Using the **supplied PacketTracer file**, build the network shown in the diagram based on the following specification.

You have been given 192.168.100.0/24.

You need to subnet the addresses to accommodate the following requirements:

* Network 1 needs to accommodate 31 hosts (use /26)
* Network 2 needs to accommodate 17 hosts (use /27)
* Network 3 needs to accommodate 7 hosts (use /28)
* Network 4 needs to accommodate 4 hosts (use /29)
* Network 5 needs to accommodate 5 hosts (use /29)

**Subnet 192.168.100.0/24 in the order of the networks above.**

The devices must be named as follows. Routers and switches must use both display name and host name and the PC's and SBC's just the display name.

|  |  |  |  |
| --- | --- | --- | --- |
| **Router** | **Switch** | **PC** | **SBC** |
| Router1 | Switch1 | PC1 | SBC1 |
| Router2 | Switch2 | PC2 | SBC2 |
| Router3 | Switch3 | PC3 | SBC3 |
| Router4 | Switch4 | PC4 | SBC4 |
|  | WanSwitch1 |  |  |

Routers are 1941's and the switches are 2960's.

**SBC needs to be opened, turned off, Port Added, turned back on to allow connection to the Router!**

###### Connectivity.

Router1 G0/0 connects to Switch1 G0/1  
Router1 G0/1 connects to WanSwitch1 F0/1

Router2 G0/0 connects to Switch2 G0/1  
Router2 G0/1 connects to WanSwitch1 F0/2

Router3 G0/0 connects to Switch3 G0/1  
Router3 G0/1 connects to WanSwitch1 F0/3

Router4 G0/0 connects to Switch3 G0/1  
Router4 G0/1 connects to WanSwitch1 F0/4

PC1 connects to Switch1 on Fa0/1  
PC2 connects to Switch1 on Fa0/1  
PC3 connects to Switch1 on Fa0/1  
PC4 connects to Switch1 on Fa0/1

SBC1 connects to Switch1 on Fa0/2  
SBC2 connects to Switch1 on Fa0/2  
SBC3 connects to Switch1 on Fa0/2  
SBC4 connects to Switch1 on Fa0/2

###### Network address allocation.

* Router1 G0/0 has the 1st address in Network 1
* Router2 G0/0 has the 1st address in Network 2
* Router3 G0/0 has the 1st address in Network 3
* Router4 G0/0 has the 1st address in Network 4
* Router1 G0/1 has the 1st address in Network 5
* Router2 G0/1 has the 2nd address in Network 5
* Router3 G0/1 has the 3rd address in Network 5
* Router4 G0/1 has the 4th address in Network 5
* Switch1 has the 2nd address in Network 1
* Switch2 has the 2nd address in Network 2
* Switch3 has the 2nd address in Network 3
* Switch4 has the 2nd address in Network 4
* WanSwitch1 does not have an IP address.
* PC1 has the 3rd address in Network 1
* PC2 has the 3rd address in Network 2
* PC3 has the 3rd address in Network 3
* PC4 has the 3rd address in Network 4
* SBC1 has the 4th address in Network 1
* SBC2 has the 4th address in Network 2
* SBC3 has the 4th address in Network 3
* SBC4 has the 4th address in Network 4

###### Interface descriptions.

Generic descriptions have been deliberately chosen to help speed up the configuration of this lab.

* Switch port f0/1 which is connected the PC must have a description of *PC*
* Switch port f0/2 which is connected the SBC must have a description of *SBC*
* Switch port g0/1 which is connected the router must have a description of *Router*
* All used switch ports must have a description of *Unused*
* Routerx interface g0/0 must have have a description of LAN
* Routerx interface g0/1 must have have a description of WAN

###### General ISO device configuration.

* All unused switched ports must be administratively down.
* Console ports on both switches and routers must have a banner message of the day stating ***Authorised staff only***
* Console ports must have a password of ***Cisco***
* Privileged Exec password is ***Cisco***
* Passwords must be encrypted.
* As there is no DNS server on the network, DNS lookup must be disabled on all switches and routers.
* Every device except WanSwitch1 needs to be able to successfully ping every other device on the network.
* All devices must have their configuration applied if they are rebooted.

###### Hints.

* Initially, only add PC1, SBC1, Switch1, Router1 and WanSwitch1 to the workspace, nothing else.
* Add the network connections as per the spec.
* Configure the addresses as per the spec.
* Configure Switch1 and Router1 as per the spec.
* Once configured, select PC1, SBC1, Switch1 and Router1. Copy and paste them then rename the newly pasted devices using the Config tab.
* Modify the configuration of Switch2, 3 & 4. There should only be 2 config lines to change.
* Modify the configuration of Router2, there should only be 2 config lines to change.

Rename your PacketTracer file to include your full name **Lab1\_1\_1\_YourFullName.pka** and upload it below. **Don't** submit it using the default filename.