

CCNA Routing & Switching V6.0

Routing & Switching Essentials

1 Routing Concepts

- Packet Forwarding: Process switching, Fast switching, Cisco Express Forwarding (CEF)
- Routing Table

2 Static Routing

- IPv4/IPv6: Standard-, Default-, Summary-, Floating-Routes

3 Dynamic Routing

- Routing Protocol Classification
- RIPv2: no auto-summary, default-information originate, passive-int (nur IPv4)
- Level1/Level2, Parent/Child

4 Switched Networks

- LAN-Design: Converged Network, Cisco Borderless Network Architecture
- Form Factors
- Switching-Funktionalität
- Forwarding Methods (Store & Forward, Rapid Forwarding, Fragment Free)
- Collision Domains
- Basic Switch configuration: hostname, passwords, SVI, sh ru

5 Switch Configuration

- Switch bootsequence
- Switch LEDs
- Switch configuration: SVI, ip, gateway
- access, vlan 99
- duplex, speed, mdix
- sh mac, sh int, sh ip int
- SSH
- range, shutdown
- Port Security

6 VLANs

- Types: Data, Default, Native, Management, Voice
- Configuration: access, trunk
- Inter-VLAN-Routing: Legacy, Router-on-a-Stick

7 Access Control Lists

- Standard IPv4 ACLs, Wildcard Mask
- Securing VTY with Standard IPv4 ACL

8 DHCP

- DHCPv4 Operation, Message Format: DISCOVER, OFFER, REQUEST, ACK
- DHCPv4 Server auf Cisco-Router
- DHCPv4 Relay
- SLAAC, DHCPv6
- Stateful/Stateless DHCPv6 auf Cisco-Router

9 NAT for IPv4

- Static NAT, Dynamic NAT, PAT, Portforwarding

10 Device Discovery, Management, and Maintenance

- CDP, LLDP
- NTP, Syslog
- Filemanagement: Configuration, IOS
- Password Recovery
- Software Licensing