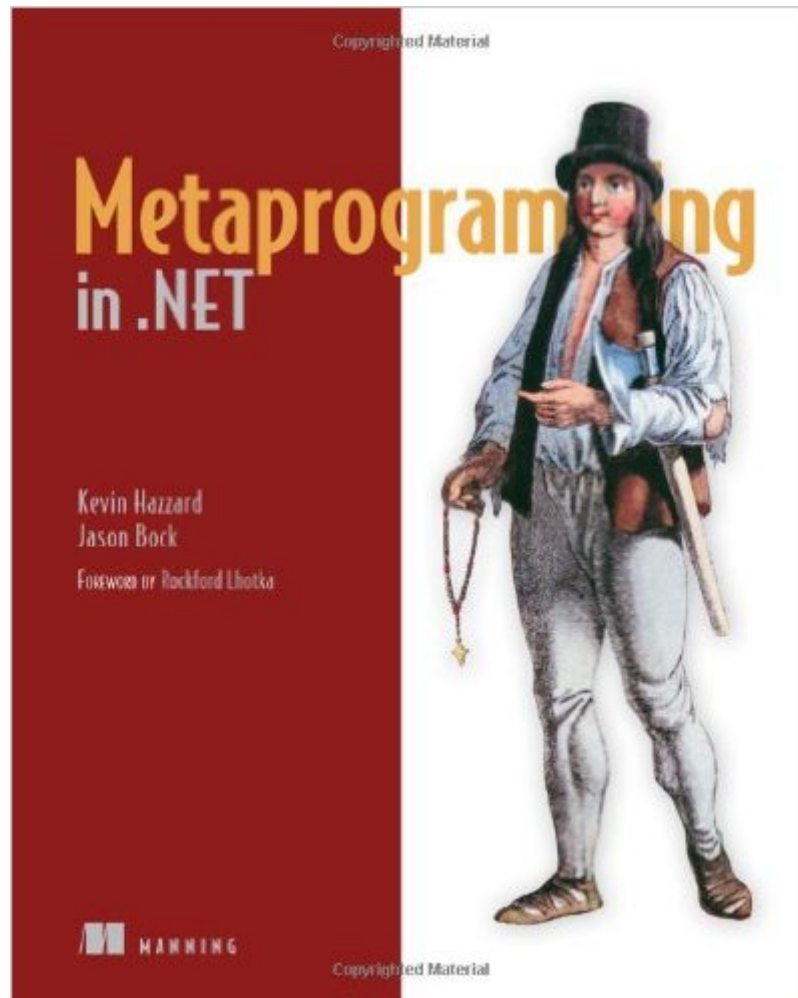


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# Metaprogramming In .NET



## Synopsis

Summary Metaprogramming in .NET is designed to help readers understand the basic concepts, advantages, and potential pitfalls of metaprogramming. It introduces core concepts in clear, easy-to-follow language and then it takes you on a deep dive into the tools and techniques you'll use to implement them in your .NET code. You'll explore plenty of real-world examples that reinforce key concepts. When you finish, you'll be able to build high-performance, metaprogramming-enabled software with confidence.

About the Technology When you write programs that create or modify other programs, you are metaprogramming. In .NET, you can use reflection as well as newer concepts like code generation and scriptable software. The emerging Roslyn project exposes the .NET compiler as an interactive API, allowing compile-time code analysis and just-in-time refactoring.

About this Book Metaprogramming in .NET is a practical introduction to the use of metaprogramming to improve the performance and maintainability of your code. This book avoids abstract theory and instead teaches you solid practices you'll find useful immediately. It introduces core concepts like code generation and application composition in clear, easy-to-follow language. Written for readers comfortable with C# and the .NET framework, no prior experience with metaprogramming is required. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

What's Inside Metaprogramming concepts in plain language Creating scriptable software Code generation techniques The Dynamic Language Runtime About the Authors Kevin Hazzard is a Microsoft MVP, consultant, teacher, and developer community leader in the mid-Atlantic USA. Jason Bock is an author, Microsoft MVP, and the leader of the Twin Cities Code Camp. "An excellent way to start fully using the power of metaprogramming."

From the Foreword by Rockford Lhotka, Creator of the CSLA .NET Framework

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## Customer Reviews

TL;DR: This is a great book (not perfect), but not an easy read for everyone, not because the writing is bad, but because the subject is a whole new level of abstraction above what most developers deal with. Full disclosure: Manning Publications is a publisher I've published with before, and Kevin and Jason are both friends of mine in the .NET community. I write a column for MSDN Magazine, and metaprogramming was one of the topics in one of the series I've written ("Metaparadigmatic Programming") for the column, so this subject is not unfamiliar to me. Kevin and Jason have done a great job covering a pretty diverse subject, in my opinion. Because metaprogramming is "programming about programming", it's sometimes a hard concept for people who've never really investigated it to wrap their heads around, but Kevin and Jason do a great job opening with some concepts first, then exploring .NET Reflection, which is most developers' first introduction to metaprogramming. If you can understand how Reflection is programming against code and code metadata, then you're in a good place to start exploring metaprogramming in further depth. And explore it they do. From code generation with T4, CodeDOM and Reflection.Emit to code-level Expressions to low-level IL munging, they take you through a lot of the metaprogramming tools. They've also tried to include some practical places where these techniques are useful, though I do wish the examples had been a bit "larger", meaning they were integrated into the larger picture of a "real-world" system, but that's hard to do sometimes, and most readers sufficiently senior enough to read this book should be able to see how to apply them to their own problems.

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