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**Welcome
To
OSPF Filtering**



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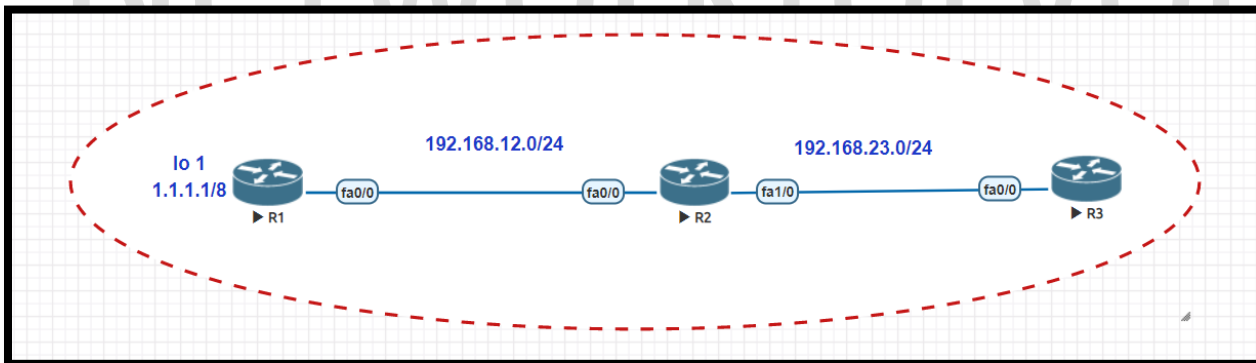


Distribute Lists:

- Distribute-List is used to control routing updates either coming to router or leaving.
- Distribute-List is mainly used for route filtering to control Routing updates coming in.
- We use Distribute Lists, means to permit or block the routes from being advertised.
- Distribute-List itself does not block or permit any route but it will call an Access-List.
- Or Prefix-List and action will be taken based on whatever specified in that Access-List.
- So, a Distribute-List is used to control the incoming or outgoing traffic in the devices.
- Distribute List can be configured in two directions, for in (coming) or out (leaving).
- The distribute list command will be run in router configuration mode under OSPF.
- With OSPF, access-lists, prefix-lists, and route-maps are all options of a distribute list.

1. Define what routes you want to filter.
2. Create an ACL to filter out that traffic.
3. Create a Distribute-List that references the ACL and defines the direction.
4. Verify that the route has been removed.

Lab time:



R1 Configuration	R2 Configuration	R3 Configuration
en config t hostname R1 int f0/0 ip add 192.168.12.1 255.255.255.0	en config t hostname R2 int f0/0 ip add 192.168.12.2 255.255.255.0	en config t hostname R3 int f0/0 ip add 192.168.23.3 255.255.255.0

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<pre>no sh int lo 0 ip add 1.1.1.1 255.0.0.0 router ospf 1 int f0/0 ip ospf 1 area 0 int lo 0 ip ospf 1 area 0</pre>	<pre>no sh int f1/0 ip add 192.168.23.2 255.255.255.0 no sh router ospf 1 int f0/0 ip ospf 1 area 0 int f1/0 ip ospf 1 area 0</pre>	<pre>no sh router ospf 1 int f0/0 ip ospf 1 area 0 Here we will apply filter ospf ip access-list standard filter deny host 1.1.1.1 permit any router ospf 1 distribute-list filter in</pre>
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Without Distribute-List:

```
R3#sh
*Oct 29 22:44:00.239: %SYS-5-CONFIG_I: Configured from console by consoleip ro
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route, + - replicated route

Gateway of last resort is not set

1.0.0.0/32 is subnetted, 1 subnets
O    1.1.1.1 [110/3] via 192.168.23.2, 00:00:29, FastEthernet0/0
O    192.168.12.0/24 [110/2] via 192.168.23.2, 00:00:29, FastEthernet0/0
192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
C    192.168.23.0/24 is directly connected, FastEthernet0/0
L    192.168.23.3/32 is directly connected, FastEthernet0/0
```

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With Distribute-List:

```
R3#sh ip route ospf
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route, + - replicated route

Gateway of last resort is not set

0    192.168.12.0/24 [110/2] via 192.168.23.2, 00:01:51, FastEthernet0/0
```

After OSPF filter it is not coming 1.1.1.1 router

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