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Introduction to RUIJIE

Certified Network Professional (RCNP) Training

FA-0261

DevOps, Cloud & Infrastructure · Cybersecurity

Introduction

Welcome to the RCNP training program, a rigorous and comprehensive course designed for network engineers aiming to enhance their abilities in planning, implementing, managing, and maintaining medium to large-scale campus networks.

In today's fast-paced and increasingly digital world, the demand for skilled network professionals who can oversee complex network infrastructures is greater than ever.

This certification will equip you with the advanced skills needed to tackle real-world networking challenges and to thrive in cutting-edge network environments. By the end of this course, you will not only gain an in-depth understanding of Ruijie's networking technologies but also be prepared to take the RCNP certification exam, setting a solid foundation for further career advancement.

Learning outcomes

By participating in this two-day training, you will be able to:

- Understand and apply advanced VLAN configurations and management techniques.
- Master the configurations and implementations of STP/RSTP/MSTP and understand their applications in real network scenarios.
- Design and implement complex network topologies using BGP to ensure efficient routing and robustness.
- Configure and manage network security protocols and practices to safeguard the network infrastructure.
- Utilize VPN technologies to create secure communications between networks.
- Diagnose and troubleshoot common and advanced network issues effectively.

Prerequisites

Before attending this course, participants should:

- Have a foundational understanding of network principles and technologies.
- Possess advanced skills in network configuration and troubleshooting.
- Have at least two years of practical experience in network engineering or a related field.

Training outline

1. 1. Advanced VLAN Management

- Deployment scenarios
- Configuration of VLANs across multiple switches
- Troubleshooting VLAN issues
- Super VLAN concepts and applications

2. 2. Spanning Tree Protocols (STP, RSTP, MSTP)

- Understanding STP fundamentals and operations
- Configuring RSTP for faster convergence
- Implementing MSTP in a campus environment
- Advanced features and their practical implications
- Virtual Router Redundancy Protocol (VRRP) integration

3. 3. Link Aggregation

- Principles of link aggregation
- Configuring aggregated links for redundancy and bandwidth enhancement
- Virtual Switching Unit (VSU) technology

4. 4. Routing Technologies

- IS-IS protocol specifics and configuration
- In-depth OSPF deployment including LSAs, special areas, and advanced configurations
- BGP essentials for large-scale network deployment
- MPLS fundamentals and setup
- Policy-based routing setup and management

- Route redistribution techniques
- Multicast routing concepts and configuration
- Internet Group Management Protocol (IGMP) setup

5. 5. Network Security

- Reliability technologies such as DLDP and RLDP
- DHCP Snooping and its importance in network security
- Implementing IP Source Guard for network integrity
- Port security measures and configurations
- Comprehensive approach to ARP security
- Authentication, Authorization, and Accounting (AAA) configuration
- Port mirroring for monitoring network traffic
- VPN technologies including GRE, L2TP, and IPsec

6. 6. Hands-on Lab Sessions

- Practical exercises on VLAN and STP configurations
- Routing simulations with OSPF and BGP
- Network security implementation labs
- VPN configuration and troubleshooting exercises

This training outline provides a structured approach to mastering advanced networking concepts and prepares you for real-world challenges and the RCNP certification exam.

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