

JOSH TOPPING

Solutions Architect / Senior Software Engineer

Azure • .NET • DevOps • Distributed Systems • System Modernization

Ottawa–Gatineau Area

Profile

Solutions architect and senior .NET engineer with 10+ years of experience designing and delivering cloud platforms and modern enterprise systems.

Specializes in Azure architecture, distributed systems, and modernization of large legacy applications. Experienced translating complex technical requirements into practical system designs and guiding development teams through implementation.

Strong background in full-stack development, system integration, DevOps automation, and technical mentorship.

Technical Skills

Architecture & Design

System architecture, distributed systems, microservices, event-driven architecture, domain-driven design, CQRS vertical slice architecture, modular monolith, system integration, legacy modernization, Strangler Fig migration patterns

Cloud & Infrastructure

Microsoft Azure (App Services, Container Apps, Service Bus, API Management, Entra ID, App Configuration, Application Insights, Key Vault), container registries, cloud monitoring, platform configuration and deployment

Backend Engineering

.NET / C#, EF Core, REST APIs, service bus integration, distributed systems design

Frontend

Angular, Blazor, custom UI components

Databases

SQL Server, PostgreSQL, Oracle, CosmosDB, JSONB

Database design, schema migration, normalization, performance optimization

DevOps & Automation

Git, GitHub, Azure DevOps, CI/CD pipelines (YAML, Bicep), PowerShell

Testing & Quality

Unit testing, integration testing, end-to-end testing, test strategy and automation

Professional Experience

Key Architecture Leadership Projects

- Vessel Registration Platform Modernization: Azure microservice platform replacing legacy vessel registry system, enabling scalable service architecture and supporting national vessel registry operations.
- NovaWeb Case Management System: .NET and Angular platform built using CQRS vertical slice architecture to support modular system evolution and interoperability across multiple government systems.

Technical Advisor

Transport Canada | Oct 2022 – Present

- Designed and implemented Azure-based microservice architecture replacing a legacy vessel registration system, significantly improving scalability, reliability, and long-term maintainability.
- Accelerated development and interoperability across multiple teams by contributing to and extending shared platform services and architectural standards.
- Mentored a team of 6 developers and introduced automated testing as well as CI/CD pipelines, reducing release friction and improving delivery reliability.
- Worked with senior leadership and stakeholders to ensure platform architecture aligned with regulatory requirements, operational priorities, and long-term modernization strategy.
- Transitioned team from Scrum to Kanban, improving delivery visibility and reducing bottlenecks.
- Leveraged AI-assisted development tools to accelerate design, implementation, and documentation.

Programmer Analyst / Technical Advisor

Immigration and Refugee Board of Canada | Jan 2016 – Oct 2022

- Led architecture and development of NovaWeb, a .NET Core and Angular case management platform using CQRS vertical slice architecture to support modular system evolution.
- Architected and implemented interdepartmental data exchange system while initiating migration of legacy components.
- Developed SQL scripts, stored procedures, triggers, and schema migrations to support operational reporting and analytics for national internal system serving over 900 daily users.
- Collaborated with business users and non-technical stakeholders to translate requirements into technical solutions.

Education

Algonquin College – Internet Applications and Web Development (2017)

Graduated with Highest Honours, GPA: 4.0/4.0 (with co-op)

Carleton University – Master of Arts, Psychology (2014)

Thesis: The Role of Individual Differences in Attention and Working Memory in Learning to Perceive a Non-Native Phoneme

Carleton University – Bachelor of Arts, Psychology (2012)

Graduated with Highest Honours with Distinction, GPA: 10.85/12

Interests

Family, Skiing, Cycling, Gardening, Cooking, Running