.35109671428572) [also need to mark this as virtual. And](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=248.74014433333335) [then in SetNext, of course, what we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=251.52281100000002) [going to do here is set our next handler](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=253.07847766666669) [to whatever we pass into SetNext, and then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=255.20495385714287) [we'll simply return next from this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=257.94831100000005) [particular method. This will allow us to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=259.245811) [very fluently write a chain of handlers in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=262.56014433333337) [our application. So now we have this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=265.9101443333334) [abstract way of defining one of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=268.14868599999994) [handlers for our conditions. So now we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=270.552811) [want to create a handler that validates,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=273.1351443333333) [for instance, the social security number,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=275.34247766666664) [and if the social security number is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=277.58552528571425) [correct, we can then proceed to execute](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=280.209411) [the next handler in line. So let's go](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=282.3253109999999) [ahead and add some user validation](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=284.7108110000001) [handlers. I'll proceed to add a new folder](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=287.513561) [to group my user validation handlers in.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=289.6959221111111) [We will now add a handler for our social](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=292.876811) [security number validation. Our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=295.079811) [SocialSecurityNumberValidatorHandler will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=299.22331099999997) [inherit from our abstract implementation](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=301.19821099999996) [of a handler, and the particular request](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=303.78906099999995) [object that we are working with is a user.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=306.17452528571425) [So now what happens here is that we can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=309.123811) [override our handle method to allow us to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=310.894811) [validate that our user has a correct](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=313.92781099999996) [social security number. Inside our handle](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=316.761936) [method that we are now overriding, we now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=319.18597766666676) [see that we get the user as a request. We](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=321.412922111111) [get a request to handle one of our users.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=324.779111) [And in order for us to validate the social](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=327.688811) [security number, we need our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=329.430811) [SocialSecurityNumberValidator. And if the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=331.075811) [social security number cannot be](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=334.237811) [validated, we are going to throw an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=335.317811) [exception. So this handler will now be in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=337.454561) [charge of validating our social security](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=339.14347766666685) [number. When we get the request to handle](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=341.81801099999996) [this particular user, we will use the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=343.38181099999997) [SocialSecurityNumberValidator, which is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=345.271811) [only existing inside this particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=347.720811) [handler to validate that. If this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=349.61441099999996) [validation fails, we can throw a business](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=352.12956099999997) [exception, which in this case is a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=353.77068599999996) [UserValidationException. If we now manage](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=355.582811) [to validate this social security number,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=358.82531100000006) [we will proceed to the next handler. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=360.7099538571428) [this will now call base.Handle to then run](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=363.39866814285716) [the code inside our abstract handler,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=367.0098109999999) [which will, in its turn, simply call the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=369.88323957142853) [next handler. An alternative approach](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=372.99721099999994) [would be to have a non-abstract base](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=374.72856100000007) [handler which would be in charge of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=377.28281100000004) [executing and visiting all of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=380.4778110000001) [different handlers that you've registered.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=382.87414433333333) [In this scenario here, we can simply break](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=385.03081099999997) [the chain by discarding the call to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=387.292811) [base.Handle. Of course, we could call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=391.4096859999999) [base.Handle in the top of the method, but](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=393.33718600000003) [it really depends on how you want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=395.305811) [proceed. Do you want to run this last or](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=397.5378109999999) [first in the chain of handlers? So let's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=400.25961099999995) [proceed to add handlers for the other](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=403.427061) [different types of criteria for a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=404.9643824285714) [particular user. We have an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=406.695811) [AgeValidationHandler that will now allow](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=408.49281099999996) [us to validate that the user is older than](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=410.63447766666667) [18 years old. If the user is younger than](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=414.03517463636376) [18 years, we're going to throw an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=417.4170610000001) [exception. We're also going to have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=419.5911443333332) [NameValidationHandler, which will allow us](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=420.83181099999996) [to validate our name and tell us that if](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=423.013811) [your name is only one character, your name](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=425.854811) [is unlikely short, and I'm really sorry,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=428.626061) [my Norwegian friends, I didn't forget](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=431.26406099999997) [about the CitizenRegionValidatorHandler.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=433.3354109999999) [So we now need to validate that the users](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=435.933811) [that are trying to register in our system](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=437.90381099999996) [are not Norwegian. So now that we have the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=439.592311) [different user validations, we have a user](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=442.5075609999999) [validation for age, citizenship, name, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=444.308668142857) [then social security number. How do we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=446.9764776666666) [proceed to leverage these different handlers?](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=1&mode=live&start=449.9330967142857)

[Chain of Responsibility: A Chain of Handlers](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live)

[Let's go ahead and go to our user](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=1.3847780000000494) [processor. Remember, the user processor is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=2.9492224444444934) [where we had this chain of if and else if](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=4.264063714285763) [and else blocks, and we want to refactor](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=7.120578000000049) [this to now leverage our new chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=9.24877800000005) [handlers. We're just leveraging the chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=13.061778000000047) [of responsibility pattern. So let's simply](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=14.67094466666672) [get rid of all of this code, and the user](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=17.71044466666672) [processor now no longer has to know about](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=19.971278000000048) [the social security number validator. We](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=22.40563514285719) [will start off by creating our first](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=24.192778000000054) [handler. We've now created our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=27.52102800000005) [SocialSecurityNumberValidatorHandler. And](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=29.34877800000005) [what we can do now is to very simply say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=32.92937800000005) [that we want to append more handlers. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=35.49277800000005) [we can say that we want to set the next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=38.36750527272732) [handler that handles a user, all it needs](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=40.51477800000005) [to do is to implement the IHandler of User](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=43.39277800000005) [interface. We can SetNext here to be the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=47.52197800000002) [age validator, the name validator, as well](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=49.29677800000007) [as the citizen region validator. We've now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=51.58306371428576) [created a chain of handlers, and in order](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=55.01749228571434) [for us to start invoking this chain, all](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=57.216444666666725) [that we need to do is to call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=59.07837800000004) [handler.Handle, and we will pass the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=61.488778000000046) [request that we want to handle, which in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=64.02877800000005) [this case is our user. Remember, this will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=65.81420657142861) [throw an exception if we couldn't validate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=67.61063514285719) [our user. So let's simply wrap this in a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=69.56257800000004) [try/catch block. So we've now refactored](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=72.57177800000004) [the code inside our user processor. What](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=74.34497800000005) [we achieved here is that the user](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=76.40240300000005) [processor now no longer has to know about](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=78.86377800000005) [the particular implementation details of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=81.79077800000005) [how to validate our social security](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=83.54177800000005) [number, it doesn't need to know about the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=86.06434942857149) [age validation, the name validation or the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=87.70890300000005) [citizenship validation. What's also](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=90.45277800000005) [interesting here is that if we decide to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=92.46927800000005) [remove the name validator, we can very](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=94.68711133333338) [simply just remove this handler and our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=97.08320657142863) [code is now very much easier to maintain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=99.27740300000004) [and write our tests for. We can make sure](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=102.70890300000005) [that we write unit tests for our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=105.98977800000004) [particular handlers, and since they all](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=107.6136351428572) [have a single responsibility, it makes it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=109.44237800000005) [so much easier for us to make sure that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=111.72037800000007) [have great code coverage. So now of course](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=114.37392085714292) [whoever is using the user processor still](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=116.62788911111114) [has the same approach, we only changed the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=118.61077800000005) [implementation of our Register method,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=122.53477800000007) [which in this case is our sender. We then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=124.59900022222227) [have the handler, which is talking to our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=127.48002800000005) [different types of receivers. So now if we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=129.58544466666672) [step through the code here, we can see](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=132.0714446666667) [that we start off by running through our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=133.68577800000006) [SocialSecurityNumberValidator. We then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=136.56244466666672) [proceed to run the next handler inside our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=137.83527800000005) [chain of handlers, which is our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=139.77927800000003) [AgeValidationHandler. When the age is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=141.73677800000004) [validated, we proceed to run the base](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=143.831778) [class, Handle, which will then run the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=145.62277800000004) [next in line, which will be validating our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=147.77627800000005) [name. When the name is validated, of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=150.5704446666667) [course we do the same thing by running](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=152.0841113333333) [Handle and then we run the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=154.11690300000004) [CitizenRegionValidationHandler. We will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=157.06327800000005) [then return up the chain to whoever called](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=158.22177800000003) [our chain of responsibilities. Then we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=161.0541113333334) [return back to whoever is calling the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=164.09777800000003) [method and our code is now more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=165.28540300000006) [extensible, it's much more testable, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=167.02577800000006) [we make sure that we have an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=170.41152800000006) [object-oriented approach to this if, else](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=171.48777800000005) [if, and else idiom. So exactly what did we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=174.85057800000004) [achieve by changing this to using and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=177.805778) [leveraging the chain or responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=179.9402065714286) [pattern? We have now achieved a more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=182.22727800000004) [extensible, object-oriented, and dynamic](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=185.00363514285715) [implementation. We can easily rearrange in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=187.55477800000006) [what order the handlers operate. If](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=190.16265300000003) [validating the social security number is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=192.55237800000003) [an expensive approach, it could be that it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=194.7467780000001) [has to communicate with an external API.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=197.0302780000001) [In Sweden, for instance, we have APIs that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=200.08377800000005) [can validate the social security number,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=203.12877800000004) [but they cost money to communicate with.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=204.66577800000005) [So if we can get rid of a few different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=207.59477800000005) [calls to that API by first validating the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=209.88677800000005) [age, name, and citizenship, then maybe we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=212.69177800000006) [could reduce the amount of calls to that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=215.30277800000005) [particular API, and making this reorder is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=217.17177800000005) [much more simple when we are applying the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=220.22177800000006) [chain of responsibility pattern than](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=222.60477800000004) [restructuring the if and else if and else](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=224.89777800000005) [blocks. That not only feels more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=228.02311133333345) [dangerous, it's also harder to test that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=230.49127800000008) [single responsibility once coupled with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=232.67592085714298) [other things. And of course, this is a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=235.74144466666672) [much more cleaner approach with a single](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=238.4181113333334) [responsibility in mind when we are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=240.48577800000007) [building these different methods. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=242.94227800000004) [decouple your code and achieve cleaner and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=245.00949228571432) [a more extensible code base, although we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=247.4761113333334) [did have to add a little bit more code in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=250.70866688888893) [order for us to achieve this same thing as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=253.24111133333335) [we did with our if, else if, and else](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=255.47487800000005) [idiom. But then again, this is an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=258.65144466666675) [object-oriented approach, which will allow](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=260.67663514285715) [us to write more testable, maintainable,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=262.13177800000005) [and clean code, and that is worth a whole lot when building software.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=2&mode=live&start=264.727978)

[Example: Payment Processing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live)

[Let's now look at another example. I want](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=1.4974450000000652) [to build a payment processing system. In](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=3.443945000000065) [this payment processing system, we have](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=5.290045000000066) [this idea of allowing us to pay our order](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=7.225045000000065) [using different payment systems. We could](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=10.182645000000065) [even extend this to allow us to do partial](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=13.000333888888953) [payments. Imagine that I can either pay](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=15.80611166666673) [with PayPal, invoice or credit card, or](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=17.70919500000006) [even in the future I could pay 50% using](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=19.30944500000006) [PayPal and then get 50% invoiced at any](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=22.279445000000074) [given time. In this case here, we iterate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=25.48469500000007) [over all the different selected payments](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=27.49111166666673) [on our particular order, and then if the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=29.340445000000063) [payment provider that we are currently](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=31.732159285714346) [handling is PayPal, invoice or credit](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=33.43644500000007) [card, we do certain different things. And](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=35.54084500000006) [now of course whenever you see if, else](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=37.497945000000065) [if, and an else block, you know that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=39.23822277777784) [can refactor this into leveraging the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=41.48273071428578) [chain of responsibility pattern. So, of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=44.496445000000065) [course, we're going to do exactly that.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=47.44055611111117) [Our payment processing will now leverage](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=49.91544500000006) [the chain of responsibility pattern.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=52.261445000000066) [Imagine that we are now receiving a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=53.780445000000064) [completed purchase command or an event,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=55.66944500000007) [depending on the type of application that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=58.164445000000065) [we're building, and then we want to handle](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=59.47044500000006) [this. So we have a payment handler, which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=61.88644500000006) [then has a chain of concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=63.96715928571435) [implementations of these different payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=64.90144500000007) [handlers. In the previous demo we looked](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=68.07811166666674) [at, our abstract handler simply called the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=69.87658785714291) [next handler in line, but this particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=72.24930214285723) [abstract implementation of a payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=75.11044500000007) [handler can do more things. We can, for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=76.77144500000007) [instance, check if there's an amount due](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=79.42944500000009) [before invoking our particular payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=81.31344500000006) [provider, and then of course when the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=82.81387357142864) [payment provider has completed its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=84.51894500000007) [execution, we can call the next payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=85.77144500000007) [provider in line if there's still an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=87.77144500000007) [amount due. If we have an amount due after](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=89.84266722222225) [there's no longer any payment providers in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=91.8920005555556) [line, we're going to get a big exception](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=94.66094500000007) [telling us that you should probably go](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=96.30307000000002) [ahead and redo this order because the user](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=97.71619500000011) [didn't pay for the items. So we are now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=99.50244500000005) [inside Visual Studio again, and we are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=102.0998894444445) [looking at a console application.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=103.69207000000004) [Remember, this could be any different type](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=106.26244500000007) [of application. Of course, the application](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=107.89044500000007) [doesn't even have to be C#. This pattern](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=110.06719500000007) [is applicable in any type of application,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=112.59719500000007) [so now we want to build some payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=115.12019500000007) [processing. Add a business layer in my](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=117.47394500000007) [application. The business layer contains a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=120.03587357142865) [few different payment processors. We have](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=121.75144500000007) [a CreditCardPaymentProcessor, an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=124.18344500000008) [InvoicePaymentProcessor, and a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=127.05044500000005) [PaypalPaymentProcessor. They all share](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=129.3661116666667) [this common interface. They allow us to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=130.88044500000007) [finalize the payment of a particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=133.03144500000005) [order. So this is after the user has seen](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=135.03994500000005) [the PayPal screen or whenever the user has](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=138.10182000000006) [placed their order. This system only takes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=140.68694500000004) [care of finalizing the payment for that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=142.61258785714293) [particular request. So for instance, the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=144.99477833333344) [InvoicePaymentProcessor could be in charge](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=146.99764500000006) [of creating the invoice and emailing that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=148.87573071428577) [over to our particular user, although this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=151.34711166666673) [course isn't in particular about building](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=154.34011166666676) [payment processors, and there's quite a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=156.22594500000005) [few things that we could ask out of this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=157.704945) [code here. There's a lot of details](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=159.50815928571433) [missing in the implementation of creating](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=161.01107000000002) [the invoice and validating all of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=162.70294500000006) [things. But this is just a basic template](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=165.33724500000002) [of how we now are going to communicate](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=167.19744500000013) [with our system. When we finalize the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=169.52307000000005) [order, if we are running through a payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=171.33994500000003) [processor and the invoice can be paid with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=173.61315928571437) [that particular processor, we are going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=176.0741592857143) [append that as a finalized payment on that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=178.01866722222226) [particular order. So, the way that we want](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=180.63244500000002) [to leverage this is by introducing a chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=182.5931116666667) [of responsibility. Looking at our program,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=185.01973071428577) [what we're doing here is we are creating](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=186.7228735714286) [an order with two items. I am purchasing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=188.66744500000013) [an Atomos Ninja V, as well as a Canon EOS](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=190.66087357142862) [R. I then proceed to add a PayPal payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=193.8785878571429) [of $1000, and then an invoice payment of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=196.03522277777773) [$1797. And then what we do here is that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=201.94082) [simply print the amount due and the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=204.29054499999995) [shipping status, and then we do the same](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=205.9203021428572) [thing after we've handled the payment. Of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=207.77344499999998) [course running this now, it tells us that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=210.35732000000007) [the total amount due is $2797, and it's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=211.99787357142864) [still waiting for payment. So we need to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=216.30811166666672) [go ahead and implement the payment, and to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=218.27100055555562) [do that we want to introduce the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=219.57744500000004) [responsibility pattern. I've gone ahead](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=222.55544500000008) [and added this folder called Handlers. I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=223.9124450000001) [have the same interface for our IHandler](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=225.41515928571437) [of T where we are now capable of setting](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=227.57044500000003) [the next handler in our chain, as well as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=229.97919500000006) [handling that particular request. Then I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=232.88544500000003) [have my abstract PaymentHandler, which is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=235.3067783333334) [a simple IHandler of an Order. Now we need](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=237.58219500000007) [to define the abstract way of handling a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=240.63077833333338) [particular order. I mentioned earlier that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=243.51794500000005) [one of the things that we need to do is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=245.732445) [validate that in case there are no more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=248.28744500000005) [handlers to execute, which means that next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=250.84601642857152) [is equal to null, and there's an amount](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=253.3264450000001) [due under the order, we probably have an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=255.972445) [exception that we want to throw back to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=258.25744499999996) [the user. We also then potentially want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=260.179445) [roll back the previous payments, but](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=261.9049449999999) [that's something that you can play around](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=263.9494450000001) [with yourself after watching this course.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=266.1035878571428) [So let's go ahead and implement handle for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=268.28644500000007) [our abstract PaymentHandler. So in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=270.2304450000001) [case of there being no more handlers to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=273.6497783333334) [execute and we still have something to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=275.0698735714286) [pay, we want to throw an exception. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=276.85766722222235) [next thing that we want to do is to check](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=278.96004500000004) [if there is still something that we need](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=280.29357000000005) [to pay on the order. So then if we still](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=281.83611166666674) [have something to pay and there is someone](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=284.0005561111112) [next in line, we can call that handler as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=285.90544500000016) [well, although if there's nothing left to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=288.4571592857142) [pay, we don't really have to call the next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=290.146587857143) [handler in line, we can simply change the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=291.7474450000001) [status of our order. Of course, in a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=293.82144500000004) [real-world scenario you would probably not](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=296.38658785714296) [change the shipping status on the order in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=297.9469450000001) [this particular manner, you would probably](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=300.37801642857136) [add a record in your database to say that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=302.086445) [the status of the order has now changed so](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=304.20011166666666) [that someone else can take care of that.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=306.35469500000016) [But for demo purposes and to keeping this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=308.22244500000005) [very simple, this is what our abstract](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=309.62344500000006) [PaymentHandler is now doing. We can do](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=312.8054450000001) [this particular validation to check that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=315.4941592857143) [we have a next handler, we can check if we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=317.2024450000001) [still have an amount due and then call the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=319.4349450000001) [next handler, otherwise we could tell the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=321.0631116666667) [system that it's now ready for shipment.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=322.54273071428565) [So now we have the abstract handler for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=324.1874450000001) [how a payment should be processed. So what](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=325.9936672222221) [we now need to do is to introduce the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=328.7352450000001) [concrete payment handlers. And I've](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=330.8679450000001) [prepared three different handlers. we have](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=333.6011116666667) [the PaypalHandler, the InvoiceHandler, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=335.7364450000001) [our CreditCardHandler. So let's go ahead](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=338.37724500000013) [and create the implementations for one of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=340.1313021428573) [them, and then the others are fairly](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=341.4566450000001) [similar. The PaypalHandler will know how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=344.0648735714285) [it processes the PayPal payment. It will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=345.91144500000007) [know about the payment processor, it will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=348.7390164285715) [inside handle make sure that we have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=350.8443021428572) [selected payment provider of PayPal on the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=353.9410164285716) [order's selected payments. It will then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=357.0584450000001) [leverage that particular PayPal payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=359.3324450000001) [processor to finalize our order, and then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=360.7751116666667) [it will go ahead and call base.Handle. So](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=363.34944500000006) [now we have our PaypalHandler implemented.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=365.8831116666667) [The code for the rest of them is fairly](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=370.27044500000005) [similar. The InvoiceHandler is no](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=372.63384500000024) [different. We have our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=374.687645) [InvoicePaymentProcessor, we check that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=376.8986950000001) [we've selected an invoice as a part of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=378.47232) [payment. We then proceed to call Finalize](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=381.77624499999996) [on our InvoicePaymentProcessor, and then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=383.57519500000024) [go ahead and proceed and call the next one](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=385.4296450000001) [in line. And of course you might have](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=388.1418894444447) [guessed it. In this case here, the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=389.6174450000001) [CreditCardHandler is pretty much the same](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=391.4901592857144) [implementation. The particular way that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=393.33204500000016) [handle the payments in this case here](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=394.70673071428575) [doesn't really matter. The important part](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=396.80132000000003) [here is that you get an understanding of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=398.1967783333333) [the chain of responsibility. The way that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=399.990445) [we first tried to process the the request](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=402.57277833333336) [by introducing one handler, and then as we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=404.50177833333345) [proceed to the next handler if we still](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=406.9988894444444) [have money to pay, it might run that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=408.774045) [handler as well. So now let's see how we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=410.5186950000001) [can leverage this payment handler to pay](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=412.7037783333333) [for our particular order. We'll start off](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=415.02544500000016) [by creating our PaypalHandler because we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=417.35994500000015) [need to create an instance of one of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=418.75144500000005) [concrete handlers to allow us to then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=421.014945) [append more handlers to it. So this here](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=423.40344500000015) [now created our PaypalHandler, we then set](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=426.37187357142864) [the next handler to be the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=428.05477833333333) [CreditCardHandler, and then finally the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=429.13144500000004) [last handler that can potentially handle](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=431.32344500000005) [your payment is the InvoiceHandler. And](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=433.3104450000001) [then, all that we need to do is to say](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=436.3640813636364) [that we want to handle our particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=438.14044500000006) [order. And now as we run the application,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=440.42157000000003) [you'll notice here that we still have an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=442.71544500000005) [amount due to pay. So for some reason,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=444.09544500000004) [what happened here is that we didn't get](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=446.598445) [our order paid in full. So let's have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=448.93200055555553) [look at the selected payments. We can see](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=451.60766722222223) [here that we are saying that we want to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=453.17764500000004) [pay by both PayPal, as well as pay by](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=455.1318450000001) [invoice. The amounts that we have here add](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=458.6663200000001) [up to what we need to pay in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=460.68394500000005) [application, so how come it didn't invoke](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=462.15544500000004) [our invoice payment handler? If we have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=464.43144500000005) [look at the particular implementation, I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=467.7624450000001) [did leave a bug in here. What I did here](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=468.9436950000001) [was that I returned from the handler if](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=471.79422277777786) [the order didn't have that particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=473.601445) [payment selected. So this here is an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=475.8477783333334) [interesting bug. This means that we broke](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=478.28830214285716) [off the chain, we returned back up the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=480.46494500000017) [chain without proceeding to running the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=483.48573071428586) [next one in line. So that's a little bit](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=486.024445) [problematic. So instead what we need to do](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=489.67827833333337) [is that we need to change our handlers and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=491.0305450000002) [only finalize the order if we have that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=493.286587857143) [particular payment selected. So why did I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=495.7214450000001) [add this bug in the application? Well, it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=498.75784500000003) [illustrates that you really need to make](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=500.9894450000001) [sure that you run the next handler in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=503.08666722222233) [line, otherwise you might end up having](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=505.54557000000005) [issues in your applications that you might](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=507.51344500000005) [not have anticipated. Because in this case](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=509.84244500000005) [here, we didn't get an exception that the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=512.7139450000002) [order wasn't paid in full, and it didn't](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=514.2519449999999) [proceed to run the next payment handlers](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=515.9860005555554) [in line. So let's go ahead and fix this in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=518.145945) [all of our different handlers, and then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=520.0674449999997) [proceed to run the application again. And](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=521.6385878571427) [now as we run the application, we can see](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=524.3041592857144) [that we are no longer waiting for payment,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=526.4687783333333) [but it did run through the entire chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=528.4214450000001) [our handlers. It ended up running the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=531.771245) [invoice handler last, which reduced the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=534.3565878571432) [amount to be paid to 0 and changed the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=536.5089450000003) [status to ReadyForShipment. I proceeded](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=540.2699449999998) [into the payment handler and added this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=542.1293021428573) [line here, which will tell us which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=543.9571950000002) [payment handler it's currently executing.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=545.9062783333334) [So if we run this again, we'll see here](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=548.5154450000001) [that it starts off running the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=549.7514450000001) [PaypalHandler. It then runs the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=551.5248735714285) [CreditCardHandler and then runs the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=553.0855878571431) [InvoiceHandler, and then the amount due is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=554.8387783333334) [reduced to 0. So this here illustrated how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=557.694445) [we very simply introduced a way for us to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=560.3545700000002) [more easily express the way that we want](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=563.0624449999998) [to be able to process payments for an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=564.739645) [order. We can add more ways for us to pay](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=566.894045) [an order. Imagine allowing us to introduce](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=569.9327177272733) [a bank transfer or cash payment, or other](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=571.8260164285714) [things like that. This makes the whole](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=575.2648735714287) [process of introducing new ways of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=577.8581950000003) [handling a particular request much more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=580.0301592857145) [simple than it would be if we looked back](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=582.567945) [at the way that we solved this before. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=585.857333888889) [way that we solved this by using the chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=587.954945) [of responsibility pattern is much more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=590.1314450000001) [convenient and allows us to create more](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=592.367445) [extensible, maintainable, readable, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=595.8631116666668) [dynamic code. So again, we saw a great](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=598.206945) [benefit of increasing the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=601.208945) [responsibility pattern. Of course, by now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=603.7687783333333) [you've probably identified one of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=606.1088735714287) [drawbacks of leveraging the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=608.2148735714286) [responsibility pattern. It does introduce](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=610.5559450000001) [a little bit more code. The code can be a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=612.212945) [little bit harder to debug, but it makes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=614.4065561111112) [it so much easier for you write tests for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=616.0434449999999) [it, it makes the code that you are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=618.2554450000002) [building more extensible and dynamic,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=620.7238735714287) [which means that you'll end up having a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=622.4868735714286) [much better experience building your applications.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=3&mode=live&start=624.579445)

[Example: Improving the Payment Processor](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live)

[Let's now have a look at how we can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=1.7521120000001975) [improve our implementation of the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=3.0418120000001974) [responsibility pattern. There are multiple](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=5.046112000000197) [different ways that we can go by](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=7.702397714285913) [implementing this pattern in our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=9.861112000000196) [applications. We've been looking at one](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=12.156112000000194) [example of how to do this, now let's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=13.357889777777974) [improve our payment processing to tweak](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=15.063540571428765) [our implementation a little bit. We're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=17.225612000000197) [inside Visual Studio, and we are now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=20.217612000000198) [looking at our abstract PaymentHandler.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=21.7751120000002) [What we've done so far is having our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=25.076112000000197) [receiver and handler being the same thing.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=26.712112000000197) [What we want to do now is to separate the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=29.963112000000198) [receiver and the handler and make sure](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=32.106112000000195) [that we have a payment handler that can](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=34.07836200000021) [have a list of our different receivers.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=35.83400088888911) [Now that I've refactored the payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=39.4061120000002) [handler, instead of it being a linked list](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=40.5561120000002) [of IHandlers, we now have a list of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=43.0831120000002) [receivers that takes care of processing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=45.5671120000002) [our request, which in this case is going](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=48.06396914285735) [to be an order. In the constructor of our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=50.00066755555573) [payment handler, we can take a list of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=52.4591120000002) [receivers that this particular handler is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=54.408112000000195) [taking care of. We can still have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=56.3361120000002) [SetNext method, which allows us to add](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=58.3431120000002) [more receivers to our list of handlers](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=60.22173700000019) [that could potentially handle our given](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=62.60896914285733) [request. Now the way that we process this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=66.39294533333353) [chain of receivers is of course in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=68.02722311111131) [method handle. This now looks a little bit](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=70.63661200000016) [different from what we saw earlier. We](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=72.4871120000002) [still handle a given request, which in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=74.40094533333354) [this case, of course, is still the order.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=76.1385120000002) [In order for us to process the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=77.99211200000019) [receivers, we iterate over each receiver.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=79.40011200000019) [We have the same check that we had earlier](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=81.9961120000002) [to check if we still have an amount due.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=83.65011200000019) [If you do have an amount due, we pass the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=85.52811200000019) [order down to that particular receiver to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=88.17411200000019) [handle our request. The receiver can then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=90.1131120000002) [of course decide if it should act or not](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=92.9071120000002) [on our given request. If we don't have an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=95.62222311111132) [amount due in this case here, we're simply](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=97.96761200000019) [going to break out of the chain, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=99.27236200000021) [finally in our handler we're going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=101.2103620000002) [check if there's still an amount due after](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=103.2181120000002) [we've processed the entire chain. If we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=104.98696914285733) [still have an amount to be paid, we're](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=107.3910008888891) [going to throw the same exception that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=109.23668342857162) [did earlier, otherwise we're going to mark](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=110.62096914285733) [our order as being ready for shipment. Now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=112.5930008888891) [the interesting part here is that our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=115.11523700000019) [concrete implementations of our handlers,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=117.2161120000002) [which are now going to be our receivers,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=119.5811120000002) [no longer have to inherit from this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=122.0471120000002) [payment handler. So we've separated the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=124.99333422222237) [handler from our receiver, and this of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=127.12711200000022) [course means that each receiver is not in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=129.82982628571452) [charge of making sure that we run the next](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=132.76948700000023) [receiver in line. The handler is now in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=136.18911200000022) [charge of making sure that the request is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=138.52877866666688) [passed down to each receiver, the receiver](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=141.1516120000002) [can then decide if it needs to act on this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=144.02268342857164) [particular request or not. So how do we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=147.54571200000026) [change our previously concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=150.28411200000022) [implementations of the handlers to being](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=151.6921120000002) [an implementation of an IReceiver? The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=153.73468342857157) [IReceiver interface is pretty much the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=156.2458262857145) [same thing as our IHandler, although what](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=158.11011200000019) [we don't have here is our SetNext method.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=160.2826120000002) [So now let's go ahead and implement this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=162.0893620000002) [interface and change our concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=164.26477866666684) [implementations of our previous handlers](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=165.6901120000002) [to implement this interface instead. We'll](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=168.01044533333354) [start off by refactoring our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=170.95111200000022) [PaypalHandler. Instead of inheriting from](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=173.04611200000028) [our PaymentHandler, we're now going to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=174.92991200000017) [implement the interface IReceiver of T.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=177.2961120000002) [This means that we no longer need to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=179.6151120000002) [override a method inside a base class](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=181.0651120000002) [because we are no longer inheriting from](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=184.0221120000002) [an abstract class. This also means that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=185.53848700000015) [don't have to call the base class in order](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=187.7441120000002) [to continue processing the chain. What's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=190.2941120000002) [really interesting here is that our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=193.2633977142859) [receiver no longer has to know that it's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=194.8551120000002) [being executed through a chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=197.8801120000002) [responsibility pattern. This makes our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=199.7461120000002) [receiver even more separated than what we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=202.38111200000017) [had previously. And once again, I want you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=205.10731200000018) [to note here that even though we passed](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=206.9787786666668) [the request down to this particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=209.19111200000017) [handler, it doesn't have to act on its](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=211.2803977142859) [given request. A handler can act on a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=214.46944533333357) [given request if it wants to or not. One](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=216.63291200000026) [or more handlers in the chain could decide](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=218.9146675555557) [to act on a given request. And in this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=221.1755120000002) [case here, we only act on our particular](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=223.6571120000002) [request if we have a selected payment](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=225.75396914285733) [provider of PayPal on our order. The](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=228.01354057142876) [request will then go on in the chain and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=230.99277866666685) [each handler that wants to process this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=232.4139870000002) [request can do so accordingly. So let's do](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=234.2611120000002) [the same change to all of the different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=235.4761120000002) [receivers. Let's now go ahead and go into](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=238.7581120000002) [our program where we previously used our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=240.86566755555572) [concrete implementations of our handlers.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=243.10261200000022) [The way that we now build up the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=246.6671120000002) [receivers and run them through our handler](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=248.8871120000002) [is by first creating our PaymentHandler.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=251.3911120000002) [The PaymentHandler can take a list of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=255.0371120000002) [receivers in the constructor, but we could](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=257.8561120000002) [also call SetNext in order for us to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=259.8851120000002) [append more receivers if we so like to.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=262.6131120000003) [Our PaymentHandler now has the capability](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=265.1251120000002) [of running a PayPal, Invoice, as well as a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=267.0251120000002) [CreditCardHandler. They're passed into the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=269.0961120000002) [constructor when we are creating our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=271.21411200000017) [PaymentHandler, and then we can call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=273.2961120000002) [handler.Handle in order for this to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=275.1231120000002) [process this request and pass it down to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=277.7656834285717) [each handler for each handler, or also](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=280.08473700000013) [known as the receiver, to act on this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=282.22961200000015) [given request if you'd so like to. If we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=284.6183620000003) [run the application, we see that we get](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=286.97755644444464) [the same result as we did earlier. It runs](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=288.5136120000002) [through our chain, processes the request](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=291.0097120000002) [using the receivers, and then when the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=293.1051120000002) [process has completed, one or more of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=295.6085405714288) [these different handlers acted on our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=297.74639771428593) [given request and the order value left to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=299.4097370000003) [be paid is now 0 and we can now shape our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=301.3914756363638) [order to our customers. So the way that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=304.26439771428596) [refactored our payment handler, we now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=307.0408620000003) [separated our receivers from our handler.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=309.2861120000002) [Our handler now has a list of receivers,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=311.80248700000027) [which it can use to process our given](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=314.32923700000026) [request. The PaymentHandler doesn't know](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=317.16036200000025) [anything about the concrete](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=319.0151120000003) [implementations of any of our different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=320.54811200000023) [receivers, and our receivers, which in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=323.0236120000002) [this case handles our PayPal payment,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=324.9446834285716) [doesn't have to know that it's being](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=327.0861120000002) [executed through a chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=328.4771120000002) [pattern. It no longer has to call](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=330.7725405714289) [base.Handle in order for it to continue](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=332.95511200000027) [processing the chain. If we want to break](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=334.9926120000003) [out of the chain, we can simply throw an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=337.0717786666669) [exception in one of these handle methods,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=339.161778666667) [that'll bubble up to whoever is then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=341.0313977142859) [executing our payment handler. So this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=343.5849691428573) [here gives you an alternative approach to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=345.6429691428573) [implementing the chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=347.2017786666669) [pattern. We now separated our concerns](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=349.1251120000002) [even more than we had earlier, and our application just got a little bit better.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=4&mode=live&start=351.45761200000027)

[Existing Implementations: ILogger](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live)

[Let's have a look at an existing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=1.4845900000003167) [implementation of the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=2.5765900000003166) [responsibility pattern. A very common](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=4.924590000000316) [situation where this pattern is applicable](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=7.403590000000317) [is for a logger. So let's jump into Visual](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=9.201923333333651) [Studio and have a look at this ASP.NET](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=11.90459000000032) [Core application. We're inside our program](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=14.864590000000314) [where we are creating our host builder.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=16.879447142857465) [This allows us to configure, for instance,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=19.505590000000318) [things like our logging. We can proceed to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=21.277590000000316) [say that we want to clear out all the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=23.682990000000324) [registered logging providers and then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=26.142090000000323) [start to append logging providers that we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=28.235447142857463) [want to leverage in our application. You](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=30.44434000000032) [can see here that we can add console](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=32.49247888888921) [logging, we can add debug logging, which](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=34.07559000000032) [will write the logs out to our debug](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=36.42214555555587) [window, we can add event logs, which will](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=39.15459000000032) [add the logs depending on the severity to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=41.390340000000315) [our Windows event log, and then of course](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=44.17859000000032) [if we use external logging providers, we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=47.31059000000031) [can also introduce things like database](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=49.51409000000031) [logging or to various other types of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=51.63544714285746) [systems that allows us to build powerful](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=54.013340000000326) [logging systems. So this here leverages](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=56.91459000000032) [the chain of responsibility pattern. In](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=58.84487571428604) [this case here, we are simply saying that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=61.824215000000315) [we want to add a console logger, a debug](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=63.02084000000032) [logger, as well as logging to our event](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=65.7003677777781) [log. What happens now is that whenever we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=68.06987571428604) [call logger.Log inside the application, it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=70.20192333333365) [will now proceed to add this to our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=72.05259000000032) [console, to debug, as well as adding this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=74.56825666666698) [to our event log. So even though we might](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=77.49159000000033) [not know that this is leveraging the chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=80.08281222222251) [of responsibility pattern, internally this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=82.44459000000033) [is built up by a list of loggers. If we](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=84.0662150000003) [are using the pattern that we did in our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=86.51621500000032) [earlier demos where we were simply](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=88.6353400000003) [appending a next object to our chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=90.19844714285745) [loggers, you could implement the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=92.90309000000033) [responsibility pattern in multiple](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=94.08659000000031) [different ways. The way that they've](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=95.84659000000032) [decided to build this using the loggers in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=97.18259000000032) [.NET is by having a list of loggers. You](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=99.26159000000031) [can, of course, do it the way that we did](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=101.93259000000032) [it earlier in the demos where we apply a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=103.31492333333365) [next handler to each handler itself, but](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=105.69044714285745) [in this case here they leverage a simple](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=108.59434000000032) [list of loggers and they iterate over this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=109.84873285714318) [list to run one or many of these different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=112.18299000000032) [handlers. So even though you might not](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=115.57309000000032) [have known that this is the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=117.52259000000029) [responsibility pattern, it's applied in a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=119.10073285714321) [whole lot of different places to allow us](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=120.77321500000029) [to write much more extensible and sensible code.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=5&mode=live&start=122.94871500000029)

[Existing Implementations: ASP.NET Core Processing Chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live)

[Another place where the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=1.6817010000003503) [responsibility pattern is applied is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=2.76370100000035) [inside the ASP.NET Core processing chain,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=5.067034333333683) [also known as the middlewares. The ASP.NET](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=7.69770100000035) [Core middlewares allows us to chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=10.863272428571777) [middlewares together to allow us to handle](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=12.920129571428923) [certain different types of scenarios. This](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=15.158534333333684) [image here is taken from the Microsoft](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=17.60932600000035) [documents, and it illustrates how our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=19.51070100000035) [first middleware might get a request, it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=21.977558142857486) [does some processing or logic on that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=24.46157600000035) [particular request, and then calls the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=25.84670100000035) [next middleware in line, which in its turn](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=27.722129571428916) [has some logic and then calls another one,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=30.066451000000352) [and then at the end returns back the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=31.82670100000035) [chain, and then whoever's invoking the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=33.68092322222258) [first middleware can then go ahead and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=35.73520100000035) [take care of the response of all of this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=37.79320100000034) [aggregation of whatever the middleware is](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=40.426201000000376) [put together, and return that back to the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=42.34527242857178) [caller. And again, we're inside Visual](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=45.08527242857177) [Studio and we're looking at an ASP.NET](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=46.63655814285749) [Core application. If we scroll down to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=49.511272428571765) [Configure here, we can see that we are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=51.344415285714646) [using our application builder. Normally](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=52.79195100000037) [what you see in here is things like](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=55.62682600000035) [app.UseHttps, UseRouting,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=58.01203433333368) [UseAuthorization, UseEndpoints, and so](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=60.65270100000035) [forth. There's a lot of different things](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=63.21670100000034) [that we can use with our application](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=64.47645100000037) [builder. But what I'm doing here is that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=67.27853433333367) [I'm setting up three different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=68.91925655555586) [middlewares. We're simply saying that I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=70.44270100000034) [want to use this thing here that allows me](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=71.5720343333337) [to leverage the context and then also has](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=73.30407600000038) [a reference to the next handler. So just](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=75.38995100000038) [to illustrate how this works, I'm running](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=77.86055814285749) [the first handler, then I'm running the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=79.59584385714318) [second handler, and then I'm running the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=81.01453433333366) [third handler, and after each is done,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=82.64741528571463) [we're going to go and proceed and add](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=84.48370100000035) [something back to the console to say that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=86.26670100000035) [that particular middleware is done. As I](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=87.81270100000035) [run this here and call the endpoint that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=90.0332565555559) [is hosting this ASP.NET Core website on,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=92.14912957142892) [you'll see that it first runs the first](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=94.68270100000035) [handler, second one, third one, and then](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=96.64270100000034) [it's done with the third one, done with](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=98.70670100000035) [the second one, and then done with the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=100.01820100000036) [first one. So this here executed a chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=101.88270100000035) [of different middlewares inside my ASP.NET](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=105.07020100000037) [Core application. So this illustrates how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=108.16770100000036) [it's now leveraging the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=110.63927242857179) [responsibility pattern inside ASP.NET](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=112.81670100000036) [Core. And if you're building middlewares](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=114.31853433333367) [and if you're leveraging anything inside](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=116.45770100000036) [ASP.NET Core, at one point or another it](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=119.04455814285748) [is leveraging the chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=122.05957600000033) [pattern. So again, you might not have](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=124.15720100000036) [known that this is the particular pattern,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=126.15270100000038) [but it's a very powerful pattern and it's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=127.85812957142893) [commonly applied in a lot of different types of applications.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=6&mode=live&start=130.67403433333362)

[Summary and Final Words](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live)

[So throughout this course, we discovered](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=1.3175900000003167) [the chain of responsibility pattern. We](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=2.9611614285717454) [saw how we can easily change our](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=5.313965000000316) [application to make it more testable,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=7.038590000000316) [maintainable, and honestly, more fun to](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=9.186590000000317) [work with. It decouples the sender and the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=12.007340000000314) [receiver so we no longer had to know about](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=15.063340000000315) [the particular implementation details](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=16.883340000000317) [inside our particular sender or](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=18.92284000000032) [application to, for instance, finalize the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=21.388923333333647) [payment in PayPal. I only need to know](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=23.662304285714605) [about the chain of handlers, but then how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=25.52203444444477) [they are implemented and what kind of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=27.449018571428894) [logic they are running through, I don't](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=29.398090000000323) [have to care about that at all. And what's](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=31.361390000000313) [interesting is that saw that one or many](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=33.938090000000315) [handlers can act on a given request. We](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=35.643034444444766) [saw how we can split up payments using](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=38.164145555555876) [different payment providers and allowing](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=40.28859000000032) [the users to pay for an order using PayPal](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=42.22859000000032) [or an invoice. We also saw we can leverage](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=44.47559000000032) [the built-in things in ASP.NET like the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=47.08759000000032) [logger to allow us to write output to the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=49.16759000000032) [console log, the event log in Windows, as](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=51.74359000000032) [well as a debug window. And one of the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=54.506256666666985) [main goals of the chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=56.589790000000306) [pattern is to allow us for a clean and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=58.09059000000032) [single responsibility handler. We are now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=61.89859000000031) [in a place where there's less code inside](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=64.44192333333365) [our handlers, so it means that it's easier](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=66.8183400000003) [for us to write tests for them and to make](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=69.32803444444475) [sure that they are working properly for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=72.02984000000032) [our particular use case. The chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=74.54625666666699) [responsibility pattern is really just an](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=77.37009000000033) [object-oriented way of expressing a chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=79.53359000000033) [of if, else if, and else statements,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=81.80959000000031) [although I want to urge you not to go](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=84.33301857142888) [ahead and change all your if, else if, and](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=86.85692333333364) [else blocks to leveraging the chain of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=89.23321500000034) [responsibility pattern. As you saw in the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=92.01992333333364) [payment handler, it's still okay to use a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=94.68559000000033) [statement, but in some situations it makes](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=96.86987571428602) [a lot more sense to break it out to have a](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=98.58459000000029) [single responsibility. And finally, we saw](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=101.78159000000028) [how easy we can extend and chain](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=103.33403444444474) [additional handlers together to, for](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=105.23059000000032) [instance, achieve something like they've](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=106.82159000000033) [done in ASP.NET Core. We can append](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=108.29559000000032) [multiple different middlewares to allow us](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=111.2075900000003) [to get a very powerful application. A](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=113.1030900000003) [middleware can handle the potential](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=116.30942333333365) [invocation of a controller, a middleware](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=118.06859000000031) [can handle to make sure that we are](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=119.81209000000032) [authorized. A middleware can take care of](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=121.84325666666699) [if there's an exception and we are running](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=123.53192333333361) [this on our local machine, display that](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=125.33859000000031) [particular exception to the user. So the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=127.46079000000033) [chain of responsibility pattern allows us](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=129.64825666666698) [to write really powerful applications,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=131.64192333333364) [making sure that we separate our different](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=133.69192333333365) [concerns, have single responsibility in](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=137.28259000000034) [our different parts of the applications,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=139.6079233333337) [and write code that is more solid than the](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=141.8963042857146) [ways that we might have done this](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=144.17159000000038) [previously. I really hope you've enjoyed](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=146.4117900000003) [watching this course and that you will now](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=148.09759000000028) [be able to find situations where you could](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=149.86759000000038) [apply these chain of responsibility](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=152.15759000000028) [patterns in your applications. I urge you](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=154.29459000000028) [to play around with this yourself, extend](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=157.12192333333368) [the applications that we've been looking](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=159.04092333333364) [at, and let me know in the discussion how](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=160.24721500000032) [you go about that, and please do tell me](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=162.68925666666698) [if you find ways in your day-to-day work](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=165.00309000000027) [to apply this pattern to make your](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=167.08373285714322) [applications much more powerful,](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=169.4400900000003) [extensible, and testable. My name is Filip](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=170.87309000000033) [Ekberg, and thank you so much for watching this course.](https://app.pluralsight.com/player?course=c-sharp-design-patterns-chain-responsibility&author=filip-ekberg&name=b3fc30b2-9d1f-450f-8aaf-b8a77970f0ea&clip=7&mode=live&start=173.7095900000003)