



Electronics & ICT Academy
Indian Institute of Technology Guwahati
An Initiative of Ministry of Electronics & Information Technology(Meity)

Professional Certificate Program in
**Cloud Computing
and DevOps**

IITG

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About the Program

Cloud services have become the leading solution for organizations seeking secure and scalable IT infrastructure. The trend toward cloud adoption has led to an increased demand for qualified professionals who can design, implement, and manage cloud solutions with DevOps automation by continuous integration and continuous delivery.

Our Professional Certificate Program in Cloud Computing and DevOps, in partnership with E & ICT Academy, IIT Guwahati, will equip you with the technical skills and training required to succeed in this rapidly-growing industry. With expert instruction and engaging hands-on projects, you will gain invaluable experience with the two leading cloud service providers, AWS and Microsoft Azure, to prepare you for real-world challenges. Our rigorous curriculum covers a broad range of topics, including cloud service

provider selection, application migration, performance testing, load balancing, autoscaling, identity access management, disaster recovery, storage services, multi-cloud deployment, and database management, along with advanced skills for continuous delivery and integration, and more.

Through a combination of theoretical knowledge and practical experience, you will engage through integrated, sandboxed cloud labs, self-paced videos, live virtual classes led by industry experts, and peer-to-peer collaboration.

Upon completing the program, you will gain access to Simplilearn's Job Assistance services, including personal career mentoring, expert resume writing, and interview preparation.



Key Features of the Program



Earn a certificate of completion + a physical hard copy from E & ICT Academy, IIT Guwahati



Become eligible for campus immersion at IIT, Guwahati



Attend live virtual classes led by industry experts



Develop expertise in 20+ cloud services and DevOps tools



Work on 40+ hands-on projects



Choose from three industry-oriented capstone projects on Azure or AWS



Hone your skills with integrated sandboxed Cloud + DevOps labs



Leverage Simplilearn's JobAssist program

About Electronics & ICT Academy, IIT Guwahati

As an initiative of the Ministry of Electronics & Information Technology (MeitY), the Electronics & ICT Academy was set up at the Indian Institute of Technology Guwahati (IIT Guwahati) under the scheme of "Financial Assistance for setting up Electronics and ICT Academies." On 26 March 2015, the project started at IIT Guwahati and the Academy was inaugurated by Prime Minister Shri. Narendra Modi on 19 January 2016. The objective of the Academy is to provide skill training to the Faculty Members (engineering & non-engineering) in the area of recent trends in engineering & ICT applications. The Academy is designing specialized modules for imparting quality training for enhancing employability and capacity building in the field of Electronics & ICT. In the past 7 years, the Academy has successfully conducted 400+ programs through



conventional classroom teaching and NKN/virtual classroom mode in different Institutes/Universities of North Eastern States in particular and a few in other states of India. To date, the Academy has successfully trained 20,000+ participants. The Academy has also

signed an MoU with institutes/universities to host the programs and conduct hands-on sessions. The Academy collaborated with industries as training/industry partners.

The Academy also offers online advanced certification courses in data science, artificial intelligence & machine learning, big data, cloud computing, full stack

development, UI/UX, and VLSI design, and trained 2,000+ graduates and working professionals. The Academy has also trained 140+ Assam Police and Indian Navy officials on cybercrime concepts and data science.

About Simplilearn

Simplilearn is the world's #1 online certificate program provider, enabling learners around the globe with rigorous and highly specialized training offered in partnership with world-renowned universities and leading corporations. We focus on emerging technologies and skills, such as data science, cloud computing, programming, and more, that are transforming the global economy. Our hands-on and immersive training includes live virtual classes, integrated labs and projects, 24x7 support, and a collaborative learning environment. Over two million professionals and 2000 corporate training organizations across 150 countries have harnessed our award-winning programs to achieve their career and business goals.



Eligibility Criteria

For admission into this Professional Certificate Program in Cloud Computing and DevOps, candidates:

- Should have a bachelor's degree with an average of 50% or higher marks
- May have a non-programming background
- Are not required to have prior professional experience

Application Process

The application process consists of three simple steps:



Talk to an Admissions Counselor

Our team of dedicated admissions counselors is prepared to address your questions or concerns about the Professional Certificate Program in Cloud Computing and DevOps.



Our team is available to:

- Answer your questions about the application process.
- Discuss your financing options.
- Provide insight into the curriculum, program outcomes and more.

[Inquire Now](#)

[Contact Us | 1-800-212-7688](#)

Join the growing Cloud Industry

The demand for cloud computing experts is soaring, with a 23.1% YoY surge in the last 12 months. Cloud professionals enjoy a positive career outlook, as indicated by a turnover rate of 42% for employees with these valuable skills.



Jobs

Naukri

82K+

Cloud Job Roles
Available in India



Growth

Fortune Business Insights

20% CAGR

Growing annually till 2030



Salary

Glassdoor

₹6L - ₹20L

Average annual salary

Career Outlook in the Cloud Industry

Due to the high demand for cloud computing professionals, salaries in this field often reflect the market reality. Factors such as the company's size, geographical location, and industry can significantly influence compensation levels. Taking these variables into consideration, we have compiled an estimate of what you can expect to earn in the following roles:

Solutions Architect

Job Role - A Solutions Architect designs and implements cloud computing solutions, including designing the cloud infrastructure, cloud application architecture and cloud security architecture.



Average Annual Salary

Range -

₹7,00,000 - ₹20,00,000

DevOps Engineer

Job Role - A DevOps Engineer is responsible for bridging the gap between development and operations teams, implementing automation, and managing the infrastructure to ensure efficient software delivery and deployment.



Average Annual Salary

Range -

₹8,00,000 - ₹20,00,000

Cloud System Administrator

Job Role - A Cloud System Administrator manages and maintains cloud infrastructure, ensuring availability, performance, security, and efficient operation.



Average Annual Salary Range -

₹6,50,000 - ₹16,00,000

Cloud Security Engineer

Job Role - A Cloud Security Engineer is responsible for implementing and maintaining security measures to protect cloud-based systems and data from unauthorized access, vulnerabilities, and threats.



Average Annual Salary Range -

₹8,50,000 - ₹24,20,000

Cloud Developer

Job Role - Cloud Developers build and deploy cloud-based apps using AWS, Azure, or Google Cloud. They ensure scalability, reliability, and cost-effectiveness, collaborating with teams to meet modern business needs. Expertise in programming languages, microservices, and containers is essential.



Average Annual Salary Range -

₹6,00,000 - ₹15,00,000

Program Outcomes

Upon successful completion of our Professional Certificate Program in Cloud Computing and DevOps, you will:



Earn a certificate of completion & a physical hard copy from E & ICT Academy, IIT Guwahati



Become proficient in cloud infrastructure design and management, with expertise in AWS and Azure cloud platforms



Design Microsoft Azure infrastructure solutions and learn to implement best practices for optimal performance and scalability

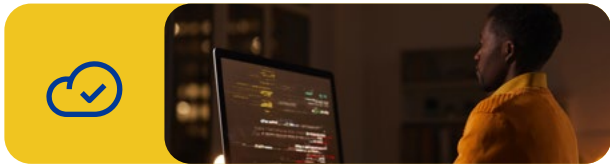


Develop proficiency in DevOps on the cloud and enhance your ability to deploy, automate, and manage cloud-based applications

Who Should Enroll in this Program?

This professional certificate program is designed to train professionals who will be responsible for cloud computing in their respective organizations and is recommended for individuals pursuing positions including, but not limited to:

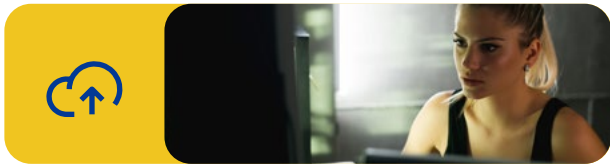
Cloud Solutions Architect



Technical Cloud Architect



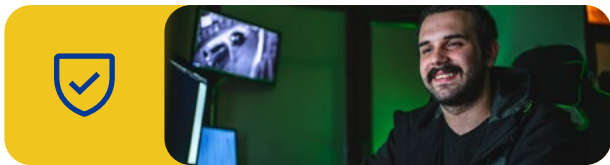
Cloud Developer



Solutions Architect



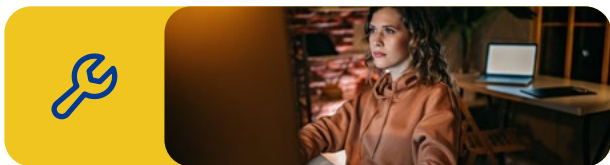
Application Security Analyst



Cloud Practitioner



Cloud Engineer



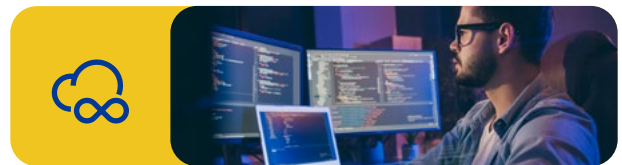
Cloud Administrator



Cloud Security Architect/Engineer



DevOps Engineer/Manager



Cloud Consultant

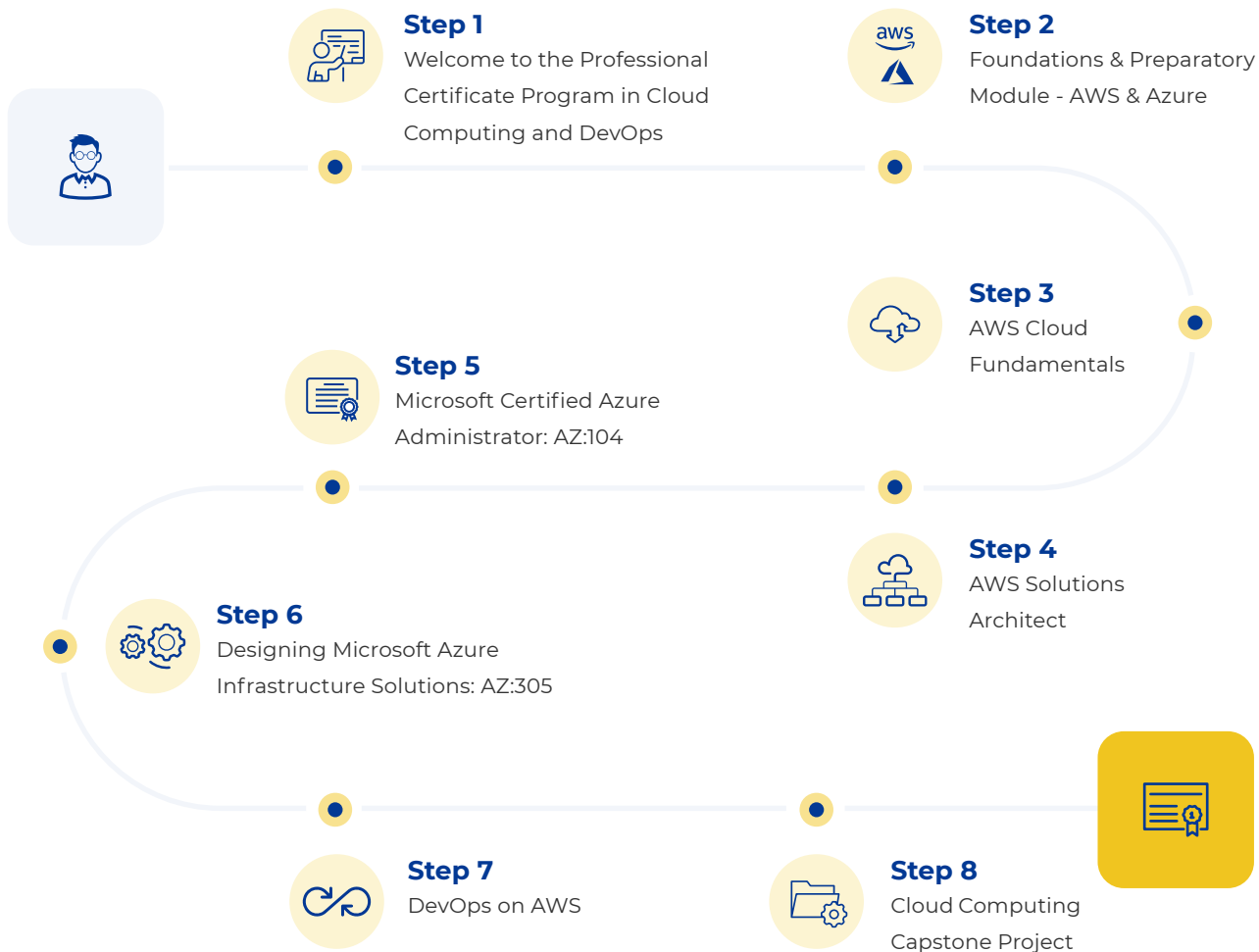


Cloud Infrastructure Engineer



Learning Path

Core Topics



Electives

- IIT-G Cloud Computing Masterclass
- Google Cloud Platform Architect Training
- Big Data on AWS
- Cloud Security: CCSP
- DevOps on Azure
- Developing Solutions for Microsoft Azure
- AWS Developer Associate
- AWS SysOps Associate
- AWS Database Migration

Learning Path Detail

Step 1

Induction - Welcome to the PCP in Cloud Computing & DevOps

In this introductory course, you'll explore the program's structure, curriculum, and learning outcomes. Understand what lies ahead and how this program can propel you toward your professional goals.

Learning Outcomes

- Get acquainted with your peers
- Gain a full understanding of the program
- Map your career goals to the certificate program experience

Step 2

Foundations & Preparatory Module - AWS & Azure

Attend this foundation course at your own pace to dive deep into the basics of AWS and Azure. This course will help you establish a strong foundation in AWS and Azure Cloud, which will serve as a benchmark for your upcoming courses. We strongly recommend that you complete each self-learning module in this course before attending their respective Live Classes.

Learning Outcomes

By the end of this self-learning course, you will be able to:

- Learn the basics of AWS & Azure using comprehensive Self Learning Content
- Utilize this self-learning content as a foundational base to enhance your upcoming live class interactions.
- The knowledge you gain from these resources will serve as a stepping stone to deepen your understanding and actively engage in the discussions during the live sessions.

Step 3

AWS Cloud Fundamentals

This AWS Cloud Fundamentals Certification Training course will introduce you to the fundamentals of the Amazon Web Services (AWS) cloud platform and ensure you are fully proficient in identifying AWS terminologies, concepts, benefits, and deployment options to meet your business requirements. You'll learn to navigate the AWS management console; understand AWS security measures, storage, and database options; and gain expertise in web services such as EC2, S3, RDS and EBS.

Learning Outcomes

By the end of the AWS Cloud Fundamentals training, you will be able to:

- Describe terminology and concepts related to AWS services
- Navigate the AWS Management Console
- Articulate key concepts of AWS security measures and AWS Identity and Access Management (IAM)
- Distinguish among several AWS compute services, including Amazon Elastic Compute Cloud (Amazon EC2), AWS Lambda, Amazon Elastic Container Service (Amazon ECS), and Amazon Elastic Kubernetes Service (Amazon EKS)
- Understand AWS database and storage offerings, including Amazon Relational Database Service (Amazon RDS), Amazon DynamoDB, and Amazon Simple Storage Service (Amazon S3)
- Explore AWS networking service
- Access and configure Amazon CloudWatch monitoring features

Course Curriculum

- Lesson 00 - Introduction to Amazon Web Services
- Lesson 01 - AWS Compute
- Lesson 02 - AWS Networking
- Lesson 03 - AWS Storage
- Lesson 04 - Databases
- Lesson 05 - Monitoring, Optimization, and Serverless

Step 4

AWS Solutions Architect

The AWS Solutions Architect certification training empowers you to design, plan, and scale AWS implementations with 70+ cloud computing services. Aligned with the latest AWS exam, this course incorporates Amazon's recommended best practices for a comprehensive cloud computing learning experience.

Learning Outcomes

By the end of this AWS training, you will be able to:

- Develop solutions and leverage AWS architectural best practices
- Design and deploy scalable, highly available, and fault-tolerant systems on AWS
- Migrate an existing on-premises application to AWS
- Identify the ingress and egress of data to and from AWS
- Select the appropriate AWS service based on data, compute, database, or security requirements
- Estimate AWS costs and identify cost control mechanisms

Course Curriculum

- Lesson 01 - AWS Course Introduction
- Lesson 02 - AWS Core Concepts
- Lesson 03 - Compute and Related Features
- Lesson 04 - Storage Services
- Lesson 05 - VPC, Networking and Content Delivery
- Lesson 06 - Databases
- Lesson 07 - Security and IAM
- Lesson 08 - Serverless and Application Services
- Lesson 09 - Monitoring and Automation
- Lesson 10 - Container Service

Step 5

Microsoft Certified Azure Administrator: AZ:104

This course covers various aspects of Azure management, including subscription management, identity management, security, infrastructure administration, virtual networking configuration, connecting Azure with on-premises sites, network traffic management, storage solutions implementation, virtual machine creation and scaling, web app and container deployment, data backup and sharing, and solution monitoring.

Learning Outcomes

By the end of this Azure Administrator training, you will be able to:

- Manage Azure Active Directory (Azure AD) objects
- Manage subscriptions and governance
- Configure Azure files and Azure Blob Storage
- Create and configure containers
- Implement and manage virtual networking
- Configure load balancing
- Integrate an on-premises network with an Azure virtual network
- Implement backup and recovery
- Secure and manage storage
- Automate the deployment of virtual machines (VMs) with Azure Resource Manager templates
- Create and configure Azure App Services
- Secure access to virtual networks
- Monitor and troubleshoot virtual networking
- Monitor resources with Azure Monitor

Course Curriculum

- Lesson 01: Manage Subscriptions and Governance
- Lesson 02: Manage Role-Based Access Control (RBAC)
- Lesson 03: Administer Identity
- Lesson 04: Creating and Configuring Storage Accounts
- Lesson 05: Configure Azure Files
- Lesson 06: Configure Storage with Tools
- Lesson 07: Administer Virtual Machine
- Lesson 08: Create and Configure an App Service
- Lesson 09: Create and Configure Azure Containers and Desired State Configuration
- Lesson 10: Administer Virtual Networking
- Lesson 11: Administer Intersite Connectivity and Network Traffic
- Lesson 12: Administer Data Protection and Monitoring

Step 6

Designing Microsoft Azure Infrastructure Solutions: AZ:305

Become an expert Azure Solutions Architect through our Microsoft Azure certification training, ensuring success in the AZ-305 exam. Gain expertise in workload assessment, identity and security design, data platform architecture, continuity planning, migration strategies, and API integration. Elevate your Azure skills and advance your career.

Learning Outcomes

After completing this Azure certification training course, you will be able to:

- Design a logging and monitoring solution
- Create and implement authentication and authorization solutions
- Configure identities and set permissions to access applications
- Design a data storage solution for relational and non-relational data
- Recommend a data storage solution
- Implement data integration
- Create a solution for backup and disaster recovery
- Design infrastructure to enable high availability
- Configure and deploy a compute solution
- Develop and implement an application architecture
- Design network solutions

Course Curriculum

- Lesson 01: Course Introduction
- Lesson 02: Design a Governance Solution
- Lesson 03: Design Authentication Solutions
- Lesson 04: Design Authorization
- Lesson 05: Logging and Monitoring Solution
- Lesson 06: High Availability Design
- Lesson 07: Backup and Recovery Solution
- Lesson 08: Non-Relational Data Solution
- Lesson 09: Relational Data Solution
- Lesson 10: Data Integration
- Lesson 11: Compute Solution
- Lesson 12: Design an Application Architecture
- Lesson 13: Network Solution
- Lesson 14: Migrations
- Lesson 15: Cost Optimization

Step 7

DevOps on AWS

The DevOps on AWS course will enhance your understanding of DevOps and AWS. Develop advanced skills in CodeBuild, CodeDeploy, and CodePipeline for continuous delivery and integration. Streamline development processes and deploy applications on AWS.

Learning Outcomes

After completing this DevOps on AWS course, you will be able to:

- Master core DevOps principles and practices
- Leverage AWS services to build and deploy applications

- Understand infrastructure as code using AWS CloudFormation
- Implement continuous integration and continuous delivery (CI/CD) automation
- Leverage AWS CodePipeline, CodeBuild, and CodeDeploy for application deployment
- Master monitoring and logging techniques for AWS applications
- Implement security and compliance practices for AWS DevOps
- Troubleshoot and debug AWS applications
- Get hands-on experience with real-world DevOps scenarios and projects on AWS

Course Curriculum

- Lesson 01: Introduction to DevOps and AWS
- Lesson 02: AWS Services for DevOps
- Lesson 03: Infrastructure as Code with AWS CloudFormation
- Lesson 04: Continuous Integration and Continuous Delivery (CI/CD) with AWS CodePipeline and AWS CodeBuild
- Lesson 05: Application Deployment and Management with AWS CodeDeploy
- Lesson 06: Monitoring and Logging with AWS CloudWatch and AWS X-Ray
- Lesson 07: Security and Compliance in AWS DevOps
- Lesson 08: Troubleshooting and Debugging AWS Applications
- Lesson 09: AWS Automation and Orchestration with AWS Step Functions
- Lesson 10: AWS Serverless Architecture with AWS Lambda
- Lesson 11: Real-world DevOps Scenarios and Projects on AWS

Step 8

Cloud Computing Capstone Project

This Cloud Computing capstone project will give you an opportunity to implement the skills learned throughout this training. Dedicated mentoring sessions will teach you how to solve real-world, industry-aligned problems. The project is the final step in the learning path and will enable you to showcase your expertise in cloud computing to future employers.

Learning Outcomes

- Showcase the skills you learned in the program
- Obtain a capstone evaluation from industry experts
- Exhibit problem-solving capabilities through your results from the capstone projects

Electives

IIT-G Cloud Computing Masterclass

Attend online interactive cloud computing training classes conducted by professors from E & ICT Academy, IIT Guwahati. Gain insights about advancements in cloud computing and understand why it has become essential for any organization to understand, implement, and invest in cloud computing skills to scale up.

Big Data on AWS

Big data on AWS involves leveraging AWS services and technologies, including Kinesis Analytics, to process, store, and analyze large volumes of data efficiently. This enables organizations to derive valuable insights and make data-driven decisions.

DevOps on Azure

The DevOps on Azure course will help you become a master of DevOps and Azure with expertise in several topics, including SRE and instrumentation strategy, security and compliance planning, Azure Service Fabric configuration, Azure Pipelines integration, and more. Upon completion, you will become proficient in both domains and ready for the certification exam.

Developing Solutions for Microsoft Azure

The Microsoft Certified Azure Developer Associate: AZ-204 course provides comprehensive training to become an expert Azure Developer. Gain proficiency in developing and deploying Azure solutions by leveraging Azure SDKs, APIs, and tools. Learn how to design and implement secure cloud applications and prepare for the AZ-204 certification exam.

Cloud Security: CCSP

Develop the expertise to architect, operate, and secure data, applications, and infrastructure in the cloud using industry-leading best practices, policies, and procedures.

Google Cloud Platform Architect Training

The Google Cloud Platform (GCP) Architect certification program will empower you with the skills needed to advance your career in cloud architecture and become a certified Google Professional Cloud Architect. The course covers IAM, networking, cloud storage, and much more.

AWS SysOps Associate

Master AWS SysOps administration in this course. Learn how to deploy, manage, and operate scalable systems on AWS using tools like CloudFormation, Systems Manager, IAM, and Elastic Beanstalk. Prepare for the AWS SysOps Associate certification to advance your career.

AWS Database Migration

Gain data migration skills on AWS in this course. Learn how to migrate data using AWS Database Migration Service (DMS), AWS Glue, and AWS Snowball. Acquire hands-on experience in planning, executing, and managing data migration projects. Prepare for the AWS Data Migration certification exam.

AWS Developer Associate

The AWS Developer Associate course equips you with the skills required to become an AWS Developer expert. Learn how to design, develop, and deploy cloud applications using AWS services, such as AWS SDKs, AWS CLI, AWS CloudFormation, and Elastic Beanstalk. Prepare for the AWS Developer Associate certification and excel in cloud application development on the AWS platform.

Industry Projects

These hands-on projects enable you to apply the skills you've learned in the program to solve real-world business problems across multiple industries and specializations.

Implement Azure IaaS

Evaluate Azure as a deployment platform. To accomplish this, you must create virtual networks in the aforementioned region.

Using Azure Portal to Implement Security and PaaS Services

Onboard an employee on a company's default Azure Active Directory and assign a Custom RBAC role under which they can connect to the network.

Azure Functions: Listening to a Queue 02

Bring serverless functionality into a company's application workloads using Azure Function and Storage Queue.

Automating Workloads with ARM Templates

Test an ARM template to bring infrastructure as code into practice for a company. You need to define the entire networking architecture using the ARM template.

Migrate a SQL Server Database to MySQL Using AWS DMS

Install the AWS Schema Conversion Tool and use it to determine the effort required to migrate the SQL Server source database.

Custom Virtual Private Cloud VPC Creation

Create a custom VPC with public and private subnets on two availability zones and launch instances into each subnet.

Load balancer configuration

Launch two web servers, configure a load balancer, and implement auto-scaling.

RD Gateway Configuration

Configure an RD Gateway on a VPC with a public and private subnet.

Capstone Projects

Deploy a Multi-Timer Web App using Amazon SQS

To set up decoupling of a multi-timer web application deployed on Azure platform using the SQS service offered by AWS.

Deployment of a Multicloud App

Deploy a multicloud application using two load balancer setups in AWS and Azure platforms.

Azure and AWS Connection Architecture through a VPC

Establish a connection between an AWS and Azure cloud environment to migrate and manage an application.

Tools Covered



Azure Policy



Azure Blueprints



Azure Key Vault



Azure Workbooks



Azure Monitor



Azure Front Door



Azure Traffic Manager



Azure Site Recovery



Azure Blob Storage



Azure Files



Azure SQL DB



Azure Cosmos DB



Azure Stream Analytics



Azure Virtual Machines



Azure App Service



Azure Kubernetes Service (AKS)

Azure Kubernetes Service



Azure Resource Manager (ARM)



Azure Load Balancer



Azure VPN gateway



Azure Application Gateway



Azure Migrate



Amazon EC2 (Elastic Compute Cloud)



Amazon S3

Amazon S3 (Simple Storage Service)



Amazon RDS

Amazon RDS (Relational Database Service)



AWS IAM

AWS IAM (Identity and Access Management)



AWS Lambda

AWS Lambda



VPC

Amazon VPC (Virtual Private Cloud)



AWS CloudWatch

Amazon CloudWatch



Amazon Route 53

Amazon Route 53 (Domain Name System)



AWS CloudFormation

AWS CloudFormation



Amazon DynamoDB

AWS DynamoDB



AWS Trusted Advisor

AWS Trusted Advisor



Amazon CloudFront



amazon SNS

Amazon SNS (Simple Notification Service)



amazon SQS

Amazon SQS (Simple Queue Service)



Amazon ELB

AWS Elastic Load Balancer



CodePipeline

AWS CodePipeline



AWS CodeBuild

AWS CodeBuild



AWS CodeDeploy

AWS CodeDeploy



Amazon ElastiCache



amazon REDSHIFT

Amazon Redshift



AWS Cognito

AWS Cognito

Program Advisor



Dr. Gaurav Trivedi

Associate Professor,
Electronics and Electrical Engineering

Principal Investigator,
E&ICT Academy, IIT Guwahati

Dr. Gaurav Trivedi is an Associate Professor of Electronics and Electrical Engineering at IIT Guwahati. He is also a Principal Investigator at the E&ICT Academy. With an M.Tech. in Microelectronics and a Ph.D. in Electrical Engineering from IIT Bombay, his research spans circuit simulation, VLSI CAD, electronics system design, computer architecture, semiconductor devices, hardware security, embedded systems, IoT, high-performance computing, large-scale optimization, and machine learning.



Certificate

Upon completion of this program, you will receive a certificate of completion from E & ICT Academy, IIT Guwahati along with a physical hard copy.

You will also receive certificates from Simplilearn for each of the courses in the learning path. These certificates will testify to your skills as an expert in Cloud.

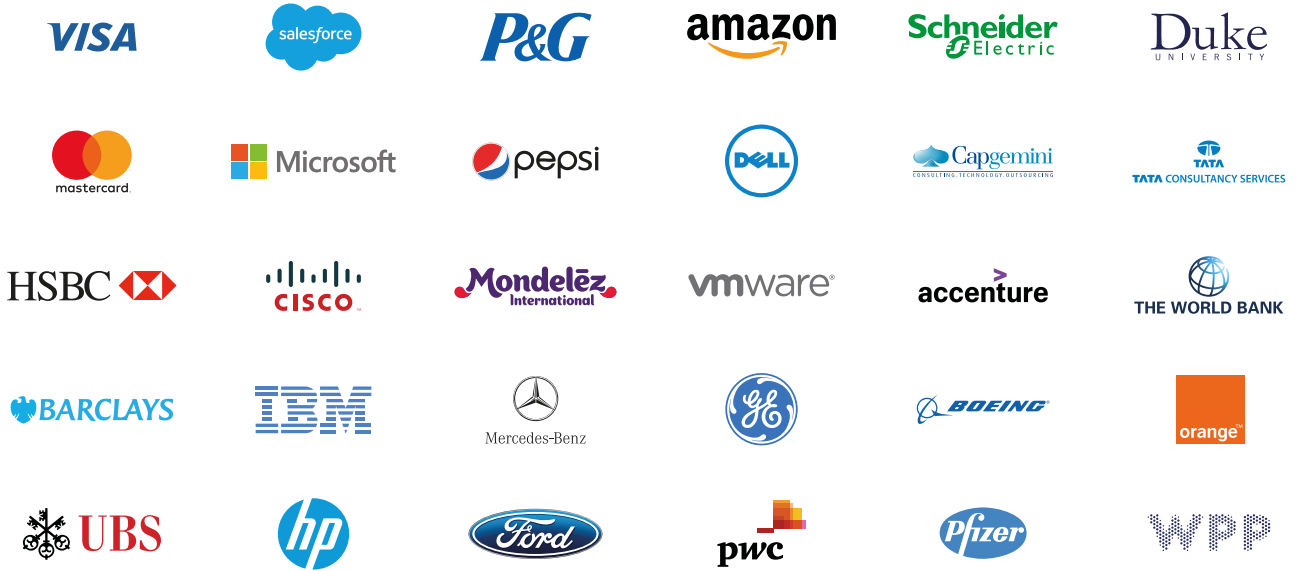
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Corporate Training

Top clients we work with:



Features of Corporate Training:



Tailored learning solutions



Flexible pricing options



Enterprise-grade learning management system (LMS)



Enterprise dashboards for individuals and teams



24X7 learner assistance and support



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