

# Patrick Galbraith

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## Summary of Experience

Published two-time author with 30+ years of expertise in leadership and technical skills ranging from electronics, software development, automation, database administration, system architecture, and sometimes figurative and actual firefighting. 30 years of auto-didactic rapid learning, adaptation, embracing, and leveraging Linux and other open-source projects to solve real problems and create value.

## Skills

- Infrastructure as code: Kubernetes, Ansible, Helm, Terraform/OpenTofu,
- Cloud: AWS, EKS, Oracle Cloud, GCP, DigitalOcean, OpenStack, SmartCloud
- Bare metal: iDrac, PXEBoot, MaaS, OpenStack Ironic, Juju, Kubernetes using Ansible Kubespray
- Databases: MySQL (Oracle ACE)/ Galera, ProxySQL, PostgreSQL/PgPool, Oracle, MongoDB, Couchbase, Redis, Etc, ElasticSearch, Memcached
- Block Storage: S3, [Minio](#), [Ceph](#)
- Languages: Go, Python, C/C++, Javascript, PHP, Perl, Bash/Shell scripting
- CI/CD: ArgoCD, Jenkins, Github Actions, Drone
- Networking: HP & Cisco switches, routers, Unifi, PFSense, firewalling
- Observability: ELKstack, Datadog, Nagios/Icinga, Sensu, Zabbix, Coroot, PMM
- Wireless Broadband (WISP): Alvarion, Motorola
- Local Government (former town selectman)
- Electronics Technician

## Professional History

### Sanapptx/Parler cloud December 2023 – August 2024– Principal Consultant

- Performed data migrations from MySQL to PostgreSQL
- Build-out of databases infrastructure (PostgreSQL/PgPool and Percona XtraDB cluster) on SmartCloud, Bare metal, containers/zones/VMs using Ansible
- Maintain automated deployments to Kubernetes.
- Architect various Kubernetes and host-based infrastructure required for re-launch of Parler social app.
- Provide FBI/Justice Dept warrant and CCPA user data requests.

### Lyrid.io, American cloud

- Consultation providing research into target database operators for Kubernetes-backed DBaaS.

### Starboard Media July 2023 - Current, remote

- AI ChatBots for political personas on StackAI, development with backend database infrastructure for retaining bot conversations.

### Principal DevOps Engineer, DevOps Lead, PublicSquare June 2023 - October 2023, remote

- Automation AWS infrastructure including EKS, DocumentDB, and metrics and monitoring with Datadog using Terraform and custom Helm charts
- Implemented CI/CD utilizing ArgoCD with GitHub Actions
- Optimized and maintained DocumentDB (Mongo) database
- Played crucial role in implementing Agile Development process in the team

### CTO,CIO, Parlement Apr 2021 - May 2023, remote

- C-suite leadership albeit with technical focus on remote Development, DevOps, and Database teams in relaunching the Internet's premium free speech platform, Parler, from AWS to On-Premise data center
- Led the implementation of content curation and filtering utilizing [The Hive AI](#)
- Prepared budgets for operational requirements

- Mentored developers and DevOps/SREs under my management
- Automated Design, Configuration, and monitoring of both MySQL and Postgres internationally distributed database topologies including Galera synchronous and asynchronous replication
- Provisioned, operated, and monitored both [Minio](#) and [Ceph](#) clusters used for S3-compatible storage for application digital assets such as images and documents
- Lead effort to utilize Datadog and Zabbix for full external and inhouse metrics and monitoring
- Built Kubernetes clusters on bare metal and virtual resources using Canonical Juju, MaaS, and VMware
- Used Ansible to automate anything and everything, bare metal and virtual
- Helped solve numerous technical challenges and problems for various customers, internal and external
- Helped architect and performed backend development of database and search engine solutions using MySQL and Manticore
- Utilized Oracle Cloud for backup and DNS infrastructure using Terraform
- Worked with attorneys, law enforcement, and content filtering and procurement (The Hive AI) to satisfy GDPR and CCPA laws, warrant data requests, and preservation orders

**Principal Engineer, MySQLaaS, Oracle Cloud: Sep 2017 - Apr 2021, remote**

- Maintained and built MySQLaaS DBaaS premier service for Oracle Cloud Customers
- Supported build-out of Containerized BGP Edge DNS Application
- Developed and modified Chef Cookbooks and Ansible Playbooks used for automating DNS applications
- Developed Terraform Infrastructure as Code HCL for deployment of MySQLaaS Infrastructure in Multiple world-wide regions
- Developed automation for CI/CD pipelines and Canary testing system (continuous testing)
- On-call monitoring of MySQLaaS
- Presented at KubeCon in 2017 and 2018, OpenWorld in 2018 covering databases on Kubernetes

**Principal Engineer, Hewlett Packard Enterprise: November 2011 - June 2017, remote**

Hewlett Packard Enterprise New Cloud Stack, HP Cloud, HP Advanced Technology Group

- As a lead engineer in the Advanced Technology Group at HPE, participated in various R&D technology which eventually led to the prototype and development of the HPE New Stack project
- Developed the New Stack Configuration Manager service running in Kubernetes
- Tested Ironic Bare metal provisioning for HP Cloud/OpenStack
- Worked with other tech leads in Platform Engineering to utilize Datadog for metrics and monitoring
- Researched new technologies such as Kubernetes, CoreOS, Terraform for inclusion in architecture of HPE's next generation technologies
- Contributed open-sourced work upstream to Ansible, Kubernetes, and Helm projects
- Technical Lead, Launched and operated HP Public Cloud DNS as a Service
- Technical Lead of Database Information Systems for HP Cloud, responsible for clustered MySQL backend servers and OpenStack data availability requirements
- Developed a cloud-based, database-scaling architecture design proposal for Samsung Appstore.

**Senior Systems and Database Administrator, Blue Gecko: October 2010 - October 2011, remote**

- Performed remote database administration (DBA) and development for numerous clients
- Provided expertise on systems architecture for various clients for application components and backing databases (MySQL and NoSQL), including database scale-out plans using sharding and replication
- Provided custom development of storage engines and user-defined functions
- Received [Oracle ACE award](#)

**Senior Software Developer, Couchbase: July 2009 - September 2010, remote**

- Member of nascent team at what was then "Northscale" to develop prototypes of Membase, which became Couchbase after merge with CouchDB
- Developed a build system for Linux and Windows product binaries

**Principal Software Engineer, Lycos Inc.: October 2008 to July 2009, remote**

- Developed SaaS for popular PHP applications (Drupal, Joomla, Mediawiki, etc) and MySQL into the existing Tripod infrastructure
- Migrated Tripod.com and Angelfire from Oracle to MySQL. This included modifications to Java-based applications and moving stored-procedure logic to application code

### **Senior Software Developer and Database Administrator - Grazr Inc.: January 2007 - October 2008, remote**

- Developed Feed Processing web applications
- Implemented both schema and database scale-out architecture and ensured 24/7 availability of backend replicated database systems
- Implemented overall systems monitoring

### **Senior Systems Engineer, MySQL Inc.: January 2004 - January 2007, remote**

- Participated as a member of a globally distributed team, building the world's most popular Open Source Database
- Developed features such as the FederatedX storage engine, partitioning features, client drivers, parser language additions
- Built an automation system for MySQL binary distributions for Linux and MS Windows

### **Senior Software Developer, [Open Source Technology Group \(OSTG\)](#): August 1999 - September 2002, remote**

- As technical manager, developer, and DBA, was responsible for several iterative releases and overall operations of the first major tech blog, [Slashdot.org](#)
- Developed relationship with MySQL AB and sponsored development of initial MySQL replication features
- Developed major site functionality such as a caching layer, troll filters, and database schema design improvements to Slashdot codebase to handle burgeoning traffic (AKA "Slashdot effect")
- Developed and operated the Linux.com and Linux foundries websites

### **Senior Software Developer, DBA, Application Team Lead, [Cobalt Group](#): March 1998 - July 1999**

- Lead the applications team who developed web applications for automotive manufacturers and dealers
- Performed DBA tasks such as database schema design, implementing 24/7 database monitoring
- Migrated application backend database to Oracle

### **Other**

- Selectman, [Town of Sharon, NH](#): March 2011 - October 2013
- Climbed Aconcagua (tallest mountain outside of Asia) January 2024
- Principal, part-owner, Radius North Communications, January 2007 - June 2010
- Fire Control Technician, FC3, USS Leahy (CG-16), United States Navy, 8/86 - 8/92, Desert Storm veteran
- Consulting and positions before 1999: Refer to <http://patg.net/various.html>

### **Publications and other projects**

- "[Developing Web Applications with Apache, MySQL, memcached, and Perl](#)" (English, Mandarin), Wiley, ISBN: 978-0-470-41464-4
- "[Expert PHP and MySQL](#)," Wiley, ISBN: 978-0-470-56312-0
- [Galera MySQL Cluster on Kubernetes contribution](#)
- Oracle ACE award: [https://apex.oracle.com/pls/otn/f?p=19297:4:896909223092578::NO:4:P4\\_ID:3300](https://apex.oracle.com/pls/otn/f?p=19297:4:896909223092578::NO:4:P4_ID:3300)
- Public maintainer/developer of [DBD::mysql, Perl database driver for the MySQL RDBMS](#), 2004 - current
- Github: <https://github.com/CaptTofu?tab=repositories>
- Speaking engagements and tutorials: <http://patg.net/speaking.html>

### **Publications and training**

- [Developing Web Applications with Apache, MySQL, memcached, and Perl](#) Patrick Galbraith ISBN: 978-0-470-41464-4 June 2009 888 Pages
- [Expert PHP and MySQL](#) Andrew CurDioso, Ronald Bradford, Patrick Galbraith ISBN: 978-0-470-56312-0 March 2010 587 Pages
- [Databases in Cloud Containers: MySQL, Docker, and Kubernetes](#), training at [O'Reilly Media, Inc.](#) Stateful applications made easier

### **Presentations**

- Complex Stateful Applications Made Easier with Kubernetes, Percona Live 2019
- [Running MySQL on Kubernetes, KubeCon 2018](#)
- Running MySQL on Kubernetes, OpenWorld 2018
- [Running MySQL on Kubernetes, Kubecon 2017](#)

- Cloud Computing Expo NYC [Building a Kubernetes Cluster with Ansible](#)
- [Percona Live 2016](#) Various talks on MySQL, MongoDB, Kubernetes, Docker, and Ansible
- [CoreOS Fest 2015 SFO - Talk on running a Galera Cluster with Fleet](#)
- [OSCON 2015 - CoreOS DNA on Debian](#)
- [Percona Live 2014 - Openstack Trove - Database as a Service](#)
- [AnsibleFest NYC 2014 - Ansible and Docker at HP](#)
- [OpenStack Summit 2013 Hong Kong - DNS in the Cloud: The Designate DNS as a Service Project](#)
- [OpenStack Summit 2013 Portland, Oregon - DNS in the cloud: the Moniker Openstack-inspired DNS Project](#)
- [Percona Live 2013 - talks on Chef/MySQL and DBaaS OpenStack Trove](#)
- [MySQL Users Conference 2011: Perl Programming with MySQL and Drizzle](#)
- [MySQL Users Conference 2011: Narada: using Gearman, Sphinx, Memcached, Drizzle and PHP to build a search application](#)
- [MySQL Users Conference 2009 Talks/Tutorial](#)
- [MySQL Users Conference 2008 Talks](#)
- [MySQL Users Conference 2005 Talks](#)
- [Open Source Convention 2004 Talks](#)

## **Education**

**BS CompSc - Bellevue College (1992-1997, in progress)**

**US Navy Fire Control A and C schools (1986-1988)**

Electronics and computer systems including radar, analogue and digital computer systems