

Stephen Halter

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Summary

Principal Software Engineer with 14 years building foundational developer platforms across .NET, Azure, and open source. Lead developer across major ASP.NET Core framework areas including Minimal APIs, Kestrel, dependency injection, Identity APIs, SignalR, and the official Model Context Protocol (MCP) C# SDK. Deep experience in API design, networking, authentication, SDK and protocol design, compatibility, security response, developer experience, and cross-team technical leadership.

Experience

Principal Software Engineer

Microsoft 2012–Present

Lead developer across ASP.NET Core framework areas used by developers to build, deploy, secure, and operate applications across the Microsoft developer ecosystem and Azure.

- **Minimal APIs and modern .NET hosting.** Led the ASP.NET Core Minimal APIs framework implementation, making it the default model for new ASP.NET Core applications in .NET 6 and shaping related C# language, hosting, templates, docs, and ecosystem guidance across a cross-team platform effort informed by research across Java, Node.js, Python, Ruby, and PHP ecosystems.
- **AI protocol and SDK infrastructure.** Primary contributor and maintainer for the official Model Context Protocol (MCP) C# SDK. Designed and implemented protocol features, transports, middleware, and developer-facing APIs with an emphasis on compatibility, migration ergonomics, distributed deployment, and production adoption.
- **Kestrel, IIS, and HTTP server infrastructure.** Led major Kestrel investments in core HTTP/2, HTTPS, connection-lifecycle, rate-limiting, and security-mitigation infrastructure, including work used in coordinated CVE responses. Also worked on IIS/HTTP.sys integration and native C++ modules across managed runtime, protocol, and Windows server boundaries.
- **Dependency injection and application architecture.** Owned major design and implementation work in the .NET dependency injection framework underpinning ASP.NET Core, Entity Framework, worker services, hosting, configuration, and the modern .NET application model.
- **Identity and authentication.** Designed and led ASP.NET Core's built-in token-based Identity API endpoints for .NET 8, adding a first-party authentication option for API-centric applications and broadening the framework's out-of-the-box security story.
- **SignalR and real-time systems.** Early core developer on ASP.NET SignalR, spanning transports, scale-out, authorization, and client libraries across .NET, JavaScript/TypeScript, Java, and mobile platforms; helped shape real-time infrastructure for ASP.NET Core's cross-platform stack.
- **Open-source architecture and ecosystem leadership.** Reviewed thousands of ASP.NET Core pull requests, participated in hundreds of .NET API design reviews, and triaged hundreds of issues, influencing platform compatibility, security, and developer-experience decisions across the .NET ecosystem.

Software Engineer Intern

Microsoft Summer 2011

ASP.NET team. Built developer tooling for Visual Studio.

Software Engineer Intern

Rosetta Summer 2010

Built Azure-hosted ASP.NET web applications. Sole back-end developer at launch for a consumer-facing product.

Education

The Ohio State University

B.S. Computer Science & Engineering, 2012