Learnbay

Cloud Computing and DevOps Certification

Career Acceleration Program

In collaboration with

IBM Microsoft

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Advance Cloud Computing and Devops

Embark on a transformative journey with LearnBay's comprehensive Cloud Computing & DevOps Program.

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.**

35k+
Trusted Learners

2cr
scholarships awarded

600+
professionals secured jobs

Program Highlights

Industry-Relevant & Updated Syllabus

Learn the industry's latest tools, techniques & trends. Gain hands-on experience developing various apps.

360 Degree Knowledge Building

Develop practical skills through real-world projects and assignments

1:1 Dedicated Mentorship

Personalized learning experience from experienced industry professionals.

Multiple Career Opportunities

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

Talk to our counsellor

- Curriculum Insights
- Post-Program Support
- Financing Solutions
- Career Prospects Exploration

Inquire Now

Program Details

COURSE PREREQUISITE

Basic understanding of IT and software with foundational knowledge in networking is required

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PROGRAM ELIGIBILITY

- **IT Professionals:** Ideal for IT administrators, system admins, network engineers looking to upgrade their skills.
- **Software Developers:** Beneficial for developers aiming to specialize in DevOps practices and cloud solutions.
- **Career Changers:** Open to professionals from different backgrounds seeking to transition into the IT and cloud domain.

KEY FEATURES

- Practical exercises, real-world projects, and lab sessions using tools like AWS, Azure, Kubernetes, Docker, and Jenkins.
- Dedicated Placement Cell | 100% Guaranteed Interview calls
- Globally Recognised **Certification from IBM & Microsoft**

JOB ROLES TO TARGET

Cloud Engineer
DevOps Engineer
Site Reliability Engineer (SRE)
System Administrator
Cloud Architect
Automation Engineer
Infrastructure Engineer
Cloud Security Specialist

Click below

Check Eligibility

Learnbay's ProjectLab

Choose Learnbay for your career journey because we're more than just a training provider. Our Project Innovation Lab lets you apply your skills in real-world scenarios. Get **dual certifications** for a competitive edge. Discover how Learnbay can boost your career growth. Don't settle for less – choose Learnbay, your path to success!

1 Project Innovation Lab

Work in an industry like environment and gain practical hands-on experience of data scientist with dedicated mentors from industry.

2 Dedicated Placement Cell

Experience 100% job assistance with guaranteed interview call from leading MNCs and startups globally.

3 Dual Certification

Gain top-notch skills for a successful career through our certification program in collaboration with IBM & Microsoft

1 Project Innovation Lab

Learnbay's Project Innovation Lab replicates industry like environment for real time projects. With our **ProjectLab,** you gain real proof of hands-on experience by having your project certified by the industry.

In our ProjectLab, you work like a data scientist with dedicated project mentors from industry and get certified on capstone project.

450+
Hiring Partners

PUNE

1-1 Doubt Session

HYDERABAD

Capstone Project Certificate from IBM

35k
Trusted Learners

DELHI

BENGALURU

Project Innovation Labs Across India

2 Career Service PRO

Get 3 years of Job and Placement support

Unleash your career potential with unlimited job access, interview support, and profile review.

6 Mock Interviews with Industry Experts

Master the art of cloud computing, devops and stay ahead of the curve with mockups and industry insights

Resume Building Session

Craft a powerful resume showcasing your expertise in software development to stand out from the competition

1:1 LinkedIn Review Session

Get 1-on-1 sessions with experts for a better understanding of LinkedIn profile reviews and cover letter.

Dedicated Placement Cell

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

3 Industry Certification

World's leading certifications

IBM

IBM Course Certificate

Complete your training with the globally recognized certificate.

Microsoft

Microsoft Azure Certificate

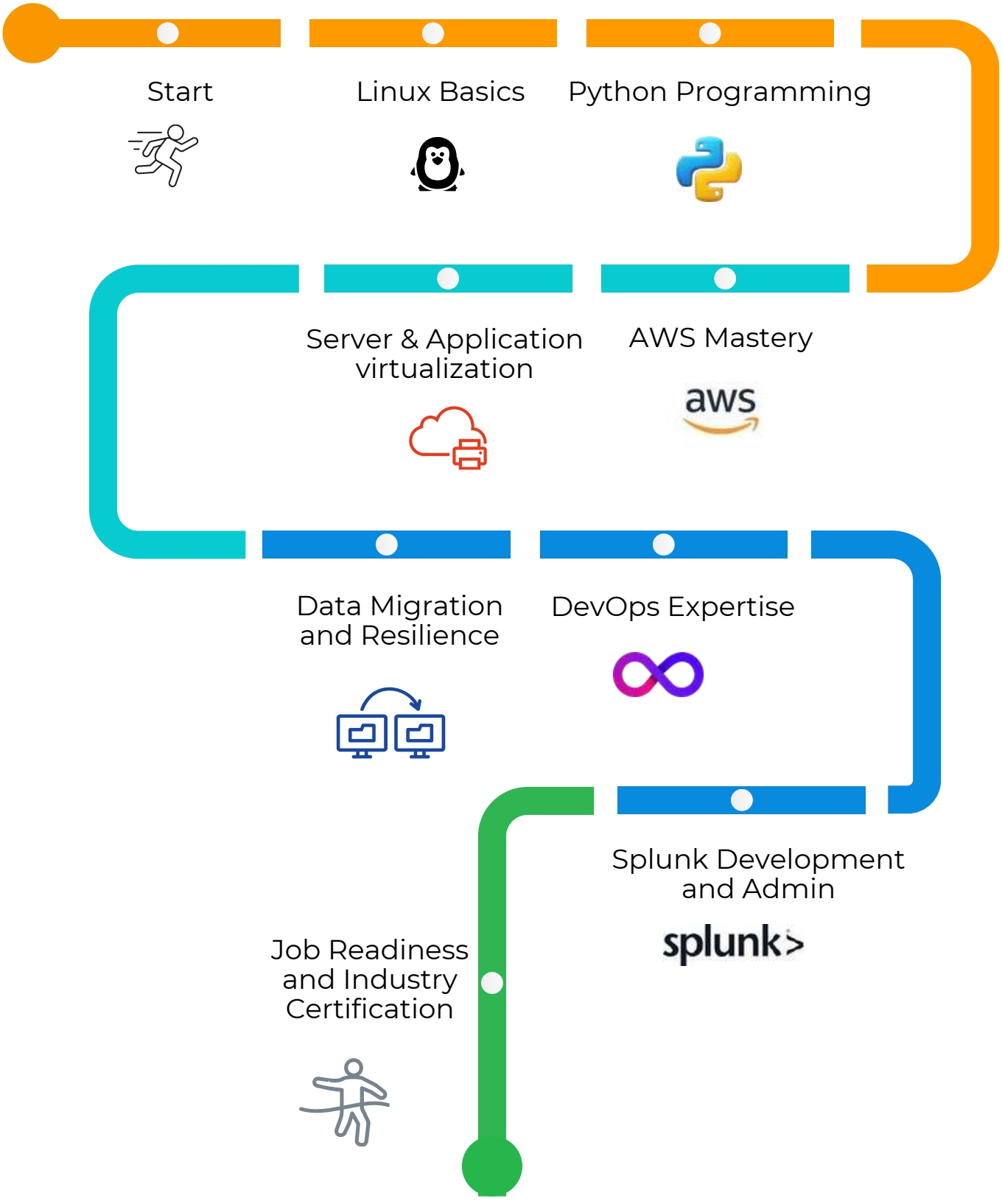
Achieve professional growth & increase earning potential with Microsoft Azure certification

IBM

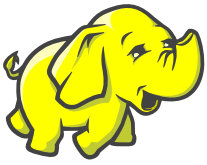
IBM Capstone Project Certificate

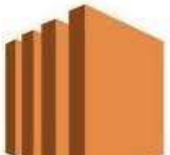
Highlight your skills & boost your project portfolio with capstone project certificate

Learning Path



Tools Covered





Others Vs Learnbay

Benefits	Learnbay	Others
Guaranteed Interview Calls	✓	✗
Industry capstone project certificate from IBM	✓	✗
Domain specialized programs for professionals	✓	✗
100% live interactive sessions with industry experts	✓	✗
On-demand video call with industry experts	✓	✗
Personalised Resume Review Session	✓	✗

Program Fee & Financing

Scholarship

Scholarships are awarded based on profile review. Eligible candidates can avail upto 25% scholarship on desired courses. Click the button below to apply.

Click below

Check Scholarship Eligibility

Financing as low as

Rs. 5,244/month

No Cost EMI

Razorpay

LIQUILOANS

PropelId

ShopSe

Program Fee

Rs. 80,000/- +18% GST

Program Syllabus

Module 1

Linux Fundamentals and Introduction — 10 Hours

Linux Basics and System Administration

- Introduction to Linux Operating System
- Command Line Interface (CLI) Essentials
- User and Group Management
- Networking Basics in Linux

Practical exercises and assignments for mastering Linux commands

- Command Line Mastery: Exercises focusing on everyday CLI usage
- Script Writing: Basics of Shell Scripting for Automation
- System Administration Tasks: Setting up a Web Server, Creating Cron Jobs

Tools covered | LINUX

Program Syllabus

Module 2

Python Programming Essentials

25 Hours

Introduction to Python and Environment Setup

- Basics of Python Programming Language
- Setting Up Python Development Environment
- IDE Setup and Introduction (PyCharm, Jupyter Notebook)

Python Programming Foundations

- Data Types, Variables, and Basic Operators
- Control Structures: If-Else Statements, Loops
- Functions: Definition, Arguments, Return Values

Tools covered | jupyter PyCharm

Data Handling and Structures

- Lists, Tuples, Dictionaries, and Sets
- String Manipulation and Regular Expressions
- File Operations: Reading and Writing Files

Real time project will be covered after Python completion with 2 hours of assessment (coding and objective questions)

Program Syllabus

Module 2

Python Programming Essentials

Advanced Python Concepts

- Object-Oriented Programming (OOP) in Python
- Classes, Objects, Inheritance, and Polymorphism
- Encapsulation and Abstraction
- Exception Handling and Debugging Techniques
- Modules and Packages: Importing and Creating

Project Work and Practice

- Hands-on sessions with Python scripting and automation projects
- Real-world problem-solving using Python
- Mini-projects: Developing small-scale applications or scripts

Program Syllabus

Module 3

AWS Cloud Mastery

40 Hours

AWS Administration Level

Introduction to AWS

- AWS Services Overview
- Setting Up AWS Accounts
- AWS Management Console

AWS Storage Services

- S3 (Simple Storage Service)
- EBS (Elastic Block Store)
- Glacier
- Storage Gateway
- Amazon FSx (Fully Managed File Storage)

Networking and Content Delivery

- VPC (Virtual Private Cloud)
- CloudFront
- Route 53
- API Gateway
- AWS Direct Connect

Monitoring and Management

- CloudWatch
- CloudTrail
- AWS Config
- AWS Trusted Advisor

AWS Compute Services

- EC2 (Elastic Compute Cloud)
- AWS Lambda
- Elastic Beanstalk
- Lightsail
- Amazon ECS
- EKS (Elastic Kubernetes Service)

AWS Database Services

- RDS (Relational Database Service)
- DynamoDB
- Redshift
- ElastiCache
- Amazon Aurora

Automation and Optimization

- AWS CLI (Command Line Interface)
- CloudFormation
- Systems Manager
- AWS Elastic Beanstalk for Deployment Automation

Program Syllabus

Module 3

AWS Cloud Mastery

Transitioning to Solution Architect

Architecting on AWS

- Designing Systems (Availability, Cost-Efficiency, Fault-Tolerance, Scalability)
- Decoupling Mechanisms and Scalable Design
- Choosing Appropriate AWS Services

Advanced Networking

- VPC Design and Implementation
- Advanced Security and Networking Best Practices

High Availability and Business Continuity

- Disaster Recovery Strategies
- High Availability Approaches

Migration and Innovation

- Migration Strategies to AWS
- Leveraging AWS for Innovation

Data Security

- Data Encryption Methods
- Compliance and Governance

Cost Optimization

- Cost-Effective Resource Utilization
- Monitoring and Optimization Techniques

Designing for New Technologies

- IoT (Internet of Things) Solutions
- Machine Learning Implementations
- Serverless Architectures

Program Syllabus

Module 3

AWS Cloud Mastery

AWS Certified Solutions Architect - Associate

Exam Preparation

Preparation Tips

- Example: "AWS Whitepapers and FAQs Review" - A comprehensive study of AWS official documentation, focusing on key services like EC2, S3, RDS, and VPC.
- Case Study: "Migration of Legacy Systems to AWS" - This case study discusses the process and considerations for migrating traditional data centers to AWS services.

Practice Exams and Scenarios

- Example: "Scalable Web Application Architecture on AWS" - A scenario that requires designing a highly scalable and reliable architecture for a web application using AWS services.
- Case Study: "Disaster Recovery Setup for E-Commerce Platform" - A scenario focused on building a disaster recovery plan for an e-commerce platform using AWS services like Route 53 and S3.

AWS Certified Solutions Architect - Professional

Deep Dive into Complex Architectures

Detailed Study of Advanced AWS Topics

- Example: "Implementing Serverless Architecture" - An in-depth exploration of serverless computing using AWS Lambda and API Gateway.
- Case Study: "Enterprise-Level Data Warehousing with Redshift" - A detailed case study on setting up and optimizing a data warehouse for a large enterprise using Amazon Redshift.

Program Syllabus

Optional

Microsoft Azure Proficiency

50 Hours

Azure Administration Level

Introduction to Azure

- Overview of Azure Services
- Setting Up Azure Accounts
- Azure Portal and Azure CLI

Azure Storage Solutions

- Blob Storage
- Azure Files
- Queue Storage
- Disk Storage
- Azure Data Lake Storage for Big Data Analytics

Identity and Access Management

- Azure Active Directory
- Role-Based Access Control (RBAC)
- Multi-Factor Authentication
- Azure AD Connect

Security and Compliance

- Azure Security Center
- Key Vault
- Azure Policy
- Azure Blueprints

Azure Compute Services

- Azure Virtual Machines
- Azure Kubernetes Service (AKS)
- Azure Functions
- App Services
- Azure Container Instances for Container Deployments

Azure Networking

- Virtual Networks (VNet)
- Load Balancers
- VPN Gateway
- Azure DNS
- Azure ExpressRoute for Private Connectivity

Database Services

- Azure SQL Database
- Cosmos DB
- Azure Database for MySQL
- Azure Database for PostgreSQL
- Azure Synapse Analytics for Big Data and Analytics

Monitoring and Management

- Azure Monitor
- Azure Log Analytics
- Azure Automation
- Azure Backup and Site Recovery

Program Syllabus

Optional

Microsoft Azure Proficiency

Transitioning to Solution Architect

Architecting Solutions on Azure

- Designing Infrastructure Solutions
- Designing for Security and Identity
- Designing Data Platform Solutions
- Designing Business Continuity

Advanced Networking

- Network Architecture and Strategies
- Azure Application Gateway
- Network Security Groups

Data and Databases

- Advanced Database Management
- Big Data and Analytics Solutions
- Data Migration Strategies

Developing for the Cloud

- Azure DevOps
- CI/CD Pipelines
- Azure App Service Environments

Application Modernization

- Microservices and Containers
- Serverless Computing
- Hybrid Cloud Solutions

Cost Management and Optimization

- Microservices and Containers
- Serverless Computing
- Hybrid Cloud Solutions

Program Syllabus

Optional

Microsoft Azure Proficiency

Preparation for Azure Architect Technologies

- Certification Path and Exam Preparation
- Practice Tests and Scenarios

Advanced Course: Azure Solutions Architect Expert

- Complex Architectural Solutions
- Case Studies and Real-World Scenarios
- Advanced Certification Preparation

Case Studies and Projects

- "Building Scalable Web Applications on Azure": Designing and deploying a scalable web application using Azure App Services and Azure SQL Database.
- "Hybrid Cloud Setup for Enterprise": Implementing a hybrid cloud solution for an enterprise using Azure Stack and Azure Cloud Services.
- "Data Lake and Big Data Analytics on Azure": Setting up a Data Lake using Azure Data Lake Storage and analyzing big data with Azure Synapse Analytics.
- "Modernizing Legacy Applications with Azure": Migrating and modernizing legacy applications to the Azure cloud, leveraging Azure Kubernetes Service and Azure DevOps for continuous integration and delivery.

Program Syllabus

Optional

Google Cloud Platform

50 Hours

GCP Administration Level

Introduction to Google Cloud Platform

- Overview of GCP Services
- Creating and Managing GCP Accounts
- Google Cloud Console

Storage and Database Services

- Cloud Storage
- Cloud SQL
- Cloud Spanner
- Firestore
- Bigtable
- Firebase Realtime Database for Mobile and Web Apps

Identity and Security

- Cloud Identity and Access Management (IAM)
- Security and Compliance
- Key Management Service (KMS)
- Security Command Center
- Cloud Armor for Network Security

API Management

- Apigee API Platform
- Endpoints
- Cloud Run

Compute Services

- Compute Engine
- Google Kubernetes Engine (GKE)
- App Engine
- Cloud Functions
- Cloud Run for Serverless Applications

Networking Services

- Virtual Private Cloud (VPC)
- Cloud Load Balancing
- Cloud CDN (Content Delivery Network)
- Cloud Interconnect and Peering
- Cloud VPN for Secure Connectivity

Monitoring and Operations

- Cloud Monitoring
- Cloud Logging
- Error Reporting
- Cloud Trace and Cloud Debugger

Developer Tools

- Cloud SDK
- Cloud Shell
- Cloud Source Repositories

Program Syllabus

Optional

Google Cloud Platform

Transitioning to Solution Architect

Architecting with Google Cloud Platform

- Designing Infrastructure Solutions
- Designing for Security and Identity
- Designing Data Platform Solutions
- Designing Business Continuity

Advanced Networking

- Hybrid and Multi-cloud Networking
- Network Design and Optimization
- Network Security Best Practices

Data Management and Databases

- Advanced Database Services
- Big Data Solutions
- Migration and Management Strategies
- Data Catalog for Metadata Management

Data Management and Databases

- High Availability and Disaster Recovery
- Auto-scaling and Load Balancing
- Best Practices for Reliability

Security, Compliance, and Identity

- Advanced Security and Compliance
- Identity Federation and Management
- Data Protection and Encryption

Cost Management and Optimization

- Cost Control and Reporting
- Efficient Resource Utilization
- Billing and Budget Management

Program Syllabus

Optional

Google Cloud Platform

Machine Learning and Artificial Intelligence

AI Platform

- Machine Learning Services
- Integrating AI into Cloud Solutions
- AutoML for Custom Model Training

Case Study:

"Retail Demand Forecasting with GCP AI and ML Services" - Utilizing GCP's machine learning capabilities to predict product demand for a retail chain.

Case Studies and Projects

- "Implementing Secure Hybrid Networking on GCP": A project focused on setting up a secure hybrid network using GCP's VPC, Cloud Interconnect, and VPN services.
- "Building a Scalable E-Commerce Platform with GCP": Case study on designing and implementing a highly scalable and reliable e-commerce platform using GCP services.

Program Syllabus

Module 4

Server and Application virtualization

16 Hours

Overview of Virtualization

- Introduction to Virtualization: Understanding Its Historical Development
- Different Forms of Virtualization

Server Virtualization

- Introduction to Server-Based Virtualization
- Understanding Hypervisor-Based Virtualization
- Comparing Type 1 and Type 2 Hypervisors
- Differences Between Full and Paravirtualization

Virtual Machines (VMs)

- The Lifecycle of a Virtual Machine
- Structure and Formats of Virtual Machine Images
- Detailed Look at Virtual Machine Instances: Public Cloud Specificities
- Resource Allocation for Virtual Machine Instances
- Networking Within Virtual Machines: An Overview
- Exploring Amazon Machine Instances

Application Virtualization

- Application Virtualization in VMs

Tools covered | Microsoft Application Virtualization | citrix Virtual Apps and Desktops

Program Syllabus

Module 4

Server and Application virtualization

Containerisation

- Fundamentals of Container-Based Virtualization
- Lifecycle of Containers
- Container Image: Structure and Formats
- Managing Container Instances: Resource Allocation
- Networking in the Context of Containers

Unikernels

- Unikernels: Composition, Formats, and Management
- Allocating Resources and Networking in Unikernels

Comparative Analysis

- Differentiating Between VMs, Containers, and Unikernels

Network Function Virtualization (NFV)

- An Introduction to Network Function Virtualization

Tools covered | vmware ThinApp | TURBO.NET | Linux KVM

Program Syllabus

Module 5

Data Migration and Resilience

12 Hours

Introduction to Data Migration in Cloud Environments

- Understanding the Basics of Data Migration
- Key Considerations for Cloud Data Migration

Data Migration Strategies and Best Practices

- Planning and Executing a Migration Strategy
- Tools and Techniques for Effective Data Migration

Building Resilience and High Availability in the Cloud

- Principles of Resilience in Cloud Computing
- Designing for High Availability and Disaster Recovery

Integrating Data Migration with DevOps Practices

- Automation in Data Migration Processes
- Continuous Integration and Continuous Deployment (CI/CD) for Data Migration

Case Studies and Real-world Applications

- Analyzing Successful Data Migration Projects
- Lessons Learned and Best Practices in Action

Tools covered | IBM DataStage | rsync | rubrik | Zerto

Program Syllabus

Module 6

DevOps Expertise

Mastering DevOps

DevOps Tools and Practices

Introduction to DevOps

- Evolution of DevOps and its significance in modern software development.
- Core principles of DevOps practices.

Infrastructure Setup

- Fundamentals of server configuration and management.
- Setting up and managing virtual environments for DevOps practices.

Version Control with Git

Basics of Git

- Introduction to version control systems.
- Fundamental Git commands and workflows.

Advanced Git Techniques

- Branching strategies for collaborative development.
- Conflict resolution and best practices for maintaining code integrity.

Containerization with Docker

Introduction to Containerization

- Concepts of containerization and its advantages.
- Docker installation and setup.

Docker in Practice

- Building, running, and managing Docker containers.
- Docker Compose for multi-container setups.

Program Syllabus

Module 6

DevOps Expertise

Mastering DevOps

Configuration Management

Puppet for Configuration Management

- Basics of Puppet: Architecture, setup, and usage.
- Writing and applying Puppet manifests.

Ansible for Automated Configuration

- Ansible fundamentals: Playbooks, roles, and inventory.
- Automation of repetitive tasks using Ansible.

Continuous Integration and Continuous Delivery (CI/CD)

Jenkins for CI/CD

- Setting up Jenkins for automated build and deployment.
- Integrating Jenkins with various development tools.

Continuous Delivery and Deployment Strategies

- Automating the software release process.
- Best practices in maintaining a CI/CD pipeline.

Container Orchestration with Kubernetes

Kubernetes Fundamentals

- The architecture of Kubernetes, pods, and services.
- Deploying applications on Kubernetes clusters.

Advanced Kubernetes Management

- Scaling applications with Kubernetes.
- Kubernetes networking, storage, and security.

Program Syllabus

Module 6

DevOps Expertise

Mastering DevOps

Monitoring and Logging with ELK Stack

Elasticsearch, Logstash, and Kibana (ELK)

- Setting up the ELK Stack for logging and monitoring.
- Creating dashboards and visualizations in Kibana.

Integrating Monitoring into DevOps Workflows

- Automated monitoring and alerting.
- Best practices for log management and analysis.

Infrastructure as Code (IaC) with Terraform

Introduction to IaC and Terraform

- Principles of IaC and its benefits.
- Installing and configuring Terraform.

Building Infrastructure with Terraform

- Writing Terraform scripts for automated infrastructure deployment.
- Managing and scaling infrastructure with Terraform.

AWS Devops

- Code Commit
- Code Build
- Code Deploy
- Code Pipeline

Azure Devops

- Introduction to Microsoft Azure
- Introduction to DevOps
- Azure DevOps and Azure Repos
- Azure Artifacts and Azure Test Plans
- Azure Pipelines
- Azure Boards

Program Syllabus

Module 7

Splunk Development and Admin

25 Hours

Splunk Developer and Administration Esentials

Splunk Development and Administration

- Splunk Development Concepts, Searching, Reports, and Visualizations
- Splunk Administration, Installation, and Deployment Management

Tools covered | splunk>

Advanced Splunk Skills

- Data Parsing, Pivot, Common Information Model (CIM) Add-On
- Splunk Security Essentials
- Splunk Data Analysis Techniques
- Splunk Dashboard Customization
- Splunk API Integration
- Performance Optimization in Splunk
- Troubleshooting and Problem Solving
- Splunk for Cloud Services

The **IBM** exam will be conducted for all the modules after completion of the course

Real-time Projects

Project: 01

AWS Migration Project for E-Commerce:

This project focuses on migrating e-commerce systems to AWS, optimizing for scalability and reliability, and includes streamlining the checkout process and data storage solutions.

EC2 RDS Amazon CloudFront

Project: 02

Finance Application CI/CD with Azure:

Aimed at automating the deployment cycle of a finance application, this project emphasizes secure, efficient software delivery and incorporates automated testing for reliability.

Azure DevOps Azure Pipelines

Project: 03

Healthcare Data Management with Kubernetes:

Deploying a Kubernetes solution for healthcare data, this project focuses on enhancing data handling efficiency, ensuring security compliance, and improving patient data accessibility.

kubernetes docker

Project: 04

Educational Data Analytics on GCP:

The project involves developing a GCP- based analytics platform for educational data, aimed at improving learning outcomes through data-driven insights and personalized content recommendations.

Google BigQuery Google DataFlow Google Cloud Pub/Sub

Real-time Projects

Project: 05

Banking Cloud Security Enhancement:

This project strengthens the banking cloud infrastructure by implementing advanced security protocols and real- time threat detection mechanisms to protect sensitive financial data.

aws Azure Security Center

Project: 06

Media Content Multi-Cloud Strategy:

Focusing on optimizing content delivery, this project implements a multi-cloud strategy to enhance media streaming efficiency and global accessibility.

aws Azure Google Cloud

Project: 07

Event Management Serverless Solution:

Creating a serverless architecture for event management, this project aims to improve scalability and cost-efficiency, focusing on automated event scheduling and attendee management.

AWS Lambda Amazon API Gateway DynamoDB

Project: 08

SaaS Application Containerization:

This project transitions a suite of SaaS applications to a containerized environment, focusing on enhancing deployment speed and application scalability.

kubernetes docker

Real-time Projects

Project: 09

Insurance Software DevOps Transformation:

Implementing DevOps practices in insurance software, this project aims to streamline operations, enhance software quality, and accelerate product releases.

Jenkins git ANSIBLE

Project: 10

Hybrid Cloud Setup for Manufacturing:

Establishing a hybrid cloud setup for a manufacturing environment, the project focuses on integrating on-premise systems with cloud resources for better data management and operational efficiency.

vmware aws

Contact Us

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