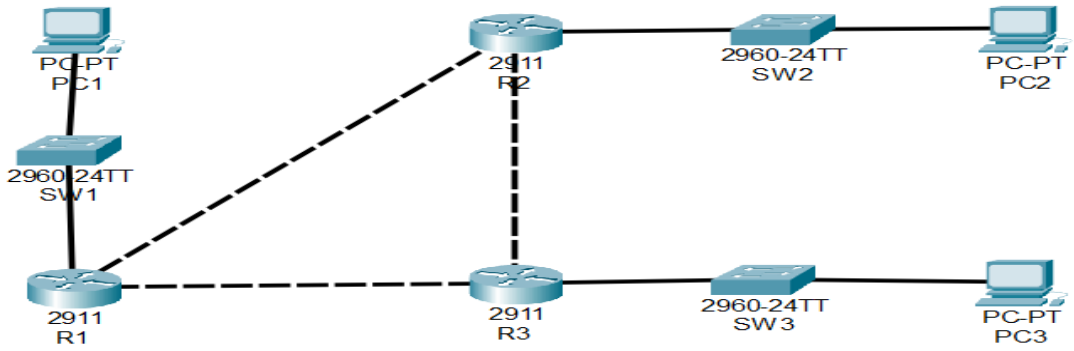
Network Topology:



Instructions and actions:

1. Use CDP (and other commands) to identify and label the missing IP addresses and interface IDs of the devices in the network.
   Commands used on the routers:
   #show cdp neighbors
   #show cdp neighbors detail
   Also, for the IP address, I can use:
   #show ip int br
   Eg R2 CLI:

R2

Physical Config CLI Attributes

```
R2#show cdp ?
  entry      Information for specific neighbor entry
  interface  CDP interface status and configuration
  neighbors  CDP neighbor entries
  <cr>
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           Gig 0/1          167           S       2960         Gig 0/2
R3            Gig 0/2          167           R       C2900        Gig 0/2
R1            Gig 0/0          167           R       C2900        Gig 0/1
R2#sh cdp neighbors detail

Device ID: SW2
Entry address(es):
Platform: cisco 2960, Capabilities: Switch
Interface: GigabitEthernet0/1, Port ID (outgoing port): GigabitEthernet0/2
Holdtime: 149

Version :
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advertisement version: 2
Duplex: full
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Device ID: R3
Entry address(es):
  IP address : 10.0.23.2
Platform: cisco C2900, Capabilities: Router
Interface: GigabitEthernet0/2, Port ID (outgoing port): GigabitEthernet0/2
Holdtime: 149

Version :
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advertisement version: 2
Duplex: full
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Device ID: R1
Entry address(es):
  IP address : 10.0.12.1
Platform: cisco C2900, Capabilities: Router
Interface: GigabitEthernet0/0, Port ID (outgoing port): GigabitEthernet0/1
Holdtime: 149

Version :
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advertisement version: 2
Duplex: full
```
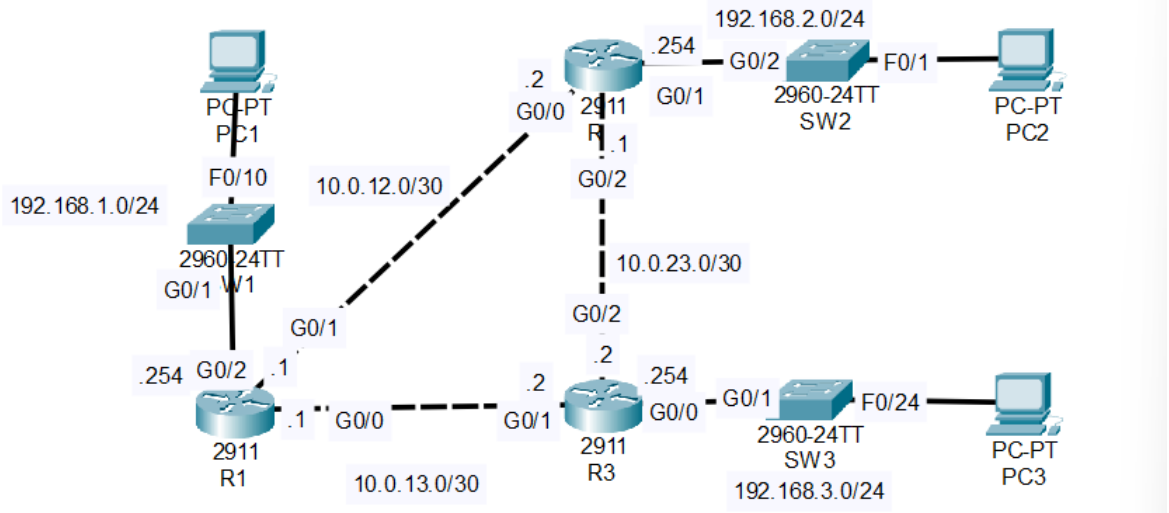

Device ID is the neighboring device, and Port ID is its interface connected to the local interface of the local device.

For the IP addresses and subnet masks:

#show ip int <interface id>

Configured network topology now:



2. Disable CDP on the switch interfaces currently connected to PCs.

   To know the interfaces connected to end hosts on the switches, use the command:

   #show int status

   And then in the interface config mode, use:

   #no cdp enable

   Eg SW1 CLI:

```
SW1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
SW1(config)#int f0/10
SW1(config-if)#no cdp enable
SW1(config-if)#do sh int f0/10 status
Port      Name               Status       Vlan       Duplex  Speed Type
Fa0/10                       connected    1          a-full  a-100
10/100BaseTX
```

3. Disable CDP globally on each network device.

```
R2>en
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#no cdp run
R2(config)#do sh cdp
% CDP is not enabled
R2(config)#
```

4. Enable LLDP on each network device and enable Tx/Rx on the interfaces connected to other network devices.

   Routers CLI:

```
R1(config)#lldp run
R1(config)#int g0/0
R1(config-if)#lldp transmit
R1(config-if)#lldp receive
R1(config-if)#int g0/1
R1(config-if)#lldp transmit
R1(config-if)#lldp receive
R1(config-if)#int g0/2
R1(config-if)#lldp transmit
R1(config-if)#lldp receive
R1(config-if)#do sh 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
R3                  Gig0/0         120        R               Gig0/1
R2                  Gig0/1         120        R               Gig0/0

Total entries displayed: 2
R1(config-if)#
```

Switches CLI:

```
SW2(config)#lldp run
SW2(config)#int g0/2
SW2(config-if)#lldp transmit
SW2(config-if)#lldp receive
SW2(config-if)#do sh 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                  Gig0/2         120        R               Gig0/1

Total entries displayed: 1
SW2(config-if)#
```

Mistake – I was panicking when the #sh lldp neighbors command was displaying 0 total entries, but I had configured the lldp run only on R1, and it is disabled on the networking devices by default, so how would the router fill entries until lldp would be enabled on the neighboring devices' interfaces too.