



Cloud Computing & DevOps Internship

(15 Days | Practical-Oriented | Industry Ready)

INTERNSHIP SYLLABUS

Internship Objectives

By the end of this internship, students will:

- Understand **Cloud fundamentals & service models**
- Deploy applications on **cloud platforms**
- Implement **CI/CD pipelines**
- Work with **Docker & DevOps tools**
- Build confidence to handle **real-time DevOps projects**

DAY 1 – Cloud Computing Fundamentals

- What is Cloud Computing?
- Cloud vs Traditional IT
- Cloud deployment models (Public, Private, Hybrid)
- Cloud service models: IaaS, PaaS, SaaS

Practical:

Cloud account creation & dashboard tour

DAY 2 – Cloud Architecture & Providers

- Cloud architecture overview
- AWS / Azure / GCP comparison
- Regions, Availability Zones
- Pricing basics

Practical:

Create free-tier cloud account

DAY 3 – Virtual Machines & Compute Services

- Virtualization concepts
- EC2 / Azure VM basics
- Instance types & scaling

Practical:

Launch & connect to a VM

DAY 4 – Storage & Database Services

- Object storage (S3 / Blob)
- Block & file storage
- Cloud databases (RDS basics)

Practical:

Upload files to cloud storage

DAY 5 – Networking & Security

- VPC, subnets, gateways
- Security groups & firewalls
- IAM users & roles

Practical:

Configure security rules

DAY 6 – DevOps Introduction

- What is DevOps?
- DevOps lifecycle
- DevOps vs traditional SDLC

Practical:

DevOps toolchain overview

DAY 7 – Version Control with Git

- Git basics (clone, commit, push)

- GitHub workflow
- Branching concepts

Practical:

Push project to GitHub

DAY 8 – Continuous Integration (CI)

- CI concepts
- Jenkins introduction
- Build automation

Practical:

Jenkins setup & job creation

DAY 9 – Continuous Deployment (CD)

- CI/CD pipeline concepts
- Automated deployment
- Rollback strategies

Practical:

Create basic CI/CD pipeline

DAY 10 – Docker Fundamentals

- Containerization vs Virtualization
- Docker images & containers
- Dockerfile basics

Practical:

Build & run Docker container

DAY 11 – Kubernetes Basics

- Container orchestration
- Kubernetes architecture
- Pods & services

Practical:

Deploy container using Kubernetes

DAY 12 – Monitoring & Logging

- Importance of monitoring
- Logs & metrics
- Introduction to Prometheus / Grafana

Practical:

Monitor deployed app

DAY 13 – Cloud Deployment Project

- Deploy application on cloud
- Docker + CI/CD integration

Practical:

End-to-end deployment

DAY 14 – Mini Project Completion

- Final cloud deployment
- Performance & security check

Practical:

Project testing & optimization

DAY 15 – Evaluation & Presentation

- Project demo
- Viva & assessment

Resume & career guidance

Assessment: Practical + Oral + Project review

Mini Project Examples

- Cloud-hosted web application
- CI/CD pipeline for a web app
- Dockerized cloud deployment