Matt Fehrenbach

DevOps & Software Engineer

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Education

University of Hull — *Kingston upon Hull, United Kingdom*

Master of Science in Computer Science; First Class — *Sep. 2015 – May 2019*

Technical Strengths

Languages   C#, Java, ASP.NET, C/C++, TypeScript/JavaScript, Angular, CMake, Bash, PowerShell, YAML, SQL, LaTeX

Tools   Azure, Linode, Jenkins, Docker, Git, Hyper-V, IIS, Jira

Databases   Azure SQL Server, Microsoft SQL Server, SQLite, MySQL

Experience

Clearstream Services — *Luxembourg, Luxembourg*

IT Operations Analyst Linux — *Sep. 2021 – Feb. 2022*

- Troubleshooting the failures of various applications used by the company to maximise uptime.
- Installation and modification of applications for repair and preventative maintenance.
- Coordinated with development support to apply fixes on live production environments.

NEC Software Solutions — *Kingston upon Hull, United Kingdom*

Software Engineer / DevOps Engineer — *Aug. 2019 – Jun. 2021*

- Worked on an Angular cloud web app, with CosmosDB and Azure API platforms
- Contributed to a content management system using .NET and JavaScript, with Bootstrap and SASS.
- Maintained Team Foundation Server build pipelines and administered their migration to Azure.
- Using Gherkin via Specflow to perform behaviour-driven development as well as test-driven development, where all tests are run during continuous integration - specified in the build pipeline.
- Deployed virtual machine for a Team Foundation Server build agent, which handled the continuous integration and delivery of Nuget packages via infrastructure as code.
- Created virtual machines for databases and build agents, as well as deployed containerised applications both on premise and in Azure.

Atom Beer — *Kingston upon Hull, United Kingdom*

Full Stack Web Developer — *Sep. 2018 – May 2019*

- Contributed to client facing website for a subscription service - using ASP.NET Core that implemented the MVC pattern.
- Utilised Team Foundation Server for source control and build agents.
- Used the Agile methodology Scrum as the development paradigm, as well as test driven development and pair programming.

Projects

Personal website

- Using Linode as a provider, I have an instance of Alpine Linux running on a virtual machine that I access over ssh.
- On this machine I am able to host a Searx instance, which is a free, open source, metasearch engine. It is served by nginx via reverse proxy, where I use the middleware Filtron to set rate limit rules, and Morty as a result proxy.
- I also serve a Jenkins instance to run pipelines that build my Git sources (including this document) and generate the stagit static website pages for my repos.
- Implemented pipeline scripts to enable CI/CD.
- Setting up the website has enabled me to learn about automation and maintainance, such as renewing certbot HTTPS certificates by running cron jobs, and configuring OpenRC init scripts to retain the iptables rules across reboots.

Raspberry Pi homebrew NAS

- Used LVM to handle organisation of paritions for easier management of storage volumes over standard partitioning.
- Samba allowed access from Windows as well as configuration of shares and permissions.
- Set up firewall with iptables, and ssh key-based authentication to harden Raspberry Pi.

Virtual machine with hardware pass-through on Linux

- Created a Windows virtual machine with QEMU/KVM.
- Enabled PCI device hardware pass-through by loading kernel modules, resulting in better performance in GPU accelerated tasks.