



Seattle Cisco Users Group

CCNA Lab Project

Initial Configuration Tasks

1. Device host names: Configure Hostnames as Follows
 - a. Routers: RX (X=Site Number)
 - b. Switches: SWX (X=Site Number)
 - c. Internet Router, Site 3: R4
2. Device access
 - a. Console Access
 - Create login process to go directly to privileged mode
 - Password cisco
 - No requirement to enter a password to access
 - b. AUX Access (router only)
 - Create login process to enter exec mode
 - Password cisco
 - Login required
 - c. VTY Access
 - Create login process to enter exec mode
 - Password cisco
 - Login required
3. Basic security settings
 - a. Set enable secret password (cisco)
 - b. Prevent telnet access from outside the network
4. Other basic settings
 - a. Set clocks on all devices to Pacific Time
 - b. Disable devices using DNS lookups
 - c. Enable web-based access on all devices.
 - d. Set login message to “Welcome to the CCNA Lab!”

Local Device Interface Configuration Tasks

1. VLAN interfaces
 - a. Management VLAN
 - Set VLAN ID to X (X=Site Number)
 - Create IP addressing to allow for 15 Hosts
 - b. Production VLAN
 - Set VLAN ID to XX (X=Site Number)
 - Create IP addressing to allow for 35 Hosts
 - c. Internet VLAN
 - Set VLAN ID to 99

- Create IP addressing to allow for 8 Hosts
- 2. Loopback interfaces
 - a. Create loopback interfaces on each router.
 - b. Assign IP subnet for a single host: 10.Y.Y.Y (Y=device number)
- 3. Frame-Relay interfaces
 - a. Create Frame-Relay subinterfaces using DLCI numbers as reference (e.g., Serial 0/0.102 for DLCI 102)
 - b. Correctly map DLCI numbers interfaces.
 - c. Assign IP addresses per diagram, with 6 hosts per subnet.
- 4. DHCP Configuration
 - a. Enable DHCP on R4 to supply addressing to R3 on VLAN99
 - b. Identify the following parameters:
 - Network
 - Default Gateway
 - DNS (use 216.145.1.2 and 216.145.1.3)

Routing Protocol Configuration Tasks

1. OSPF configuration
 - a. Configure OSPF on R1
 - Place all interfaces except the link to R3 in area 0
 - Use loopback interface as router-id
 - b. Configure OSPF on R2
 - Place loopback interface and link to R1 in area 0
 - Place VLAN interfaces and link to R3 in area 1
 - Use loopback interface as router-id
 - c. Configure OSPF on R3
 - Configure link to R2 in area 1
 - Configure loopback in area 1
 - Use loopback interface as router-id
2. EIGRP configuration
 - a. Configure EIGRP on R1
 - Use AS Number 11
 - Enable EIGRP on link to R3
 - Disable auto summarization
 - b. Configure EIGRP on R3
 - Use AS Number 11
 - Enable EIGRP on link to R1 and VLAN interfaces
 - Disable auto summarization
3. RIPV2 configuration
 - a. Configure RIPV2 on R3
 - Configure RIPV2 on Internet VLAN
 - Prevent address summarization
 - b. Configure RIPV2 on R4
 - Configure RIPV2 on Internet VLAN
 - Create a default route pointing to the Internet

- Propagate the default route to all network endpoints
- 4. Redistribution and tuning
 - a. Do not redistribute EIGRP
 - b. Redistribute RIPV2 into OSPF
 - c. Redistribute OSPF into RIPV2
- 5. Verifying full reachability
 - a. Ping all other devices in the network from each device.
 - b. Successfully telnet to all devices in the network from each device.

Network Address Translation Tasks

1. Configure Port Address Translation/Overloading on R4
2. Configure static NAT for inbound web traffic to R2

Security Configuration

1. Create and apply an access that will only allow internal devices to access the management VLAN on all devices.
2. Prevent web access to R1