Training Course on Edge Computing and Data Protection

Professional Development Training Course Outline

Category	Data Security	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Edge Computing is transforming the digital ecosystem by decentralizing data processing, enabling real-time analytics, and supporting intelligent applications closer to the source of data generation. With the explosion of IoT, AI, and 5G technologies, Edge Computing has become critical for industries seeking low-latency operations and scalable data solutions. As enterprises adopt edge infrastructure, Data Protection becomes essential to maintain privacy compliance, cybersecurity, and secure data transmission across distributed networks.

Training Course on Edge Computing and Data Protection is meticulously designed to equip professionals, IT administrators, and business leaders with hands-on skills in edge deployment, data lifecycle management, regulatory compliance (GDPR, HIPAA), and edge AI governance. Through real-world case studies, modules, and interactive learning, participants will understand how to leverage edge computing while mitigating security vulnerabilities and aligning with global data protection frameworks.

Programme Curriculum

Training Course on Edge Computing and Data Protection

Introduction

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compliance (GDPR, HIPAA), and edge AI governance. Through real-world case studies, modules, and interactive learning, participants will understand how to leverage edge computing while mitigating security vulnerabilities and aligning with global data protection frameworks.

Course Objectives

1. Understand the fundamentals of Edge Computing and its relevance in modern IT infrastructure.
2. Identify key data protection challenges in distributed environments.
3. Implement real-time data processing and analytics at the edge.
4. Develop strategies for edge security architecture and threat mitigation.
5. Explore IoT integration with edge platforms for smart applications.
6. Ensure compliance with data privacy regulations (e.g., GDPR, HIPAA).
7. Apply machine learning models locally on edge devices.
8. Assess cloud-to-edge orchestration techniques and tools.
9. Create data governance frameworks for edge ecosystems.
10. Analyze cyber risk management in decentralized networks.
11. Understand the use of zero trust models in edge networks.
12. Explore blockchain for data integrity in edge environments.
13. Evaluate use cases across industries: healthcare, automotive, manufacturing.

Target Audience

1. IT Professionals
2. Data Protection Officers
3. Cloud Architects
4. Cybersecurity Analysts
5. Network Engineers
6. Regulatory Compliance Officers
7. AI/ML Developers
8. Enterprise Decision Makers

Course Duration: 5 days

Course Modules

Module 1: Introduction to Edge Computing

- What is Edge Computing?
- Benefits over traditional cloud models
- Core architecture and components
- Deployment topologies: micro data centers, fog nodes
- Edge computing in 5G environments
- **Case Study**: Smart city infrastructure optimization using edge nodes

Module 2: Fundamentals of Data Protection

- Principles of data privacy and security
- Understanding personal data and sensitive data
- Regulatory landscape (GDPR, HIPAA, CCPA)
- Data minimization and anonymization techniques
- Risk assessment models
- **Case Study**: GDPR compliance challenge in a retail IoT deployment

Module 3: Edge Security Architecture

- Edge threat landscape and vulnerabilities

- Encryption methods for edge devices
- Network segmentation and firewalls
- Secure device onboarding and authentication
- AI for threat detection at the edge
- **Case Study**: Securing industrial robots in a manufacturing plant

Module 4: IoT and Edge Integration

- Connecting sensors, actuators, and gateways
- Communication protocols: MQTT, CoAP, BLE
- Device identity and access management
- Firmware updates and patching at scale
- Edge computing in industrial IoT (IIoT)
- **Case Study**: Predictive maintenance in connected logistics using IoT-edge fusion

Module 5: Edge AI and Real-time Processing

- Running ML models locally
- Edge inference vs. cloud training
- Optimizing model size and latency
- Use of accelerators: GPUs, TPUs, NPUs
- Real-time decision-making in critical systems
- **Case Study**: Autonomous vehicle navigation with edge inference

Module 6: Data Governance and Compliance at the Edge

- Creating policies for edge data handling
- Audit trails and data lineage
- Implementing privacy-by-design at the edge
- Data sovereignty and localization
- Cross-border data transfer strategies
- **Case Study**: Financial services ensuring compliance with global data laws

Module 7: Cloud-to-Edge Orchestration

- Hybrid cloud-edge management
- Kubernetes at the edge
- Monitoring tools and dashboards
- Application lifecycle at the edge
- API and container management
- **Case Study**: Remote oil rig monitoring using cloud-edge orchestration

Module 8: Future Trends and Innovations in Edge & Data Protection

- Blockchain for secure edge data
- Zero trust security frameworks
- Federated learning at the edge
- Sustainable and green edge computing
- Ethical AI deployment and bias mitigation
- **Case Study**: Healthcare diagnostics using federated edge learning

Training Methodology

- Instructor-led online and in-person sessions
- Real-world simulations and lab exercises
- Group activities and team-based assignments

- Downloadable case study analysis guides
- Quizzes and hands-on projects for skill validation
- Final capstone project with feedback and certification

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com