

Teleios Advanced DevOps Curriculum & Integrated Projects

Each module targets one of the key "needle-movers" identified (Kubernetes, Terraform, Cloud Architecture & Design, CI/CD & GitOps, Observability). For every major topic you'll complete at least one real-world project to cement the skill

Duration: 16 weeks (4 months)

Audience: Mid- to senior-level engineers aiming for global-standard DevOps mastery



Module 1: Kubernetes Mastery

(Weeks 1-3)

Week	Topics	Integrated Project
1	Advanced Kubernetes constructs: Microservices deployment patterns, StatefulSets, Production-grade autoscaling	Ride-Sharing Microservices on Kubernetes Deploy a multi-service ride-hailing app with rolling updates and pod disruption budgets
2	Multi-Cluster & HA Patterns: cross-cluster ingress, global load-balancing	Ride-Sharing Multi-Cluster Deployment Extend the same ride-hailing app to deploy across multiple clusters with zero-downtime failover
3	Service Mesh fundamentals, Network Policies, Advanced Pod Scheduling	Ride-Sharing with Service Mesh Implement Istio/Linkerd for traffic management and security

Outcomes:

Design, secure, and operate production-grade multi-cluster Kubernetes platforms.



Module 2: Terraform & Infrastructure-as-Code

(Weeks 4-6)

Week	Topics	Integrated Project
4	Advanced Terraform patterns: modules, workspaces, DRY IaC	Global E-Commerce Infrastructure with Terraform Provision multi-region cloud footprint
5	Multi-Cloud Deployment & Terragrunt: provider abstractions, managing multiple environments, DRY principles	E-Commerce Multi-Cloud Foundation Deploy the same e-commerce infrastructure to AWS & Azure using Terragrunt
6	State Management, Terraform Cloud/Enterprise, Advanced Networking (VPCs, Transit Gateways, VPC Peering)	Enterprise-Grade E-Commerce Network Implement secure, scalable network architecture with remote state management

Outcomes:

Ship auditable, multi-cloud infrastructure that is secure, cost-efficient, and fully automated.



Module 3: Cloud Architecture & Design

(Weeks 7-9)

Week	Topics	Integrated Project
7	Single-Cloud Multi-Region Strategy, High Availability Patterns, CAP Theorem & Twelve-Factor review	E-Commerce Platform Multi-Region Deployment Architect the e-commerce app for multi-region high availability with zero-downtime
8	Security, Compliance & Governance: SOC2, PCI-DSS, HIPAA; IAM maturity models, Landing Zones	Disaster Recovery & High Availability Design active-active DR for the e-commerce platform with automated failover
9	Cloud Architecture Patterns: choosing the right compute (containers, serverless, VMs), data storage patterns, caching strategies, edge design, cost optimization	Cost-Efficient E-Commerce Architecture Leverage CDN, appropriate compute types, and autoscaling to optimize cost and performance

Outcomes:

Craft resilient, secure, and cost-optimized architectures with proper compute and data choices for different scenarios.



Module 4: CI/CD & GitOps Engineering

(Weeks 10-12)

Week	Topics	Integrated Project
10	Pipeline-as-Code & GitOps fundamentals (Argo CD); Terraform Cloud runs	End-to-End GitOps Workflow for Logistics Declarative infra + app delivery via Argo CD, with promotion between environments
11	Release Engineering at Scale: canary deployments, blue-green, feature flags, progressive delivery	Advanced Deployment Strategies for Logistics Implement canary and blue-green deployments with automated rollback triggers
12	Security & Quality Gates: SBOM, DAST/SAST, Container scanning	Automated Security Scanning Pipeline Integrate Snyk/Sonarqube & OpenSSF scorecards in CI for the logistics platform

Outcomes:

Build resilient, secure, self-service delivery platforms that enable multiple prod deploys per day.



Module 5: Observability & Reliability Engineering

(Weeks 13-16)

Week	Topics	Integrated Project
13	Observability Stack: metrics, logs, traces with Prometheus, Grafana, OpenTelemetry	Full-Stack Observability for Logistics Unified dashboards, SLO alerts, distributed traces for the logistics platform
14	SRE Fundamentals: SLI/SLO/Error-Budget methodology, Auto-Scaling & Performance Tuning (HPA/VPA, KEDA)	SRE Implementation for Logistics Define and implement SLOs with automated performance scaling
15-16	Automated Security Scanning Pipeline Integrate Snyk/Sonarqube & OpenSSF scorecards in CI for the logistics platform	

Outcomes:

Operate systems within agreed SLOs, prevent outages, and build a demonstrable senior-level portfolio.



Module 5: Observability & Reliability Engineering

Weekly live workshops and lab hours with senior mentors

Project demos every second week; peer & instructor code reviews

Architecture reviews & mock incidents to sharpen on-call skills

Completion of all module projects plus the capstone equals graduation

