Learnbay

Cloud Computing & DevOps

Certification

Career Acceleration Program

In collaboration with

Microsoft and IBM

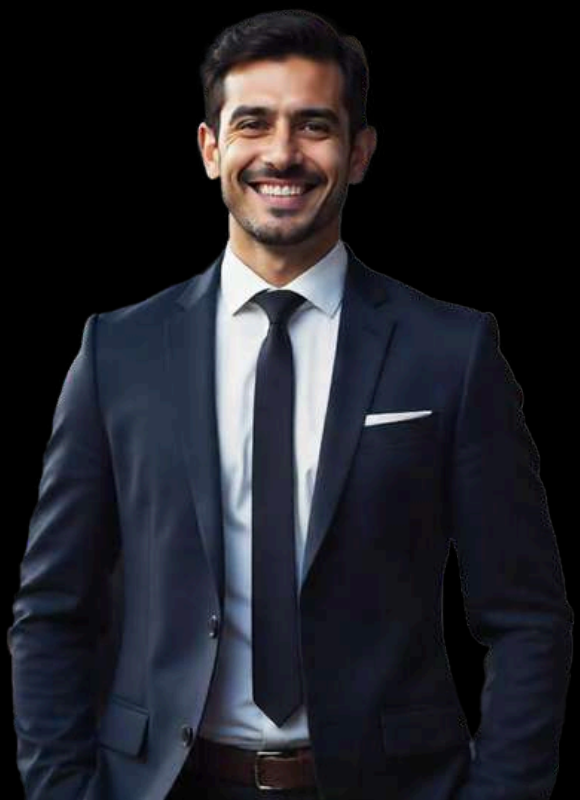

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Table Of Content

Designed for IT professionals, system administrators, and DevOps engineers, this program equips you with the expertise to excel and lead in the thriving ***Cloud and DevOps domain***

Real-World Project Experience
Build end-to-end Cloud and DevOps projects with practical hands-on training.

Certification from renowned industry
Receive a prestigious completion certificate from Microsoft

Placement Support
Receive interview calls from a diverse pool of interested employer

Industry-relevant program
Learn **AWS, GCP, and Azure** with end-to-end real projects.

Program **Summary**

Program Eligibility

Working professionals having **minimum 1** years of exp.

Training Mode

100% Instructor led Live Online sessions

Program Faculty

Industry Experts and Experienced **Mentors**

Program Duration

6 Months Program Weekday and Weekend Batch

Payment Options

No cost EMI, Interest free loan

Certification

Certification from

Microsoft IBM

About **Course**

This program is designed for **IT professionals**, cloud engineers, and DevOps practitioners to advance their skills through **project-based learning** guided by industry mentors.

This course is crafted to empower you with expertise in both Cloud Computing and DevOps methodologies. Dive into a rich learning experience with extensive hands-on training in key platforms like AWS, Azure, GCP and various DevOps tools.

100% Assured Interview

350+ Hiring Partners

40k+ Professionals Upskilled

Learnbay

Who is this program for?

A unique program For IT Professionals & Engineers

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Entry to **Mid** Level Professionals with **1+ Years of Experience**

Designed for IT professionals, system administrators, Solution Architects, and Support engineers.

IT Professionals **Project Managers in IT**

Important Note: This program is not for freshers, fresh grads, students.

Program Outcome: What's in it for you?

Industry-relevant curriculum

Learn AWS, GCP, and Azure with end-to-end real projects. Mastering these skills helps you to manage, deploy, and scale cloud-based app.

Dedicated placement cell

Receive unlimited interview calls from a diverse pool of interested employers/recruiters until you successfully secure a job

Multiple career opportunity

We don't just educate; we guide you towards your career goals with our dedicated placement pool.

Why choose Learnbay?

For Executive Certification in Cloud & Devops

Certified by Microsoft

Stand out with a prestigious certification from **IBM and Microsoft**

In collaboration with Microsoft IBM

Project-Based Learning

Gain hands-on experience with **real-world cloud & DevOps projects**, preparing you to tackle industry challenges.

Real Projects | Real Experience

Learn from Industry Mentors

Gain insights from top industry experts in Cloud & Devops. Our mentors bring **real-world experience** to help you master advanced skills.

Personalized Support

Get tailored guidance with **1:1 doubt-clearing sessions** for a deeper understanding.

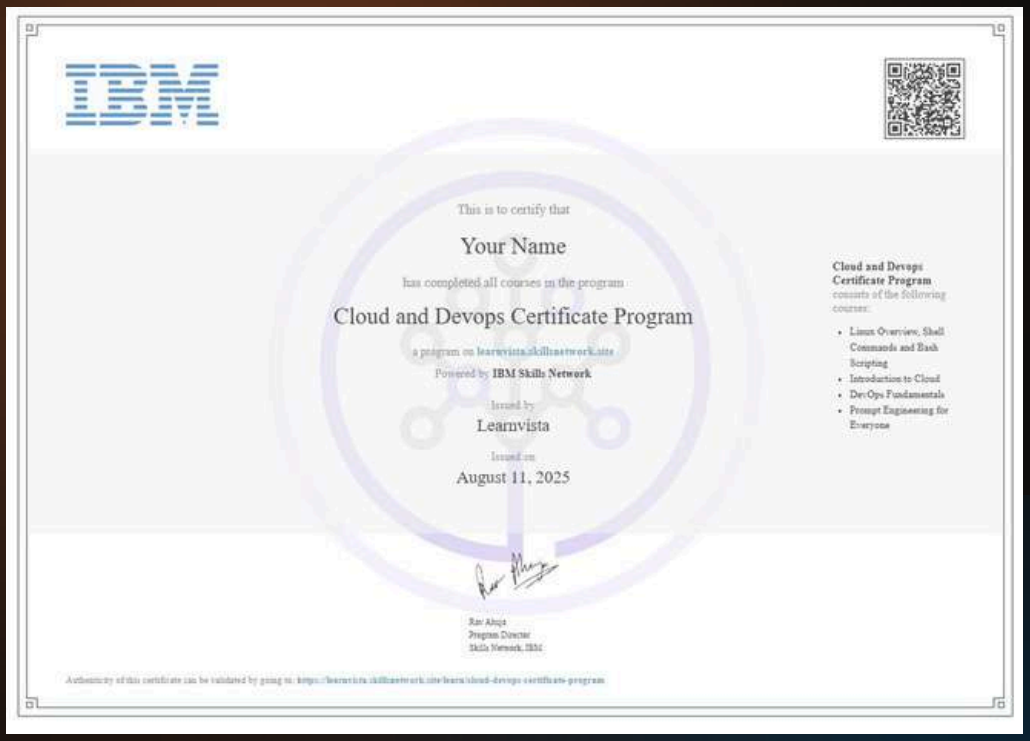
Others Vs **Learnbay**

	Learnbay	OTHERS
Training Mode	100% Live Interactive Online	Only recorded class & few live online
Support	24/7 Student Support	Limited Support Hours
Placement	100% Placement Assistance	Limited Placement Support
Curriculum	Included in Latest Curriculum	Often Not Included
Faculty	Experienced Industry Professionals	Academics and Trainers
Real-Time Projects	Practice with Live Projects and Team Management	Simulated Projects

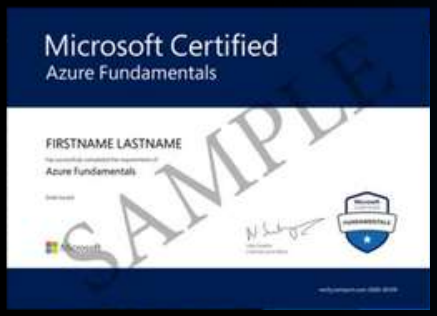
Get certified

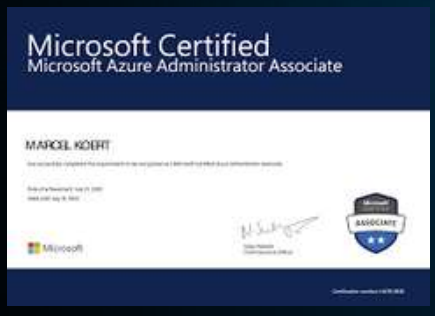
and accelerate your career growth

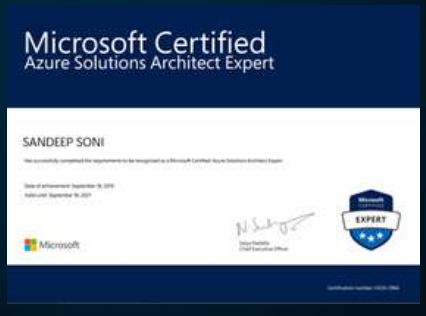
Certification from IBM



Azure Certifications







Program Fees

Live online classes

- Live online interactive sessions
- 1:1 online Doubt Session with experts
- Virtual Mock interviews
- Online Capstone projects

Program Fee

₹ 95,000/- +18% GST

Payment Plan: **No Cost EMI Available**
For 6, 9 and 12 Months

Tools and Modules

Azure

Google Cloud Platform

aws

kubernetes

docker

GitHub

git

python

Jenkins

Learnbay

Program Curriculum

A unique program For IT Professionals & Engineers

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TERM 1 Cloud Basics and Linux Fundamentals

Duration: 25 Hours

Outcome of this term: This term builds foundational Linux and system administration skills, including user management, file permissions, and system monitoring. You'll also gain introductory cloud computing knowledge and learn basic shell scripting for automation.

Module 1: Linux Basics and System Administration

- **Overview of Linux:** History, architecture, and OS comparisons.
- Linux Kernel and Shell: Types of shells and kernel responsibilities.
- Basic Command Usage: **Key commands like ls, cd**
- File Permissions: Manage access with chmod, chown

Module 2: Practical Exercises and Assignments

- **User Management**: Add, modify, or delete users with useradd.
- Create and manage groups with groupadd.
- Sudo Configuration: Edit /etc/sudoers to assign privileges.
- **System Monitoring: Use tools like top, df**

Module 3: Introduction to Cloud Computing (AWS, Azure, GCP)

- **Network Configuration:** Set up static IPs and configure interfaces.
- Generate and manage SSH keys with ssh-keygen.
- Shell Scripting Basics: Scripts for automation and tasks.
- Loop Statements: Automate with while and for loops.

TERM 2 Python Programming Essentials

Duration: 40 Hours

Outcome of this term: This term covers Python basics, data structures, advanced concepts, and cloud automation, equipping you with the skills to automate tasks and manage cloud infrastructure effectively.

Module 1: Python Basics & Environment Setup

- Variables and Data Types: **Int, float, str, bool**
- Operators: Arithmetic, logical, and comparison operations.
- Development Environment: Setting up IDEs like PyCharm and Jupyter.

Module 2: Python Programming Foundations

- If-Else Statements: Nested if, ternary operators.
- Loops: For, while, break, continue, and else in loops.
- **Defining functions** with def and using return.
- Arguments: Default values, *args, **kwargs for flexibility.

Module 3: Data Handling and Structures

- **Lists:** Indexing, slicing, and methods like append(), pop().
- Nested dictionaries, keys(), values(), and get() methods.
- **File Operations:** Reading, writing, and safety using the *with* statement.

Module 4: Advanced Python Concepts

- List, dictionary, and set comprehensions.
- Lambda Expressions: Inline functions for map(), filter(), and reduce().
- **Exception Handling: Debugging with try-except blocks.**

Module 5: Python for Cloud and DevOps

- Scripting for Cloud Automation
- Python Libraries for Cloud Management
- Automating Cloud Infrastructure Deployment using Python
- Integrating Python with **Cloud Monitoring APIs for Log Analysis**

TERM 3 AWS Cloud Mastery

Duration: 40 Hours

Outcome of this term: This term provides comprehensive AWS training, covering core services, solution architecting, advanced modules, and certification preparation, equipping you to design, deploy, and manage cloud infrastructure.

Module 1: AWS Fundamentals

- Overview of AWS Services: Key services: **EC2, S3, RDS, Lambda.**
- Secure root accounts with MFA.
- Core AWS Concepts: Regions, availability zones, and global infrastructure.
- Best practices for IAM and security groups.

Module 2: AWS Solution Architecting

- EC2: Instance types, AMI selection, & security groups.
- **AWS Lambda:** Create functions & set triggers
- S3: Manage buckets, object lifecycle, and bucket policies.
- EBS and Glacier: Snapshots, backups & archival strategies.

Module 3: Advanced AWS Modules

- **RDS and DynamoDB**: Manage backups, multi-AZ, tables, and keys.
- Redshift: Set up clusters, ingest data, and use Spectrum.
- Serverless: **Build solutions with Lambda** and API Gateway.

Module 4: AWS Certifications Preparation

- Design scalable and fault-tolerant solutions.
- Disaster Recovery: Ensure high availability across regions.
- Migration: Optimize with AWS migration tools.
- **Hands-on Labs and Practice Scenarios**

TERM 4 Microsoft Azure Proficiency (Optional)

Duration: 40 Hours

Outcome of this term: This term covers Azure administration, solution architecting, DevOps, and certification preparation, equipping you with the skills to design, deploy, and manage cloud solutions on Azure.

Module 1: Azure Administration & Identity Management

- **Introduction to Azure**: Navigating the portal and basic CLI commands.
- Account Setup: Subscription types, resource groups, and billing alerts.
- Azure Identity: Role-based access control and Active Directory.

Module 2: Architecting Solutions on Azure

- Advanced Networking: Load balancing, VPN, and ExpressRoute setups.
- Data Solutions: Azure SQL, Cosmos DB, and Synapse Analytics.
- **Developing for Cloud: Microservices, containers, and serverless.**

Module 3: Advanced Azure Specializations

- **Azure DevOps:** CI/CD pipelines for streamlined deployment.
- Application Modernization: Optimize apps with Azure services.
- Governance and budget controls for efficiency.
- Azure Storage: **Blob tiers and Data Lake integration**

Module 4: Certification Preparation for Azure

- Certification Prep: Solutions Architect Expert exam readiness.
- Case Studies: **Real-world cloud scenarios and best practices.**
- Core Domains: Review concepts & study resources

TERM 5 Google Cloud Platform (GCP) Fundamentals

Duration: 40 Hours

Outcome of this term: This term covers GCP basics, advanced architecture, networking, database management, and big data services, preparing you to design and manage scalable cloud solutions on Google Cloud.

Module 1: GCP Basics and Core Services

- Overview of GCP Services
- Setup & Create accounts, projects, and IAM roles.
- Compute Services: Manage VMs, preemptible instances, and GKE clusters.
- Storage Services: **Buckets, storage classes, Firestore, and Bigtable.**

Module 2: Advanced GCP Architecting and Networking

- VPC and Subnets: Create VPCs, configure subnets, and peering.
- Load Balancing: Set up HTTP(S) and traffic.
- Design multi-region and hybrid cloud solutions.
- **Implementing Traffic Management with Cloud Load Balancing**

Module 3: GCP Database Management and Big Data

- Big Data Services: Use **BigQuery, Dataproc, and data migration tools.**
- Database Management: Firestore, Bigtable, and optimizing databases.
- Cloud Monitoring: Alerts, log analysis, and Cloud Logging setup.
- Traffic Management Using load balancing

TERM 6 Server and Application Virtualization

Duration: 30 Hours

Outcome of this term: This term covers virtualization fundamentals, server and application virtualization, and containerization, equipping you with the skills to efficiently manage virtualized environments and multi-cloud deployments.

Module 1: Fundamentals of Virtualization

- **Virtualization Basics: Benefits, concepts, and hypervisors (Type 1, Type 2).**
- Full vs. Para-Virtualization: Differences, pros, cons, and use cases.
- Hypervisors: Overview of **VMware, KVM, Hyper-V**.

Module 2: Server Virtualization & Application Virtualization

- VM Lifecycle: Create, configure, clone, and delete virtual machines.
- VM Resource Allocation: Allocate CPU, RAM, storage, and networks.
- Application Virtualization: Package apps with tools like **ThinApp, XenApp**.

Module 3: Containerization and Orchestration

- VMs vs. Containers: Efficiency, security, and use case scenarios.
- **Unikernels**: Lightweight virtualization for specific applications.
- Multi-cloud Deployments: Virtualization in **hybrid and multi-cloud setups**.

TERM 7 Data Migration and Resilience

Duration: 25 Hours

Outcome of this term: This term focuses on data migration strategies, ensuring high availability, resilience, and security in multi-cloud environments, while integrating DevOps practices for efficient and automated workflows.

Module 1: Data Migration in Multi-Cloud Environments

- Basics of Data Migration: Types, benefits, and common challenges.
- Migration Strategies: **Lift-&-shift, re-architecting, rollback planning.**
- Key Considerations: Data integrity, security, and downtime reduction.

Module 2: Resilience and High Availability in Cloud

- High Availability: Redundancy with availability zones.
- Disaster Recovery: **Recovery plans, RPO, and RTO strategies.**
- Backup Solutions: Incremental and automated backup techniques.

Module 3: Integrating Data Migration with DevOps

- **CI/CD Pipelines:** Streamlining data migration with DevOps tools.
- Automate data handling and compliance workflows.
- Monitoring: Track data integrity and process efficiency.

Module 4: Case Studies & Real-World Projects

- Enterprise Projects: Implement resilience in data migration.
- **High Availability: Real-world multi-cloud availability setups.**
- Securing Cloud Data: Strategies for protection in cloud environments.

TERM 8 DevOps Mastery and Tooling

Duration: 60 Hours

Outcome of this term: This term covers core DevOps practices, version control, automation, configuration management, monitoring, and infrastructure as code.

Module 1: Introduction to DevOps

- **DevOps Overview:** What is DevOps, Benefits of DevOps, DevOps lifecycle, Key principles
- **DevOps Culture and Collaboration:** Differences between DevOps and traditional models, DevOps culture and mindset, Team roles

Module 2: Version Control

- **Introduction to Version Control:** Importance of version control, Version control systems (VCS)
- **Git Basics:** Git setup, Git workflow, Branching and Merging, Tagging, Git commands
- **GitHub/GitLab:** Repository management, Collaboration, Pull Requests, Webhooks

Module 3: Continuous Integration (CI)

- **CI Concepts and Importance:** What is CI, Benefits of CI, Overview of CI tools
- **Jenkins:** Strategies, versioning, and Git practices.
- GitLab CI configuration, YAML syntax, Runners, GitLab CI/CD pipeline

Module 4: Build and Release Management

- **Build Automation:** Introduction to build automation, Build tools (Maven, Gradle), Build automation for CI
- **Package Management:** Package repositories (Nexus, JFrog Artifactory), Managing dependencies
- **Release Management:** Release strategies, Managing releases in Git, Versioning

Module 5: Continuous Delivery (CD) & Deployment Automation

- **CD Overview and Tools:** Continuous delivery principles, Differences between CI and CD
- **Deployment Automation:** Infrastructure as Code (IaC), Benefits of automation, Tool overview (Ansible, Terraform)
- **Ansible Basics:** Ansible playbooks, Inventory management, Modules, Roles
- **Terraform:** Terraform basics, Writing configuration files, State management

Module 6: Container Orchestration Basics

- **Introduction to Containers:** What are containers, Benefits of containerization, Introduction to container orchestration
- **Kubernetes:** Kubernetes architecture, Pods, Services, Deployments, Namespaces, ConfigMaps, Secrets
- **Helm:** Helm basics, Charts, Repositories, Managing Helm releases

Module 7: Continuous Monitoring

- **Monitoring and Logging Concepts:** Importance of monitoring, Metrics, Logging basics
- **Prometheus and Grafana:** Prometheus installation, Metrics collection, Grafana dashboards.
- **ELK Stack (Elasticsearch, Logstash, Kibana):** Setting up ELK, Log collection and processing, Visualizing logs in Kibana

Executive-level real-time **Industrial Projects**

#1

CI/CD Pipeline for a Microservices Application

Create a multistage CI/CD pipeline for deploying a microservicesbased application to a cloud platform like AWS, Azure, or Google Cloud Platform (GCP).

Tools: Jenkins, GitLab CI/CD, Docker, Kubernetes, Helm, Terraform, Ansible.

Outcome: Automated build, test, and deployment using Jenkins or GitLab CI/CD.

#2

Cloud Infrastructure Automation with Terraform

Design and deploy an automated cloud infrastructure setup using Terraform to create and manage cloud resources like virtual machines, databases, and storage services.

Tools: Terraform, AWS CloudFormation, Azure Resource Manager (ARM) templates.

Outcome: Create reusable modules for infrastructure components.

#3

Monitoring and Logging Solution on the Cloud

Set up a robust monitoring and logging infrastructure for realtime data analysis and alerting.

Tools: Prometheus, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana), AWS CloudWatch, Datadog.

Outcome: Collect logs and metrics from applications and infrastructure.

#4

Serverless Application Deployment with DevOps Practices

Build and deploy a serverless application using cloud functions, ensuring that the entire process follows a DevOps workflow.

Tools: AWS Lambda, Azure Functions, Google Cloud Functions, GitHub Actions, Serverless Framework.

Outcome: Deploy serverless functions as part of a CI/CD pipeline.

Executive-level real-time **Industrial Projects**

#5

CloudBased DevOps Pipeline with Security Integration (DevSecOps)

Implement a secure DevOps pipeline that incorporates security practices (DevSecOps) into the development and deployment cycle.

Tools: Jenkins, Azure DevOps, GitLab CI/CD, Docker, OWASP ZAP, SonarQube.

Outcome: Integrate security scanning into the build pipeline.

Thank you!

For more queries and information please reach out to us at:

+91 77956 87988

Visit us at

www.learnbay.co