

## COURSE OVERVIEW:

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Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) v2.0 is a 5-day, Cisco TSHOOT training program where you will learn and practice techniques to monitor and troubleshoot routed and switched networks through extensive hands-on lab exercises. Troubleshooting methods, approaches, procedures, and tools are explored in this CCNP TSHOOT course. A series of different organizations are introduced for each a set of troubleshooting scenarios that are presented. You will attempt to solve as many of the troubleshooting tickets as you can; the debrief includes review information that will help you further understand the specific issues raised in the scenarios.

## WHO SHOULD ATTEND:

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- Network engineers and technicians
- Support engineers
- Systems engineers
- Network analysts
- Senior network administrators
- Anyone involved in planning, implementing, verifying, and troubleshooting switched networks

## PREREQUISITES:

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The knowledge and skills you must have before taking this course consist of the following:

- Taking ROUTE v2.0 and SWITCH v2.0 is highly recommended
- Knowledge of and experience with the implementation and verification of enterprise routing and switching technologies that includes:
  - Layer 2 switching including VLANs, VLAN ACLs, and switch security
  - Link aggregation protocols
  - Various types of STP
  - Inter-VLAN routing solutions
  - First Hop Redundancy Protocols: HSRP, VRRP, and GLBP
  - Branch office operations



# Troubleshooting & Maintaining Cisco IP Networks (TSHOOT) 2.0

- EIGRP and OSPF routing protocols
- Layer 3 path control
- Redistribution
- Internal and External BGP
- IPv4 and IPv6 networking

## COURSE OBJECTIVES:

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Upon completing this course, the learner will be able to meet these overall objectives:

- Troubleshooting methods, approaches, and procedures
- Recommended network maintenance practices
- Using basic and specialized troubleshooting tools
- Troubleshooting:
  - A redundant Internet gateway or redundant ISP fails to provide backup connectivity
  - OSPF, EIGRP and BGP issues, including redistribution
  - HSRP, VRRP, and GLBP issues
  - EtherChannel issues
  - Other issues including NTP, DNS, default routes, IP SLAs, AAA, and GRE
  - When headquarters or branch clients are unable to access internal devices or the Internet
  - When you are unable to connect to a network device using SSH or Telnet
  - When devices are unable to acquire a DHCP-provided address

## COURSE OUTLINE:

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### Module 1: Tools and Methodologies of Troubleshooting

- Describing Troubleshooting Methodologies
- Using Troubleshooting Procedures
- Following Recommended Practices During Routine Network Maintenance
- Using Basic IOS Troubleshooting Tools
- Using Specialized Troubleshooting Tools

## Module 2: Troubleshooting at SECHNIK Networking Ltd.

- Debrief of the each of the three Troubleshooting at SECHNIK Networking Ltd. Labs
- Troubleshooting issues with trunks, NAT, interfaces, IPv6, network layer connectivity, error-disabled ports, DHCP, passive interfaces

## Module 3: Troubleshooting at TINC Garbage Disposal Ltd.

- Debrief of the each of the four Troubleshooting at TINC Garbage Disposal Ltd. Labs
- Troubleshooting issues with BGP neighborship, port security, VLANs, native VLAN, OSPF adjacency, management access, HSRP, routing sources, VRRP, EtherChannel, GLBP, DHCP snooping

## Module 4: Troubleshooting at PILE Forensic Accounting Ltd.

- Debrief of the each of the five Troubleshooting at PILE Forensic Accounting Ltd. Labs
- Troubleshooting issues with EIGRP adjacency, BGP filtering and route selection, NTP, inter-VLAN routing, DNS, remote device management, EIGRP named configuration, EIGRP stub, default routes, management plane security.

## Module 5: Troubleshooting at Bank of POLONA Ltd.

- Debrief of the each of the four Troubleshooting at POLONA Ltd. Labs.
- Troubleshooting issues with redistribution, FHRP tracking, IP SLA, EIGRP summarization, basic RIPng, ACLs, GRE tunnels, OSPF summarization, AAA, OSPF for IPv6, OSPF stub areas.

## Module 6: Troubleshooting at RADULKO Transport Ltd.

- Debrief of the each of the four Troubleshooting at RADULKO Transport Ltd. Labs.
- Troubleshooting issues with STP, PBR, CDP, LLDP, VTP, EIGRP for IPv6, MP-BGP, and OSPFv3 address families

## LAB OUTLINE:

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- Discovery 1: Maintaining and Documenting a Network
- Discovery 2: Troubleshooting Connectivity
- Challenge 1: First Troubleshooting at SECHNIK Networking Ltd.
- Challenge 2: Second Troubleshooting at SECHNIK Networking Ltd.
- Challenge 3: Third Troubleshooting at SECHNIK Networking Ltd.
- Challenge 4: First Troubleshooting at TINC Garbage Disposal Ltd.
- Challenge 5: Second Troubleshooting at TINC Garbage Disposal Ltd.

## Troubleshooting & Maintaining Cisco IP Networks (TSHOOT) 2.0

- Challenge 6: Third Troubleshooting at TINC Garbage Disposal Ltd.
- Challenge 7: Fourth Troubleshooting at TINC Garbage Disposal Ltd.
- Challenge 8: First Troubleshooting at PILE Forensic Accounting Ltd.
- Challenge 9: Second Troubleshooting at PILE Forensic Accounting Ltd.
- Challenge 10: Third Troubleshooting at PILE Forensic Accounting Ltd.
- Challenge 11: Fourth Troubleshooting at PILE Forensic Accounting Ltd.
- Challenge 12: Fifth Troubleshooting at PILE Forensic Accounting Ltd.
- Challenge 13: First Troubleshooting at Bank of POLONA Ltd.
- Challenge 14: Second Troubleshooting at Bank of POLONA Ltd.
- Challenge 15: Third Troubleshooting at Bank of POLONA Ltd.
- Challenge 16: Fourth Troubleshooting at Bank of POLONA Ltd.
- Challenge 17: First Troubleshooting at RADULKO Transport Ltd.
- Challenge 18: Second Troubleshooting at RADULKO Transport Ltd.
- Challenge 19: Third Troubleshooting at RADULKO Transport Ltd.
- Challenge 20: Fourth Troubleshooting at RADULKO Transport Ltd.