

## CCNA ICND2 640-816 Lab &ndash; OSPF Simulation

A sporting goods manufacturer has decided to network three (3) locations to improve efficiency in inventory control. The routers have been named to reflect the location: Boston, Frankfurt, and Lancaster. The necessary networking has been completed at each location, and the routers have been configured with single area OSPF as the routing protocol. The Lancaster router was recently installed but connectivity is not complete because of incomplete routing tables. Identify and correct any problem you see in the configuration. NOTE: The OSPF process must be configured to allow interfaces in specific subnets to participate in the routing process.

Lab A	Lab B	Lab C
Name : Boston	Name : Frankfurt	Name : Lancaster
E0 : 192.168.4.1/24	E0 : 192.168.29.1/24	E0 : 192.168.43.1/24
S0 : 192.168.155.5/30	S0 : 192.168.155.10/30	S1 : 192.168.155.9/30
Secret Password : cisco	Secret Password : cisco	Secret Password : cisco

**Area 0**

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The question mentioned Boston router was not configured correctly or incomplete so we should check this router first. Click on PC-B to access the command line interface (CLI) of Boston router. Boston>enable (type **cisco** as its password here) Boston#show running-config

```
Boston# show running-config

<output omitted>
!
router ospf 2
  log-adjacency-changes
  network 192.168.4.0 0.0.0.255 area 0
  network 192.168.155.0 0.0.0.3 area 0
!
<output omitted>
```

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First, remember that the current OSPF Process ID is 2 because we will need it for later configuration. Next notice that in the second "network" command the network and wildcard mask are 192.168.155.0 and 0.0.0.3 which is equivalent to 192.168.155.0 255.255.255.252 in term of subnet mask. Therefore this subnetwork's range is from 192.168.155.0 to 192.168.155.3 but the ip address of s0/0 interface of Boston router is 192.168.155.5 which don't belong to this range -> this is the reason why OSPF did not recognize s0 interface of Boston router as a part of area 0. So we need to find a subnetwork that s0 interface belongs to. IP address of S0 interface: 192.168.155.5/30 Subnet mask: /30 = 1111 1111.1111 1111.1111 1111.1111 1100 Increment: 4 Network address (which IP address of s0 interface belongs to): 192.168.155.4 (because 4 \* 1 = 4 < 5) Therefore we must use this network instead of 192.168.155.0 network Boston#configure terminal Boston(config)#router ospf 2 Boston(config-router)#no network 192.168.155.0 0.0.0.3 area 0 Boston(config-router)#network 192.168.155.4 0.0.0.3 area 0 Boston(config-router)#end

Boston#copy running-config startup-config Finally, you should issue a ping command from Boston router to Lancaster router to make sure it works well. Boston#ping 192.168.43.1 That's all.