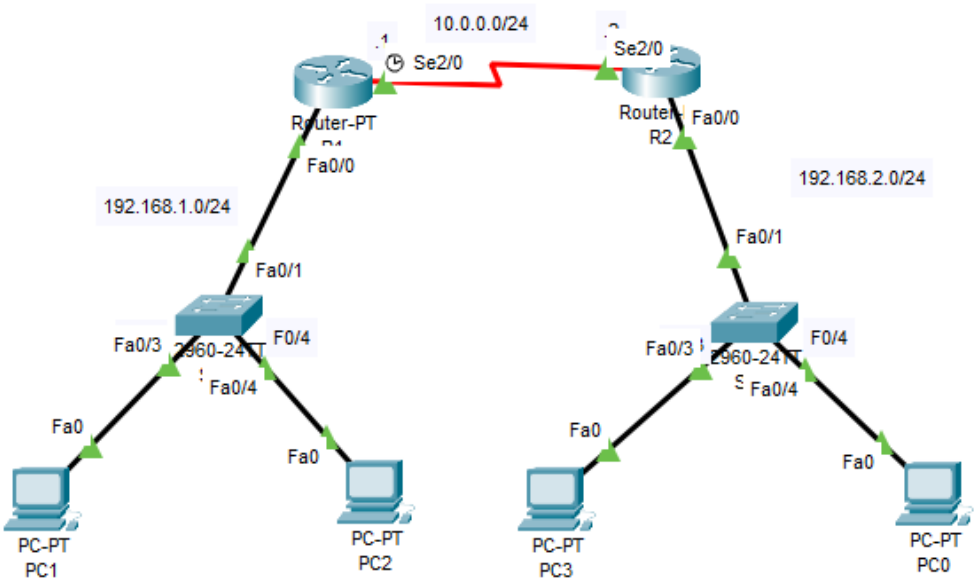
ACTIVITY 13: CDP part 1



1. Use CDP to identify which interfaces are used to connect the routers and switches.

```
SW1#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R1           Fas 0/1          126            R       PT1000      Fas 0/0
```

```
R1#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
SW1          Fas 0/0          130            S       2960        Fas 0/1
R2           Ser 2/0          135            R       PT1000      Ser 2/0
```

```
R2#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
SW2          Fas 0/0          129            S       2960        Fas 0/1
R1           Ser 2/0          129            R       PT1000      Ser 2/0
```

```
SW2#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R2           Fas 0/1          127            R       PT1000      Fas 0/0
```

2. Determine which side of the serial connection between R1 and R2 is DCE, and which is DTE. Set a clock rate of 64 KB/s on the DCE side.

R1#show controllers s2/0
Interface Serial2/0
Hardware is PowerQUICC MPC860
DCE V.35, clock rate 2000000
R1(config)#interface s2/0
R1(config-if)#clock rate 64000

R2#show controllers s2/0
Interface Serial2/0
Hardware is PowerQUICC MPC860
DTE V.35 TX and RX clocks detected

3. What are the default CDP send and hold timers? Confirm this with a show command on one of the devices.

R1#show cdp interface

FastEthernet0/0 is up, line protocol is up
Sending CDP packets every 60 seconds
Holdtime is 180 seconds

4. Disable CDP globally on R1, and attempt to view CDP neighbors.

R1(config)#no cdp run
R1(config)#exit
R1#show cdp neighbors
% CDP is not enabled

5. Enable CDP globally on R1, immediately view CDP neighbors. SW1 and R2 appear instantly?

```
R1(config)#cdp run
R1(config)#do show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R2           Ser 2/0          171            R       PT1000      Ser 2/0
```

They don't appear instantly.

6. Disable CDP on the switch interfaces connected to PCs.

SW1(config)#interface range f0/3 - 4
SW1(config-if-range)#no cdp enable
SW1(config-if-range)# do show running-config
interface FastEthernet0/1
! …
interface FastEthernet0/3
 no cdp enable
!
interface FastEthernet0/4
 no cdp enable
SW2(config)#interface range f0/3 - 4
SW2(config-if-range)#no cdp enable

ACTIVITY 14: CDP part 2

1. Use CDP to identify which interfaces are used to connect the routers and switches.

```
SW1#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R1           Gig 0/1          126            R       C1900       Gig 0/1
```

```
R1#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R2           Gig 0/0          142            R       C2900       Gig 0/0
SW1          Gig 0/1          142            S       2960        Gig 0/1
```

```
R2#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R1           Gig 0/0          145            R       C1900       Gig 0/0
SW2          Gig 0/1          145                    3560        Gig 0/1
```

```
SW2#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
Device ID    Local Intrfce   Holdtme    Capability   Platform    Port ID
R2           Gig 0/1          163            R       C2900       Gig 0/1
```

2. Use CDP to identify the router/switch model of neighboring devices from each device.
From the show cdp neighbors command above, we can see that:
R1's model is C1900, R2's model is C2900, SW1's model is 2960, and SW2's model is 3560.

3. Use CDP to identify the IOS version of neighboring devices from each device.

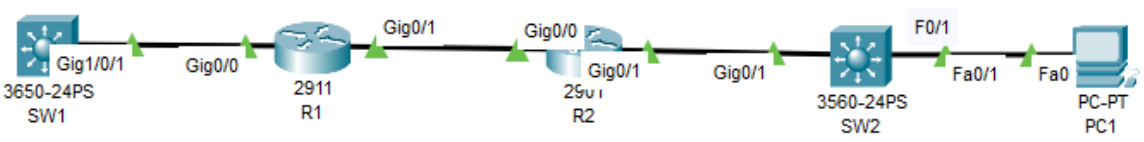
```
SW1#show cdp entry R1

Device ID: R1
Entry address(es):
Platform: cisco C1900, Capabilities: Router
Interface: GigabitEthernet0/1, Port ID (outgoing port): GigabitEthernet0/1
Holdtime: 151

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

```
R1#show cdp entry SW1

Device ID: SW1
Entry address(es):
Platform: cisco 2960, Capabilities: Switch
Interface: GigabitEthernet0/1, Port ID (outgoing port): GigabitEthernet0/1
Holdtime: 149

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

```
R1#show cdp entry R2

Device ID: R2
Entry address(es):
Platform: cisco C2900, Capabilities: Router
Interface: GigabitEthernet0/0, Port ID (outgoing port): GigabitEthernet0/0
Holdtime: 167

Version :
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE
SOFTWARE (fc2)
```

```
R2#show cdp entry SW2

Device ID: SW2
Entry address(es):
Platform: cisco 3560, Capabilities:
Interface: GigabitEthernet0/1, Port ID (outgoing port): GigabitEthernet0/1
Holdtime: 179

Version :
Cisco IOS Software, C3560 Software (C3560-ADVIPSERVICESK9-M), Version 12.2(37)SE1,
RELEASE SOFTWARE (fc1)
```

ACTIVITY 34: LLDP



1. Disable CDP and enable LLDP on each networking device.

```
SW1(config)#no cdp run
SW1(config)#lldp run

R1(config)#no cdp run
R1(config)#lldp run

R2(config)#no cdp run
R2(config)#lldp run

SW2(config)#no cdp run
SW2(config)#lldp run
```

2. Use a show command to find the default timer values for LLDP.

```
SW1#show lldp
Global LLDP Information:
Status: ACTIVE
LLDP advertisements are sent every 30 seconds
LLDP hold time advertised is 120 seconds
LLDP interface reinitialisation delay is 2 seconds
```

3. Use LLDP to identify which interfaces are used to connect the routers and switches.

```
SW1#show lldp neighbors
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID           Local Intf     Hold-time  Capability      Port ID
R1                  Gig1/0/1       120        R               Gig0/0

Total entries displayed: 1
```

```
R1#show lldp neighbors
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID           Local Intf     Hold-time  Capability      Port ID
SW1                 Gig0/0         120        R               Gig1/0/1
R2                  Gig0/1         120        R               Gig0/0

Total entries displayed: 2
```

```
R2#show lldp neighbors
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID           Local Intf     Hold-time  Capability      Port ID
R1                  Gig0/0         120        R               Gig0/1
SW2                 Gig0/1         120        R               Gig0/1

Total entries displayed: 2
```

```
SW2#show lldp neighbors
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID           Local Intf     Hold-time  Capability      Port ID
R2                  Gig0/1         120        R               Gig0/1

Total entries displayed: 1
```

4. Use LLDP to identify the IOS version of neighboring devices.

```
SW1#show lldp neighbors detail
------------------------------------------------
Chassis id: 0060.3E22.B501
```

```
Port id: Gig0/0
Port Description: GigabitEthernet0/0
System Name: R1
System Description:
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE
SOFTWARE (fc2)

R1#show lldp neighbors detail
------------------------------------------------
Chassis id: 0001.431A.CE01
Port id: Gig1/0/1
Port Description: GigabitEthernet1/0/1
System Name: SW1
System Description:
Cisco IOS Software [Denali], Catalyst L3 Switch Software (CAT3K_CAA-UNIVERSALK9-M), Ver-
sion 16.3.2, RELEASE SOFTWARE (fc4)
….
------------------------------------------------
Chassis id: 000C.8581.9A01
Port id: Gig0/0
Port Description: GigabitEthernet0/0
System Name: R2
System Description:
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE
SOFTWARE (fc2)

R2#show lldp neighbors detail
…
------------------------------------------------
Chassis id: 00E0.B099.C619
Port id: Gig0/1
Port Description: GigabitEthernet0/1
System Name: SW2
System Description:
Cisco IOS Software, C3560 Software (C3560-ADVIPSERVICESK9-M), Version 12.2(37)SE1, RE-
LEASE SOFTWARE (fc1)
```

5. Prevent SW2's F0/1 interface from sending or receiving LLDP updates.

```
SW2(config)#interface f0/1
SW2(config-if)#no lldp receive
SW2(config-if)#no lldp transmit
```