



NAME

Henri Murtonen

TITLE

Passionate Senior Software Developer

I'm a senior full stack developer with 10 years of professional experience and a Master's degree in Mathematical Information Technology. I have a proven track record of working in diverse development teams as well as managing development in a very independent fashion.

I'm most comfortable working with the .NET stack featuring a React or Angular frontend. I've got years of experience working with Azure as well, utilizing a variety of different cloud resources. I have listed individual tech experience down below for in-depth details.

I consider myself curious by nature and I get genuinely excited when placed into an innovative environment. That mindset is transferred into my development work, where I encourage the team to try out new ideas to deliver the most customer value. However, using cutting-edge technologies might often not be the right way to go, and I understand the balance between proven and new tech.

In order to reach an environment for smooth development, a stable software architecture is needed. I've worked as the main frontend architect for a project that needs to serve several million unique users yearly. We opted for a micro-frontend architecture using web component technologies to separate different development domains. I would love to talk more about that.

In addition to web development, I'm well-versed in building production-scale server-side software for IoT systems. I finished my Master's thesis about IoT reliability and security back in 2016, and have been maintaining an actual production system for certain devices ever since.

CONTACT

+358 50 494 6346

henri@murtonen.net

<https://murtonen.net>

LOCATION

Turku

SKILL HIGHLIGHTS

| | |
|-----------------|-----------|
| C# / .NET | ● ● ● ● ● |
| JS / TS | ● ● ● ● ● |
| HTML / CSS | ● ● ● ● ● |
| React | ● ● ● ● ● |
| Azure | ● ● ● ● ● |
| SQL databases | ● ● ● ● |
| Angular | ● ● ● ● |
| Web Components | ● ● ● |
| NoSQL databases | ● ● |

EDUCATION

M.Sc, Mathematical Information Technology
University of Jyväskylä

B.Sc, Mathematical Information Technology
University of Jyväskylä

MAIN EXPERIENCE

Full Stack Developer / Frontend architect 2022 - 2024

Worked as an independent consultant for a large client in the insurance industry. Main responsibility consisted of frontend architecture and development, with backend development and integration work on the side.

Full Stack Developer / Frontend architect 2018 - 2022

Worked as a consultant at Vincit, part of an agile Nordic development team in a longer consulting project. The customer had issues with too wide development domains for individual teams. My team was tasked with architecturally separating non-overlapping domains and designing microservices for each domain. I took responsibility for the frontend architecture, where we opted for a web component approach. These web components are now in production and serving millions of unique users every year.

Full Stack Developer 2014 - 2018

Worked as a full stack developer at Protacon Solutions. Various consulting projects in agile teams, focusing on both backend and frontend development. Main responsibilities were developing new features for custom ERP and CRM systems, including integrations and performance optimizations. I enjoyed the possibility to improve the UX in these complex systems, and learned the importance of delivering actual custom value with software.

CAREER HIGHLIGHTS

2019 Frontend architecture overhaul using web components

Started off as a pilot project to investigate the possibilities of the new Web Components API in a large multi-million user web app. The results were so promising that we decided to strive for a microservice architecture featuring individual web components that could be developed by independent teams. This decision allowed each team to better focus on their main development domain, and to remove dependencies.

2017 Migrating a Microsoft SQL Server database to PostgreSQL without downtime

Data migration in production, related to the IoT TCP Server described below. I needed to migrate millions of rows of data without interrupting the flow of new data. I got assistance from a fellow database expert but in the end the migration was designed and run by me.

INDEPENDENT COMMERCIAL PROJECTS

2021 - 2022, [Hankkeesi.fi](https://hankkeesi.fi)

Hankkeesi.fi is a service to help regular consumers with construction projects, such as building a house or constructing an extension. You can request quotes from professionals for the full construction project or any smaller part of it. After finding a professional and accepting their offer, you can follow the construction process in the service, which also handles the billing process for you. Using the service is completely free of charge for the consumer.

Developed by me from start to finish. I chose ASP.NET MVC without a complete frontend framework, because the nature of this site is very backend-heavy and it also has a strong emphasis on SEO. I might extend the site with a server-rendered React or Blazor frontend in the future, if I see the need for it.

- ASP.NET / C#
- Microsoft SQL Server
- Hosted by Azure on a Linux App Service
- Azure DevOps CI/CD

2015 - Ongoing, IoT TCP server

I've been maintaining a TCP server for certain commercial IoT devices as a consultant since 2015. This project has challenged me with some difficult tasks, mostly because of the huge volume of data that the devices are sending to the server. I've solved the performance challenge by utilizing a multi-threaded architecture and a tech called IOCP (IO Completion Ports). The database inserts are using binary COPY operations which are amazingly fast.

Unfortunately the project is classified so I can't disclose more info, but it's been incredibly interesting to be a part of it.

- C#
- TCP
- Microsoft SQL Server
- MQTT Integration
- On-premises hosting

FRONTEND DEVELOPMENT

| Skill | Level 1-5 | Time Used | Last Used |
|--------------------|-----------|-----------|-----------|
| JavaScript | 5 | 10 years | 2024 |
| TypeScript | 5 | 8 years | 2024 |
| React + Redux | 5 | 8 years | 2024 |
| AngularJS/Angular | 4 | 9 years | 2024 |
| Web Components API | 3 | 4 years | 2024 |

BACKEND DEVELOPMENT

| Skill | Level 1-5 | Time Used | Last Used |
|--|-----------|-----------|-----------|
| C# / .NET, ASP.NET | 5 | 10 years | 2024 |
| SQL databases (Microsoft, PostgreSQL) | 4 | 10 years | 2024 |
| Integrations (REST, SOAP) | 4 | 8 years | 2024 |
| Authentication (Azure AD, Curity, OAuth 2.0) | 3 | 6 years | 2024 |
| NServiceBus | 3 | 5 years | 2024 |
| NoSQL databases (MongoDB, Azure Cosmos DB) | 2 | 4 years | 2024 |

SERVER, CLOUD, INFRASTRUCTURE

| Skill | Level 1-5 | Time Used | Last Used |
|---|-----------|-----------|-----------|
| Azure (App Services, Key Vault, VNet, AI, etc.) | 5 | 8 years | 2024 |
| Docker | 2 | 1 year | 2020 |
| Google Cloud Platform | 1 | 1 year | 2018 |

BUILD, TEST & TOOLS

| Skill | Level 1-5 | Time Used | Last Used |
|---|-----------|-----------|-----------|
| Git | 5 | 10 years | 2024 |
| Test automation (NUnit, SpecFlow, Jest, Selenium) | 5 | 10 years | 2024 |
| Azure DevOps Pipelines | 5 | 5 years | 2024 |
| TeamCity | 1 | 1 year | 2018 |