

AWS Cloud Engineering & Architecture

Learn to architect and operate secure, scalable AWS environments - not just click through services - with networking, IaC and observability.

**8 weeks**

DURATION

76 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

Architect, deploy and operate secure workloads on Amazon Web Services. Progress from AWS Cloud Foundations and IAM to AWS Cloud Engineering Capstone through guided labs, assessed projects, and portfolio evidence.

Who this is for

IT professionals, developers and cloud beginners pursuing AWS engineering/architecture skills.

Before you begin

Learners should understand basic networking and operating-system concepts. No prior AWS experience is required.

AWS capability is demonstrated by secure architecture decisions, repeatable infrastructure, resilient workloads, cost awareness, and operational evidence-not console screenshots.



LEARNING OUTCOMES

What you will be able to do

01

Create a least-privilege IAM setup and deploy resources through console and CLI.

02

Design and build a multi-tier VPC with public/private subnets and controlled traffic flow.

03

Deploy the same service using EC2/container/serverless patterns and compare trade-offs.

04

Build a secure data layer using S3 and a managed database with backup and encryption.

05

Redesign a fragile application for high availability and recovery objectives.

06

Provision a repeatable AWS environment using IaC and add cost guardrails.

07

Build and document a production-ready cloud application environment on AWS.



CURRICULUM

Course curriculum

8 modules · 8 weeks · 76 hours of guided learning

01 AWS Cloud Foundations and IAM

6 hours

TOPICS

AWS global infrastructure · Accounts · Regions/AZs · Shared responsibility · IAM users/roles/policies · MFA · AWS CLI · Tagging

PRACTICAL WORK

Create a least-privilege IAM setup and deploy resources through console and CLI.

Tools: AWS, IAM, AWS CLI

Assessment: Cloud foundations quiz

Portfolio evidence: AWS account baseline checklist

02 AWS Networking

10 hours

TOPICS

VPCs · CIDR · Subnets · Route tables · Internet/NAT gateways · Security groups · NACLs · DNS · Load balancing · Connectivity patterns

PRACTICAL WORK

Design and build a multi-tier VPC with public/private subnets and controlled traffic flow.

Tools: Amazon VPC, Route 53, ELB

Assessment: Networking lab

Portfolio evidence: AWS network architecture

CURRICULUM

Course curriculum

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03 Compute, Containers and Serverless

10 hours

TOPICS

EC2 · AMIs · Autoscaling · Load balancing · Lambda · ECS/EKS concepts · Container registries · Choosing compute models

PRACTICAL WORK

Deploy the same service using EC2/container/serverless patterns and compare trade-offs.

Tools: EC2, Lambda, ECS/EKS concepts, ECR

Assessment: Compute design review

Portfolio evidence: Multi-pattern compute demo

04 Storage and Databases

8 hours

TOPICS

S3 · Lifecycle · Encryption · EBS/EFS concepts · RDS/Aurora · DynamoDB · Backup · Durability · Performance · Data transfer

PRACTICAL WORK

Build a secure data layer using S3 and a managed database with backup and encryption.

Tools: S3, RDS/Aurora, DynamoDB concepts

Assessment: Data layer lab

Portfolio evidence: AWS storage/database design



CURRICULUM

Course curriculum

8 modules · 8 weeks · 76 hours of guided learning

05 High Availability and Well-Architected Design

8 hours

TOPICS

Resilience · Multi-AZ · Scaling · Decoupling · Queues/events · Caching · Disaster recovery patterns · Reliability and performance pillars

PRACTICAL WORK

Redesign a fragile application for high availability and recovery objectives.

Tools: SQS/SNS/EventBridge concepts, CloudFront, ElastiCache concepts

Assessment: Architecture case

Portfolio evidence: Well-architected solution diagram

06 Security, Governance and Observability

8 hours

TOPICS

KMS · Secrets Manager · CloudTrail · CloudWatch · Config concepts · GuardDuty/Security Hub concepts · Logging · Alarms · Governance · Incident visibility

PRACTICAL WORK

Implement centralised logs, alerts, encryption and security controls for a sample workload.

Tools: CloudWatch, CloudTrail, KMS, Security services

Assessment: Security checkpoint

Portfolio evidence: AWS security/monitoring baseline



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07 Infrastructure as Code, Automation and Cost

10 hours

TOPICS

CloudFormation/Terraform concepts · Systems Manager · CI/CD integration · Tagging · Budgets · Cost explorer · Rightsizing · FinOps basics

PRACTICAL WORK

Provision a repeatable AWS environment using IaC and add cost guardrails.

Tools: Terraform or CloudFormation, AWS Budgets

Assessment: IaC lab

Portfolio evidence: Version-controlled AWS infrastructure

08 AWS Cloud Engineering Capstone

16 hours

TOPICS

Requirements · Architecture · Network · Compute · Data · Security · Availability · Observability · IaC · Cost · Operational runbook

PRACTICAL WORK

Build and document a production-ready cloud application environment on AWS.

Tools: AWS, Terraform/CloudFormation, GitHub

Assessment: Capstone defence

Portfolio evidence: AWS reference architecture + deployed environment

APPLIED PORTFOLIO

Projects you will build

Two portfolio projects supported by guided module work.

PORTFOLIO PROJECT 1

Highly Available AWS Application Platform

Deploy a resilient web/API workload with VPC, compute, database, monitoring, security and IaC.

DELIVERABLES

Architecture diagram · Terraform/CloudFormation · Deployed workload · Runbook

PORTFOLIO PROJECT 2

Serverless Event-Driven AWS Solution

Build event-driven processing with managed/serverless services and observability.

DELIVERABLES

IaC · Event flow · Security controls · Cost/reliability analysis

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

**AWS · IAM · AWS CLI · Amazon VPC · Route 53 · ELB · EC2 · Lambda · ECS · EKS concepts
· ECR · S3 · RDS · Aurora · DynamoDB concepts · SQS**

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 AWS Cloud Engineering course suitable for beginners?

This is an intermediate-level course. Learners should understand basic networking and operating-system concepts. No prior AWS experience is required.

What will I build during the course?

You will complete guided labs in every module and build two portfolio projects: Highly Available AWS Application Platform and Serverless Event-Driven AWS Solution. Deliverables include working files or code, documentation, testing or evaluation evidence, and a final presentation.

Which tools and platforms are covered?

Key tools include AWS, IAM, AWS CLI, Amazon VPC, Route 53, ELB, EC2, and Lambda. 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 76 guided learning hours across 8 modules, delivered over 8 weeks.

Which career paths can this course support?

The curriculum supports the development of skills relevant to roles such as AWS Cloud Engineer, Cloud Administrator and Solutions Architect. 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
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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