Implementing Cisco Data Center AI Infrastructure Training

Duration: **5 Day**

BILGINC IT Academy
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The Implementing Cisco Data Center AI Infrastructure course provides a comprehensive understanding of how to design, deploy, operate, and troubleshoot AI-enabled data centre environments using Cisco technologies.

The training explores how AI and machine learning workloads influence modern data centre architecture, including networking, compute, and storage decisions. Participants also learn how to monitor, optimise, and troubleshoot AI infrastructure using telemetry, analytics, and automation tools.

This course prepares learners for the **300-640 DCAI certification exam**.

Prerequisites

There are no strict prerequisites, but learners should have knowledge of:

- Core data centre technologies
- Networking fundamentals
- Cisco UCS architecture
- Cisco Nexus switching

Who Should Attend

This course is suitable for:

- Network engineers
- Data centre engineers
- Systems engineers
- Storage administrators
- Technical architects
- Consulting engineers
- Technical leads and project managers

What You Will Learn

By the end of this course, learners will be able to:

- Understand AI, machine learning, and generative AI concepts
- Explain how AI workloads impact data centre design
- Understand AI cluster architecture and lifecycle
- Design scalable and sustainable AI infrastructure
- Apply workload placement strategies
- Understand networking requirements for AI workloads
- Monitor systems using telemetry and analytics
- Troubleshoot AI infrastructure environments

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Training Outline

AI Foundations

- AI, ML, and deep learning
- Generative AI concepts
- Data centre use cases

AI Clusters and Models

- Cluster architecture
- Model lifecycle
- Pre-trained models and fine-tuning
- Jupyter environments

Infrastructure Fundamentals

- Compute, network, storage
- Workload placement
- Governance and compliance
- Sustainable design

Networking for AI

- Network requirements
- Transport technologies
- Architecture patterns
- Layer 2/3 protocols
- Migration strategies

High-Performance Networking

- RDMA and RoCE
- Low-latency Ethernet
- QoS and lossless networks
- Congestion control (ECN, PFC)
- Cisco Nexus tools

Data and Performance

- Data preparation
- Performance optimisation
- Traffic monitoring

Hardware and Virtualisation

- AI accelerators
- Compute architecture
- Virtualisation
- Storage strategies

Deployment and Operations

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- Cluster setup
- Fabric management
- Generative AI deployment
- Monitoring

Troubleshooting

- Common issues
- Performance and connectivity problems
- Telemetry-based diagnostics
- Structured troubleshooting