John Owen Nixon

Personal Details

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Summary

An early adopter of DevOps, I am keen to help companies automate their cloud deployments.

Education History

University of Oxford

MA, Mathematics (October 1981 - June 1984)

- Open Scholarship to Hertford College
- Chairman of Oxford University mathematics society

Employment History

Origami Energy, Cambridge

Contract DevOps Engineer (August 2018 - May 2019)

I engineered the latest cloud infrastructure platform for this company. This comprises multiple environments spanning the development lifecycle from Development and Quality Assurance through to Production. For each environment, I provisioned a customised Kubernetes cluster using KOPS. For additional infrastructure, I wrote Terraform and built AWS resources for Cassandra, Apache Kafka, MariaDB, network, security, audit and logging. I wrote Python programs to automate everything - including deployments, backups, monitoring, migrations, user authentication, and cost analysis. During this engagement, I worked remotely and used Slack and audio conferencing to keep connected to the wider team.

Immersive Labs, Bristol

Contract DevOps Engineer (August 2017 - March 2018)

For this startup company, I architected, designed, built, and managed all the cloud infrastructure. I used AWS as the cloud provider, selected Terraform as the language and tool to code infrastructure, and KOPS as the tool to provision Kubernetes. The deployment orchestration, written by myself in Python, built the application into Docker containers and deployed to Kubernetes clusters.

Sagacity Solutions, Bristol

Contract DevOps Engineer (March 2017 - June 2017)

This company has all their servers and databases on Amazon Web Services (AWS). My role was to review and update their cloud infrastructure. I introduced Terraform as a tool to convert their existing manually edited resources to managed 'infrastructure as code'. I deployed a web portal to enable staff and clients to upload files directly to S3. I wrote and deployed a script which outputs a PDF to facilitate the audit of AWS security groups. For workflow notifications, I wrote and deployed Lambda functions. Technologies used include the typical smorgasbord of AWS services, plus GitLab, Jenkins, StrongSWAN and OpenVPN.

Web Technology Group, London

Contract DevOps Engineer (October 2015 - July 2016)

I was a member of a team which built an intranet application for a public-sector client. My primary role was to ensure that the hosting was a success. I built and verified system prototypes, liaised with external suppliers, and engaged with test and security teams to gain approval. After going live, I acted as the Release Manager. I helped the developers build Continuous Integration pipelines using TeamCity. I automated the provisioning of environments using Ansible and Bash. I also programmed in Python to automate load testing and quality assurance. For team communications, we made heavy use of Slack, Jira and video conferencing.

National Trust, Swindon

Contract DevOps Engineer (February 2015 - July 2015)

The National Trust is redesigning their website and mobile apps. I wrote Ansible code to provision their cloud servers. The infrastructure is built using Amazon Web Services (AWS). The production stack includes Amazon Linux, Varnish Cache, Apache, Tomcat, Elasticsearch, MongoDB, Oracle CMS, and Amazon RDS. For monitoring and logging, we installed Icinga, Log4J, Logstash, Kibana (ELK). For build tools, I used Git, Bitbucket, Bamboo, Sonatype Nexus, Apiary, Maven, and Jira. For testing, I used Vagrant with VirtualBox. For additional scripting, I used Python.

Driver and Vehicle Licensing Agency, Swansea

Contract DevOps Engineer (November 2014 - January 2015)

I worked on the Digital Services Platform for the Enterprise Provisioning team. I created hardened servers using Puppet, Ansible, Red Hat Enterprise Linux, and Kickstart. I also used Bash, Git, GitFlow, GitLab, Markdown, Packer, Rake, RSpec, Ruby, SSH, Vagrant, and VirtualBox.

Department for Work & Pensions, Warrington

Contract DevOps Engineer (August 2014 - October 2014)

The Chief Technology Office of the DWP is developing a new Digital Platform. Applications are composed from microservices served using Nginx, Tomcat and Apache Karaf. For Continuous Integration, I used GitLab, Jenkins, Maven, Artifactory and SonarQube. For platforms we used CentOS and Ubuntu Linux running within VMware cloud services and XenServer. Provisioning was being done using SSH, Puppet and Docker.

Hewlett-Packard, Bristol

DevOps Engineer (January 2009 - November 2013)

Hewlett-Packard is developing a portfolio of backup solutions. I defined and built custom Linux distributions for the storage appliances and developer workstations. This involved me selecting packages, compiling backports, locating drivers, and customizing the kernel. Then I packaged them using RPM, assembled Yum repositories, and deployed using Kickstart and VirtualBox. All this was automated by my writing programs in Python and Bash. I also supported the developers in using various tools for source code management, static analysis, and continuous integration.

Provision Communications, Bristol

Software Developer (July 2008 - November 2008)

This company is developing a consumer hardware product to encode and stream video over Wi-Fi. My role was to specify and develop a custom media player for Windows platforms. I also wrote network proxies for the RTSP and RTP protocols.

Endemol, Bristol

Contract Database Analyst (January 2008 - March 2008)

For this contract, I used MySQL to analyse online ballots, detect fraud, and decide the winners of a television talent show filmed for BBC 3.

Telfis, Sutton

Freelance Software Developer (September 2001 - December 2007)

This client sold messaging services using email and fax. I provided consultancy, software development and technical support. I rewrote the legacy system using C++ and SQL stored procedures. I added numerous new features including a web user interface, image processing and extra hardware manufacturers. I also refactored the system to have a client-server architecture scaled and optimised to sustain over 10 million transactions a day.

Message Pad, Warwick

Freelance Software Developer (May 1994 - June 2001)

I provided consultancy, design and development of computer telephony systems for a network of call centres around the UK. The systems I specified are based around a PC platform with specialist telecoms hardware and provide the features of a PABX with IVR and Voice Mail. I supported the customer agents with screen-pop, scripting, call transfer, and message delivery services. For administration, I developed an embedded web server, a database-editing framework and multi-layered security.

Telesoft Communications, Bristol

Freelance Software Developer (January 1993 - April 1994)

This was my own software consulting business, specialising in Computer Telephony. I developed an SDK for telephony applications, marketed as Telephony Toolkit.

Comwave, Chepstow

Software Developer (May 1992 - November 1992)

This company developed and operated a worldwide fax broadcast service for corporate clients. I was employed as part of a team of software engineers developing a fax management system.

Quintek, Bristol

Electronics Engineer (October 1986 - June 1990)

This company designed and manufactured subsystems for parallel processing. I designed a range of transputer-based, PC add-in cards. I also developed an HDL compiler for designing printed circuit boards.

Micro Planning, Bristol

Software Developer (August 1984 - September 1986)

This company produced a shrink-wrap project management application for IBM PC and Apple Macintosh. I was one of the founders of the company and was responsible for the user experience and database.

Skills

Systems Administration

- Operating Systems including Red Hat, Ubuntu, CentOS, Debian, Fedora, Windows
- Cloud Deployment using Amazon Web Services, Digital Ocean, Heroku
- Virtual machines using VirtualBox, VMware, KVM, Vagrant, Packer
- Containers using Docker, Kubernetes, ECS
- Infrastructure as Code using Terraform, CloudFormation
- Development & maintenance of batch files and scripts using Python, Bash
- Continuous Integration / Delivery using Jenkins, Bamboo, Teamcity
- Configuration management and automation using Ansible, Puppet, cloud-init
- Hosted source code repositories using GitLab, GitHub, Bitbucket
- Linux packaging and customization using RPM, YUM, DNF, Kickstart
- Remote control using SSH, Mosh, RDP, VNC, PuTTY
- Configuration of web servers including Apache, Nginx, Tomcat
- Functional test, system stress test, and test automation
- Experience of IP, TCP, HTTP, DNS, SMTP, POP3, and other Internet protocols
- Protocol debugging using Ethereal/Wireshark
- Familiarity with Open Source and Free Software including licensing issues

Software Development

- Programming languages: Python, Bash, Golang, C++
- Source code control using Git and Subversion
- Scrum, XP (eXtreme Programming), refactoring, and other agile methodologies
- Unit testing using Doctest, Nose, PyTest, and ShUnit
- Debugging and static code analysis using Lint, Coverity, strace, and other tools
- Front end development using basic HTML, CSS, and JavaScript
- Database design, programming and optimisation using SQL and ODBC
- Development environments: Eclipse, MinGW, GCC, Visual Studio
- Multi-tasking, concurrency and parallel processing
- Client-server, and remote procedures calls (RPC)
- Embedded systems with real-time applications and memory constraints
- File standards including YAML, XML, JSON, RTF, TIFF, and Unicode
- User and programmer documentation using Markdown, AsciiDoctor, and LaTeX

Telecoms

- Development of CTI, IVR, PABX, ACD, voice mail and fax messaging systems
- Design of speech dialogues for Computer Telephony systems
- ISDN Primary Rate services with DASS2 and Q.931 digital access standards
- Development from standards documents including ISO, CCITT/ITU, RFC, BTNR, T10
- Experience of Computer Telephony hardware from Aculab, Rhetorex, Dialogic

Hardware Design

- Development of digital logic including entire PLD and PCB subsystems
- Interfacing to microprocessors, memory subsystems, buses, and external I/O
- Use of a Hardware Description Language (HDL)

Management Experience

- Analysis of business objectives and legacy systems
- Requirements capture and specification writing using Volere
- Planning and project management