



Troubleshooting and Maintaining Cisco IP Networks

Duration: 5 Days **Course Code: TSHOOT**

Overview:

This five day course is designed to provide professionals who work in complex network environments with the skills that they need to maintain their networks and to diagnose and resolve network problems quickly and effectively. The course will provide information about troubleshooting and maintaining particular technologies, as well as procedural and organizational aspects of the troubleshooting and maintenance process. A large part of the training will consist of practicing these skills and reinforcing the concepts by putting them to use in a controlled environment. At the end of the course, delegates will have increased their skill level and developed a set of best practices based on their own experiences and those of other delegates that they can then take back into their own organizations.

Target Audience:

This course is intended for Network professionals who want to increase their skills at maintaining and troubleshooting complex Cisco IP networks. This course is required for those looking to achieve the Cisco CCNP® Certification

Objectives:

- **After you complete this course you will be able to:**
 - Plan and document the most commonly performed maintenance functions in complex enterprise networks
 - Develop a troubleshooting process to identify and resolve problems in complex enterprise networks
 - Select tools that best support specific troubleshooting and maintenance processes in large, complex enterprise networks
 - Practice maintenance procedures and fault resolution in switching based environments
 - Practice maintenance procedures and fault resolution in routing based environments
 - Practice maintenance procedures and fault resolution in a secure infrastructure
 - Troubleshoot and Maintain integrated complex enterprise networks
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Prerequisites:

Attendees should meet the following prerequisites:

- Valid CCNA (ICND1, ICND2 or CCNABC)
- ROUTE - Implementing Cisco IP Routing
- SWITCH - Implementing Cisco Switched Networks

Practical experience in installing, operating and maintaining Cisco routers & switches in an enterprise environment is recommended.

Testing and Certification:

Recommended preparation for exam(s):

- 642-832 TSHOOT - Troubleshooting and Maintaining Cisco IP Networks

This exam is required for those delegates wishing to achieve either the Cisco Certified Network Professional Certification

Content:

Planning Maintenance for Complex Networks

- Applying Maintenance Methodologies
- Common Maintenance Processes and Procedures
- Network Maintenance Tools, Applications, and Resources

Planning Troubleshooting Processes for Complex Enterprise Networks

- Lab 2-1 Debrief
- Applying Troubleshooting Methodologies
- Planning and Implementing Troubleshooting Procedures
- Integrating Troubleshooting into the Network Maintenance Process

Maintenance and Troubleshooting Tools and Applications

- Assembling a Basic Diagnostic Toolkit Using Cisco IOS Software
- Using Specialized Maintenance and Troubleshooting Tools
- Lab 3-1 Debrief

Maintaining and Troubleshooting Campus Switching Based Solutions

- Troubleshooting VLANs
- Troubleshooting Spanning Tree
- Lab 4-1 Debrief
- Troubleshooting Switched Virtual Interfaces and Inter-VLAN Routing
- Troubleshooting First Hop Redundancy Protocols(FHRPs)
- Lab 4-2 Debrief
- Troubleshooting Performance Problems on Switches
- Preview of E-Learning on Campus Switching Technologies

Maintaining and Troubleshooting Routing Based Solutions

- Troubleshooting Network Layer Connectivity
- Troubleshooting EIGRP
- Lab 5-1 Debrief
- Troubleshooting OSPF
- Troubleshooting Route Redistribution
- Lab 5-2 Debrief
- Troubleshooting BGP
- Lab 5-3 Debrief
- Troubleshooting Performance Problems on Routers
- Lab 5-4 Debrief
- Preview E-Learning on Additional Routing Technologies

Maintaining and Troubleshooting Network Security Solutions

- Troubleshooting Security Features
- Lab 6-1 Debrief
- Security Features Review
- Lab 6-2 Debrief
- Preview of E-Learning products on Additional Security Troubleshooting

Maintaining and Troubleshooting Integrated, Complex Enterprise Networks

- Troubleshooting Complex Environments
- Lab 7-1 Debrief

Labs

- Lab 1-1: Lab Access
- Lab 2-1: Introduction to Troubleshooting
- Lab 3-1: Assembling Maintenance and Troubleshooting Tools
- Lab 4-1: Layer 2 Connectivity and Spanning Tree
- Lab 4-2: Layer 3 Switching and First-Hop Redundancy
- Lab 5-1: Layer 3 Connectivity and EIGRP
- Lab 5-2: OSPF and Route Redistribution
- Lab 5-3: Border Gateway Protocol (BGP)
- Lab 5-4: Router Performance
- Lab 6-1: Introduction to Network Security
- Lab 6-2: Cisco IOS Security Features
- Lab 7-1: Troubleshooting Complex Environments

Additional Information:

Please be aware that the DRM (Digital Rights Management) for the e-learning associated with this course has been protected so that the software can only be used on the pc it is initially downloaded onto. The instructor will go through this at the beginning of the course.
