**Lab8:** Answer Key

# 1. Addressing Table (Completed)

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| --- | --- | --- | --- | --- |
| **Device** | **Interface** | **IP Address / Prefix** | **Default Gateway** | **IPv6 Address / Prefix** |
| R1 | G0/0 | 192.168.0.1 /25 | N/A | 2001:db8:acad::1/64 |
| R1 | G0/1 | 192.168.0.129 /26 | N/A | 2001:db8:acad:1::1/64 |
| R1 | G0/2 | 192.168.0.193 /27 | N/A | 2001:db8:acad:2::1/64 |
| R1 | S0/0/1 | 172.16.1.2 /30 | N/A | 2001:db8:2::1/64 |
| Central | S0/0/0 | 209.165.200.226 /30 | N/A | 2001:db8:1::1/64 |
| Central | S0/0/1 | 172.16.1.1 /30 | N/A | 2001:db8:2::2/64 |
| S1 | VLAN 1 | 192.168.0.3 /25 | 192.168.0.1 | N/A |
| S2 | VLAN 1 | 192.168.0.131 /26 | 192.168.0.129 | N/A |
| S3 | VLAN 1 | 192.168.0.195 /27 | 192.168.0.193 | N/A |
| Staff | NIC | 192.168.0.2 /25 | 192.168.0.1 | 2001:db8:acad::2/64 |
| Sales | NIC | 192.168.0.130 /26 | 192.168.0.129 | 2001:db8:acad:1::2/64 |
| IT | NIC | 192.168.0.194 /27 | 192.168.0.193 | 2001:db8:acad:2::2/64 |
| Web | NIC | 64.100.0.3 /29 | 64.100.0.1 | 2001:db8:cafe::3/64 |

# 2. Configuration Steps

## R1 Configuration

1. Set Device Name and Disable DNS Lookup  
Router> enable  
Router# configure terminal  
Router(config)# hostname R1  
Router(config)# no ip domain-lookup  
  
2. Set Privileged EXEC Mode Password  
Router(config)# enable secret Ciscoenpa55  
  
3. Set Console Password  
Router(config)# line console 0  
Router(config-line)# password Ciscoconpa55  
Router(config-line)# login  
  
4. Set Minimum Password Length  
Router(config)# security passwords min-length 10  
  
5. Encrypt Plaintext Passwords  
Router(config)# service password-encryption  
  
6. Set a Banner  
Router(config)# banner motd $ Unauthorized access is prohibited $  
  
7. Configure GigabitEthernet Interfaces with IPv4 and IPv6  
Router(config)# interface g0/0  
Router(config-if)# ip address 192.168.0.1 255.255.255.128  
Router(config-if)# ipv6 address 2001:db8:acad::1/64  
Router(config-if)# no shutdown  
Router(config-if)# exit  
  
Router(config)# interface g0/1  
Router(config-if)# ip address 192.168.0.129 255.255.255.192  
Router(config-if)# ipv6 address 2001:db8:acad:1::1/64  
Router(config-if)# no shutdown  
Router(config-if)# exit  
  
Router(config)# interface g0/2  
Router(config-if)# ip address 192.168.0.193 255.255.255.224  
Router(config-if)# ipv6 address 2001:db8:acad:2::1/64  
Router(config-if)# no shutdown  
Router(config-if)# exit  
  
8. Configure SSH  
Router(config)# ip domain-name CCNA-lab.com  
Router(config)# crypto key generate rsa modulus 1024  
Router(config)# line vty 0 4  
Router(config-line)# transport input ssh  
Router(config-line)# login local  
Router(config)# username Admin1 privilege 15 secret Admin1pa55  
  
9. Set Inactivity Timeout  
Router(config)# line console 0  
Router(config-line)# exec-timeout 5 0  
Router(config)# line vty 0 4  
Router(config-line)# exec-timeout 5 0  
  
10. Configure Login Block  
Router(config)# login block-for 180 attempts 4 within 120  
  
11. Save Configuration  
Router# write memory

## Switch Configuration (S1, S2, S3)

1. Set Device Name  
Switch> enable  
Switch# configure terminal  
Switch(config)# hostname S1 # Change S1 to S2 or S3 for other switches  
  
2. Configure SVI Interface and Default Gateway  
Switch(config)# interface vlan 1  
Switch(config-if)# ip address 192.168.0.3 255.255.255.128 # Use 192.168.0.131/26 for S2, 192.168.0.195/27 for S3  
Switch(config-if)# no shutdown  
Switch(config)# ip default-gateway 192.168.0.1 # Change default gateway based on respective subnets  
  
3. Set Privileged EXEC Mode Password  
Switch(config)# enable secret Ciscoenpa55  
  
4. Set Console Password  
Switch(config)# line console 0  
Switch(config-line)# password Ciscoconpa55  
Switch(config-line)# login  
  
5. Set Inactivity Timeout  
Switch(config)# line vty 0 4  
Switch(config-line)# exec-timeout 5 0  
  
6. Encrypt Plaintext Passwords  
Switch(config)# service password-encryption  
  
7. Save Configuration  
Switch# write memory

# 3. PC Configuration (Staff, Sales, IT)

1. Staff PC (NIC)  
- IP Address: 192.168.0.2 /25  
- Subnet Mask: 255.255.255.128  
- Default Gateway: 192.168.0.1  
- IPv6 Address: 2001:db8:acad::2/64  
- IPv6 Gateway: fe80::1  
  
2. Sales PC (NIC)  
- IP Address: 192.168.0.130 /26  
- Subnet Mask: 255.255.255.192  
- Default Gateway: 192.168.0.129  
- IPv6 Address: 2001:db8:acad:1::2/64  
- IPv6 Gateway: fe80::1  
  
3. IT PC (NIC)  
- IP Address: 192.168.0.194 /27  
- Subnet Mask: 255.255.255.224  
- Default Gateway: 192.168.0.193  
- IPv6 Address: 2001:db8:acad:2::2/64  
- IPv6 Gateway: fe80::1