

DevOps, Kubernetes & Cloud Platform Engineering

Master the full source-to-production DevOps stack: CI/CD, Docker, Kubernetes, Terraform, GitOps, SRE, DevSecOps and platform engineering.

**8 weeks**

DURATION

104 hours

GUIDED LEARNING

2 projects

PORTFOLIO

ABOUT THE ACADEMY

Practical learning. Work you can demonstrate.

Brightnest AI Academy brings live instruction, guided practice and career preparation together for individuals and teams.

23

FOCUSED COURSES

6

FLAGSHIP PROGRAMMES

Noida

ACADEMY LOCATION

Our approach

1

Learn

Understand concepts through live instruction and current examples.

2

Build

Apply learning through labs, assignments and guided projects.

3

Explain

Document decisions, results, trade-offs and limitations.

4

Prepare

Connect completed work with CVs, interviews and workplace conversations.

PEOPLE BEHIND THE ACADEMY

Meet Ranjeet Kumar



ACADEMY ADVISER

Ranjeet Kumar

Innovation & Growth Leader

15+ years

Experience in data, artificial intelligence and machine learning leadership.

Areas of expertise

- Data science and machine learning solution leadership
- AI product strategy and scalable data platforms
- Technology team leadership and mentorship
- Practical AI and data adoption for business transformation

Education

Master of Information Systems, Anna University, Chennai
Bachelor of Computer Science Engineering

COURSE OVERVIEW

Build your next set of skills

Engineer automated delivery and cloud platforms using CI/CD, Docker, Kubernetes, infrastructure as code, cloud automation and modern platform engineering practices. Progress from DevOps Foundations, Git and Flow of Work to DevOps and Cloud Platform Capstone through guided labs, assessed projects, and portfolio evidence.

Who this is for

Developers, sysadmins, cloud engineers and operations professionals moving into DevOps/platform engineering.

Before you begin

Learners should understand basic Linux, networking, Git, and cloud concepts. Some scripting experience is recommended.

DevOps capability comes from building dependable delivery systems with version control, CI/CD, containers, Kubernetes, infrastructure as code, observability, and platform standards.



LEARNING OUTCOMES

What you will be able to do

01

Set up a team Git workflow with branch protections, PR templates and release conventions.

02

Create a CI pipeline that tests, scans and publishes a versioned artifact.

03

Containerise a multi-service application with optimised images and local orchestration.

04

Deploy an application to Kubernetes with health checks, scaling, config and ingress.

05

Package the app with Helm and implement a GitOps-style deployment workflow.

06

Design a self-service golden path that provisions app, pipeline, observability and environment.

07

Build a complete cloud-native delivery platform for a sample application with automated infrastructure and deployments.



CURRICULUM

Course curriculum

10 modules · 8 weeks · 104 hours of guided learning

01 DevOps Foundations, Git and Flow of Work

6 hours

TOPICS

DevOps principles · Trunk-based versus GitFlow · Git internals basics · Pull requests · Code review · Issue tracking · Release strategy · DORA-style outcomes

PRACTICAL WORK

Set up a team Git workflow with branch protections, PR templates and release conventions.

Tools: Git, GitHub/GitLab/Azure DevOps

Assessment: Workflow review

Portfolio evidence: Production Git workflow

02 Continuous Integration and Artifact Management

10 hours

TOPICS

CI stages · Build/test/lint · Dependency caching · Artifacts · Package/container registries · Reusable workflows · Secrets · Quality gates

PRACTICAL WORK

Create a CI pipeline that tests, scans and publishes a versioned artifact.

Tools: GitHub Actions/GitLab CI/Azure Pipelines

Assessment: CI lab

Portfolio evidence: Reusable CI pipeline



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Course curriculum

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03 Docker and Container Engineering

10 hours

TOPICS

Images · Layers · Dockerfiles · Multi-stage builds · Networking · Volumes · Compose · Image security · Registries · Supply-chain basics

PRACTICAL WORK

Containerise a multi-service application with optimised images and local orchestration.

Tools: Docker, Docker Compose

Assessment: Container lab

Portfolio evidence: Containerised application stack

04 Kubernetes Application Platform

12 hours

TOPICS

Pods · Deployments · Services · Configmaps/secrets · Ingress · Probes · requests/limits · Autoscaling · Namespaces · RBAC · Troubleshooting

PRACTICAL WORK

Deploy an application to Kubernetes with health checks, scaling, config and ingress.

Tools: Kubernetes, kubectl, Managed cluster or kind/minikube

Assessment: Kubernetes practical

Portfolio evidence: Kubernetes deployment repository

CURRICULUM

Course curriculum

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05 Helm, GitOps and Release Engineering

10 hours

TOPICS

Helm charts · Environment configuration · GitOps principles · Desired state · Rollout strategies · Canary/blue-green concepts · Rollback · Change control

PRACTICAL WORK

Package the app with Helm and implement a GitOps-style deployment workflow.

Tools: Helm, Argo CD/Flux concepts

Assessment: Release lab

Portfolio evidence: Helm/GitOps delivery setup

06 Infrastructure as Code and Cloud Automation

12 hours

TOPICS

Terraform modules/state · Remote state · Variables · Workspaces concepts · Policy checks · Secrets · Cloud resource provisioning · Reusable platform modules

PRACTICAL WORK

Build reusable Terraform modules for network, compute/cluster and supporting services.

Tools: Terraform, Cloud provider

Assessment: IaC code review

Portfolio evidence: Reusable infrastructure modules



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07 Observability, SRE and Incident Readiness

10 hours

TOPICS

Metrics/logs/traces · OpenTelemetry · Dashboards · SLI/SLO/error budgets · Alert quality · Runbooks · Capacity · Incident response · Postmortems

PRACTICAL WORK

Instrument an app, define SLOs and run a game-day incident scenario.

Tools: Prometheus/Grafana, OpenTelemetry, Cloud monitoring

Assessment: SRE scenario

Portfolio evidence: Observability dashboard + runbook

08 DevSecOps and Software Supply Chain

8 hours

TOPICS

SAST/DAST/SCA concepts · Container/IaC scanning · SBOM · Secrets scanning · Signing/provenance concepts · Policy gates · Least privilege

PRACTICAL WORK

Add security scanning and policy gates to CI/CD and remediate findings.

Tools: GitHub Advanced Security concepts, Trivy/Snyk concepts, OPA concepts

Assessment: Security pipeline review

Portfolio evidence: DevSecOps pipeline



CURRICULUM

Course curriculum

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09 Platform Engineering and Developer Experience

8 hours

TOPICS

Internal developer platforms · Golden paths · Templates · Service catalogs · Self-service environments · Platform APIs · Cost/governance guardrails

PRACTICAL WORK

Design a self-service golden path that provisions app, pipeline, observability and environment.

Tools: Backstage concepts, Terraform, CI/CD, Kubernetes

Assessment: Platform design review

Portfolio evidence: Platform engineering blueprint

10 DevOps and Cloud Platform Capstone

18 hours

TOPICS

Source-to-production workflow · CI/CD · Containers · Kubernetes · IaC · GitOps · Observability · Security · SLOs · Developer experience

PRACTICAL WORK

Build a complete cloud-native delivery platform for a sample application with automated infrastructure and deployments.

Tools: GitHub, Docker, Kubernetes, Terraform, Helm, Observability stack

Assessment: Capstone demo and incident drill

Portfolio evidence: End-to-end DevOps/platform engineering portfolio

APPLIED PORTFOLIO

Projects you will build

Two portfolio projects supported by guided module work.

PORTFOLIO PROJECT 1

Cloud-Native Delivery Platform

Automate infrastructure, container builds, Kubernetes deployment, GitOps, observability and security gates.

DELIVERABLES

Terraform · Docker · Kubernetes · Helm · CI/CD · Dashboards · Runbook

PORTFOLIO PROJECT 2

Internal Developer Golden Path

Design a self-service developer platform template for a new service.

DELIVERABLES

Service template · Pipeline · IaC module · Observability · Governance controls

LEARNING EXPERIENCE

Learn, practise and present

- Live instructor-led sessions that connect concepts to real workplace decisions.
- Guided labs and workshops in every module.
- Assignments, checkpoints and practical feedback.
- Portfolio documentation, demonstrations and capstone review.
- Access to recordings and LMS resources according to the published batch policy.
- Career preparation based on completed work and target roles.

Tools you will work with

Git · GitHub · GitLab · Azure DevOps · GitHub Actions · GitLab CI · Azure Pipelines · Docker · Docker Compose · Kubernetes · kubectl · Managed cluster · kind · minikube · Helm · Argo CD

CAREER PREPARATION

Build confidence for interviews

A structured process to connect your learning with your next career step.

01**Role clarity**

Identify roles that fit your background, interests and current skills.

02**Profile readiness**

Review your CV, LinkedIn, GitHub and project summaries.

03**Project proof**

Prepare to demonstrate completed work and explain your decisions.

04**Interview practice**

Practise technical questions, project walkthroughs and interviews.

05**Opportunity updates**

Receive relevant job openings and employer requirements, subject to availability and learner readiness.

Career support helps you prepare. Employment outcomes depend on experience, project quality, interview readiness and market conditions.

LEARNER JOURNEYS

Companies where our learners have been hired

Across the Brightnest AI Academy learner community



Learner employment history across the academy; not a placement guarantee for this course. Names and logos identify employers; they do not imply endorsement or a hiring partnership.

BEFORE YOU ENROL

Your questions, answered

Is the DevOps & Kubernetes course suitable for beginners?

This course progresses from intermediate to advanced level. Learners should understand basic Linux, networking, Git, and cloud concepts. Some scripting experience is recommended.

What will I build during the course?

You will complete guided labs in every module and build two portfolio projects: Cloud-Native Delivery Platform and Internal Developer Golden Path. Deliverables include working files or code, documentation, testing or evaluation evidence, and a final presentation.

Which tools and platforms are covered?

Key tools include Git, GitHub, GitLab, Azure DevOps, GitHub Actions, GitLab CI, Azure Pipelines, and Docker. Additional platforms are introduced in relevant modules through practical tasks, and the toolset may evolve as industry practice changes.

How long does the course take?

The course includes approximately 104 guided learning hours across 10 modules, delivered over 8 weeks.

Which career paths can this course support?

The curriculum supports the development of skills relevant to roles such as DevOps Engineer, Platform Engineer, SRE, and Cloud Platform Engineer. Career outcomes depend on prior experience, project quality, interview readiness and market conditions; employment is not guaranteed.

BEFORE YOU ENROL

Your questions, continued

Will I receive mentor and career support?

The course includes live instruction, lab support, assignment feedback, project reviews and career preparation covering portfolio development, CV writing, LinkedIn profile improvement, and interview guidance.

FEES & ADMISSIONS

Plan your next step

COURSE FEE

INR 35,000 + GST

EMI and easy instalments available

Duration	8 weeks
Level	Intermediate-Advanced
Learning format	Live mentor-led learning
Batch starts	Expected Saturday / Sunday starts

Check the live Batches page for the next expected weekend. Confirm the exact date, class times and availability with admissions.

Book a free demo class >

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