

TNE 60006- NETWORKS AND SWITCHING

CASE STUDY

Team No:IE10006_A01_T061

Team Members

Bikesh Nath Khanal - 101985810

Chiruguri Akshay Sai - 101932272

Suraj Kumar Gudimetta - 101774225

CONTENTS	PAGE NO
Introduction	3
Network Information	4
Subnetting Discussion	5
Network Diagram	6
Device Configuration	7
Addressing Table	7
Interface Description	8
Design Description	8
SwitchPort Allocation	8
Securing the SwitchPort	9
Spanning Tree Implementation	9
Ether Channeling	10
Testing	10
Testing Inter-Vlan Communication	10
EtherChannel Testing	11
TestingSSH	14
Conclusion	14
Appendix-Router1	15
Appendix-Switch_Dist	21
Appendix-Switch_Access1	30
Appendix-Switch_Access2	39

Introduction:

This Case Study manages building a little system for THE FASTEST FOODS Ltd utilizing a Router, 3 Switches and Host PCs. Keeping in mind the end goal to outline Network model for “The Fastest Foods Ltd” company, in which we are making different VLANs for various purposes.

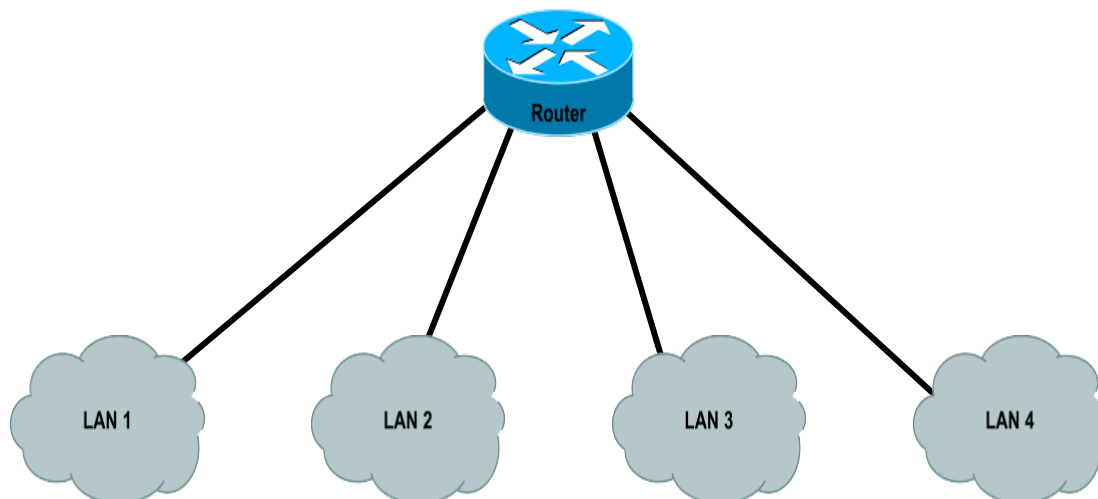


Figure1: Logical Network Topology

In the system one switch goes about as distribution layer switch and remaining switches goes about as access layer switches. Each of the three Switches are interconnected. The distribution layer switch will be arranged as the STP root primary. Distribution layer switch can help the switches associated with it utilizing 802.1q trunking, in VLAN correspondence. The switches are interconnected with two connections between every switch, so one goes about as the excess connection for the other connection. The redundant connection will be down until the other dynamic connection falls flat. With a specific end goal to utilize the accessible data transfer capacity gave two Ethernet interfaces between the switches, we are packaging it to frame an ether-channel, so the throughput is multiplied at this point. We are enabling Ether-channel Bundling utilizing Link Aggregation Control Protocol(LACP). The LACP Interfaces feature bundles individual ethernet links into a single logical link that provides the aggregate bandwidth of up to 4 physical links. It can be utilized between Cisco switches as well as other authorized sellers. A comparative reason convention known as LACP, discharged by the IEEE known as 802.3ad, is an industry standard and isn't attached to a seller.

Network Information:

The Network address given for this system is 130.4.0.0/16. According to the subnetting, every one of the interfaces have been arranged with their IP addresses. Here, we are utilizing VLSM (Variable Length Subnet Mask) with the goal that no IP address is squandered in the middle of the utilized scope of addresses and heaps of IP locations can be utilized for future extension. The subnetting discussion is given beneath.

Subnetting Discussion:

Network address: 130.4.0.0 Subnet mask: 255.255.0.0

VLAN 14 (Pizzas):

- Number of hosts required: 1000. We have to borrow 10 bits for hosts ($1024 - 2 = 1022$ hosts), where “2” is the no. of addresses allocated to network address and the broadcast address.
- Number of bits for network: 32bits – 10bits = 22bits
- Subnet Mask: 22 bits = 255.255.252.0
- Network ID: 130.4.0.0
- Usable IP range: **130.4.0.1- 130.4.3.254**
- Broadcast Address:**130.4.3.255**

VLAN 15 (Pies):

- Number of hosts required: 250, we have to borrow 8 bits for host ($256 - 2 = 254$ hosts), where “2” is the no. of addresses allocated to network address and the broadcast address.
- Number of bits for network: 32bits – 8bits = 24bits
- Subnet Mask: 24 bits = 255.255.255.0
- Network ID: 130.4.4.0
- Usable IP range: **130.4.4.1-130.4.4.254**
- Broadcast Address:**130.4.4.255**

VLAN 16 (Burgers):

- Number of hosts: 58, we have to borrow 6 bits for host ($64 - 2 = 62$ hosts), where “2” is the no. of addresses allocated to network address and the broadcast address.
- Number of bits for network: 32bits – 6 bits = 26 bits
- Subnet Mask: 26 bits = 255.255.255.192
- Network ID: **130.4.5.0**
- Usable IP range: **130.4.5.1-130.4.5.62.**
- Broadcast Address:**130.4.5.63**

VLAN 17 (Salads):

- Number of hosts: 10, we have to borrow 4 bits for host ($16-2 = 14$ hosts), where “2” is the no. of addresses allocated to network address and the broadcast address.
- Number of bits for network: $32\text{bits} - 4\text{ bits} = 28\text{ bits}$
- Subnet Mask: $28\text{bits} = 255.255.255.240$
- Network ID: **130.4.5.96**
- Usable IP range: **130.4.5.97-130.4.5.110**
- Broadcast Address: **130.4.5.111**

VLAN 58 (SwitchMge):

- Number of hosts: 10. But as mentioned for scalability purposes another 10 hosts have been added to the management VLAN. We have to borrow 5 bits for host ($32-2 = 30$ hosts), where “2” is the no. of addresses allocated to network address and the broadcast address.
- Number of bits for network: $32\text{bits} - 5\text{ bits} = 27\text{ bits}$
- Subnet Mask: $27\text{ bits} = 255.255.255.224$
- Network ID: **130.4.5.64**
- Usable IP range: **130.4.5.65-130.4.5.94**
- Broadcast Address: **130.4.5.95**

Subnetting Table:

Sub networks	VLAN 14 (Pizzas)	VLAN 15 (Pies)	VLAN 16 (Burgers)	VLAN 17 (Salads)	VLAN 58 (SwitchMge)
Dept LAN	LAN 1	LAN 2	LAN 3	LAN 4	SwitchMge LAN
Number of hosts	1000	250	58	10	20
Network ID	130.4.0.0	130.4.4.0	130.4.5.0	130.4.5.64	141.4.5.96
Subnet mask	255.255.252.0	255.255.255.0	255.255.255.192	255.255.255.240	255.255.255.224
First usable address	130.4.0.1	130.4.4.1	130.4.5.1	130.4.5.97	130.4.5.65
Last usable address	130.4.3.254	130.4.4.254	130.4.5.62	130.4.5.110	130.4.5.94
Broadcast address	130.4.3.255	130.4.4.255	130.4.5.63	130.4.5.111	130.4.5.95

Network Diagram:

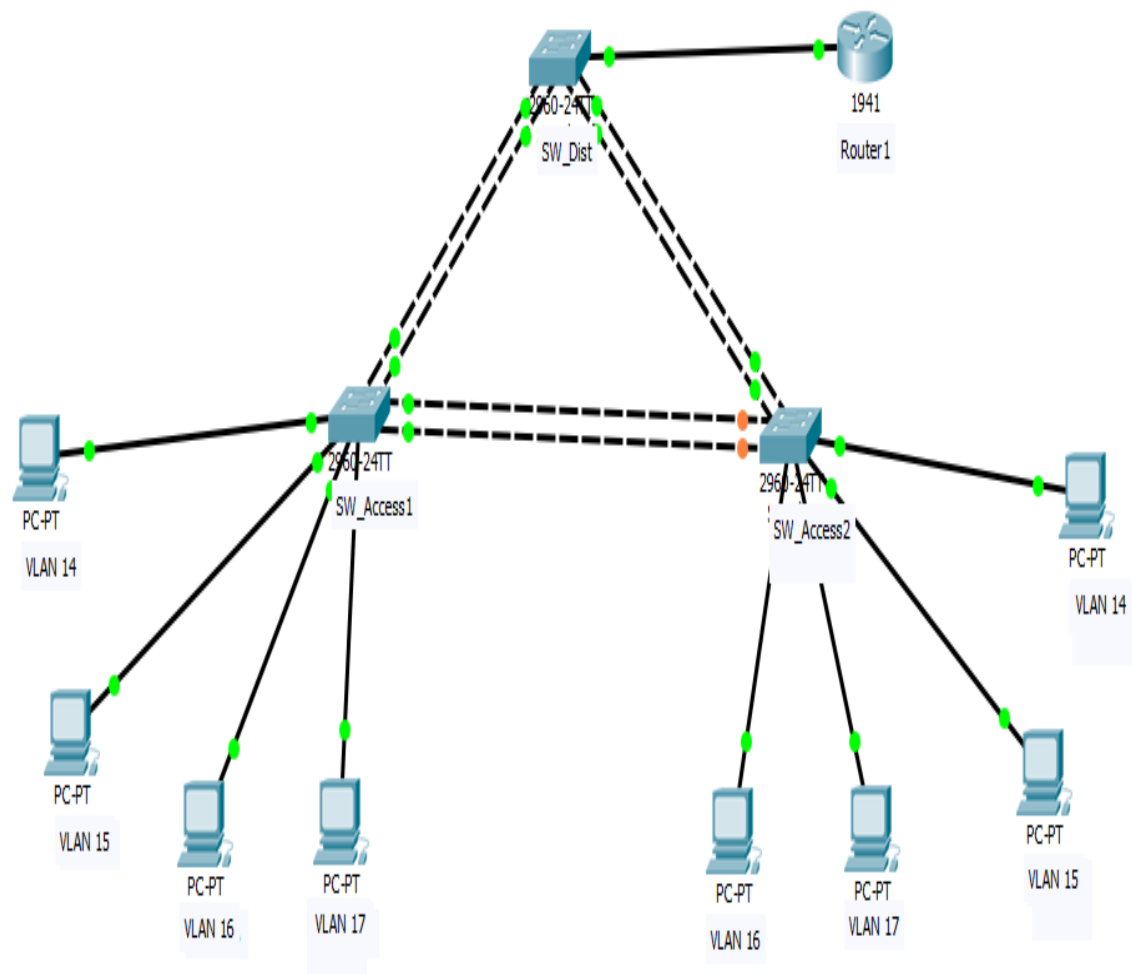


Fig: Network Diagram

Below is the complete description of the Network topology.

Device Configuration Summary:

	Router	Switch1	Switch2	Switch3
Hostname	Router1	SW_Dist	SW_Access1	SW_Access2
Console Password	casestudy	casestudy	casestudy	casestudy
Enable Password	casestudy	casestudy	casestudy	casestudy
SSH Information	Username: 101985810 Password: 101985810	Username: 101985810 Password: 101985810	Username: 101985810 Password: 101985810	Username: 101985810 Password: 101985810
Banner MOTD	***** Welcome to the Fastest food Ltd *****	***** Welcome to the Fastest food Ltd *****	***** Welcome to the Fastest food Ltd *****	***** Welcome to the Fastest food Ltd *****

Addressing Table:

Device	Interface	IP Address	Subnet Mask	Default Gateway
Router1	f0/0.14	130.4.0.1	255.255.252.0	N/A
	f0/0.15	130.4.4.1	255.255.255.0	N/A
	f0/0.16	130.4.5.1	255.255.255.192	N/A
	f0/0.17	130.4.5.97	255.255.255.240	N/A
	f0/0.58	130.4.5.65	255.255.255.224	N/A
SW_Dist	Vlan 58	130.4.5.66	255.255.255. 224	130.4.5. 65
SW_Access1	Vlan 58	130.4.5.67	255.255.255. 224	130.4.5. 65
SW_Access2	Vlan 58	130.4.5.68	255.255.255. 224	130.4.5. 65

4.2. Interface Descriptions:

	SW_Access1	SW_Access2	SW_Dist
Int f0/1	Connected to interface f0/1-SW_Dist	Connected to interface f0/3-SW_Access1	Connected to interface f0/1-SW_Access1
Int f0/2	Connected to interface f0/2-SW_Dist	Connected to interface f0/4- SW_Access1	Connected to interface f0/2-SW_Access1
Int f0/3	Connected to interface f0/1-SW_Access2	Connected to interface f0/3-SW_Dist	Connected to interface f0/3-SW_Access2
Int f0/4	Connected to interface f0/2-SW_Access2	Connected to interface f0/4-SW_Dist	Connected to interface f0/4-SW_Access2
Int f0/5	N/A	N/A	Connected to interface g0/0-Router1
Int f0/14	Connected to VLAN 14 PC	Connected to VLAN 14 PC	N/A
Int f0/15	Connected to VLAN 15 PC	Connected to VLAN 15 PC	N/A
Int f0/16	Connected to VLAN 16 PC	Connected to VLAN 16 PC	N/A
Int f0/17	Connected to VLAN 17 PC	Connected to VLAN 17 PC	N/A

Design Discussion:

Switchport Allocation:

In both the access switch we have allocated the following ports as Access Ports to different VLANs

VLANs	Access Ports for both Access Layer Swithes
VLAN 14 (Pizzas)	Fa0/14
VLAN 15 (Pies)	Fa0/15
VLAN 16 (Burgers)	Fa0/16
VLAN 17 (Salads)	Fa0/17

Ethernet interfaces can be configured either as access ports or trunk ports.

Trunk carries the movement of different VLANs over a network and enables to expand VLANs over the system. Fa0/1, Fa0/2, Fa0/3, Fa0/4 of both access and distribution layer switches are designed as trunk ports. To effectively carry the movement on a trunk port with a few VLANs, the switch utilizes the IEEE 802.1Q trunking technique. Fa0/14, F0/15, F0/16, F0/17 go about as access ports of both access layer switches. For distribution switch the port range from F0/1-5 is up in which F0/5 is connected to Router1 g0/0 interface in trunk mode.

Securing the Switchport:

The Switchport Port security highlight offers the capacity to arrange a Switchport with the goal that movement can be restricted to just a MAC address or rundown of MAC addresses. For this situation ponder we have utilized confine mode in which case if some other PC other than the one in Mac-table of the Switch Interface tries to get to the switch, the Switchport limits the correspondence.

For this project, for securing the switch ports all the unused ports were administratively shutdown. Those allowed ports were configured using port-security in such a way that only two mac-address are allowed. If other than 2 mac address tries to join the port than the packets are immediately drop down and report to administrator.

The Command used in the interfaces were:

- Switchport port-security maximum N
This allows maximum of N user to access the port in this case N=2
- Switchport port-security violation restrict
This immediately drop the packet and report to administrator.

Spanning Tree implementation:

- The Spanning Tree Protocol (STP) is a system convention that guarantees a circle free topology for any crossed over Ethernet neighbourhood.
- Spanning-Tree Protocol executes the 802.1D IEEE calculation by trading Bridge Protocol Data Units [BPDU] messages with different changes to distinguish circles.
- Spanning tree additionally permits a system configuration to incorporate extra connects to give programmed reinforcement ways if a dynamic connection falls flat, without the threat of extension loop, or the requirement for manual empowering/crippling of these reinforcement joins.

A loop is framed by the two connections between the switches. Yet, in Cisco Switches, naturally this loop is distinguished and STP is executed so one of the two connections will be impaired consequently.

For our situation consider, we have executed PVST+ and designed Distribution Switch as the Primary Root Bridge. This difference in root connect additionally brought about difference in Bridge ID Priority.

EtherChannel Bundling:

EtherChannel Bundling is finished using Link aggregation control protocol (LACP), which pairs the throughput of the system by utilizing both the connections between the switches successfully.

There are two link aggregation protocols LACP and PAGP (Port aggregation protocol).

- PAGP is logical aggregation of two ethernet ports which is Cisco proprietary protocol. It can be configured in two modes, Auto and Desirable. If one switch is in auto aggregation mode, we must configure other switch ethernet port to desirable mode. Cisco advice to use LACP.
- LACP is also another aggregation protocol which is IEEE 802.3ad standard and it is configured in two modes, Active and Passive modes.

We have chosen LACP link aggregation protocol because it is supported across all vendors. Here sw_Dist is in active mode for Po1 and passive for Po3. Similarly, sw_Access1 is in passive mode for Po1 and active for Po2. And sw_Access2 is in passive mode for Po2 and active for Po3.

- Po1 is link aggregation between port F0/1 and F0/2 of sw_Dist in active mode which is connected to port F0/1 and F0/2 of sw_Access1 in Passive mode. This link is in trunk mode.

- Po2 is link aggregation between port F0/3 and F0/4 of sw_Access1 in active mode which is connected to port F0/1 and F0/2 of sw_Access2 in Passive mode. This link is in trunk mode.
- Po3 is link aggregation between port F0/3 and F0/4 of sw_Dist in passive mode which is connected to port F0/3 and F0/4 of sw_Access1 in Active mode. This link is in trunk mode.

Testing:

Inter-VLAN Communication:

Since we have outlined a system with distinctive Vlans-14,15,16,17 for PC Hosts. We additionally need to ensure that the PCs in each VLAN ought to speak with PCs in various VLANs. In any case, there is no requirement of giving required number of host to the system, so we simply utilized four PCs in four different VLANs associated with Switch_Access1 and 4 Pcs in various VLANs associated with Switch_Access2.

Ping was successful for the following addresses:

Source Address	Destination Address
130.4.3.0 (SW_Access1-int f0/14)	130.4.3.1(SW_Access2-int f0/14)
130.4.3.0 (SW_Access1-int f0/14)	130.4.4.4 (SW_Access2-int f0/15)
130.4.3.0 (SW_Access1-int f0/14)	130.4.5.4 (SW_Access2-int f0/16)
130.4.3.0 (SW_Access1-int f0/14)	130.4.5.104(SW_Access2-int f0/17)
140.4.3.1SW_Access2-int f0/14)	130.4.3.0(SW_Access1-int f0/14)
140.4.3.1 (SW_Access2-int f0/14)	130.4.4.3(SW_Access1-int f0/15)
140.4.3.1 (SW_Access2-int f0/14)	130.4.5.3(SW_Access1-int f0/16)
140.4.3.1 (SW_Access2-int f0/14)	130.4.5.103(SW_Access1-int f0/17)

In the above table, we have displayed ping results from only VLAN 14 to all other VLANs. So obviously it should be able to ping vice versa.

Console and Enable password

User Access Verification

Password:

SW_Dist>en

Password:

Every switch and router will ask for the console password and after successful console login, it again ask for enable password.

SSH testing

```
Packet Tracer PC Command Line 1.0
C:\>ssh -l 101985810 130.4.5.65
Open
Password:

*****Welcome to THE FASTEST FOOD LTD*****

Router1#
```

The PC connected in VLAN 14 accessing Router1 console. Similarly, SSH on other switches are also working.

EtherChannel Testing

Sw_Dist# sh etherchannel summary

```
SW_Dist#sh etherchannel summary
Flags:  D - down          P - in port-channel
        I - stand-alone  s - suspended
        H - Hot-standby  (LACP only)
        R - Layer3       S - Layer2
        U - in use       f - failed to allocate aggregator
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port
```

```
Number of channel-groups in use: 2
Number of aggregators:           2
```

Group	Port-channel	Protocol	Ports
1	Po1(SU)	LACP	Fa0/1(P) Fa0/2(P)
3	Po3(SU)	LACP	Fa0/3(P) Fa0/4(P)

Above figure shows that the EtherChannel between sw_Dist and sw_Access1 is working via port channel Po1 and showing EtherChannel between sw_Dist and sw_Access2 is working via Po3 port channel using LACP protocol.

Similarly, displaying below figures for sw_Access1 and sw_Acces2 using same command

Sw_Access1# sh etherchannel summary

```
SW_Access1#sh etherchannel summary
Flags:  D - down          P - in port-channel
        I - stand-alone  s - suspended
        H - Hot-standby (LACP only)
        R - Layer3       S - Layer2
        U - in use       f - failed to allocate aggregator
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port
```

```
Number of channel-groups in use: 2
Number of aggregators:          2
```

Group	Port-channel	Protocol	Ports
1	Po1(SU)	LACP	Fa0/1(P) Fa0/2(P)
2	Po2(SU)	LACP	Fa0/3(P) Fa0/4(P)

Sw_Access2# sh etherchannel summary

```
SW_Access2#sh etherchannel summary
Flags:  D - down          P - in port-channel
        I - stand-alone  s - suspended
        H - Hot-standby (LACP only)
        R - Layer3       S - Layer2
        U - in use       f - failed to allocate aggregator
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port
```

```
Number of channel-groups in use: 2
Number of aggregators:          2
```

Group	Port-channel	Protocol	Ports
2	Po2(SU)	LACP	Fa0/1(P) Fa0/2(P)
3	Po3(SU)	LACP	Fa0/3(P) Fa0/4(P)

From above figures clearly shows that EtherChannel Po1, Po2, Po3 are all working on all three switches.

Redundant Links Testing

Each switch is interlinked with two connections. If one of the connection flats down between any two switches, then the other link acts as redundant link i.e., the other link should be able

to transfer data between those switches. To test redundant links, turn down the 3 links of sw_Access1 and it should be able to ping one of the switches.

Test 1

a)

i) In sw_Access1 start a continuous ping to Router1

ii) Power off the sw_Access2

Does lanSw1 still reach the Router1? ANS: Yes

Power up the sw_Access2

b) Repeat Test 1 but swapping the sw_Access1 and sw_Access2 Does sw_Access2 still reach the Router1? ANS: Yes.

Power up the sw_Access1

This shows that Redundant Links connected to ports are working.

Spanning Tree Testing

Sw_Dist# sh spanning-tree

```
SW_Dist#sh spanning-tree
VLAN0001
  Spanning tree enabled protocol rstp
  Root ID    Priority    24577
             Address    0001.9771.86B1
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24577 (priority 24576 sys-id-ext 1)
             Address    0001.9771.86B1
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/5        Desg FWD 19       128.5    P2p
Po1          Desg FWD 9        128.27   Shr
Po3          Desg FWD 9        128.28   Shr

VLAN0014
  Spanning tree enabled protocol rstp
  Root ID    Priority    24590
             Address    0001.9771.86B1
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24590 (priority 24576 sys-id-ext 14)
             Address    0001.9771.86B1
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/5        Desg FWD 19       128.5    P2p
Po1          Desg FWD 9        128.27   Shr
Po3          Desg FWD 9        128.28   Shr

VLAN0015
  Spanning tree enabled protocol rstp
  Root ID    Priority    24591
             Address    0001.9771.86B1
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24591 (priority 24576 sys-id-ext 15)
             Address    0001.9771.86B1
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20
```

The above figure shows that the distribution layer switch sw_Dist which was forced root primary for all VLAN 1,14,15,16,17,58 has Bridge ID 24590 which is also a Root ID.

APPENDIX-Router1:

1.show version

Router1#sh version

Cisco IOS Software, C1900 Software (C1900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE SOFTWARE (fc2)

Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 23-Feb-11 14:19 by pt_team

ROM: System Bootstrap, Version 15.1(4)M4, RELEASE SOFTWARE (fc1)
cisco1941 uptime is 32 minutes, 5 seconds
System returned to ROM by power-on
System image file is "flash0:c1900-universalk9-mz.SPA.151-1.M4.bin"
Last reload type: Normal Reload

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.
Cisco CISCO1941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

License Info:

License UDI:

Device# PID SN

*0 CISCO1941/K9 FTX1524E7A4

Technology Package License Information for Module:'c1900'

Technology Technology-package Technology-package
Current Type Next reboot

ipbase ipbasek9 Permanent ipbasek9
security disable None None
data disable None None

Configuration register is 0x2102

2.show running-config:

Router1#sh running-config
Building configuration...

Current configuration : 1616 bytes

```
!  
version 15.1  
no service timestamps log datetime msec  
no service timestamps debug datetime msec  
no service password-encryption  
!  
hostname Router1  
!  
!  
!  
enable secret 5 $1$mERr$Ew2HaMSG20CO6XNygLd66/  
!  
!  
!  
!  
!  
!  
ip cef  
no ipv6 cef  
!  
!  
!  
username 101985810 privilege 15 secret 5 $1$mERr$1HVbVDorBrABKegNwTDkJ/  
!  
!  
license udi pid CISCO1941/K9 sn FTX1524E7A4  
!  
!  
!
```

```

!
!
!
!
!
!
ip domain-name fastestFood.casestudy
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0
no ip address
duplex auto
speed auto
!
interface GigabitEthernet0/0.14
description Subinterface of Vlan 14 Pizzas
encapsulation dot1Q 14
ip address 130.4.0.1 255.255.252.0
!
interface GigabitEthernet0/0.15
description connected to VLAN 15 Pies
encapsulation dot1Q 15
ip address 130.4.4.1 255.255.255.0
!
interface GigabitEthernet0/0.16
description Subinterface VLAN 16 Burgers
encapsulation dot1Q 16
ip address 130.4.5.1 255.255.255.192
!
interface GigabitEthernet0/0.17
description Subinterface VLAN 17 Salads
encapsulation dot1Q 17
ip address 130.4.5.97 255.255.255.240
!
interface GigabitEthernet0/0.58
description Subinterface of SwitchMge Vlan 58
encapsulation dot1Q 58

```

```

ip address 130.4.5.65 255.255.255.224
!
interface GigabitEthernet0/1
no ip address
duplex auto
speed auto
shutdown
!
interface Vlan1
no ip address
shutdown
!
ip classless
!
ip flow-export version 9
!
!
!
banner motd ^C*****Welcome to THE FASTEST FOOD LTD*****^C
!
!
!
!
line con 0
password casestudy
login
!
line aux 0
!
line vty 0 4
login local
transport input ssh
line vty 5 15
login local
transport input ssh
!
!
!
End

```

3.Show ip interface brief

```

Router1#sh ip int brief
Interface IP-Address OK? Method Status Protocol
GigabitEthernet0/0 unassigned YES unset up up

```

GigabitEthernet0/0.14 130.4.0.1 YES manual up up
GigabitEthernet0/0.15 130.4.4.1 YES manual up up
GigabitEthernet0/0.16 130.4.5.1 YES manual up up
GigabitEthernet0/0.17 130.4.5.97 YES manual up up
GigabitEthernet0/0.58 130.4.5.65 YES manual up up
GigabitEthernet0/1 unassigned YES unset administratively down down
Vlan1 unassigned YES unset administratively down down

4.*show ip route*

Router1#sh ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set

130.4.0.0/16 is variably subnetted, 10 subnets, 6 masks
C 130.4.0.0/22 is directly connected, GigabitEthernet0/0.14
L 130.4.0.1/32 is directly connected, GigabitEthernet0/0.14
C 130.4.4.0/24 is directly connected, GigabitEthernet0/0.15
L 130.4.4.1/32 is directly connected, GigabitEthernet0/0.15
C 130.4.5.0/26 is directly connected, GigabitEthernet0/0.16
L 130.4.5.1/32 is directly connected, GigabitEthernet0/0.16
C 130.4.5.64/27 is directly connected, GigabitEthernet0/0.58
L 130.4.5.65/32 is directly connected, GigabitEthernet0/0.58
C 130.4.5.96/28 is directly connected, GigabitEthernet0/0.17
L 130.4.5.97/32 is directly connected, GigabitEthernet0/0.17

APPENDIX-Switch_Dist:

1.*show version*

SW_Dist#sh version

Cisco IOS Software, C2960 Software (C2960-LANBASE-M), Version 12.2(25)FX,
RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 12-Oct-05 22:05 by pt_team

ROM: C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)FX, RELEASE
SOFTWARE (fc4)

System returned to ROM by power-on

Cisco WS-C2960-24TT (RC32300) processor (revision C0) with 21039K bytes of memory.

24 FastEthernet/IEEE 802.3 interface(s)
2 Gigabit Ethernet/IEEE 802.3 interface(s)

63488K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address : 0001.9771.86B1

Motherboard assembly number : 73-9832-06

Power supply part number : 341-0097-02

Motherboard serial number : FOC103248MJ

Power supply serial number : DCA102133JA

Model revision number : B0

Motherboard revision number : C0

Model number : WS-C2960-24TT

System serial number : FOC1033Z1EY

Top Assembly Part Number : 800-26671-02

Top Assembly Revision Number : B0

Version ID : V02

CLEI Code Number : COM3K00BRA

Hardware Board Revision Number : 0x01

Switch Ports Model SW Version SW Image

* 1 26 WS-C2960-24TT 12.2 C2960-LANBASE-M

Configuration register is 0xF

2.show running-config

SW_Dist#sh running-config

Building configuration...

Current configuration : 3207 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

```

no service password-encryption
!
hostname SW_Dist
!
enable secret 5 $1$mERr$Ew2HaMSG20CO6XNygLd66/
!
!
!
no ip domain-lookup
ip domain-name fastestFood.casestudy
!
username 101985810 secret 5 $1$mERr$1HVbVDorBrABKegNwTDkJ/
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
spanning-tree vlan 1,14-17,58 priority 24576
!
interface Port-channel1
switchport trunk native vlan 58
switchport mode trunk
!
interface Port-channel3
switchport trunk native vlan 58
switchport mode trunk
!
interface FastEthernet0/1
switchport trunk native vlan 58
switchport mode trunk
channel-group 1 mode active
!
interface FastEthernet0/2
switchport trunk native vlan 58
switchport mode trunk
channel-group 1 mode active
!
interface FastEthernet0/3
switchport trunk native vlan 58
switchport mode trunk
channel-group 3 mode passive
!
interface FastEthernet0/4
switchport trunk native vlan 58
switchport mode trunk

```

```
channel-group 3 mode passive
!
interface FastEthernet0/5
description Connected to router
switchport mode trunk
!
interface FastEthernet0/6
description Ports not in use
shutdown
!
interface FastEthernet0/7
description Ports not in use
shutdown
!
interface FastEthernet0/8
description Ports not in use
shutdown
!
interface FastEthernet0/9
description Ports not in use
shutdown
!
interface FastEthernet0/10
description Ports not in use
shutdown
!
interface FastEthernet0/11
description Ports not in use
shutdown
!
interface FastEthernet0/12
description Ports not in use
shutdown
!
interface FastEthernet0/13
description Ports not in use
shutdown
!
interface FastEthernet0/14
description Ports not in use
shutdown
!
interface FastEthernet0/15
description Ports not in use
```



```
shutdown
!
interface FastEthernet0/16
description Ports not in use
shutdown
!
interface FastEthernet0/17
description Ports not in use
shutdown
!
interface FastEthernet0/18
description Ports not in use
shutdown
!
interface FastEthernet0/19
description Ports not in use
shutdown
!
interface FastEthernet0/20
description Ports not in use
shutdown
!
interface FastEthernet0/21
description Ports not in use
shutdown
!
interface FastEthernet0/22
description Ports not in use
shutdown
!
interface FastEthernet0/23
description Ports not in use
shutdown
!
interface FastEthernet0/24
description Ports not in use
shutdown
!
interface GigabitEthernet0/1
description Ports not in use
shutdown
!
interface GigabitEthernet0/2
description Ports not in use
```

```

shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan14
mac-address 0001.9771.8601
no ip address
!
interface Vlan15
mac-address 0001.9771.8602
no ip address
!
interface Vlan16
mac-address 0001.9771.8603
no ip address
!
interface Vlan17
mac-address 0001.9771.8604
no ip address
!
interface Vlan58
mac-address 0001.9771.8605
ip address 130.4.5.66 255.255.255.224
!
ip default-gateway 130.4.5.65
!
banner motd ^C*****Welcome to THE FASTEST FOOD LTD*****^C
!
!
!
line con 0
password casestudy
login
!
line vty 0 4
login local
transport input ssh
line vty 5 15
login local
transport input ssh
!
!

```

!
End

3.showip interface brief

SW_Dist#sh ip int brief

Interface IP-Address OK? Method Status Protocol

Port-channel1 unassigned YES manual up up

Port-channel3 unassigned YES manual up up

FastEthernet0/1 unassigned YES manual up up

FastEthernet0/2 unassigned YES manual up up

FastEthernet0/3 unassigned YES manual up up

FastEthernet0/4 unassigned YES manual up up

FastEthernet0/5 unassigned YES manual up up

FastEthernet0/6 unassigned YES manual administratively down down

FastEthernet0/7 unassigned YES manual administratively down down

FastEthernet0/8 unassigned YES manual administratively down down

FastEthernet0/9 unassigned YES manual administratively down down

FastEthernet0/10 unassigned YES manual administratively down down

FastEthernet0/11 unassigned YES manual administratively down down

FastEthernet0/12 unassigned YES manual administratively down down

FastEthernet0/13 unassigned YES manual administratively down down

FastEthernet0/14 unassigned YES manual administratively down down

FastEthernet0/15 unassigned YES manual administratively down down

FastEthernet0/16 unassigned YES manual administratively down down

FastEthernet0/17 unassigned YES manual administratively down down

FastEthernet0/18 unassigned YES manual administratively down down

FastEthernet0/19 unassigned YES manual administratively down down

FastEthernet0/20 unassigned YES manual administratively down down

FastEthernet0/21 unassigned YES manual administratively down down

FastEthernet0/22 unassigned YES manual administratively down down

FastEthernet0/23 unassigned YES manual administratively down down

FastEthernet0/24 unassigned YES manual administratively down down

GigabitEthernet0/1 unassigned YES manual administratively down down

GigabitEthernet0/2 unassigned YES manual administratively down down

Vlan1 unassigned YES manual administratively down down

Vlan14 unassigned YES manual up up

Vlan15 unassigned YES manual up up

Vlan16 unassigned YES manual up up

Vlan17 unassigned YES manual up up

Vlan58 130.4.5.66 YES manual up up

4.Sh Vlan brief:

SW_Dist#sh vlan brief

VLAN Name Status Ports

1 default active Fa0/6, Fa0/7, Fa0/8, Fa0/9
Fa0/10, Fa0/11, Fa0/12, Fa0/13
Fa0/14, Fa0/15, Fa0/16, Fa0/17
Fa0/18, Fa0/19, Fa0/20, Fa0/21
Fa0/22, Fa0/23, Fa0/24, Gig0/1
Gig0/2
14 Pizzas active
15 Pies active
16 Burgers active
17 Salads active
58 SwitchMge active
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active

5.Sh int trunk:

SW_Dist#sh int trunk

Port Mode Encapsulation Status Native vlan

Po1 on 802.1q trunking 58

Po3 on 802.1q trunking 58

Fa0/5 on 802.1q trunking 1

Port Vlans allowed on trunk

Po1 1-1005

Po3 1-1005

Fa0/5 1-1005

Port Vlans allowed and active in management domain

Po1 1,14,15,16,17,58

Po3 1,14,15,16,17,58

Fa0/5 1,14,15,16,17,58

Port Vlans in spanning tree forwarding state and not pruned

Po1 1,14,15,16,17,58

Po3 1,14,15,16,17,58

Fa0/5 1,14,15,16,17,58

APPENDIX-Switch_Access1:

1.sh version

SW_Access1#sh version

Cisco IOS Software, C2960 Software (C2960-LANBASE-M), Version 12.2(25)FX,
RELEASE SOFTWARE (fc1)

Copyright (c) 1986-2005 by Cisco Systems, Inc.

Compiled Wed 12-Oct-05 22:05 by pt_team

ROM: C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)FX, RELEASE
SOFTWARE (fc4)

System returned to ROM by power-on

Cisco WS-C2960-24TT (RC32300) processor (revision C0) with 21039K bytes of memory.

24 FastEthernet/IEEE 802.3 interface(s)

2 Gigabit Ethernet/IEEE 802.3 interface(s)

63488K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address : 000A.F38E.407A

Motherboard assembly number : 73-9832-06

Power supply part number : 341-0097-02

Motherboard serial number : FOC103248MJ

Power supply serial number : DCA102133JA

Model revision number : B0

Motherboard revision number : C0

Model number : WS-C2960-24TT

System serial number : FOC1033Z1EY

Top Assembly Part Number : 800-26671-02

Top Assembly Revision Number : B0

Version ID : V02

CLEI Code Number : COM3K00BRA

Hardware Board Revision Number : 0x01

Switch Ports Model SW Version SW Image

* 1 26 WS-C2960-24TT 12.2 C2960-LANBASE-M

Configuration register is 0xF

2.sh running-config

SW_Access1#sh running-config

Building configuration...

Current configuration : 3788 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname SW_Access1

!

enable secret 5 \$1\$mERr\$Ew2HaMSG20CO6XNygLd66/

!

!

!

ip domain-name fastestFood.casestudy

!

username 101985810 secret 5 \$1\$mERr\$1HVbVDorBrABKegNwTDkJ/

!

!

spanning-tree mode rapid-pvst

spanning-tree extend system-id

!

interface Port-channel1

switchport trunk native vlan 58

switchport mode trunk

!

interface Port-channel2

switchport trunk native vlan 58

switchport mode trunk

!

interface FastEthernet0/1

switchport trunk native vlan 58

switchport mode trunk

channel-group 1 mode passive

!

interface FastEthernet0/2

```
switchport trunk native vlan 58
switchport mode trunk
channel-group 1 mode passive
!
interface FastEthernet0/3
switchport trunk native vlan 58
switchport mode trunk
channel-group 2 mode active
!
interface FastEthernet0/4
switchport trunk native vlan 58
switchport mode trunk
channel-group 2 mode active
!
interface FastEthernet0/5
description Ports not in use
shutdown
!
interface FastEthernet0/6
description Ports not in use
shutdown
!
interface FastEthernet0/7
description Ports not in use
shutdown
!
interface FastEthernet0/8
description Ports not in use
shutdown
!
interface FastEthernet0/9
description Ports not in use
shutdown
!
interface FastEthernet0/10
description Ports not in use
shutdown
!
interface FastEthernet0/11
description Ports not in use
shutdown
!
interface FastEthernet0/12
description Ports not in use
```

```

shutdown
!
interface FastEthernet0/13
description Ports not in use
shutdown
!
interface FastEthernet0/14
description PC connected to vlan 14 Pizzas
switchport access vlan 14
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/15
description PC connected to VLAN 15 Pies
switchport access vlan 15
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/16
description PC connected to vlan 16 Burgers
switchport access vlan 16
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/17
description PC connected to vlan 17 Salads
switchport access vlan 17
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/18
description Ports not in use
shutdown
!
interface FastEthernet0/19
description Ports not in use

```



```
shutdown
!
interface FastEthernet0/20
description Ports not in use
shutdown
!
interface FastEthernet0/21
description Ports not in use
shutdown
!
interface FastEthernet0/22
description Ports not in use
shutdown
!
interface FastEthernet0/23
description Ports not in use
shutdown
!
interface FastEthernet0/24
description Ports not in use
shutdown
!
interface GigabitEthernet0/1
description Ports not in use
shutdown
!
interface GigabitEthernet0/2
description Ports not in use
shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan14
mac-address 000a.f38e.4001
no ip address
!
interface Vlan15
mac-address 000a.f38e.4002
no ip address
!
interface Vlan16
mac-address 000a.f38e.4003
```

```

no ip address
!
interface Vlan17
mac-address 000a.f38e.4004
no ip address
!
interface Vlan58
mac-address 000a.f38e.4005
ip address 130.4.5.67 255.255.255.224
!
ip default-gateway 130.4.5.65
!
banner motd ^C*****Welcome to THE FASTEST FOOD LTD*****^C
!
!
!
line con 0
password casestudy
login
!
line vty 0 4
login local
transport input ssh
line vty 5 15
login local
transport input ssh
!
!
!
end

```

3.sh ip interface brief

```

SW_Access1#sh ip int brief
Interface IP-Address OK? Method Status Protocol
Port-channel1 unassigned YES manual up up
Port-channel2 unassigned YES manual up up
FastEthernet0/1 unassigned YES manual up up
FastEthernet0/2 unassigned YES manual up up
FastEthernet0/3 unassigned YES manual up up
FastEthernet0/4 unassigned YES manual up up
FastEthernet0/5 unassigned YES manual administratively down down
FastEthernet0/6 unassigned YES manual administratively down down
FastEthernet0/7 unassigned YES manual administratively down down

```

FastEthernet0/8 unassigned YES manual administratively down down
 FastEthernet0/9 unassigned YES manual administratively down down
 FastEthernet0/10 unassigned YES manual administratively down down
 FastEthernet0/11 unassigned YES manual administratively down down
 FastEthernet0/12 unassigned YES manual administratively down down
 FastEthernet0/13 unassigned YES manual administratively down down
 FastEthernet0/14 unassigned YES manual up up
 FastEthernet0/15 unassigned YES manual up up
 FastEthernet0/16 unassigned YES manual up up
 FastEthernet0/17 unassigned YES manual up up
 FastEthernet0/18 unassigned YES manual administratively down down
 FastEthernet0/19 unassigned YES manual administratively down down
 FastEthernet0/20 unassigned YES manual administratively down down
 FastEthernet0/21 unassigned YES manual administratively down down
 FastEthernet0/22 unassigned YES manual administratively down down
 FastEthernet0/23 unassigned YES manual administratively down down
 FastEthernet0/24 unassigned YES manual administratively down down
 GigabitEthernet0/1 unassigned YES manual administratively down down
 GigabitEthernet0/2 unassigned YES manual administratively down down
 Vlan1 unassigned YES manual administratively down down
 Vlan14 unassigned YES manual up up
 Vlan15 unassigned YES manual up up
 Vlan16 unassigned YES manual up up
 Vlan17 unassigned YES manual up up
 Vlan58 130.4.5.67 YES manual up up

4.Sh Vlan brief:

SW_Access1#sh vlan brief

VLAN Name Status Ports

 1 default active Fa0/5, Fa0/6, Fa0/7, Fa0/8
 Fa0/9, Fa0/10, Fa0/11, Fa0/12
 Fa0/13, Fa0/18, Fa0/19, Fa0/20
 Fa0/21, Fa0/22, Fa0/23, Fa0/24
 Gig0/1, Gig0/2
 14 Pizzas active Fa0/14
 15 Pies active Fa0/15
 16 Burgers active Fa0/16
 17 Salads active Fa0/17
 58 SwitchMge active
 1002 fddi-default active

1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active

5.Sh int trunk:

SW_Access1#sh int trunk
Port Mode Encapsulation Status Native vlan
Po1 on 802.1q trunking 58
Po2 on 802.1q trunking 58

Port Vlans allowed on trunk
Po1 1-1005
Po2 1-1005

Port Vlans allowed and active in management domain
Po1 1,14,15,16,17,58
Po2 1,14,15,16,17,58

Port Vlans in spanning tree forwarding state and not pruned
Po1 1,14,15,16,17,58
Po2 1,14,15,16,17,58

APPENDIX-Switch_Access2:

1.sh version

SW_Access2#sh version
Cisco IOS Software, C2960 Software (C2960-LANBASE-M), Version 12.2(25)FX,
RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 12-Oct-05 22:05 by pt_team

ROM: C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)FX, RELEASE
SOFTWARE (fc4)

System returned to ROM by power-on

Cisco WS-C2960-24TT (RC32300) processor (revision C0) with 21039K bytes of memory.

24 FastEthernet/IEEE 802.3 interface(s)
2 Gigabit Ethernet/IEEE 802.3 interface(s)

63488K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address : 0060.700D.970C

Motherboard assembly number : 73-9832-06
Power supply part number : 341-0097-02
Motherboard serial number : FOC103248MJ
Power supply serial number : DCA102133JA
Model revision number : B0
Motherboard revision number : C0
Model number : WS-C2960-24TT
System serial number : FOC1033Z1EY
Top Assembly Part Number : 800-26671-02
Top Assembly Revision Number : B0
Version ID : V02
CLEI Code Number : COM3K00BRA
Hardware Board Revision Number : 0x01

Switch Ports Model SW Version SW Image

* 1 26 WS-C2960-24TT 12.2 C2960-LANBASE-M

Configuration register is 0xF

2.Sh running-config:

SW_Access2#sh running-config
Building configuration...

Current configuration : 3782 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname SW_Access2

!

enable secret 5 \$1\$mERr\$Ew2HaMSG20CO6XNygLd66/

!

!

!

ip domain-name fastestFood.casestudy

!

username 101985810 secret 5 \$1\$mERr\$1HVbVDorBrABKegNwTDkJ/

!

!

spanning-tree mode rapid-pvst

```
spanning-tree extend system-id
!
interface Port-channel2
switchport trunk native vlan 58
switchport mode trunk
!
interface Port-channel3
switchport trunk native vlan 58
switchport mode trunk
!
interface FastEthernet0/1
switchport trunk native vlan 58
switchport mode trunk
channel-group 2 mode passive
!
interface FastEthernet0/2
switchport trunk native vlan 58
switchport mode trunk
channel-group 2 mode passive
!
interface FastEthernet0/3
switchport trunk native vlan 58
switchport mode trunk
channel-group 3 mode active
!
interface FastEthernet0/4
switchport trunk native vlan 58
switchport mode trunk
channel-group 3 mode active
!
interface FastEthernet0/5
description Ports not in use
shutdown
!
interface FastEthernet0/6
description Ports not in use
shutdown
!
interface FastEthernet0/7
description Ports not in use
shutdown
!
interface FastEthernet0/8
description Ports not in use
```

```

shutdown
!
interface FastEthernet0/9
description Ports not in use
shutdown
!
interface FastEthernet0/10
description Ports not in use
shutdown
!
interface FastEthernet0/11
description Ports not in use
shutdown
!
interface FastEthernet0/12
description Ports not in use
shutdown
!
interface FastEthernet0/13
description Ports not in use
shutdown
!
interface FastEthernet0/14
description PC connected to VLAN 14 Pizzas
switchport access vlan 14
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/15
description PC connected to vlan 15 Pies
switchport access vlan 15
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/16
description PC connected to VLAN 16 Burgers
switchport access vlan 16
switchport mode access
switchport port-security
switchport port-security maximum 2

```

```
switchport port-security violation restrict
!
interface FastEthernet0/17
description PC connected to VLAN 17 Salads
switchport access vlan 17
switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security violation restrict
!
interface FastEthernet0/18
description Ports not in use
shutdown
!
interface FastEthernet0/19
description Ports not in use
shutdown
!
interface FastEthernet0/20
description Ports not in use
shutdown
!
interface FastEthernet0/21
description Ports not in use
shutdown
!
interface FastEthernet0/22
description Ports not in use
shutdown
!
interface FastEthernet0/23
description Ports not in use
shutdown
!
interface FastEthernet0/24
description Ports not in use
shutdown
!
interface GigabitEthernet0/1
description Ports not in use
shutdown
!
interface GigabitEthernet0/2
description Ports not in use
```



```

shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan14
mac-address 0060.700d.9701
no ip address
!
interface Vlan15
mac-address 0060.700d.9702
no ip address
!
interface Vlan16
mac-address 0060.700d.9703
no ip address
!
interface Vlan17
mac-address 0060.700d.9704
no ip address
!
interface Vlan58
mac-address 0060.700d.9705
ip address 130.4.5.68 255.255.255.224
!
ip default-gateway 130.4.5.65
!
banner motd ^C*****Welcome to THE FASTEST FOOD LTD*****^C
!
!
!
line con 0
password casestudy
login
!
line vty 0 4
login local
transport input ssh
line vty 5 15
login local
transport input ssh
!
!

```

!
End

3.Sh ip int brief:

SW_Access2#sh ip int brief

Interface IP-Address OK? Method Status Protocol

Port-channel2 unassigned YES manual up up

Port-channel3 unassigned YES manual up up

FastEthernet0/1 unassigned YES manual up up

FastEthernet0/2 unassigned YES manual up up

FastEthernet0/3 unassigned YES manual up up

FastEthernet0/4 unassigned YES manual up up

FastEthernet0/5 unassigned YES manual administratively down down

FastEthernet0/6 unassigned YES manual administratively down down

FastEthernet0/7 unassigned YES manual administratively down down

FastEthernet0/8 unassigned YES manual administratively down down

FastEthernet0/9 unassigned YES manual administratively down down

FastEthernet0/10 unassigned YES manual administratively down down

FastEthernet0/11 unassigned YES manual administratively down down

FastEthernet0/12 unassigned YES manual administratively down down

FastEthernet0/13 unassigned YES manual administratively down down

FastEthernet0/14 unassigned YES manual up up

FastEthernet0/15 unassigned YES manual up up

FastEthernet0/16 unassigned YES manual up up

FastEthernet0/17 unassigned YES manual up up

FastEthernet0/18 unassigned YES manual administratively down down

FastEthernet0/19 unassigned YES manual administratively down down

FastEthernet0/20 unassigned YES manual administratively down down

FastEthernet0/21 unassigned YES manual administratively down down

FastEthernet0/22 unassigned YES manual administratively down down

FastEthernet0/23 unassigned YES manual administratively down down

FastEthernet0/24 unassigned YES manual administratively down down

GigabitEthernet0/1 unassigned YES manual administratively down down

GigabitEthernet0/2 unassigned YES manual administratively down down

Vlan1 unassigned YES manual administratively down down

Vlan14 unassigned YES manual up up

Vlan15 unassigned YES manual up up

Vlan16 unassigned YES manual up up

Vlan17 unassigned YES manual up up

Vlan58 130.4.5.68 YES manual up up

4.Sh Vlan brief:

SW_Access2#sh vlan brief

VLAN Name Status Ports

1 default active Fa0/5, Fa0/6, Fa0/7, Fa0/8
Fa0/9, Fa0/10, Fa0/11, Fa0/12
Fa0/13, Fa0/18, Fa0/19, Fa0/20
Fa0/21, Fa0/22, Fa0/23, Fa0/24
Gig0/1, Gig0/2
14 Pizzas active Fa0/14
15 Pies active Fa0/15
16 Burgers active Fa0/16
17 Salads active Fa0/17
58 SwitchMge active
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active

5.Sh int trunk:

SW_Access2#sh int trunk
Port Mode Encapsulation Status Native vlan
Po2 on 802.1q trunking 58
Po3 on 802.1q trunking 58

Port Vlans allowed on trunk
Po2 1-1005
Po3 1-1005

Port Vlans allowed and active in management domain
Po2 1,14,15,16,17,58
Po3 1,14,15,16,17,58

Port Vlans in spanning tree forwarding state and not pruned
Po2 none
Po3 1,14,15,16,17,58