

Ryan Christopher Miller

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EXPERIENCE

Owner and Principal Architect

Feb. 2026 – Present

Automated Scalable Solutions — Remote, WV

- Founded and operate an S-corp information technology consulting and implementation services practice, owning full business operations including contracting, payroll, tax strategy, and financial compliance as sole owner-operator.
- Deployed OpenShift for a U.S. Federal Government client in a regulated environment, using ArgoCD GitOps to automate security hardening and Day 1-2 operations as infrastructure-as-code.
- Architected a multi-cloud golden image pipeline for a U.S. Federal Government client, using GitLab CI, HashiCorp Packer, and Red Hat Ansible to produce hardened RHEL 9 and Windows Server 2022 baseline images from a single source of truth: Configuration-as-Code.

Senior Resident Solutions Architect

Jun. 2025 – Feb 2026

HashiCorp, an IBM Company — Remote, WV

- Led full-lifecycle consulting engagements by translating business goals into technical architectures. Guided design and implementation across HashiCorp Terraform and Vault ecosystems, resulting in secure, scalable, and maintainable public cloud infrastructure, private data center infrastructure, and enterprise secret management delivery.
- Advised technology unit Directors and VPs at publicly traded companies and financial institutions on architecture decisions by translating complex technical challenges into clear, metrics-driven recommendations, resulting in informed roadmap planning, alignment between business units, and clear-cut initiative reporting.
- Architected the consolidation of 1,000+ Vault namespaces into ~15 Terraform-codified (IaC) namespaces by implementing a standardized GitOps-based operating model, resulting in easier maintenance, increased security posture through consistent guardrails, and centralized oversight, without staffing additional security platform SREs.
- Reduced platform-team workload by implementing HCP Terraform GitOps-based automation workflows that shifted resource ownership and environment validation to application service teams, resulting in fewer manual reviews by platform SREs, faster time-to-delivery, and scalable delivery patterns without staffing additional platform SREs.
- Boosted product utilization through improved delivery workflows, simplifying adoption and consumption of Terraform and Vault, resulting in demonstrated business value through consistent and compliant deployments, ultimately resulting in a 3x product adoption rate over 6 months through broader client onboarding and increased workspace activity.
- Created post-engagement technical roadmaps with 5–10 explicit next-step recommendations by assessing current-state architecture, customer staff capabilities, and business delivery constraints, resulting in clear, actionable guidance for continued success 6-12 months following consultancy offboarding.

Information Technology Specialist – GS-2210-15

Dec. 2024 – Jun. 2025

United States Department of the Treasury, Internal Revenue Service (IRS) — Kearneysville, WV

- Promoted from previous role to serve as Technical Lead for the Platform-as-a-Service (PaaS) modernization initiative, delivering a self-service IT platform that accelerates the software development lifecycle by enabling application teams to request secure, compliant software stacks deployed on virtual infrastructure in under two hours using Ansible and Terraform automation, no approvals for lower environments, and streamlined approvals for production.
- Led technical delivery across six engineering teams (5–10 contributors per team, ~50 contributors total), translating C-level vision and end-user requirements into user stories and actionable tasks. Partnered with individual team leads to drive cross-team collaboration, resolve dependencies, and deliver PaaS solution milestones on schedule.
- Demoed solutions and conducted deep dives with C-level executives, translated complex technical concepts into high-level organization impacts, and incorporated their feedback into the overall design.
- Prototyped solutions in a lab environment and led engineering teams through production implementation of key integrations and migrations—integrated Red Hat Ansible Automation Platform with HashiCorp Vault Enterprise for secrets management and migrated a 40 repository GitLab environment to GitHub/Tekton (OpenShift Pipelines).
- Architected a ServiceNow self-service workflow for on-prem infrastructure delivery, enabling on-demand, automated provisioning of Windows and RHEL servers from pre-configured golden images within two hours.

Information Technology Specialist – GS-2210-14

Dec. 2023 – Dec. 2024

United States Department of the Treasury, Internal Revenue Service (IRS) — Kearneysville, WV

- Served as Technical Lead and Subject Matter Expert (SME) for the Infrastructure-as-Code (IaC) initiative to deliver secure, consistent IT environments in minutes instead of months. Designed the overall solution and led the team's growth from a proof of concept with three engineers to a fully funded, CTO-backed project team of 12 engineers.
- Engaged with the division director and senior managers through technical demonstrations, weekly status updates, and strategic discussions resulting in executive commitments mapped to actionable tasks, ensuring the work of 12 engineers aligned with both immediate and long-term agency objectives.
- Exceeded project commitments by delivering critical milestones on-time and within budget—automating server provisioning via CI/CD with Terraform, onboarding three pilot projects, and holding large enablement sessions (400+ IT employees) to demo project capabilities for increased awareness and to drive adoption.
- Developed Red Hat Enterprise Linux (RHEL) 9 hardening scripts that increased baseline compliance from approximately 40% to 95%, substantially strengthening the security posture for new RHEL server builds.
- Automated manual processes across IT teams to reduce delivery timeline and operational overhead, cutting infrastructure delivery time from two months to under two hours.

EXPERIENCE (CONT.)

- Developed secure, repeatable virtual machine templates for Microsoft Windows 2022 and RHEL 9 using HashiCorp Packer, bundling required agents and configuration to standardize server deployments throughout the enterprise.
- Facilitated the migration of server build artifacts and agents from the Red Hat Satellite to Sonatype Nexus, effectively closing a critical cybersecurity vulnerability while ensuring uninterrupted service.

Consulting Architect (AppDev)

Aug. 2021 – Nov. 2023

Red Hat — McLean, VA

- Led customer-facing consulting teams of two to four consultants on seven projects, architecting application development solutions, tasking individuals daily, handling escalations, running workshops, and briefing stakeholders.
- Developed a Go-based Kubernetes Operator with Operator Framework that included a React JS-based OpenShift Console Dynamic Plugin to provide a custom catalog UI to create and delete operator resources from the OpenShift Console.
- Designed and lead implementation of a GitOps workflow for clusters of RHEL servers, leveraging Ansible playbooks, roles, and Python custom modules for containerized application deployments with Podman on RHEL.
- Architected and lead implementation of a GitOps workflow on OpenShift with GitLab CI Runner and OpenShift GitOps (ArgoCD) to enable a customer to build 30 Java projects into container images, scan for security vulnerabilities, and deploy to their non-production cluster, automatically, enabling a rapid feedback cycle.
- Coordinated a multi-cluster platform migration of 30 containerized applications from OpenShift 3.11 on-prem to OpenShift 4.10 on AWS, allowing the customer to remove end-of-life software from their production environment and reduce their on-prem footprint.
- Built out 10 multi-product labs (Ansible Automation Platform, OpenShift, RHEL, and Red Hat Virtualization), on-prem (bare metal and KVM) and in AWS, that mirrored customer environments, to enable rapid prototyping of scalable, enterprise integration solutions in a sandbox environment.
- Contributed code and documentation to open-source projects on GitHub, including repositories for Hybrid Cloud Patterns (Red Hat Validated Patterns upstream), Ploigos, and Diagrams (As Code).

Enterprise Architect

Apr. 2020 – Aug. 2021

Ace Info Solutions, a Dovel Company — McLean, VA

- Led team of six engineers to deploy a multi-tenant, organization-wide container computing platform including OpenShift Container Platform 4 (Kubernetes), OpenShift Container Storage, Quay Registry, Single Sign-On (Keycloak), Jenkins, Nexus, Git, Discourse, secure container images, CI/CD pipelines, and integration scripts/software to bridge between products.
- Designed a managed enterprise OpenShift solution consisting of 12 OpenShift clusters (125+ nodes) across 15+ restricted networks geo-distributed between two private data centers.
- Configured Red Hat SSO (Keycloak) identity manager including production deployment on containers, Active Directory LDAP federation, LDAP attribute mapping, smart card x509 client certificates (CAC/PIV), custom authentication/authorization flows, and OIDC client configuration.

Subject Matter Expert (DevSecOps)

Sep. 2019 – Apr. 2020

Ace Info Solutions — McLean, VA

- Delivered a successful project to stand up OpenShift Container Platform (3.11) in a disconnected network with DISA STIG hardened Red Hat Enterprise Linux (RHEL) 7 virtual nodes on VMware ESXi platform.
- Created Jenkins CI/CD pipelines triggered by Git webhooks to run tests, SonarQube scans, Nexus artifact uploads, and deploy containerized application rolling updates to an OpenShift cluster with zero downtime.

Application Developer (Full-Stack)

Mar. 2019 – Sep. 2019

Synergy — Reston, VA

- Responsible for full-stack development of an iOS application consisting of a frontend React Native/Typescript/Mobx stack and an ASP.NET REST API backend hosted on Microsoft IIS.
- Configured Microsoft IIS to authenticate iOS application users against Active Directory using x509 client certificates passed from iOS using Purebred derived-CAC technology allowing users to use Single-Sign On (SSO).

Application Developer (GIS/Web)

Apr. 2018 – Mar. 2019

Innovative Management Concepts — Dulles, VA

- Developed backend applications and scripts using Python (ArcPy) to combine road condition data, geo-spatial metadata, and raster images into domain specific reports used to determine government funding allocations.
- Co-authored a stateful, OAuth2 authenticated React JavaScript frontend application with a Python REST API backend to securely collect sensitive GIS data and metadata from external customers.

Application Engineer (Automation)

May 2016 – Apr. 2018

Ace Info Solutions — Reston, VA

- Developed, tested, and pushed to production ~30 enterprise security, bug-fix, and feature driven updates for Windows Server and Red Hat Enterprise Linux (RHEL) systems to an organization of ~2,200 servers.
- Integrated five enterprise COTS products through API-based Python scripting to provide the backend pipeline for provisioning private cloud server and database instances for customers from a self-service portal in less than an hour.

Additional experience available upon request.

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SKILLS

Soft Skills

Adaptability, Budget and Cost Estimation, Collaborative Leadership, Communication, Decision-Making, Demonstration, Detail Oriented, Executive Briefing and Technical Advisement, Innovation, Mentorship, Problem Solving, Process Improvement, Program Leadership, Resource Optimization, Self-Motivated, Stakeholder Engagement, Strategic Communication, Strategy Alignment with Business Objectives, Team Development

Hard Skills

API Development, Advanced Scripting, Application Integration, Automated Testing, Business Process Automation, Cloud Infrastructure Management, Container Image Creation, Containerized Application Management, DevSecOps/GitOps Engineering, Disaster Recovery Planning, Disaster Recovery and High Availability (HA), Enterprise Architecture Design, Enterprise Configuration, Executive Technical Advisement, Git/GitHub Flow, Infrastructure-as-Code (IaC), Linux and Windows System Administration, Security Hardening and STIG Compliance, Single Sign-On Integration, Software Development, System Monitoring and Performance Tuning, Virtualized Server Management

Languages/Frameworks

- Python 2.7+, Python 3.5+ (ArcPy, Click, Flask, Google Workspace SDK, Unicorn, JSON, JSONSchema, Jython, LXML, Marshmallow, Mock, PyLint, PyODBC, PyTest, PyYAML, Requests, REST, Smartsheet SDK, Sphinx, SQLAlchemy, UnitTest)
- JavaScript/TypeScript ES5+ (Async/Await, Bloomer, Expo, Jest, Mobx, NodeJS, OpenShift Console Dynamic Plugin SDK, React, React Native, React Native, ReactStrap, PatternFly, Promise API)
- Go (Kubernetes api, apimachinery, client-go, controller-runtime, kubebuilder)
- HTML5/CSS3 (Bootstrap, Bulma, CSS Flex/Grid, PatternFly)
- Shell Scripting (Awk, Borne Shell, Bash, Containerfile/Dockerfile, Jq, Make, NSH, Regex, Sed, Zsh)
- .NET Framework 4.6+, .NET Core 2.0+ (ASP.NET, C#, PowerShell, REST, Task API, XUnit)
- Others (elisp, Emacs Plugins, Vimscript, Vim Plugins)

Platforms

Amazon Web Services (AWS), Docker, Docker Compose, iOS/iPadOS, k3s, Kubernetes, Microsoft Windows Desktop, Microsoft Windows Server, Microsoft Hyper-V, Podman, Red Hat Ansible Automation Platform (AAP), Red Hat Enterprise Linux (RHEL), Red Hat OpenShift Container Platform (OCP), VMware Aria/vCenter/vRA/vSphere

Software (Installation, Configuration, Integration, and Management)

Apache Web Server (httpd), ArcGIS Desktop, ArcGIS Online, ArgoCD (OpenShift GitOps), BMC TrueSight Server Automation, Cert-manager (k8s Operator), Discourse, Docker Compose, Docker Registry, Drupal, External Secrets (k8s Operator), FirewallD, GitLab, GitLab CI Runners, Gitea, HAProxy, Harbor Registry, Hashicorp Packer, Hashicorp Sentinel, Hashicorp Terraform (Enterprise, Custom Modules), Hashicorp Vault (Enterprise), Helm, Jenkins, Keycloak (Red Hat SSO), Kubernetes Operators, LVM, Microsoft IIS, Microsoft SQL, MkDocs, MongoDB, Nginx, PostgreSQL, Red Hat Advanced Cluster Management (ACM) for Kubernetes, Red Hat Ansible (Playbooks, Roles, Custom Modules), Red Hat Quay, Redis, rpm-build, ServiceNow (API), sshd, Smartsheet, SonarQube, Sonatype Nexus, Squid, Tekton (OpenShift Pipelines), Tmux

Software (As a User)

BitBucket, Confluence, Draw.io, Emacs, Git, Gitea, GitHub, GitLab, Insomnia, Jira, Microsoft Project, Microsoft Visio, Putty, Trello, Vi/Vim, Visual Studio, Visual Studio Code, Xcode

EDUCATION

Shepherd University — *Shepherdstown, WV*

Bachelor of Science, Computer and Information Technology

CERTIFICATIONS

- [Amazon Web Services, Solutions Architect Associate](#)
- [CompTIA Security+](#)
- [Red Hat Certified Architect \(RHCA\)](#)
- [Red Hat Certified Engineer \(RHCE\)](#)
- [Red Hat Certified Specialist in API Management](#)
- [Red Hat Certified Specialist in Containers and Kubernetes](#)
- [Red Hat Certified Specialist in MultiCluster Management](#)
- [Red Hat Certified Specialist in OpenShift Administration](#)
- [Red Hat Certified Specialist in OpenShift Application Development](#)
- [Red Hat Certified System Administrator \(RHCSA\)](#)

PUBLICATIONS

- Red Hat Hybrid Cloud Blog Post – [Customize OpenShift Login with USG Banner](#)