NETWORK PRACTICALS

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UNMISS/ICTS/Network Practical's

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Lab practical's

- Basic router configuration
- Interface configuration
- Troubleshooting common port issues
- VLAN configurations

Cisco Router basic configuration

	Command	Purpose
Step 1	configure terminal Example: Router> enable Router# configure terminal Router(config)#	Enters global configuration mode, when using the console port. Use the following to connect to the router with a remote terminal: telnet router name or address Login: login id Password: ********* Router> enable
Step 2	hostname name Example: Router(config)# hostname RSCE RSCE(config)#	Specifies the name for the router.
Step 3	enable secret password Example: RSCE(config)# enable secret cr1ny5ho Router(config)#	Specifies an encrypted password to prevent unauthorized access to the router.
Step 4	no ip domain-lookup Example: RSCE(config)# no ip domain-lookup RSCE(config)#	Disables the router from translating unfamiliar words (typos) into IP addresses.

Interface configuration

	Command	Purpose
Step 1	interface gigabitethernet slot/port Example: RSCE(config)# interface gigabitethernet 0/1 RSCE(config-if)#	Enters the configuration mode for a Gigabit Ethernet interface on the router.
Step 2	ip address ip-address mask Example: RSCE(config-if)# ip address 192.162.16.3 255.255.255.0 RSCE(config-if)#	Sets the IP address and subnet mask for the specified GE interface.
Step 3	no shutdown Example: RSCE(config-if)# no shutdown RSCE(config-if)#	Enables the GE interface, changing its state from administratively down to administratively up.
Step 4	Exit Example: RSCE(config-if)# exit RSCE(config)#	Exits configuration mode for the GE interface and returns to global configuration mode.

Common Port Issues- Troubleshooting

- Check the physical media to ensure there are no damaged parts.
- Verify that the SFP (small form-factor pluggable) devices in use are those authorized by Cisco and that they are not faulty.
- Verify that you have enabled the port by right-clicking the port in Device Manager and selecting enable or by using the no shut CLI command.

Common Port Issues- Troubleshooting

- Right-click the port in Device Manager or use the show interface CLI command to verify the state of the interface

- Use **show interface** command to show the running interfaces.

VLAN configurations

- VLAN is a switched network that is logically segmented by function, project team, or application, without regard to the physical locations of the users.

- VLANs have the same attributes as physical LANs, but you can group computers even

VLAN configurations

- If they are not physically located on the same LAN segment.
- Any switch port can belong to a VLAN, and unicast, broadcast, and multicast packets are forwarded and flooded only to end stations in the VLAN.
- Each VLAN is considered a logical network, and packets destined for stations that do not belong to the VLAN must be forwarded through a router or bridge or layer 3 switches.

VLAN commands

- Switch>enable
- Switch#configure terminal
- Switch(config)#hostname SW2
- Switch(config)#interface Vlan 2
- SW2(config)#vlan 2
- SW2(config-vlan)#name SIGNALS
- Switch(config-if)#ip address 10.4.3.4 255.255.255.0
- Switch(config-if)#no shutdown

Configuring multiple VLANs

- SW2(config-vlan)#vlan 3
- SW2(config-vlan)#name RSCE
- SW2(config-vlan)#vlan 4
- SW2(config-vlan)#name UNMISS
- SW2(config-vlan)#
- SW2(config)#interface fastEthernet 0/5
- SW2(config-if)#switchport mode access
- SW2(config-if)#switchport access vlan 2
- SW2(config-if)#exit

Configuring multiple VLANs

- SW2(config)#interface gigaethernet 0/6
- SW2(config-if)#switchport mode access
- SW2(config-if)#switchport access vlan 2
- SW2(config-if)#
- OR
- SW2(config)#interface range fastEthernet 0/2-4
- SW2(config-if-range)#switchport mode access
- SW2(config-if-range)#switchport access vlan 4
- SW2# exit