BlackBird
FOR TRAINING

Advanced Course in Network Design

Istanbul (Turkey)

2 - 13 November 2025

UK Traininig
PARTNER

Advanced Course in Network Design

Code: IT28 From: 2 - 13 November 2025 City: Istanbul (Turkey) Fees: 7800 Pound

Introduction

In today's digital age, network design is essential for enabling organizations to meet business objectives effectively and securely. Creating robust, scalable, and innovative network architectures is critical for addressing the dynamic needs of modern enterprises. This advanced course in network design is tailored to equip participants with cutting-edge methodologies, technologies, and best practices in network architecture. Through a blend of theory and hands-on exercises, participants will gain the expertise needed to design efficient networks that align with organizational goals and drive digital transformation.

Course Objectives

- Provide participants with a comprehensive understanding of network design principles, methodologies, and frameworks.
- Develop advanced skills in assessing organizational requirements, analyzing traffic patterns, and designing scalable and resilient network architectures.
- Explore emerging technologies like cloud computing, software-defined networking SDN, network virtualization, and Internet of Things IoT and their applications in network design.
- Enhance participants️ ability to select and integrate networking technologies and protocols to achieve optimal performance, security, and reliability.
- Enable participants to create detailed network design documentation, including network diagrams, topology maps, and configuration guidelines.
- Familiarize participants with network design best practices, standards, and compliance requirements, especially for regulatory compliance and data privacy.
- Provide practical experience with network design tools, simulation software, and case studies to reinforce theoretical concepts and practical skills.
- Prepare participants for professional certifications in network design, such as Cisco Certified Design Associate CCDA or Cisco Certified Design Professional CCDP, through comprehensive exam coverage and practice tests.

Course Outlines

Day 1: Introduction to Network Design Principles

- Overview of network design methodologies and frameworks
- Understanding organizational requirements and business goals
- Principles of scalable, resilient, and secure network architectures

Day 2: Assessing Organizational Requirements

- Needs analysis and requirements gathering

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- Identifying critical applications and services
- Evaluating network performance, capacity, and availability requirements

Day 3: Analyzing Network Traffic Patterns

- Techniques and tools for traffic analysis
- Predictive modeling for network capacity planning
- Identifying bottlenecks and optimizing performance

Day 4: Designing Campus and Data Center Networks

- Campus network design considerations and best practices
- Data center network architectures: traditional vs. cloud-native
- Integrating virtualization and cloud technologies in network design

Day 5: Designing Wide Area Networks WANs

- WAN design principles and technologies
- Selecting suitable WAN connectivity options
- Implementing security and Quality of Service QoS in WANs

Day 6: Network Security in Design

- Principles and methodologies for security by design
- Threat modeling and risk assessment
- Integrating security controls and protocols in network design

Day 7: Network Virtualization and SDN

- Concepts and benefits of network virtualization
- Software-defined networking SDN architectures and deployment models
- Applying SDN principles in network automation

Day 8: IoT and Emerging Technologies in Network Design

- Overview of Internet of Things IoT and its impact on network design
- Integrating IoT devices and sensors into network architectures
- Design considerations for 5G and edge computing

Day 9: Documentation and Compliance

- Creating comprehensive network design documentation
- Compliance requirements and standards in network design
- Regulatory and data privacy considerations

Day 10: Hands-on Lab Exercises and Case Studies

- Practical design exercises using network simulation tools
- Real-world case studies to apply design principles and troubleshoot issues

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Conclusion

This advanced course in network design enables participants to gain both theoretical knowledge and practical skills in network architecture, helping them play a leading role in network design and infrastructure enhancement for their organizations or on a larger scale in the industry. The acquired skills will empower participants to meet the demands of modern network environments and ensure reliable, scalable, and secure network solutions.

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