



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC2	ICMP		0.000	N	0	(edit)	

```
C:\>ping 10.0.0.3
```

```
Pinging 10.0.0.3 with 32 bytes of data:
```

```
Reply from 10.0.0.3: bytes=32 time=9ms TTL=128
```

```
Reply from 10.0.0.3: bytes=32 time<1ms TTL=128
```

```
Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
```

```
Reply from 10.0.0.3: bytes=32 time<1ms TTL=128
```

```
Ping statistics for 10.0.0.3:
```

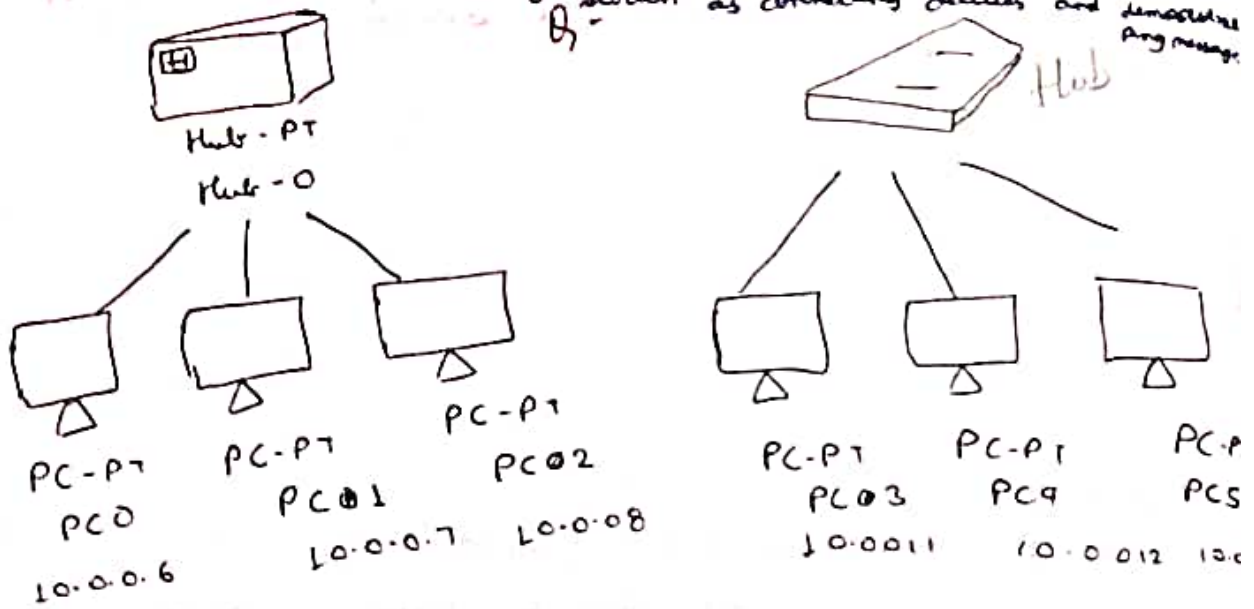
```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 0ms, Maximum = 9ms, Average = 2ms
```

## 2. Hub & Switch

simple PCO from source to destination using hub & switch as connecting devices and demonstrating any message.



**Aim :-** To create sample network consisting of 3 PCs connected to a central hub is another network with 3 PCs connected to a switch. This connection will help observe the behavior of data transmission using hub & switch devices.

**Topology :-** 3 PCs are connected to a hub & switch using straight through ethernet cable.

**Observation :-** Hub broadcasts packets to all devices which may cause unnecessary traffic. Switch forwards packets only to appropriate device by learning MAC addresses, making it more efficient in reducing traffic.

**Procedure :-**

1. Add 1 hub, 1 switch and 6 PC to the Cisco packet tracer workspace.
2. Connect copper straight-through cables PC0, PC1, PC2 to Hub0. Similarly connect PC3, PC4, PC5 to switch 0 using same type of cables.

3. Design IP address to each PC, similarly obtain subnet mask.
4. Switch to simulation mode to observe data traffic behaviour when packets are sent between the devices.
5. In this, notice how hub broadcast packets to all devices, carrying potential traffic overload. In the switch network observe how the switch forwards packets only to the intended recipient reducing unnecessary traffic.
6. The hub broadcasts data to all connected devices leading to more network connected devices while the switch efficiently sends data only to correct device optimising performances.

### Difference b/w Hubs and Switches

Hub	Switches
1. Hub broadcasts data to all devices.	1. Switches send it only to the destination.
2. Hubs create more traffic.	2. Switches reduce traffic by directing data.
3. Hubs work at physical layer.	3. Switches operate at the data link layer.
4. Hubs are shared due to shared bandwidth.	4. Switches are dedicated.
5. Hubs are cheaper.	5. Switches are more expensive but more efficient.