

DevOps & Platform Engineering

A job-ready, fully online program that takes you from Linux foundations to operating production platforms — CI/CD, Docker, Kubernetes, Terraform & Ansible, monitoring, AWS, SRE, and DevSecOps. Build a portfolio and get interview-ready.

Total: 60–65 Hours

Free Foundation: 15 Hours

Job-Ready Program: 45–50 Hours

Online & Live

Certificate

Free Foundation — 15 Hours

Start learning for free. Build your core Linux, Git, and cloud foundations.

Module 1: DevOps Culture & Fundamentals

Estimated Time: 4 Hours**Learning Objectives**

- Understand the DevOps mindset that gets you hired
- Map the end-to-end software delivery lifecycle

Topics

- What DevOps is and why teams adopt it
- The CALMS model, DevOps toolchain, and workflows
- Agile, continuous delivery, and collaboration culture

Hands-on

- Map a real delivery pipeline from commit to production

Assessment: Quiz

Module 2: Linux & Shell Scripting Essentials

Estimated Time: 5 Hours**Learning Objectives**

- Operate Linux servers with confidence
- Automate routine tasks with shell scripts

Topics

- File system, permissions, processes, and packages
- Users, services, systemd, and log management
- Bash scripting, variables, loops, and cron jobs

Hands-on

- Write shell scripts to automate server setup tasks

Assessment: Quiz + Lab

Module 3: Version Control with Git & GitHub

Estimated Time: 3 Hours

Learning Objectives

- Version code and collaborate like a professional team
- Adopt branching workflows used in real DevOps teams

Topics

- Repositories, commits, branches, and merges
- Pull requests, code review, and conflict resolution
- Git branching strategies and GitHub collaboration

Hands-on

- Manage a shared repo with a feature-branch workflow

Assessment: Quiz + Lab

Module 4: Networking & Cloud Basics for DevOps

Estimated Time: 3 Hours

Learning Objectives

- Understand the networking that underpins deployments
- Get comfortable with core cloud building blocks

Topics

- TCP/IP, DNS, HTTP/HTTPS, ports, and firewalls
- Load balancing, SSH, and secure remote access
- Cloud regions, compute, storage, and networking basics

Hands-on

- Launch a cloud VM and connect to it securely over SSH

Assessment: Quiz + Lab

Paid Job-Ready Program — 45–50 Hours

Go from foundations to fully employable across CI/CD, containers, Kubernetes, IaC, monitoring, AWS, SRE, and DevSecOps.

Module 5: CI/CD Pipelines (Jenkins & GitHub Actions)

Estimated Time: 6 Hours

Learning Objectives

- Automate build, test, and deploy with CI/CD
- Ship code faster and more reliably to production

Topics

- Continuous integration and continuous delivery concepts
- Jenkins pipelines, agents, and plugins
- GitHub Actions workflows, runners, and secrets

Hands-on

- Build an automated pipeline that tests and deploys an app

Assessment: Project Milestone

Module 6: Containerization with Docker

Estimated Time: 5 Hours

Learning Objectives

- Package applications into portable containers
- Run consistent environments from dev to production

Topics

- Images, containers, Dockerfiles, and registries
- Volumes, networks, and environment configuration
- Multi-container apps with Docker Compose

Hands-on

- Containerize a multi-service application with Compose

Assessment: Project Milestone

Module 7: Container Orchestration with Kubernetes

Estimated Time: 7 Hours

Learning Objectives

- Deploy and scale containers with Kubernetes
- Keep applications self-healing and highly available

Topics

- Pods, Deployments, Services, and namespaces
- ConfigMaps, Secrets, and scaling strategies
- Ingress, Helm charts, and rolling updates

Hands-on

- Deploy and scale an app on a Kubernetes cluster

Assessment: Project Milestone

Module 8: Infrastructure as Code (Terraform & Ansible)

Estimated Time: 6 Hours

Learning Objectives

- Provision infrastructure declaratively with code
- Make environments reproducible and version-controlled

Topics

- Terraform providers, resources, state, and modules
- Ansible playbooks, roles, and inventories
- Provisioning and configuring cloud infrastructure

Hands-on

- Provision cloud infrastructure with Terraform and Ansible

Assessment: Project Milestone

Module 9: Configuration Management & Automation

Estimated Time: 4 Hours

Learning Objectives

- Manage server configuration consistently at scale
- Eliminate manual, error-prone setup work

Topics

- Idempotency and desired-state configuration
- Templating, variables, and secrets management
- Automating fleet-wide updates and deployments

Hands-on

- Automate configuration of a multi-server environment

Assessment: Lab

Module 10: Monitoring & Observability (Prometheus, Grafana, ELK)

Estimated Time: 5 Hours

Learning Objectives

- Gain full visibility into systems and applications
- Detect and resolve incidents before users notice

Topics

- Metrics collection and alerting with Prometheus
- Dashboards and visualization with Grafana
- Centralized logging with the ELK stack

Hands-on

- Build a monitoring stack with metrics, dashboards, and alerts

Assessment: Project Milestone

Module 11: Cloud Platforms for DevOps (AWS)

Estimated Time: 5 Hours

Learning Objectives

- Deploy and operate workloads on AWS
- Use core AWS services in real DevOps workflows

Topics

- EC2, VPC, IAM, S3, and security groups
- Managed containers with ECS and EKS
- Auto scaling, load balancing, and cost awareness

Hands-on

- Deploy a containerized app on AWS with autoscaling

Assessment: Project Milestone

Module 12: Site Reliability Engineering (SRE) & Platform Engineering

Estimated Time: 4 Hours

Learning Objectives

- Apply SRE practices to keep services reliable
- Build internal platforms that empower developers

Topics

- SLIs, SLOs, error budgets, and incident response
- Toil reduction, on-call, and postmortems
- Platform engineering and self-service developer tooling

Hands-on

- Define SLOs and alerting for a running service

Assessment: Lab

Module 13: DevSecOps & Security Automation

Estimated Time: 3 Hours

Learning Objectives

- Shift security left into the delivery pipeline
- Automate security checks and compliance

Topics

- Secrets management and least-privilege access
- Vulnerability, container, and dependency scanning
- Security gates and policy as code in CI/CD

Hands-on

- Add automated security scanning to a CI/CD pipeline

Assessment: Lab

Module 14: Capstone CI/CD Platform Project, Portfolio & Job Readiness

Estimated Time: 3 Hours

Learning Objectives

- Ship a complete, portfolio-ready DevOps platform
- Prepare for the DevOps job search

Topics

- End-to-end capstone CI/CD platform planning and build
- Portfolio, GitHub, and resume optimization
- DevOps interview, scenario, and troubleshooting prep

Hands-on

- Build and deploy an end-to-end capstone CI/CD platform; mock interviews and resume review

Assessment: Capstone Project + Mock Interview

Total Course Duration: 60–65 Hours

Free Foundation (15h) + Paid Job-Ready Program (48h). Includes portfolio projects, resume & interview prep, mock interviews, and a Progmatrix Certificate of Completion. Enroll at www.progmatrix.com