



DEVOPS ROAD MAP BY kandarp Kumar Thakur(zero_pi)

Here's a detailed 4-month DevOps learning path in the form of a **day-by-day timetable**. The schedule assumes about 2–4 hours of learning each day, with weekends for practice, review, and hands-on projects.

Month 1: Linux & Scripting

Objective: Build a strong foundation in Linux, scripting, and networking basics.

Day	Topics	Details
Day 1–3	Introduction to Linux	Learn Linux basics: file management, permissions, basic commands (cp, mv, rm, etc.), working with files.
Day 4–7	Linux System Administration	Understand system services, users & groups, disk management, process monitoring (top, ps), etc.
Day 8–9	Networking Basics: OSI Model	Learn the OSI Model layers and how they interact in networking.
Day 10–12	Networking: DNS,	Understand DNS, web protocols (HTTP/HTTPS), and secure shell (SSH) usage.

	HTTP/HTTPS, SSH	
Day 13–15	Linux Security & Firewalls	Learn about user privileges, iptables, UFW (Uncomplicated Firewall), securing SSH.
Day 16–18	Bash Scripting	Basics of Bash scripting: variables, loops, conditionals, functions.
Day 19–20	Advanced Bash Scripting	Automate Linux tasks: backups, cron jobs, system monitoring.
Day 21–22	Git & Version Control Systems	Learn Git fundamentals: repositories, commits, branching, merging.
Day 23–24	GitHub & GitLab Integration	Push/pull code from GitHub/GitLab, use pull requests.
Day 25–27	Text Manipulation Tools	Work with tools like <code>grep</code> , <code>awk</code> , <code>sed</code> , and regular expressions for file manipulation.
Day 28–30	Weekend Project	Setup a Linux VM, practice Bash scripting, manage files, and push scripts to GitHub.

Month 2: Containers, CI/CD, & Configuration Management

Objective: Learn containerization with Docker and build automated pipelines with CI/CD tools.

Day	Topics	Details
Day 31–33	Introduction to Docker	Install Docker, understand images, containers, volumes, and networking.
Day 34–36	Dockerfile & Docker Compose	Write Dockerfiles, build custom images, and use Docker Compose for multi-container apps.
Day 37–39	Docker Networking & Storage	Learn Docker networking (bridge, overlay), persistent storage, and volumes.
Day 40–42	Kubernetes Basics	Understand Kubernetes architecture, nodes, pods, deployments, and services.
Day 43–46	Kubernetes Configuration	Learn how to write YAML files for Kubernetes (deployment, service, ingress).
Day 47–50	CI/CD Introduction	Learn the fundamentals of Continuous Integration and Continuous Deployment (CI/CD).
Day 51–54	Jenkins Setup & Basic Pipelines	Install Jenkins, build basic pipelines for automating code builds and tests.

Day 55–58	GitLab CI/CD Pipelines	Create a CI/CD pipeline using GitLab CI. Automate build and deployment steps.
Day 59–60	Weekend Project	Set up a Dockerized web app, deploy it on Kubernetes, and build a Jenkins CI pipeline to automate it.

Month 3: Cloud Services & Infrastructure as Code

Objective: Dive into cloud platforms and learn how to provision and automate infrastructure.

Day	Topics	Details
Day 61–63	Introduction to Cloud Computing	Learn the basics of cloud platforms (AWS, Azure, Google Cloud).
Day 64–67	AWS Essentials	Learn core AWS services (EC2, S3, RDS, IAM, VPC). Understand account setup and service provisioning.
Day 68–70	Google Cloud Basics	Explore Google Cloud services like Compute Engine, Cloud Storage, and Cloud Functions.
Day 71–73	Azure Basics	Learn key services: Azure VMs, Blob Storage, App Services, and Virtual Networks.
Day 74–76	Introduction to Terraform	Learn how to write Terraform configurations and manage infrastructure as code.
Day 77–80	Terraform Cloud Deployment	Automate infrastructure deployment on AWS or Google Cloud using Terraform.
Day 81–84	Advanced Terraform	Work with modules, state management, and advanced configurations in Terraform.
Day 85–88	Cloud Design Patterns	Learn about high availability, fault tolerance, and scalability in cloud architectures.
Day 89–90	Weekend Project	Deploy a web app using Terraform on AWS or Google Cloud with load balancing and monitoring.

Month 4: Monitoring, Security, & Advanced Tools

Objective: Master monitoring, logging, security, and DevOps automation.

Day	Topics	Details
Day 91–94	Monitoring Tools (Grafana, Prometheus)	Learn how to set up infrastructure monitoring using Grafana and Prometheus.
Day 95–98	Logs Management (Elastic Stack)	Set up centralized logging with the Elastic Stack (Elasticsearch, Logstash, Kibana).

Day 99–102	Security: Vault for Secrets Management	Learn how to secure sensitive data using Vault or other secret management tools.
Day 103–106	GitOps: ArgoCD & FluxCD	Automate Kubernetes deployments using GitOps principles with ArgoCD or FluxCD.
Day 107–110	Cloud Security Best Practices	Implement cloud security practices like least privilege, security groups, and firewalls.
Day 111–114	CI/CD Advanced Automation	Learn advanced CI/CD practices like parallel builds, environment testing, and continuous delivery.
Day 115–118	Service Mesh (Istio, Consul)	Learn to manage microservices traffic using Istio or Consul for service mesh.
Day 119–120	Final Project	Build a full-stack application, containerize it, deploy on Kubernetes, monitor, and set up a CI/CD pipeline.