Mobile Edge Computing and Low Latency Applications Training Course



21 - 25 Dec 2026

Düsseldorf

5900 € (Per Person)

Ref: #TEL1655_146874

Course Introduction / Overview:

This course provides a comprehensive exploration of Mobile Edge Computing (MEC), a key architectural paradigm for enabling low-latency and high-bandwidth applications in 5G and beyond. As data-intensive services like Augmented Reality, IoT, and connected vehicles become mainstream, the need to process data closer to the end-user is critical. This program delves into the core principles, architecture, and deployment models of MEC, moving beyond theoretical concepts to practical implementation strategies. Participants will gain a deep understanding of how MEC reduces latency, conserves network bandwidth, and enhances application performance. The curriculum is informed by seminal works in the field, such as "Fog and Edge Computing: Principles and Paradigms" by author Rajkumar Buyya, which establishes a foundational understanding of distributed computing at the network edge. BIG BEN Training Center has designed this course to equip professionals with the skills to design, develop, and manage next-generation services that leverage the full potential of edge infrastructure, transforming industries and creating new value streams. This training is an essential step for anyone looking to master the technologies that are shaping the future of digital communication and real-time services.

Target Audience / This training course is suitable for:

- Telecommunications Engineers.
- Network Architects and Planners.
- Software Developers and Application Engineers.
- Cloud Computing Professionals.
- IoT Solution Architects.
- IT Infrastructure Managers.
- System Integrators.
- Technical Project Managers.
- R&D Professionals in the technology sector.

Target Sectors and Industries:

- Telecommunications and Mobile Network Operators.
- Automotive and Intelligent Transportation Systems.
- Manufacturing and Industrial IoT (IIoT).
- Media, Entertainment, and Gaming.
- Healthcare and Medical Technology.
- Retail and Smart Venues.
- Public Safety and Emergency Services.
- Government agencies and smart city initiatives.
- Energy and Utilities.

Target Organizations Departments:

- Network Operations and Engineering.
- Information Technology (IT) and Infrastructure.
- Research and Development (R&D).
- Software and Application Development.
- Product Management and Strategy.
- Innovation and Future Technologies Labs.
- Cloud Services and Architecture.
- Corporate Strategy and Business Development.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze the fundamental principles and drivers behind Mobile Edge Computing.
- Describe the ETSI MEC reference architecture and its key components.
- Design applications optimized for low-latency performance at the network edge.
- Evaluate different MEC deployment models and their suitability for various use cases.
- Integrate MEC with 5G network features like network slicing and URLLC.
- Identify and mitigate security challenges specific to edge computing environments.
- Develop strategies for managing and orchestrating resources in a distributed MEC system.
- Assess the business impact and monetization opportunities of MEC-enabled services.
- Apply MEC concepts to real-world scenarios such as V2X, AR/VR, and IIoT.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring participants can translate theoretical knowledge into real-world skills. This course moves beyond traditional lectures by incorporating a blend of expert-led presentations, in-depth technical discussions, and collaborative group exercises. A significant emphasis is placed on case study analysis, where participants will dissect successful MEC implementations in industries like automotive, manufacturing, and entertainment to understand strategic decision-making and technical challenges. Interactive workshops will provide opportunities to design mock MEC application architectures and solve complex latency-related problems. Team-based activities encourage peer-to-peer learning and the exchange of diverse perspectives. Throughout the course, there will be continuous opportunities for Q&A sessions and direct feedback from the instructor, fostering a dynamic and supportive learning environment. This hands-on, problem-solving approach ensures that participants leave with not just knowledge, but also the confidence to apply MEC principles effectively within their own organizations.

Course Agenda (Course Units):

Unit One: Introduction to Mobile Edge Computing (MEC)

- Fundamentals of Edge Computing.
- The evolution from Cloud Computing to Edge Computing.
- Key drivers for MEC: IoT, 5G, and new application demands.
- Defining latency, jitter, and bandwidth in network performance.
- MEC vs. Fog Computing: Key distinctions and synergies.
- Core benefits of MEC for enterprises and consumers.
- Overview of the MEC market and ecosystem.

Unit Two: MEC Architecture and Standardization

- The ETSI MEC Reference Architecture.
- Key components: MEC Host, MEC Platform, and MEC Orchestrator.
- Virtualization concepts in MEC: NFV and Containers.
- MEC Platform services and APIs.
- Network integration and traffic routing rules.
- MEC Federation for seamless service experience.
- Understanding the role of 3GPP standards in MEC.

Unit Three: Developing and Deploying Edge Applications

- Characteristics of an edge-native application.
- Application lifecycle management in an MEC environment.
- Utilizing MEC Service APIs for context-aware applications.
- Strategies for state management and data persistence at the edge.
- Optimizing applications for resource-constrained edge nodes.
- Deployment models: on-premises, network edge, and hybrid.
- Testing and validation of low-latency applications.

Unit Four: Real-World MEC Use Cases and Verticals

- Connected Vehicles and V2X (Vehicle-to-Everything) communications.
- Augmented Reality (AR) and Virtual Reality (VR) applications.
- Industrial IoT (IIoT) and smart factory automation.
- Video analytics and real-time surveillance.
- Enhanced Content Delivery Networks (CDN) at the edge.
- Interactive and cloud gaming solutions.
- MEC applications for smart cities and public venues.

Unit Five: Advanced Topics and Future of MEC

- Security considerations and threat landscape in MEC.
- Privacy and data governance at the network edge.
- Resource management and service orchestration in MEC.
- The convergence of Artificial Intelligence and MEC (Edge AI).
- Monetization strategies and business models for MEC services.
- The role of MEC in future 6G networks.
- Emerging trends and the future roadmap for edge computing.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As MEC enables real-time data processing at the edge, what are the profound ethical implications for user privacy and data sovereignty compared to traditional cloud models?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by providing a holistic and strategic perspective on Mobile Edge Computing, moving beyond purely technical specifications. While other programs may focus narrowly on network architecture, our curriculum integrates technology, application development, and business strategy. We emphasize the "why" behind MEC, exploring the economic drivers and disruptive potential across various industries through in-depth case studies of real-world deployments. A key differentiator is our focus on the practical challenges of developing and deploying edge-native applications, equipping participants with a developer's mindset, not just an operator's. The course content is forward-looking, dedicating significant time to the convergence of MEC with AI and its foundational role in future 6G networks, ensuring the skills learned are durable and relevant for years to come. Rather than just listing standards, we facilitate critical thinking about how to leverage these frameworks to build innovative, low-latency services that create a competitive advantage. This strategic, application-centric approach provides a much deeper and more actionable understanding of the MEC ecosystem.