

# Marcus Holtz

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**Systems Engineer in Linux, virtualization, networking, containers, automation, and development.**

## Resume Info

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This resume has been created in a [dockerfile](#) built by a [makefile](#) and deployed using [Github Actions' CI/CD](#). The document is published everyday, with a timestamp at the last page denoting it's publishing date.

Download this document: <https://github.com/MarcusHoltz/resume-generator/>

## Skills

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### Linux System Administration

- Maintain a reliable and secure hybrid cloud environment for development and serving resources using tools such as SSH/tunneling, SSL, UDP hole punching, VPN, and single sign-on identity management.
- Monitor and log: performance monitoring, network bandwidth usage, memory allocation, hard drive status, and application uptime using Glances, Netdata, Prometheus, Grafana, ELK stack, & Diskover.
- Cross-platform systems administration experience: Ability to install, configure, maintain, and document a variety of production-level Unix based systems: Debian, CentOS, Ubuntu, FreeBSD.

### Virtualization

- System virtualization platforms: Docker, QEMU, KVM - with virt-io's 9p filesystem to increase io speed.
- Created system templates for cloning, backing up, and restoring servers across multiple platforms and formats: CentOS, Ubuntu, FreeBSD, Debian in vmdk, vdi, vhdx, qcow2, & raw filetypes.

### Containers

- Create, build, deploy containers using LXC and containerd using: docker, dockerfile, docker compose, docker networking, docker hub, github, github actions, proxmox.
- Experience with distributed storage technologies like NFS, Ceph, S3 as well as dynamic resource management frameworks: Kubernetes, Docker Swarm.

### Servers

- Deployment and management of headless, bare metal servers in off site datacenter using the model: Debian image > Proxmox baremetal > isolated containers > pfsense routing > haproxy > public internet
- Configured and deployed ssl certificate management with reverse proxy, added SecurityOnion as an IDS within virtualized infrastructure with additional SPAN port to duplicate internal traffic.

### Disaster Recovery

- Built, configured, tested, and deployed Proxmox high availability ZFS solution featuring: Incremental 15min snapshotting for disaster recovery using [PBS2](#), [cv4pve](#) and [Sanoid](#).
- Developed and maintain system backup infrastructure including individual machine images, datastores, and off-site backups.

### DevOps

- Knowledge of cloud infrastructure (AWS, Azure, GCP, Oracle) & orchestration (Chef, Puppet, Ansible, SaltStack, Terraform, Helm, OpenStack).
- Experience with the core AWS services, including ALB, ELB, EC2, RDS, and S3.
- A proactive approach to spotting problems, areas for improvement, and performance bottlenecks.

## Networking (virtual and physical)

- Documentation: Details with visuals of network infrastructure, system architecture, process, and policies.
- Virtual Routing: Administered networking in virtualized environments, including virtualized edge routing with pfSense.
- Technologies used: Linux, OpenVSwitch, SPAN port for SecurityOnion, VLAN segregation, DNS, BIND, VPNs, DNSoverTLS,
- Installation of virtual network infrastructure using: VMware ESXi, Proxmox, Hyper-V, and Xen.

## Domain Administration

- Active Directory, SCCM, Domain Trust, Domain Controller, FSMO roles, Active Director Replication, Group Policy, OpenLDAP, RADIUS
- Identity Management and Single sign-on (SSO) (Kerberos, OAuth2, and OpenID Connect; Keycloak)

## Data Analytics

- Created actionable reports weekly/monthly to customers and team members. Keeping them informed of how their efforts were going, what they should expect, allowing us to make data-driven decisions – all with visuals and detailed explanations.
- Keep metrics of every variety, to allow cross-referential contrasts.
- Love to set up A/B tests to see analytics and insights in action

## Project Ownership

- I love to solve problems: Often taking the broad look to spot issues and inefficiencies from a mile away, backing them with suggested solutions, and personally implementing them.
- Personal pride in my work to ensure that every customer has a great experience with what I build.
- Work with many kinds of clients, in a wide variety of fields.

## Research

- Able to find a solution through vendor documentation, question and answer websites, and related forums.
- Excelent at researching client's brands, industries, and markets to very quickly come up with a plan to fit their needs.
- Experience architecting system layouts.

## Web Development

- Designed and built custom website layout/user interfaces and custom backend software to meet project deadline/requirements.
- Integrated data from various back-end services and databases:
  - election data, employee database, interactive event map
- Fixed broken installs, hacked sites, busted databases, and never-been-updated themes/plugins.

## Technical Projects

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### Homelab

My [homelab](#) features [VLAN network segregation](#), 6 VMs, ~100 containers, and multi-tier snapshotting.

## Presentations

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### Browser Privacy

**The goal of this talk is to put you in control.** Understand what data is collected by the tools you use and decide if you want to share it. Then use methods provided here to opt-in or opt-out.

\* SFS (Software Freedom School) - [9/3/22](#)

· [Link to Slides](#) | [Link to Video](#)

## Opensource Firmware on Routers

**What can Opensource do for home consumer routers?** OpenWRT supports more than 1,500 devices most capable of the line enterprise features: Bandwith Monitoring, Guest Portal, Cloudbased IPS.

\* SFS (Software Freedom School) - [4/1/23](#)

· [Link to Slides](#) | [Link to Markdown](#)

## Mastodon

**Self-Hosted, Open Source, Federated, Decentralized... social media?** Mastodon is software for running different, connected social networking services with microblogging features.

\* SFS (Software Freedom School) - [12/3/22](#)

· [Link to Slides](#) | [Link to Video](#)

## Industry Experience

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### Leadership Activies

**Software Freedom School, Littleton, CO - 2022 - Present**

- Software Freedom School board member since March 2023
- Maintain open tickets for [SysOps board](#)
- Presented at monthly community meetings
- Team Member in weekly Linux study group

### IT and Web Consultation / Freelancing

**Holtzweb, Denver, CO - 2019 - Present**

- Established clients' cloud based hosting environments, virtualization, and operations infrastructure.
- Strategized SEO/SEM campaigns across web presence including blogs, email newsletters, ads & promotions resulting in a 40% increase in face to face traffic and web traffic.

### Web Development

**Highline Ideas, 1187, Mayer Networks, Carbondale, IL - 2013 - 2017**

- Created and designed custom website layout/user interfaces
- Integrated data from various back-end services and databases  
election data, employee database, interactive event map
- Worked directly with clients to facilitate business and marketing needs
- Executed tests, analyzed data to identify trends and insights using analytics tools and 3rd party optimization tools
- Ensured all site development follows web standards and ADA compliance for accessibility.
- Executed SEO-based initiatives, including website analytics and optimization.
- Fixed broken installs, hacked sites, busted databases, and never-been-updated themes/plugins.
- Repaired, updated, and redesigned new & existing sites.
- Designed custom website layout/user interfaces and custom backends to meet project deadline/requirements.

# Education and Training

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**2011** - *BS in Finance* Southern Illinois University

*Linux Foundation Certified System Administrator (LFCS): expected July 24th*

## Tools

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### Software Used

Linux, bash scripting, Python, HTML, CSS, JavaScript, MySQL, Apache, Nginx, HAProxy, Traefik, Samba, Windows Server, Active Directory, GIT, VMWare vSphere, ESXi, libvirt, QEMU, KVM, Xen, Hyper-V, Nagios, Docker, Vagrant, Ansible, Jenkins, Puppet, Chef, SaltStack, Helm, Kubernetes, Terraform, AWS, GCP, Oracle Cloud, Microsoft Azure, Private Cloud Hosting, Red Hat Linux (RHEL), CentOS, Debian, Ubuntu, OpenSUSE, Android, Adobe Photoshop

### Web Development Tools

- CMS: WordPress, Drupal, DNN, Joomla
- SEO: Google Analytics, Piwik, MOZ, SEMRush, Megalytic
- Design: Adobe Creative Cloud: After Effects, Illustrator, Photoshop
- Webserver: Apache, Nginx
- Database: MySQL,Postgres, MariaDB, Redis, MongoDB
- CSS Boilerplate: Bootstrap, Foundation, Tailwind
- Cloud: Azure, AWS, DigitalOcean, Cloudflare

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This resume last built on: Thursday 13<sup>th</sup> February, 2025