

Edge Computing & IoT Integration

COURSE OVERVIEW

As billions of devices connect to the internet, traditional cloud-only architectures are no longer sufficient for applications requiring real-time processing, low latency, and bandwidth efficiency. This course provides a comprehensive foundation in edge computing and IoT integration, teaching participants to design, deploy, and manage distributed systems where computation happens closer to data sources. Through practical tasks, participants will learn to build responsive, reliable, and secure intelligent systems that leverage both edge and cloud resources effectively.

WHO SHOULD ATTEND?

This course is ideal for IoT engineers, edge computing specialists, system architects, embedded systems developers, and cloud engineers involved in designing or managing connected devices. It also suits data engineers, software developers, IT managers, and technical leaders who want practical skills in integrating IoT devices with edge and cloud architectures for real-time analytics, automation, and intelligent decision-making.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Design and implement edge computing architectures for real-time IoT applications.
- Deploy and manage containerized workloads on edge devices and gateways.
- Process and analyze sensor data streams at the edge with low latency.
- Implement secure device provisioning, authentication, and communication.
- Develop hybrid edge-cloud data pipelines and analytics systems.
- Apply ML inference at the edge for immediate decision-making.
- Monitor, maintain, and update distributed edge systems reliably.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- The foundational concepts of edge computing and how they relate to Internet of Things (IoT) ecosystems.
- Where and why edge computing is critical for improving performance, efficiency, and reliability in real-world IoT scenarios.
- How to design systems that use both edge and cloud resources to optimize latency, data security, and resource allocation.
- The key hardware, software, and network components that power robust edge-based IoT architectures.
- How to integrate and manage sensors, devices, and data processing at the network's edge for actionable intelligence.
- Best practices for deploying, monitoring, and scaling distributed IoT networks with edge capabilities.
- The unique security, data management, and compliance challenges that arise in edge-connected IoT environments and strategies for addressing them.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded