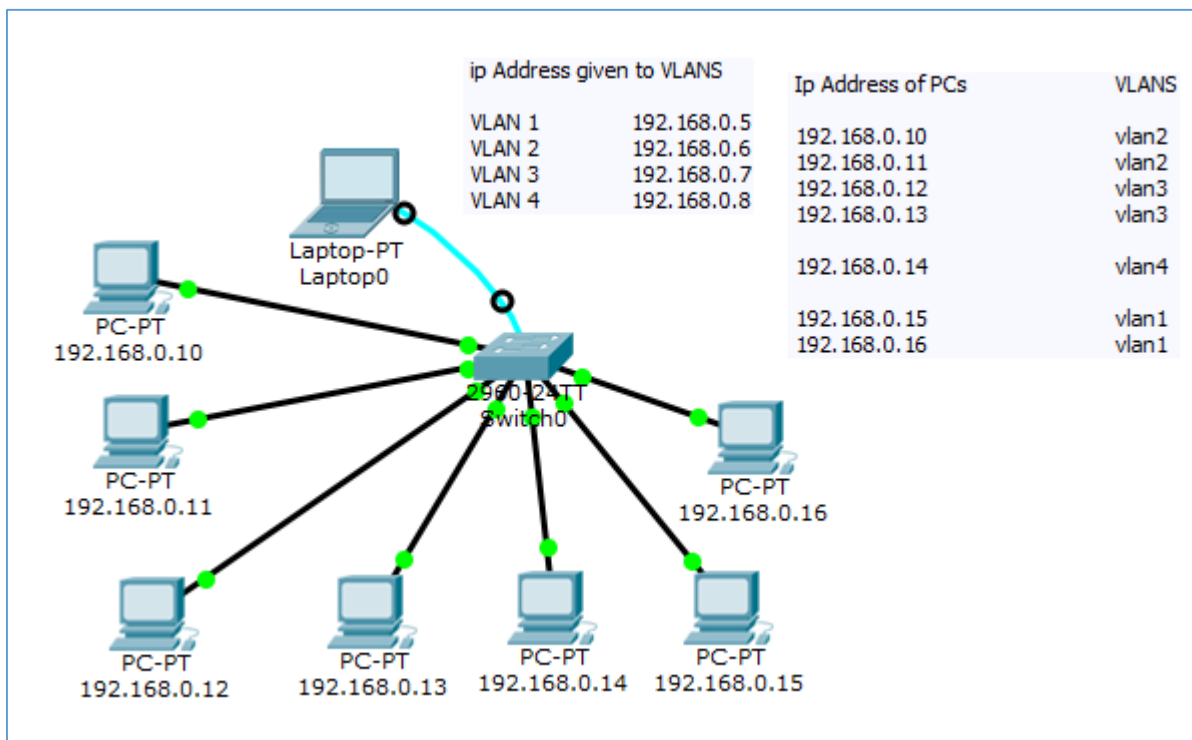## Experiment No. 05

Object: Introduction to VLANs.
a. To create VLANs in Switch using CLI mode.
b. To assign Ip Address to VLANs in Switch using CLI mode.
c. To assign ports of switch to VLANs of Switch using CLI mode. (single or range)

Date: March 03, 2018

Configuration Figure:

Coding:

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#name admin
Switch(config-vlan)#ex
Switch(config)#vlan 3
Switch(config-vlan)#name it
Switch(config-vlan)#ex
Switch(config)#vlan 4
Switch(config-vlan)#name acc
Switch(config-vlan)#ex
Switch(config)#ex
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

```
Switch#
Switch#
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface range fastEthernet 0/1-2
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 2
Switch(config-if-range)#no shutdown
Switch(config-if-range)#ex
Switch(config)#
Switch(config)#interface range fastEthernet 0/3-4
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 3
Switch(config-if-range)#no shutdown
Switch(config-if-range)#ex
Switch(config)#
Switch(config)#interface fastEthernet 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 4
Switch(config-if)#no shutdown
Switch(config-if)#ex
Switch(config)#
Switch(config)#ex
Switch#
%SYS-5-CONFIG_I: Configured from console by console


Switch#show vlan

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
2    admin                            active    Fa0/1, Fa0/2
3    it                               active    Fa0/3, Fa0/4
4    acc                              active    Fa0/5
1002 fddi-default                     act/unsup
1003 token-ring-default               act/unsup
1004 fddinet-default                  act/unsup
1005 trnet-default                    act/unsup

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
2    enet  100002     1500  -      -      -        -    -        0      0
3    enet  100003     1500  -      -      -        -    -        0      0
4    enet  100004     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0
```

```
Remote SPAN VLANs
--------------------------------------------------------------------


Primary Secondary Type            Ports
------- --------- ---------------- ----------------------------------------
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface vlan 2
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan2, changed state to up
Switch(config-if)#ip address 192.168.0.6 255.255.255.0
Switch(config-if)#no shutdown
Switch(config-if)#ex
Switch(config)#interface vlan 3
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan3, changed state to up
Switch(config-if)#ip address 192.168.0.7 255.255.255.0
Switch(config-if)#no shutdown
Switch(config-if)#ex
Switch(config)#interface vlan 4
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan4, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan4, changed state to up
Switch(config-if)#ip address 192.168.0.8 255.255.255.0
Switch(config-if)#no shutdown
Switch(config-if)#ex
Switch(config)#
Switch(config)#ex
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface vlan 1
Switch(config-if)#ip address 192.168.0.5 255.255.255.0
Switch(config-if)#no shutdown
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

Switch(config-if)#ex
Switch(config)#ex
Switch#ex
Switch>

Switch con0 is now available

Press RETURN to get started.


Switch>
```

Command Prompt Result:

```
Packet Tracer PC Command Line 1.0                    VLAN 1
PC>ping 192.168.0.16

Pinging 192.168.0.16 with 32 bytes of data:

Reply from 192.168.0.16: bytes=32 time=25ms TTL=128
Reply from 192.168.0.16: bytes=32 time=19ms TTL=128
Reply from 192.168.0.16: bytes=32 time=1ms TTL=128
Reply from 192.168.0.16: bytes=32 time=36ms TTL=128

Ping statistics for 192.168.0.16:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 36ms, Average = 20ms

PC>ping 192.168.0.15

Pinging 192.168.0.15 with 32 bytes of data:

Reply from 192.168.0.15: bytes=32 time=14ms TTL=128
Reply from 192.168.0.15: bytes=32 time=1ms TTL=128
Reply from 192.168.0.15: bytes=32 time=0ms TTL=128
Reply from 192.168.0.15: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.0.15:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 14ms, Average = 3ms
```

```
Packet Tracer PC Command Line 1.0                    VLAN 2
PC>ping 192.168.0.11

Pinging 192.168.0.11 with 32 bytes of data:

Reply from 192.168.0.11: bytes=32 time=3ms TTL=128
Reply from 192.168.0.11: bytes=32 time=18ms TTL=128
Reply from 192.168.0.11: bytes=32 time=19ms TTL=128
Reply from 192.168.0.11: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 19ms, Average = 10ms

PC>ping 192.168.0.10

Pinging 192.168.0.10 with 32 bytes of data:

Reply from 192.168.0.10: bytes=32 time=13ms TTL=128
Reply from 192.168.0.10: bytes=32 time=0ms TTL=128
Reply from 192.168.0.10: bytes=32 time=0ms TTL=128
Reply from 192.168.0.10: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 13ms, Average = 3ms

PC>
```

```
PC>ping 192.168.0.12                                      VLAN 3

Pinging 192.168.0.12 with 32 bytes of data:

Reply from 192.168.0.12: bytes=32 time=5ms TTL=128
Reply from 192.168.0.12: bytes=32 time=18ms TTL=128
Reply from 192.168.0.12: bytes=32 time=17ms TTL=128
Reply from 192.168.0.12: bytes=32 time=17ms TTL=128

Ping statistics for 192.168.0.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 5ms, Maximum = 18ms, Average = 14ms

PC>ping 192.168.0.13

Pinging 192.168.0.13 with 32 bytes of data:

Reply from 192.168.0.13: bytes=32 time=1ms TTL=128
Reply from 192.168.0.13: bytes=32 time=0ms TTL=128
Reply from 192.168.0.13: bytes=32 time=0ms TTL=128
Reply from 192.168.0.13: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.0.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
```

```
Packet Tracer PC Command Line 1.0                        VLAN 4
PC>ping 192.168.0.14

Pinging 192.168.0.14 with 32 bytes of data:

Reply from 192.168.0.14: bytes=32 time=1ms TTL=128
Reply from 192.168.0.14: bytes=32 time=18ms TTL=128
Reply from 192.168.0.14: bytes=32 time=2ms TTL=128
Reply from 192.168.0.14: bytes=32 time=18ms TTL=128

Ping statistics for 192.168.0.14:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 18ms, Average = 9ms
```