

## LAB SESSION WEEK 11 – TUTORIAL NOTES

### GENERAL INFORMATION

- **VLSM Test 2** one-to-one feedback today
- **Final VLSM Defence** next week during lab session
- **Group Lab Activity 3** today

Must remain in the session until groups are created

Groups will be created in the last hour of the session

The activity is based on the **Sample Final Practical Assessment** you will complete today

Must submit completed Activity sheet by your lab session next week

- **CCNA1/2 Module Group Exams** due by Sunday 31/10
- NetAcademy **CCNA1 Final Exam is now available** and due by Sunday 31/10
  - Practice Final Exam also available
  - Course Feedback also available
  - Must complete the Course Feedback before attempting the Final Exam
- Today: **Sample Final Practical Assessment** (available in the Lab Session page, Week 11 tab)
  - Attempt to complete it under simulated exam conditions
  - Aim to complete the assessment in under 1 hour.
  - Next week, the instructor will demonstrate the solution to this assessment end-to-end.
- There are **other Sample Final Skills assessments** in Canvas (on the Final Skills Assessment page)
  - On the Final Skills Assessment page (not the online one)
  - These other assessments are the on-campus format, but still useful for practice.

## REVIEW FROM LAST WEEK

### EtherChannel Configuration

- EtherChannels aggregate switchports to increase throughput
- Two control protocols: LACP or PAgP
- The configuration mode of the channel defines if LACP or PAgP
- Interfaces type cannot be mixed
- Speed and duplex settings must match among the aggregate links
- Switchport settings must match across individual interfaces and the PortChannel interface
  - Trunk or Access mode must match
  - Access VLAN must match if access port
  - Allowed VLAN range must match if trunk
  - Native VLAN must match If trunk
- Configuration guidelines:
  - Configure the switchport settings of each member first
  - Validate switchport settings consistent. For trunk links check they have trunked.
  - Shutdown one end of the connection
  - Configure channel settings
  - Re-enable the port that were shutdown
  - Validate the EtherChannel status >> sh etherchannel summary

## EtherChannel Troubleshooting

- When checking the EtherChannel summary output status, **read the status codes carefully**
- In our labs, we typically bundle trunk links → the code status should be:

On the Po interface: **SU** → S for Layer 2, U for in-use

On the member interfaces: **P** → in bundle

## Lab 9b errors:

1. The Port-channel between S1 and S3 is configured with LACP on one end and PAgP on the other end.
2. On S1, Port-Channel 1 trunk configuration is allowing a restricted list of VLANs
3. On S4, the channel-group ID facing S3 should be 3. This would still work, but it's not consistent with the topology diagram.
4. On S3, the interfaces members of Port-Channel 2 should be configured as switchport mode trunk
5. On S3, the Port-Channel 2 is configured as switchport mode access
6. On S4, gi1/0/3-4 are shutdown and haven't been configured, therefore, the PortChannel facing S1 does not exist.
7. On S1, PortChannel 3 trunk configuration is allowing a restricted list of VLANs (when the individual interfaces are not)

## OVERALL REVISION LIST

### Global tasks

Hostname

Banner MOTD

Line console configuration

Line vty configuration

Passwords → enable, console and line vty

Username/password entries → when using login local on console or line vty

Enable SSH (set hostname, domain name, generate RSA keys, enable SSH and login local in the line VTYS)

Logging synchronous

Disable domain lookup

### Layer 1 tasks

Validate interconnections (sh ip int brief)

Enable all ports that need to be enabled

### 802.1q tasks

Create and name VLANs

Configure VLAN membership (i.e. access ports)

Configure 802.1q trunks

When router-on-a-stick, the switch port facing the router must be trunk mode on

### Layer 3 and inter-VLAN routing tasks

Configure the management interface VLAN on a switch

Configure default gateway for a switch

Configure router sub-interfaces and loopback interfaces

Remember: always check the routing table after configuring router interfaces

Configure IPv4 settings on a PC (if one is available)

### EtherChannel configuration

Shutdown one of the ends of the connections

Configure EtherChannel settings (remember: compatible modes)

Unshut the connections

Verify EtherChannel status. Read the status code next to the interfaces

### STP configurations

Select root primary (per vlan)

Select root secondary (per vlan)

Port cost and port priority

Portfast and BPDU guard (global and interface command)

### Switchport port-security tasks

Enable port-security on a port

Change violation action

Change max. MAC address allowed

Allow specific MAC addresses and/or set up sticky mode

### Validate with show commands:

sh run

sh startup-config

sh ip int brief

sh interface <if\_id>

sh port-security

sh port-security interface <if\_id>

sh vlan brief

sh vlan id <vlan\_id>

sh int trunk

sh ip route

sh spanning-tree

sh etherchannel summary

sh int description

(others)