Summary

In the beginning of this chapter, we argued that the overall performance of a web application is controlled not only by your code, but also by various parts of the pipeline. We started this chapter by examining some testing and analyzing tools that can assist you in locating the bottlenecks in your web applications. By proper testing, and using monitoring and analysis tools, you can easily track down problems, and significantly improve the performance of your web application. From there, we went over the pipeline, identifying different parts of it that can be modified to make your application either work faster, work smarter, or provide smaller payloads so they can be sent more quickly. After going over this chapter, you are now aware to how small changes, such as working properly with client-side caching, can help reduce the number of requests your server has to deal with, resolving some bottleneck issues many applications are facing.

Later on in the chapter, we realized that a single server will not be able to handle all of your client's requests, so planning ahead for scaling and applying scalable solutions beforehand, such as distributed cache and out-of-process state management, will enable you to scale easier once you've reached the point where one server is just not enough. Finally, in this chapter we only explored different techniques of improving the server-side of your web application, leaving another side for you to explore—the client side.

This is the last chapter of this book. Throughout its eleven chapters, you have seen how to measure and improve application performance, how to parallelize .NET code and run your algorithms on the GPU, how to navigate the complexities of the .NET type system and garbage collector, how to choose collections wisely and when to implement your own, and even how to use the latest-and-greatest processor features to squeeze additional performance for your CPU-bound software. Thank you for following us on this journey, and best of luck improving the performance of your applications!