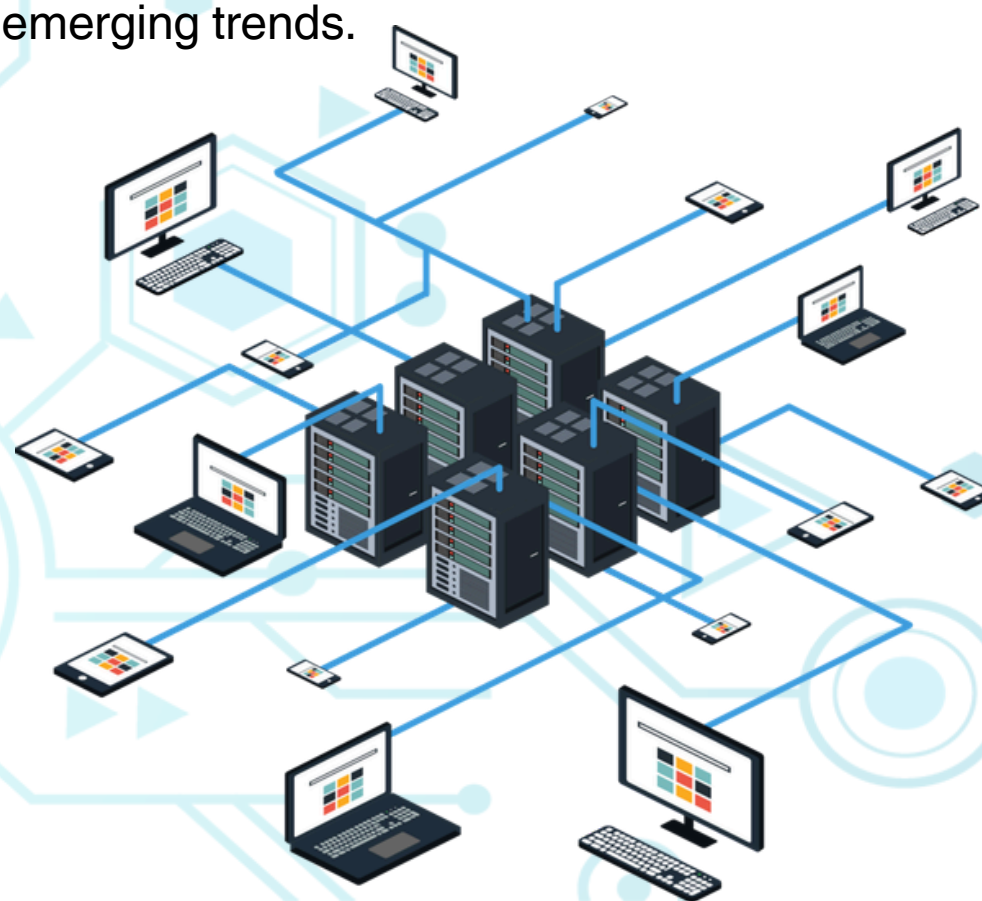
QUANTUM-AI
THE SCHOOL OF DATA AND AI

CLOUD COMPUTING

Build. Deploy. Scale

Welcome to Cloud Computing

This course introduces the fundamental concepts, architectures, services, and practical implementation of cloud computing. Students will explore major cloud service providers, virtualization, containerization, cloud security, DevOps practices, and emerging trends.



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WHY QUANTUMAI?

Quantum AI delivers a practical, job-focused Looker Studio Training Program designed to build real-world data visualization and reporting skills. The curriculum emphasizes hands-on projects using real datasets and live dashboard creation. Led by industry experts, the program provides exposure to modern BI tools and cloud platforms, making it ideal for beginners and professionals looking to grow in data analytics and business intelligence.

COURSE OVERVIEW

This course provides a comprehensive introduction to cloud computing concepts, architectures, and services. Students will explore cloud service models (IaaS, PaaS, SaaS), deployment models, virtualization, storage, networking, and security fundamentals. The course includes hands-on experience with leading platforms such as Amazon Web Services, Microsoft Azure, and Google Cloud Platform. Learners will understand how to deploy, manage, and scale applications in cloud environments using modern tools and best practices. By the end of the course, students will be equipped with practical skills and foundational knowledge required for cloud-based roles and industry certifications in today's technology-driven world.



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WHAT YOU WILL LEARN

Introduction to Cloud Computing

- Evolution of computing (Mainframe → Client-Server → Cloud)
- Definition and characteristics of Cloud Computing
- Service Models: IaaS, PaaS, SaaS
- Deployment Models: Public, Private, Hybrid, Community
- Benefits and Challenges

Cloud Architecture & Virtualisation

- CCloud architecture components
- Virtualisation concepts
- Hypervisors (Type 1 & Type 2)
- Virtual Machines vs Containers
- Introduction to containerisation with Docker

Major Cloud Service Providers

- Overview of Amazon Web Services (AWS)
- Overview of Microsoft Azure
- Overview of Google Cloud Platform
- Core services comparison (Compute, Storage, Networking)
- Pricing models

Compute & Storage Services

- Virtual Machines
- Serverless Computing
- Introduction to AWS Lambda
- Cloud Storage Types:
  - Object Storage
  - Block Storage
  - File Storage
- CDN basics

Networking in Cloud

- Virtual Private Cloud (VPC)
- Subnets, Gateways, NAT
- Load Balancing
- DNS and CDN
- Cloud security groups and firewalls

Cloud Security

- Shared Responsibility Model
- Identity & Access Management (IAM)
- Data encryption (at rest & in transit)
- Security best practices
- Compliance standards (ISO, GDPR basics)

DevOps & Automation

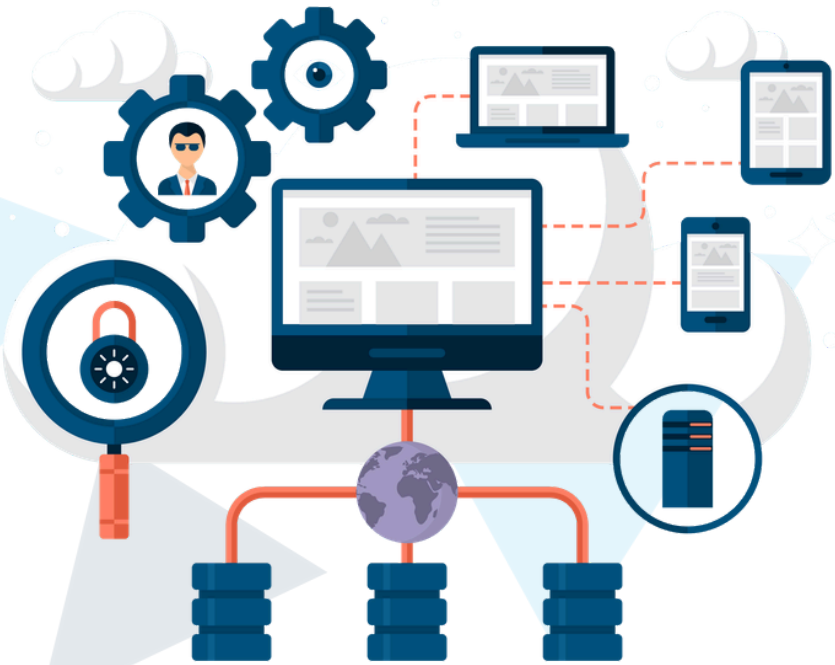
- Introduction to DevOps
- CI/CD pipelines
- Infrastructure as Code (IaC)
- Overview of Terraform
- Overview of Jenkins
- Container orchestration with Kubernetes

Cloud Monitoring & Management

- Monitoring tools
- Logging and auditing
- Auto-scaling
- Cost management & optimization

Emerging Trends in Cloud

- Edge Computing
- Multi-cloud strategy
- AI/ML in cloud
- Cloud-native applications
- Green cloud computing



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BUILD SCALABLE APPLICATIONS

Learn Cloud Computing with QuantumAI

Get in Touch

09870400650 info@quantumaico.com www.quantumaico.com

2nd Floor, Old dlf, C-1B, near Dr Lal Pathlabs, South City, Block C,
Old DLF Colony, Sector 14, Gurugram, Haryana 122001