PALO ALTO NETWORKS - EDU-210

Lab 2: Interface Configuration

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Contents

Introduction

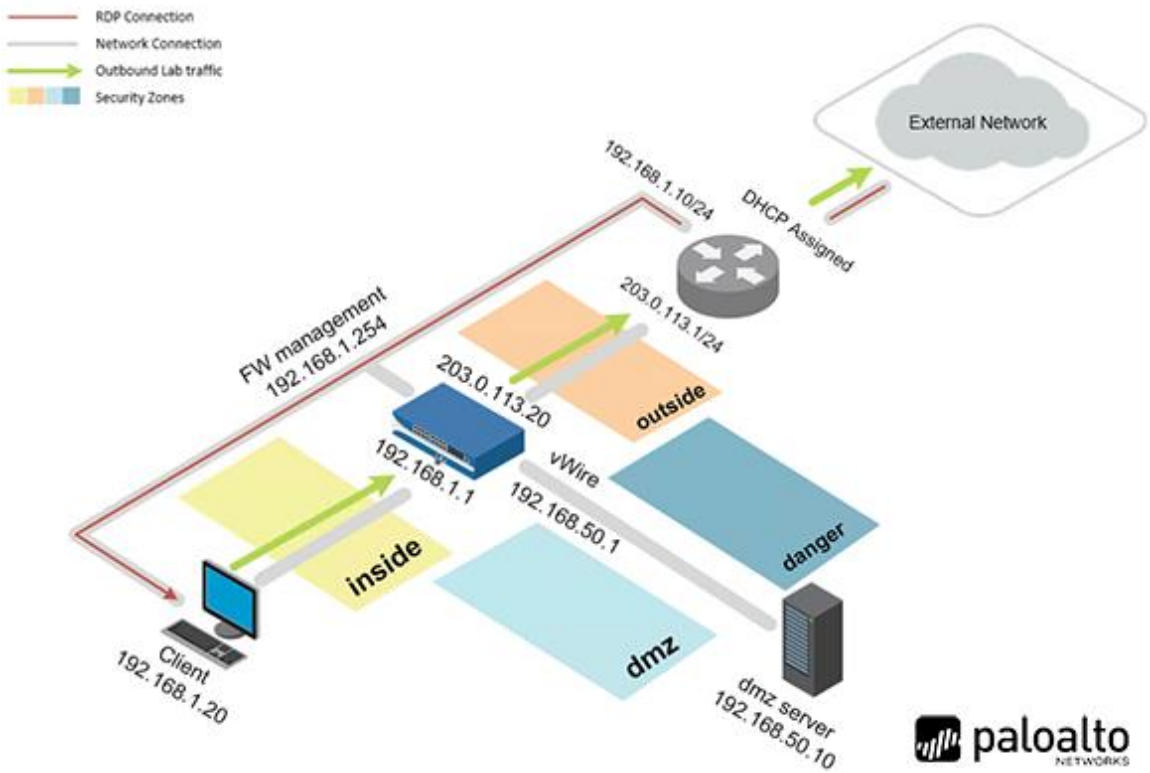
Now that we have setup our admin accounts and verified that we can connect to the admin portal, and setup our system to begin receiving updates it is now time to start configuring our firewall appliance.

The company's security and network architects have decided on what zones and IP addresses we will use in our environment. It is your job now to configure those zones and interfaces on the appliances. Once you have completed the configurations you will need to test the connectivity and verify everything is working correctly.

Objectives

- Create Security zones two different ways and observe the time saved.
- Create Interface Management Profiles to allow ping and responses pages.
- Configure Ethernet interfaces to observe DHCP client options and static configuration.
- Create a virtual router and attach configured Ethernet interfaces.
- Test connectivity with automatic default route configuration and static configuration.

Lab Topology



Lab Settings

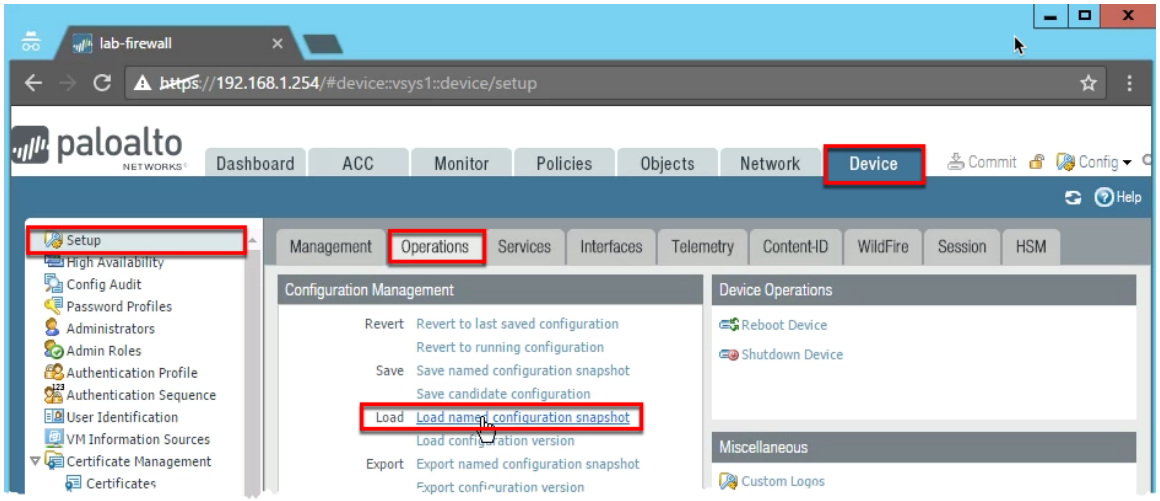
The information in the table below will be needed in order to complete the lab. The task sections below provide details on the use of this information.

Virtual Machine	IP Address	Account (if needed)	Password (if needed)
Client – Windows 2012 R2	192.168.1.20	lab-user	Pal0Alt0
Firewall – PA-VM	192.168.1.254	admin	admin

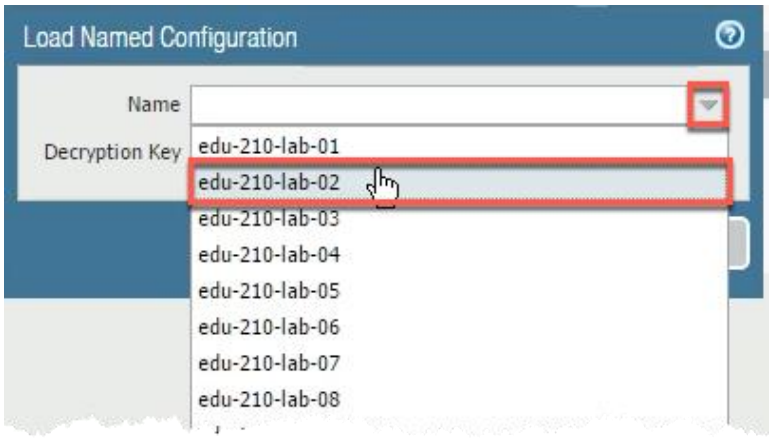
2 Lab: Interface Configuration

2.0 Load Lab Configuration

1. In the WebUI select **Device > Setup > Operations**.
2. Click **Load named configuration snapshot**:



3. Select edu-210-lab-02 and click **OK**.

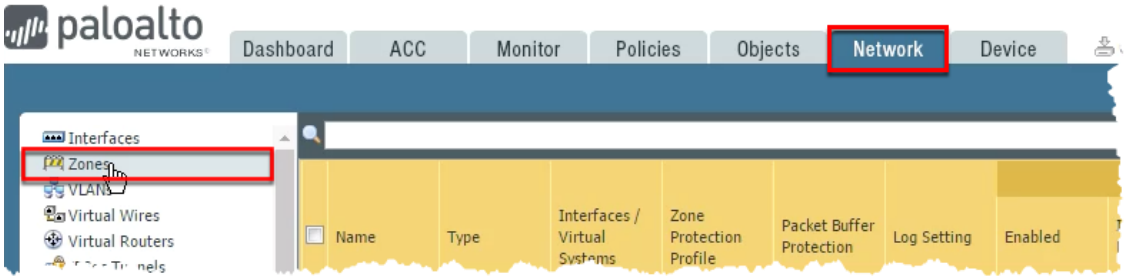


4. Click **Close**.
5. **Commit** all changes.

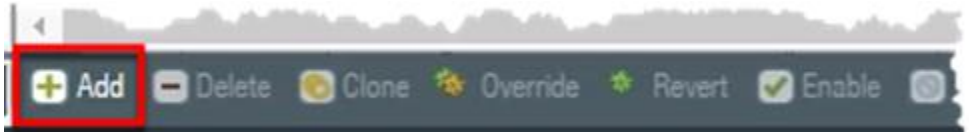
2.1 Create New Security Zones

Security zones are a logical way to group physical and virtual interfaces on the firewall in order to control and log the traffic that traverses your network through the firewall. An interface on the firewall must be assigned to a Security zone before the interface can process traffic. A zone can have multiple interfaces of the same type (for example, Tap, Layer 2, or Layer 3 interfaces) assigned to it, but an interface can belong to only one zone.

1. Select **Network > Zones**.



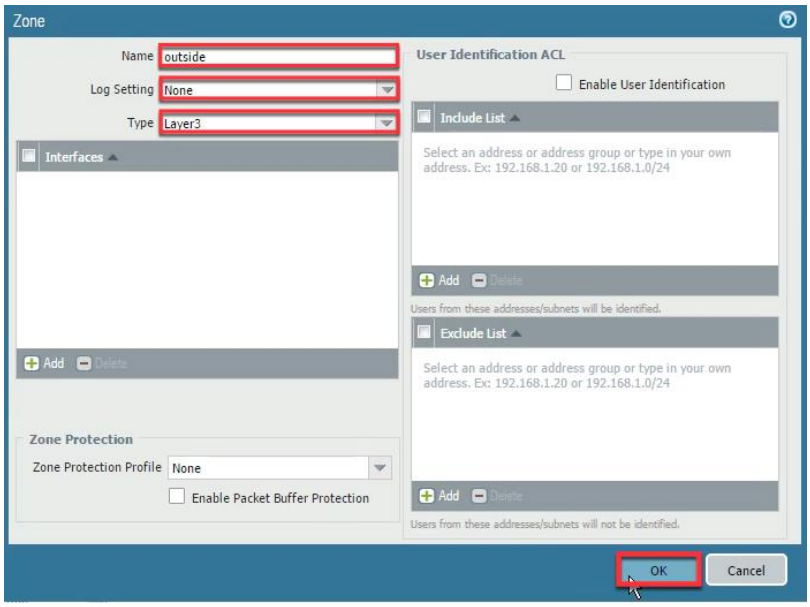
2. Click **Add** to create a new zone. The Zone configuration window opens.



3. Configure the following:

Parameter	Value
Name	`outside`
Type	**Layer3**

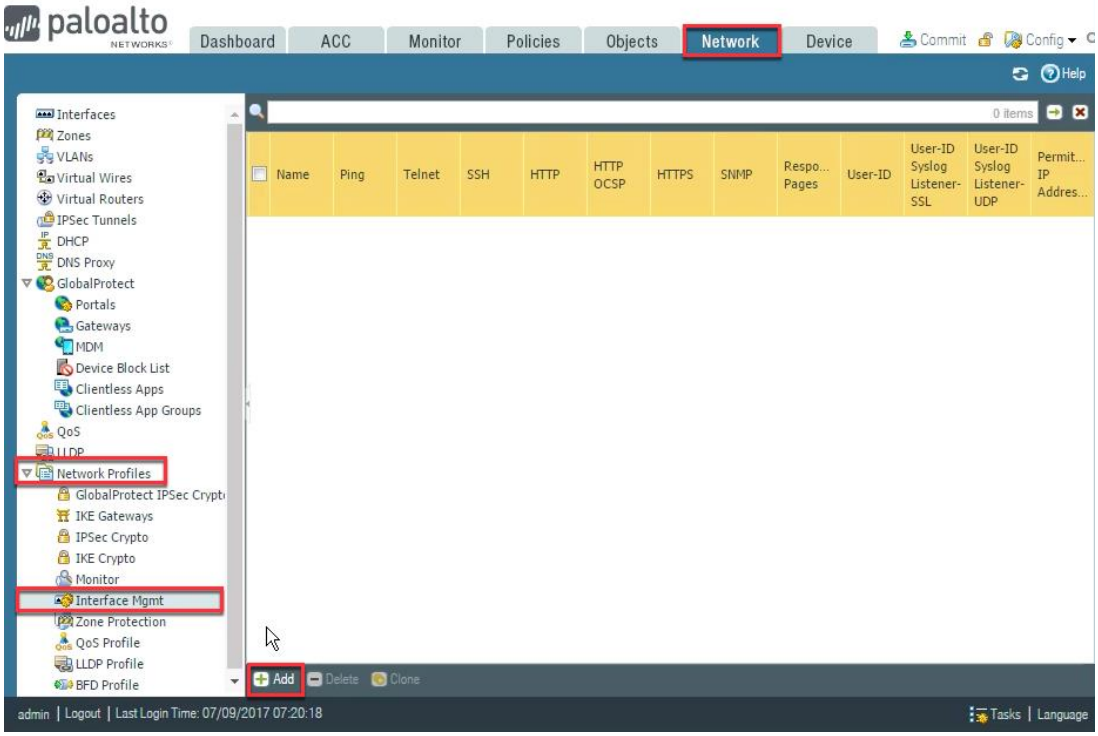
4. Click **OK** to close the Zone configuration window. The outside zone is the only zone created in this task. You will add an Ethernet interface to this zone in a later lab step.



2.2 Create Interface Management Profiles

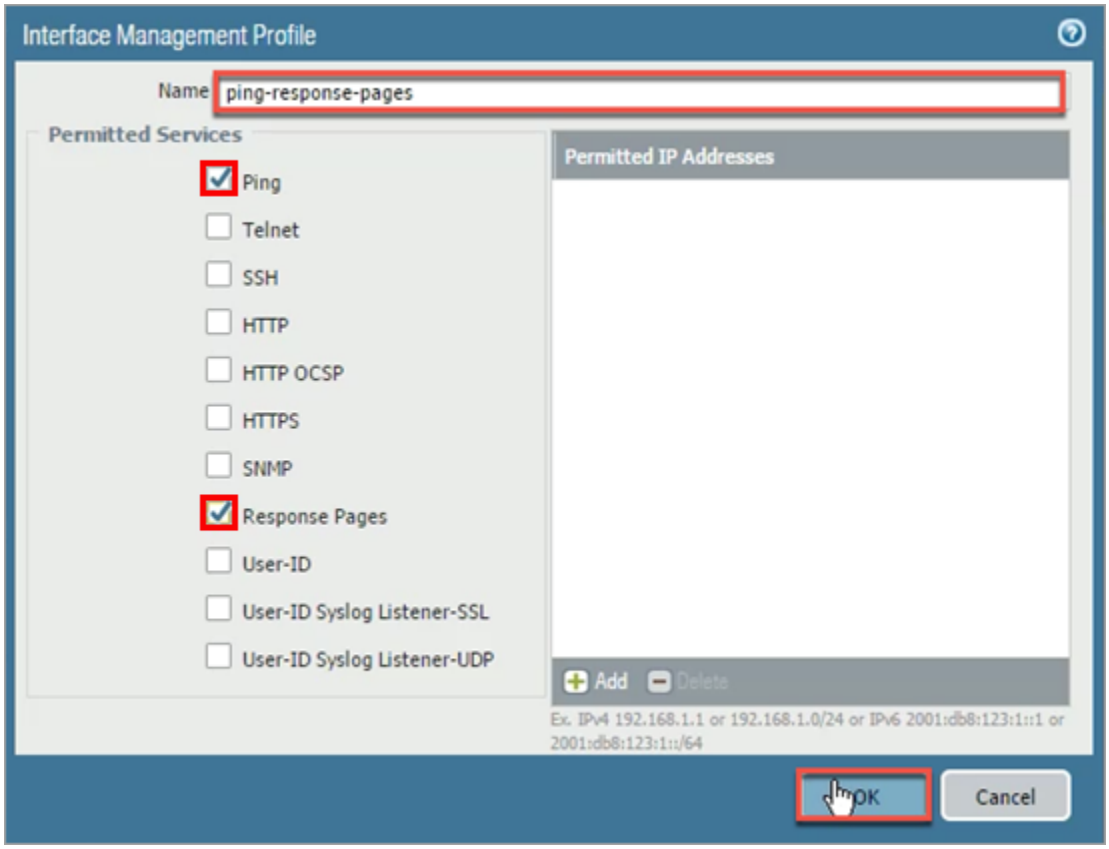
An Interface Management Profile protects the firewall from unauthorized access by defining the services and IP addresses that a firewall interface permits. You can assign an Interface Management Profile to Layer 3 Ethernet interfaces (including subinterfaces) and to logical interfaces (Aggregate, VLAN, Loopback, and Tunnel interfaces).

1. Select **Network > Network Profiles > Interface Mgmt**.
2. Click **Add** to open the Interface Management Profile configuration window.



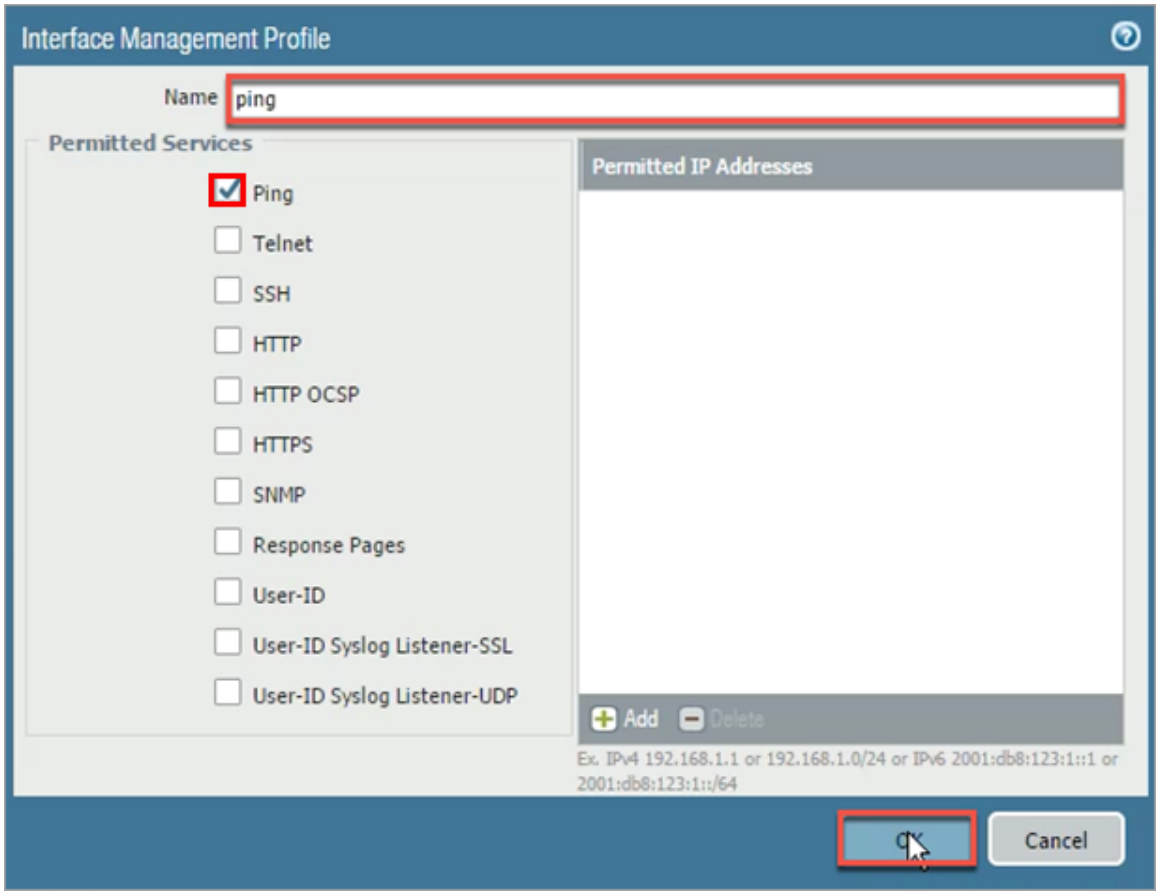
3. In the Interface Management Profile configuration window configure the following then click **OK**

Parameter	Value
Name	`ping-response-pages`
Permitted Services	
Ping	`Checked`
Response Pages	`Checked`



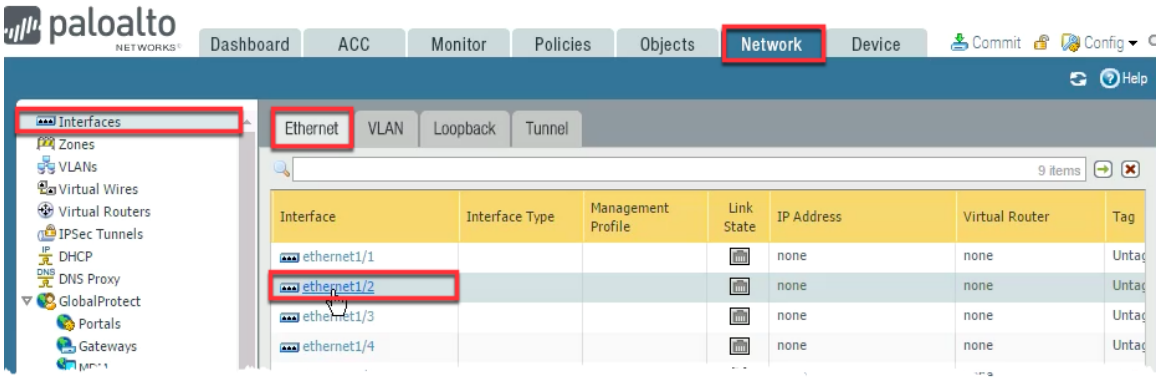
4. Click **Add** to create another Interface Management Profile.
5. In the Interface Management Profile configuration window configure the following then click **OK**.

Parameter	Value
Name	`ping`
Permitted Services	
Ping	`Checked`



2.3 Configure Ethernet Interfaces

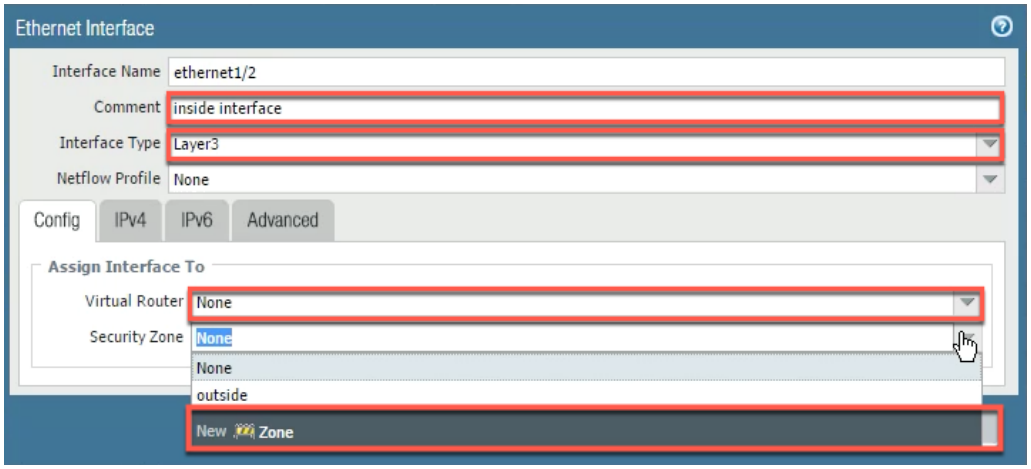
1. Select **Network > Interfaces > Ethernet**.
2. Click to open ethernet1/2.



3. Configure the following:

Parameter	Value
Comment	`inside interface`
Type	**Layer3**
Virtual Router	None

4. Click the Security Zone drop-down list and select New Zone:

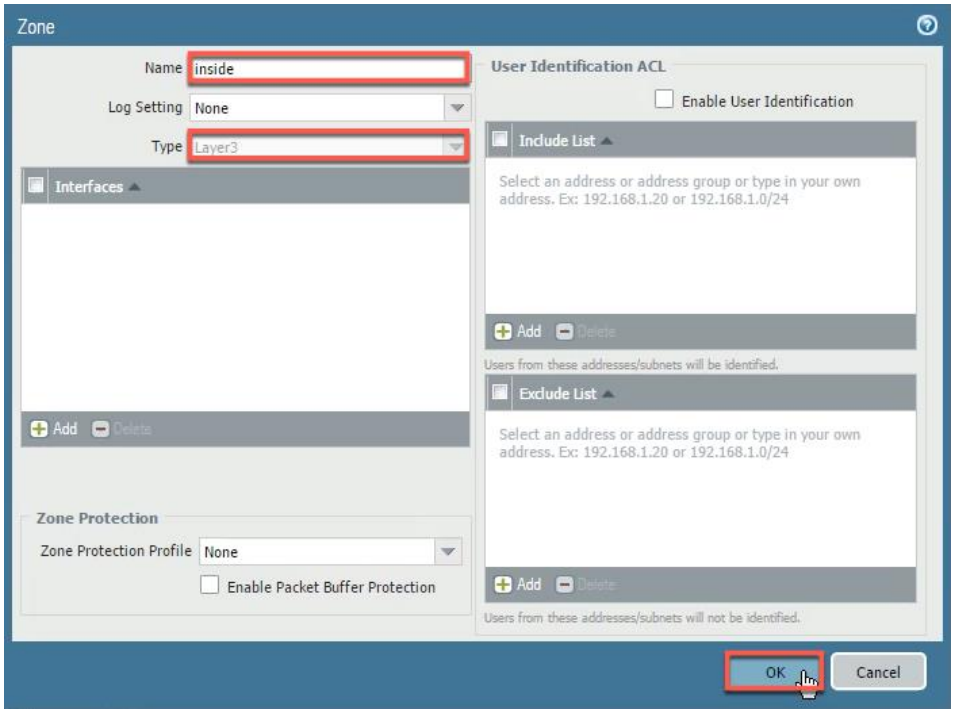


The Zone configuration window opens.

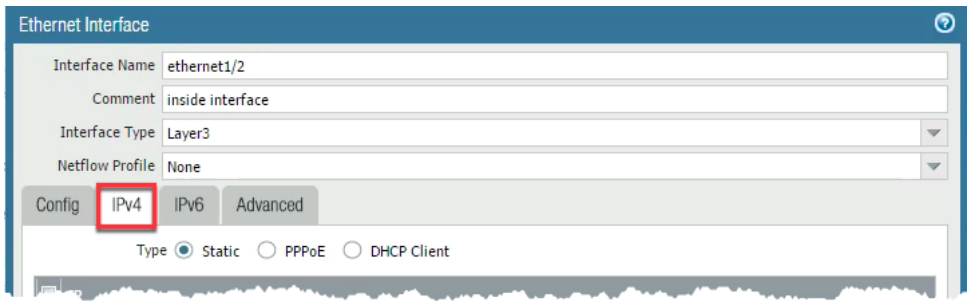
5. Configure the following:

Parameter	Value
Name	`inside`
Type	Select Layer3

6. Click **OK** to close the Zone configuration window.



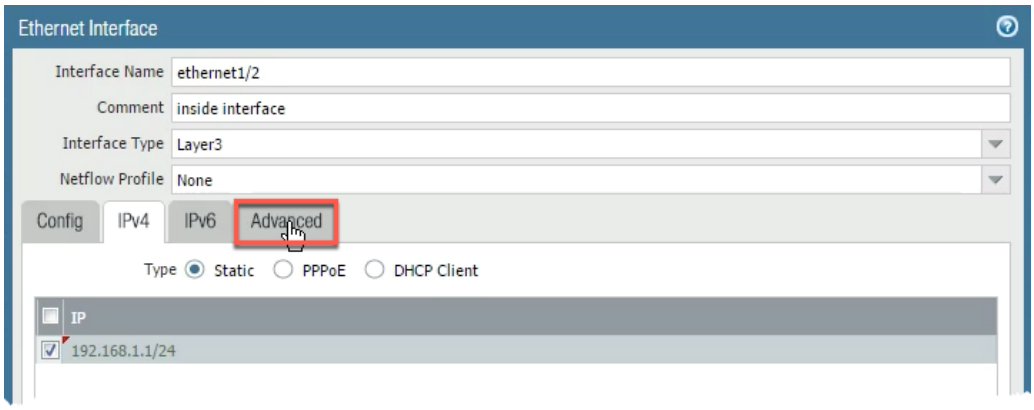
7. Click the Ethernet Interface IPv4 tab.



8. Configure the following:

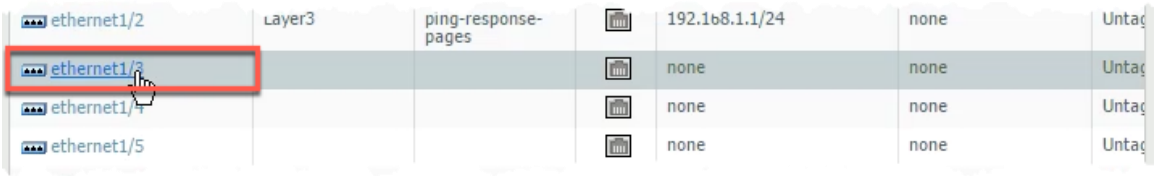
Parameter	Value
Type	Static
IP	Click **Add** and type `192.168.1.1/24`

9. Click the **Advanced** tab.



10. Click the Management Profile drop-down list and select ping-response-pages.

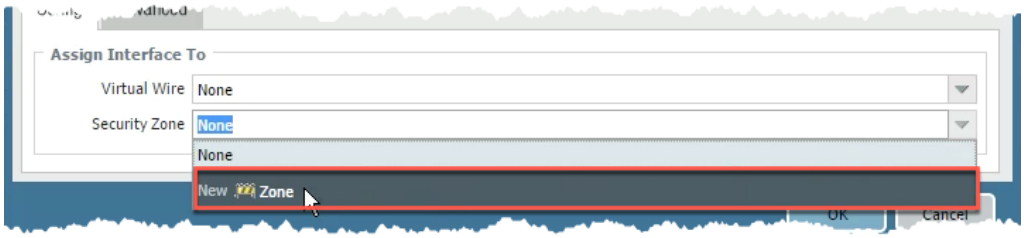
11. Click **OK** to close the Ethernet Interface configuration window.
12. Click to open ethernet1/3.



13. Configure the following:

Parameter	Value
Comment	`dmz interface`
Interface Type	**Layer3**
Virtual Router	None

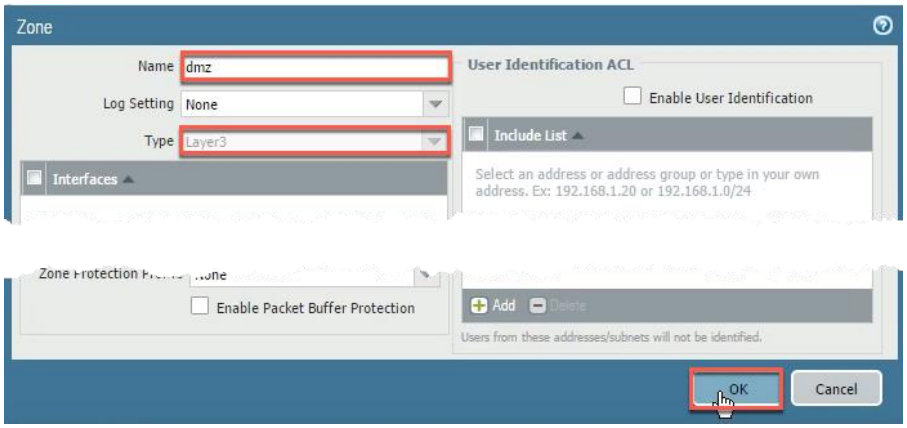
14. Click the Security Zone drop-down list and select New Zone. The Zone configuration window opens.



15. Configure the following:

Parameter	Value
Name	dmz
Type	**Layer3** should be selected

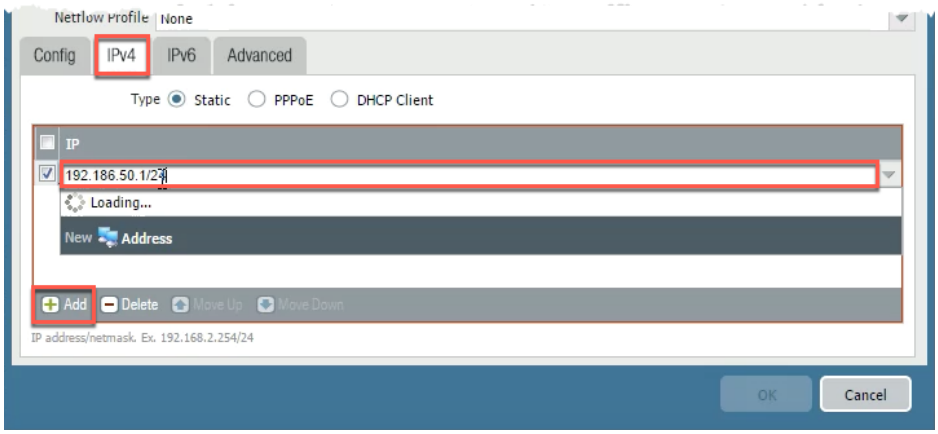
16. Click **OK** to close the Zone configuration window.



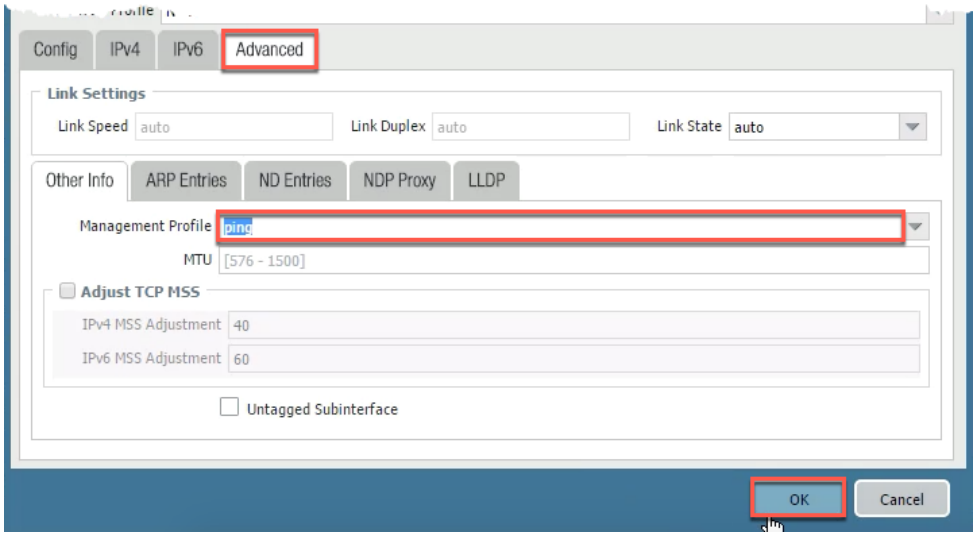
17. Click the IPv4 tab.
18. Configure the following:

Parameter	Value
Type	Static

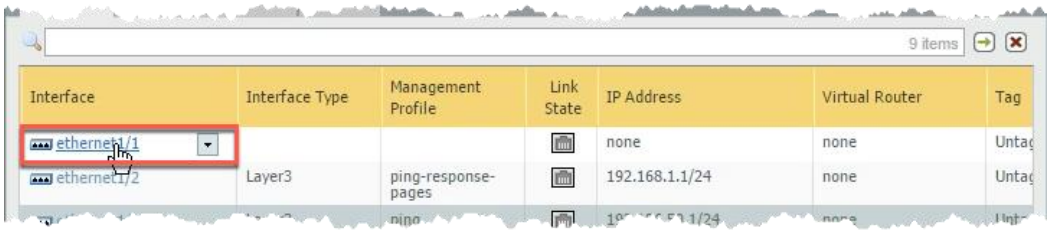
IP	Click **Add** and type `192.168.50.1/24`



19. Click the **Advanced** tab.
20. Click the Management Profile drop-down list and select ping.
21. Click **OK** to close the Ethernet Interface configuration window.



22. Click to open ethernet1/1.



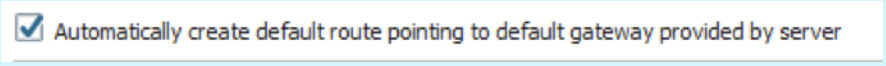
23. Configure the following:

Parameter	Value
Comment	outside interface
Interface Type	**Layer3**
Virtual Router	None
Security Zone	outside

24. Click the IPv4 tab and configure the following:

Parameter	Value
Type	DHCP Client

Note the following option:



This option will automatically install a default route based on DHCP-option 3.

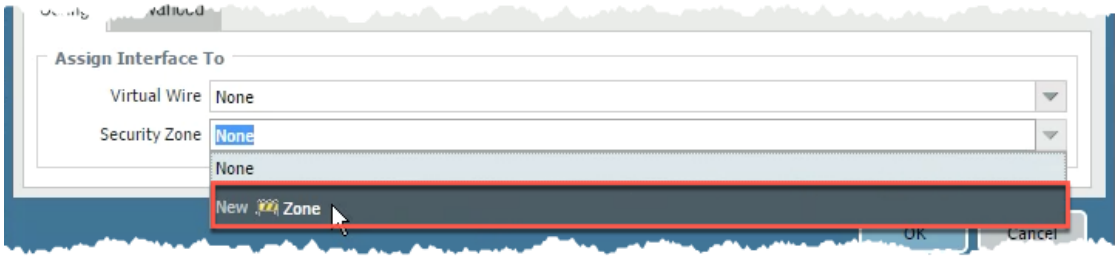
25. Click **OK** to close the Ethernet Interface configuration window.

26. Click to open **ethernet1/4**.

27. Configure the following:

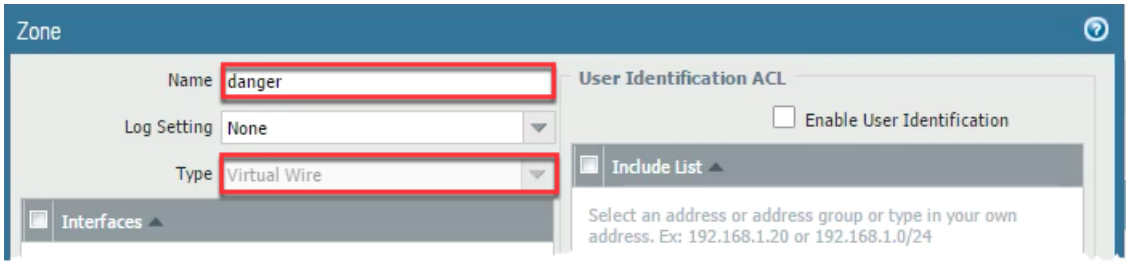
Parameter	Value
Comment	vWire danger
Interface Type	**Virtual Wire**
Virtual Wire	None

28. Click the Security Zone drop-down list and select New Zone. The Zone configuration window opens.

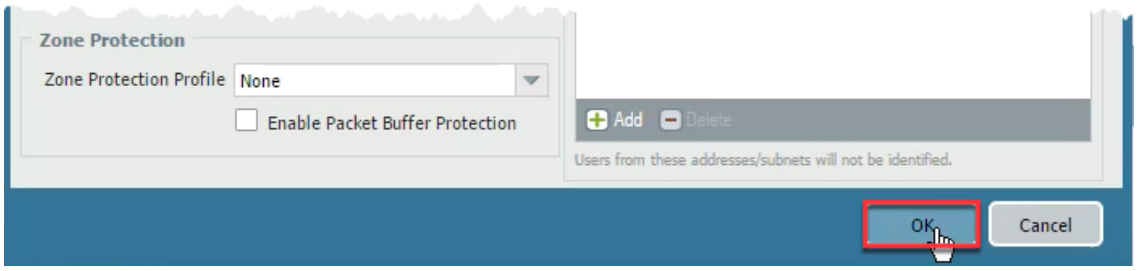


29. Configure the following:

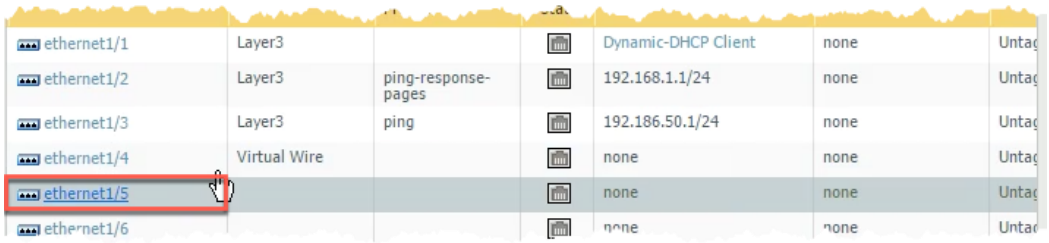
Parameter	Value
Name	`danger`
Type	Virtual Wire should be selected



30. Click **OK** twice to close the Zone and Ethernet Interface configuration windows.



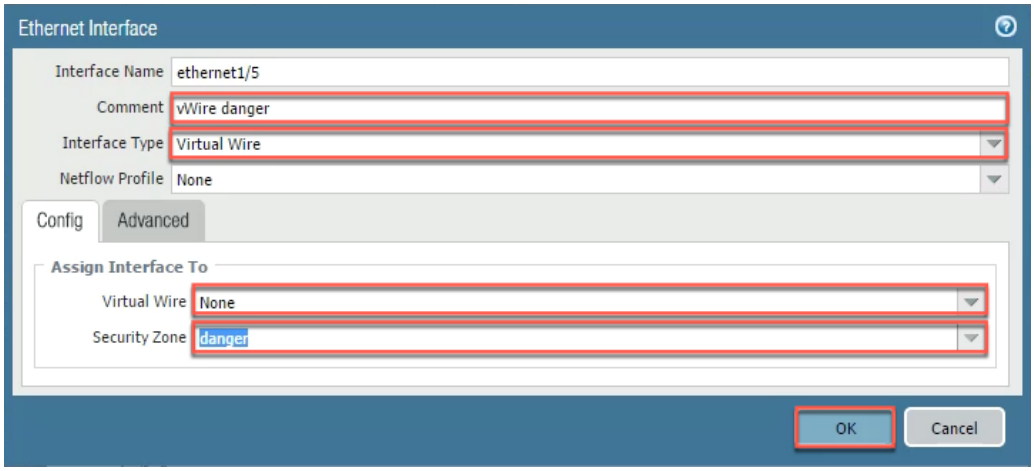
31. Click to open **ethernet1/5**.



32. Configure the following:

Parameter	Value
Comment	vWire danger
Interface Type	**Virtual Wire**
Virtual Wire	None
Security Zone	danger

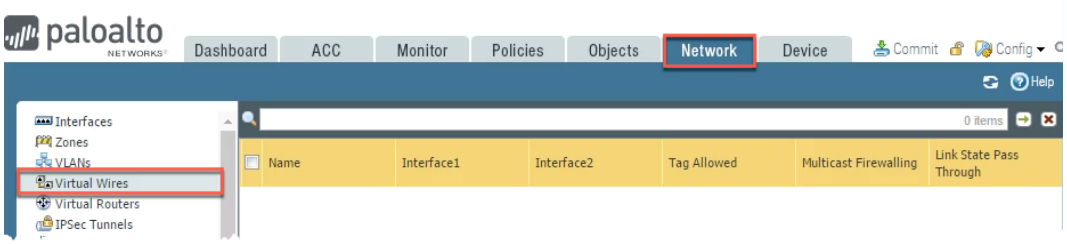
33. Click **OK** to close the Ethernet Interface configuration window.



2.5 Create a Virtual Wire

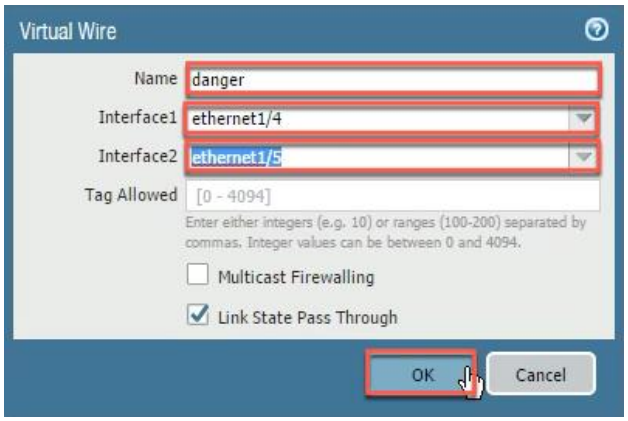
A virtual wire interface binds two Ethernet ports together. A virtual wire interface allows all traffic or just selected VLAN traffic to pass between the ports. No other switching or routing services are available.

1. Select **Network > Virtual Wires**.



2. Click and configure the following:

Parameter	Value
Name	`danger`
Interface 1	ethernet1/4
Interface 2	ethernet1/4

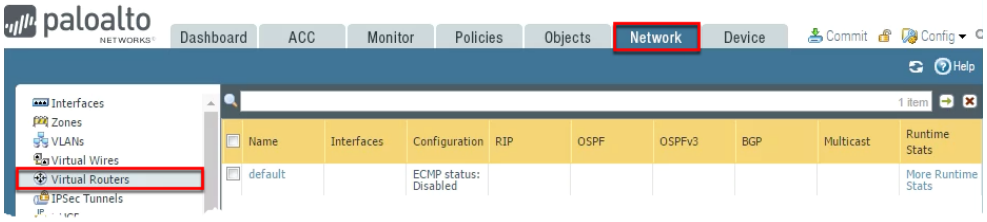


3. Click **OK**.

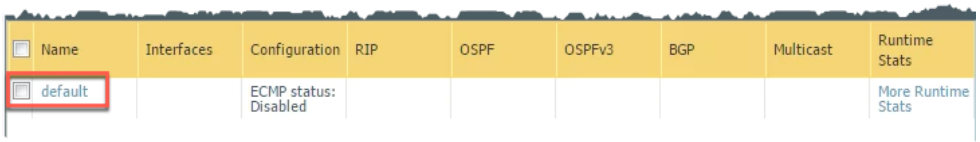
2.6 Create a Virtual Router

The firewall requires a virtual router to obtain routes to other subnets either using static routes that you manually define, or through participation in Layer 3 routing protocols that provide dynamic routes.

1. Select **Network > Virtual Routers**.

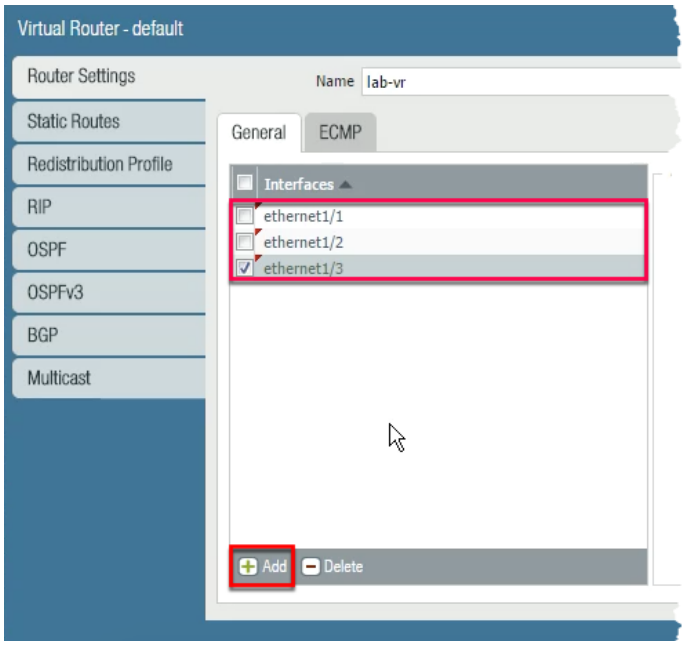


2. Click the default virtual router.



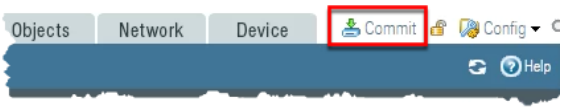
3. Rename the default router lab-vr.

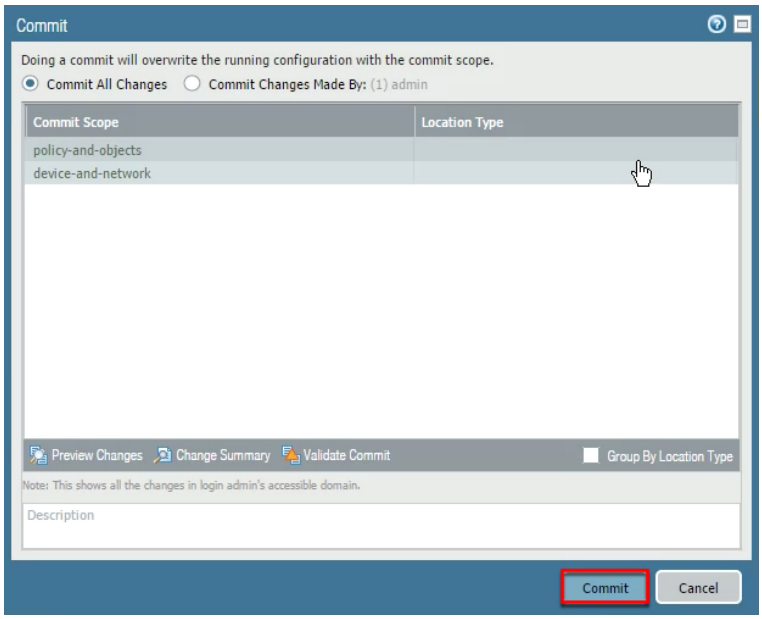
4. Add the following interfaces: ethernet1/1, ethernet1/2, and ethernet1/3.



Note: This step can also be completed via each **Ethernet Interface** configuration window.

5. Click **OK**.
6. **Commit** all changes.

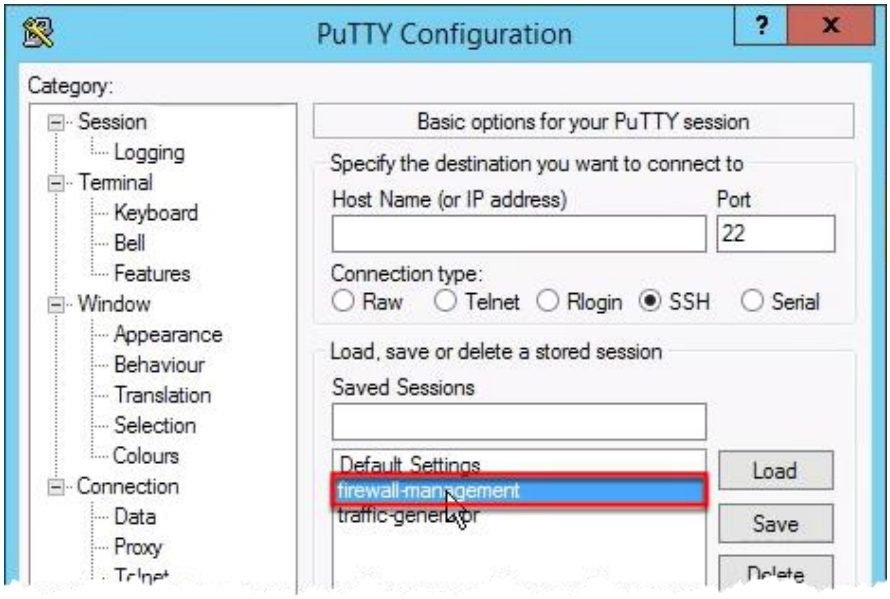




2.7 Test Connectivity

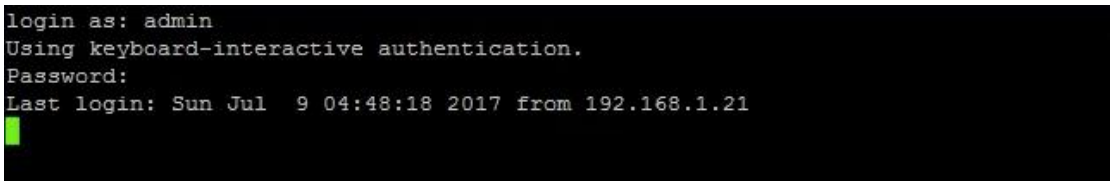
1. Open **PuTTY** from the Windows desktop.

2. Double-click **firewall-management**:



3. Log in using the following information:

Parameter	Value
Name	`admin`
Password	`admin`



4. Enter the command:

```
ping source 203.0.113.21 host 8.8.8.8
```

Because a default route was automatically installed, you should be getting replies from `8.8.8.8`:

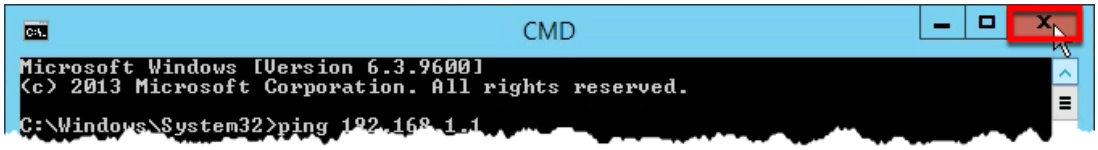

```
admin@lab-firewall> ping source 203.0.113.21 host 8.8.8.8
PING 8.8.8.8 (8.8.8.8) from 203.0.113.21 : 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=127 time=32.3 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=127 time=64.1 ms
^C
--- 8.8.8.8 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1009ms
rtt min/avg/max/mdev = 32.313/48.232/64.151/15.919 ms
admin@lab-firewall>
```

5. On the lab environment Windows desktop, open a command-prompt window.

6. Type the command `ping 192.168.1.1`:

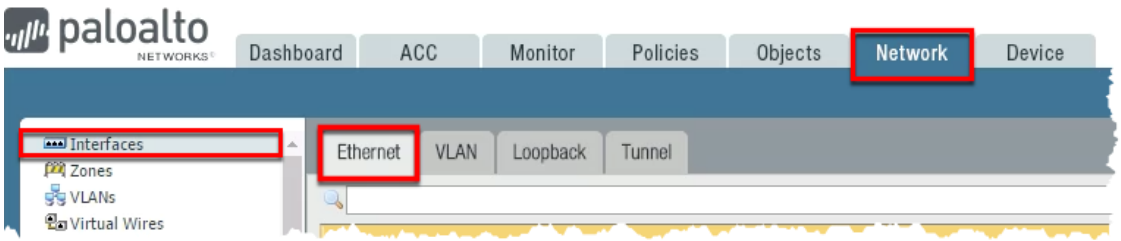
```
C:\Windows\System32>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=19ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 19ms, Maximum = 19ms, Average = 19ms
Control-C
^C
C:\Windows\System32>
```

7. Verify that you get a reply before proceeding.
8. Close the command-prompt window.

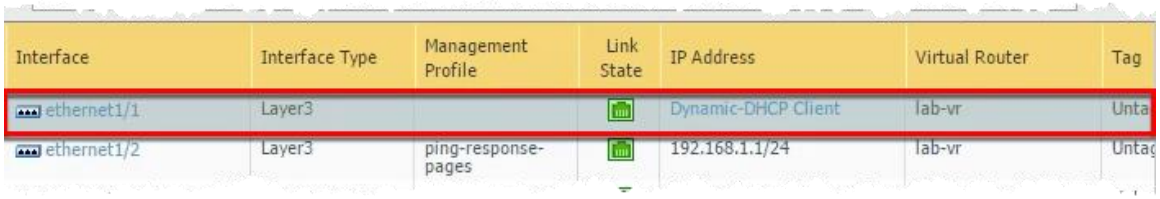


2.8 Modify Outside Interface Configuration

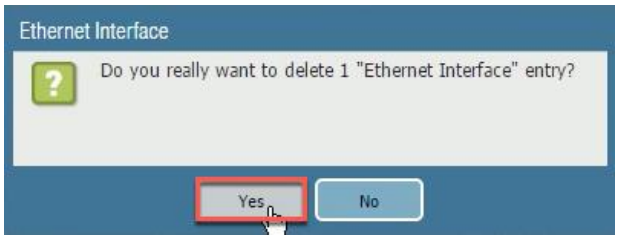
1. Select **Network > Interfaces > Ethernet**.



2. Select but, do not open: ethernet1/1



3. Click **Delete** then click **Yes**.

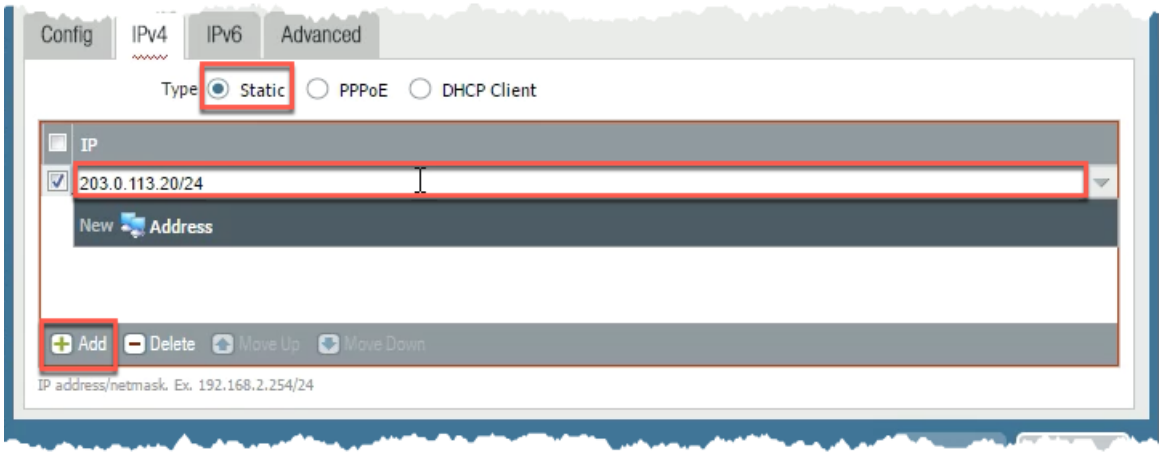


4. Click and open Ethernet 1/1.
5. Configure the following:

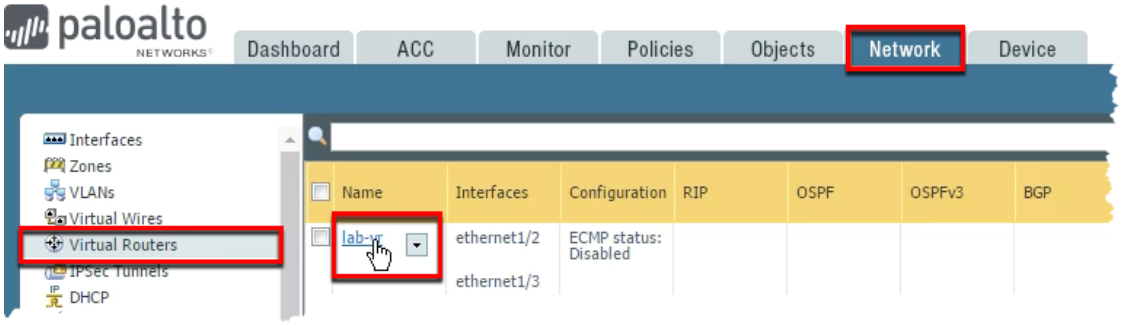
Parameter	Value
Comment	`outside interface`
Interface Type	**Layer3**
Virtual Router	Lab-vr
Security Zone	outside

6. Click the *IPV4* tab and configure the following:

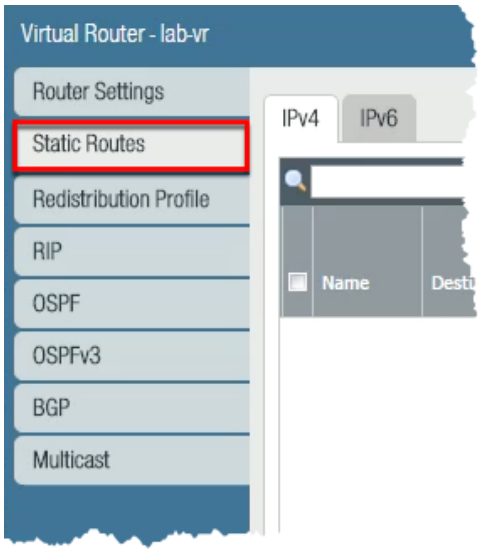
Parameter	Value
Type	Static
IP	`203.0.113.20/24`



7. Click **OK** to close the **Ethernet Interface** configuration window.
8. Select **Network > Virtual Routers**.
9. Click to open the lab-vr virtual router.

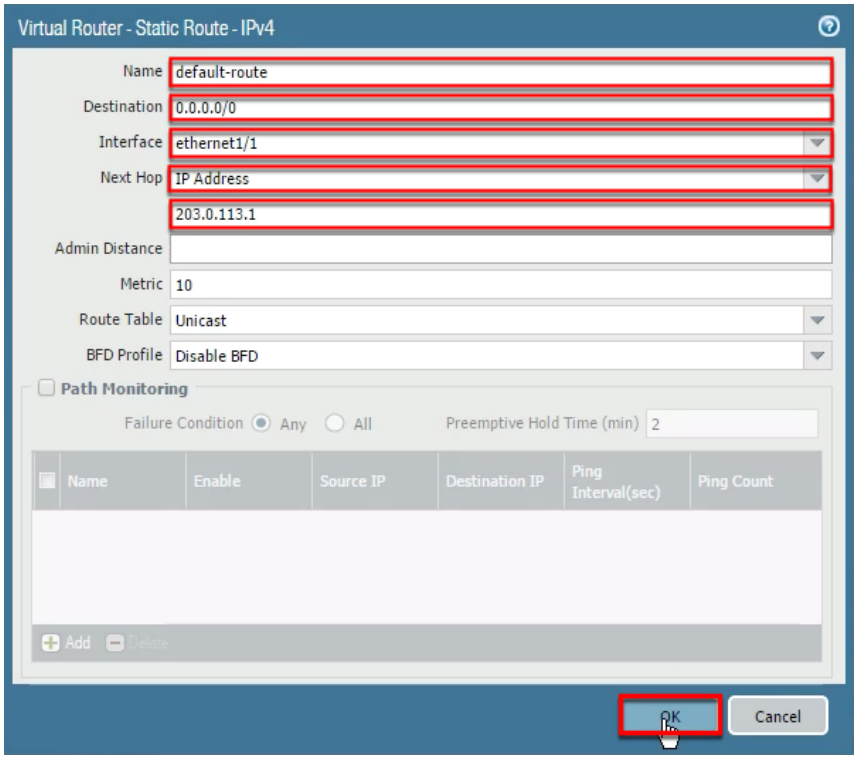


10. Click the **Static Routes** vertical tab:



11. Click **Add** to configure the following static route:

Parameter	Value
Name	`default-route`
Destination	`0.0.0.0/0`
Interface	**ethernet1/1**
Next Hop	IP Address
Next Hop IP Address	`203.0.113.1`



12. Click **OK** to add the static route and then click **OK** again to close the Virtual Router – lab-vr configuration window.

13. **Commit** all changes.

14. Make **PuTTY** window that was used to ping `8.8.8.8` the active window.

15. Type the command ping source `203.0.113.20` host `8.8.8.8`

```
admin@PA-VM> ping source 203.0.113.20 host 8.8.8.8
PING 8.8.8.8 (8.8.8.8) from 203.0.113.20 : 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=53 time=56.4 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=53 time=14.7 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=53 time=14.0 ms
```

16. Close the **PuTTY** window.

Stop. This is the end of the Interface Configuration lab.

