

# CCIE Service Provider Lab Workbook v4.0 (<http://labs.ine.com/workbook/toc/service-provider-v4>) » CCIE SP v4 Advanced Technology Labs - IGP

## › OSPFv2 Authentication

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« [OSPFv2 BFD \(/workbook/view/service-provider-v4/task/ospfv2-bfd-MjgzMA%3D%3D\)](/workbook/view/service-provider-v4/task/ospfv2-bfd-MjgzMA%3D%3D) | [OSPFv3 \(/workbook/view/service-provider-v4/task/ospfv3-MjgzMg%3D%3D\)](/workbook/view/service-provider-v4/task/ospfv3-MjgzMg%3D%3D) »

Last updated: April 23, 2016

### Note:

This task assumes that you have already completed the [OSPFv2 \(/workbook/view/service-provider-v4/task/ospfv2-MjgyNw%3D%3D\)](http://labs.ine.com/workbook/view/service-provider-v4/task/ospfv2-MjgyNw%3D%3D) task. Refer to the **Base IPv4 Diagram** in order to complete this task.

### Task

- Configure clear text OSPF Authentication between R6 and XR1 using the password “INECLEAR”.
- Configure MD5 OSPF Authentication between R5 and XR1 using the password “INEMD5”.

### Configuration Click to collapse

```
R5:
interface GigabitEthernet1.519
 ip ospf authentication message-digest
 ip ospf message-digest-key 1 md5 INEMD5

R6:
interface GigabitEthernet1.619
 ip ospf authentication
 ip ospf authentication-key INECLEAR

XR1:
router ospf 1
 area 0
 !
 interface GigabitEthernet0/0/0/0.519
  authentication message-digest
  message-digest-key 1 md5 INEMD5
 !
 interface GigabitEthernet0/0/0/0.619
  authentication-key INECLEAR
  authentication
 !
 !
 !
```

## Verification

R5 and XR1 have MD5 authentication enabled using Key ID 1, and are adjacent with each other.

```
R5#show ip ospf interface GigabitEthernet1.519
```

```
GigabitEthernet1.519 is up, line protocol is up
```

```
Internet Address 20.5.19.5/24, Area 0, Attached via Network Statement
```

```
Process ID 1, Router ID 5.5.5.5, Network Type POINT_TO_POINT, Cost: 1
```

```
Topology-MTID   Cost   Disabled   Shutdown   Topology Name
     0           1       no         no         Base
```

```
Transmit Delay is 1 sec, State POINT_TO_POINT, BFD enabled
```

```
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
```

```
oob-resync timeout 40
```

```
Hello due in 00:00:06
```

```
Supports Link-local Signaling (LLS)
```

```
Cisco NSF helper support enabled
```

```
IETF NSF helper support enabled
```

```
Can be protected by per-prefix Loop-Free FastReroute
```

```
Can be used for per-prefix Loop-Free FastReroute repair paths
```

```
Index 3/3, flood queue length 0
```

```
Next 0x0(0)/0x0(0)
```

```
Last flood scan length is 1, maximum is 2
```

```
Last flood scan time is 0 msec, maximum is 1 msec
```

```
Neighbor Count is 1, Adjacent neighbor count is 1
```

```
Adjacent with neighbor 19.19.19.19
```

```
Suppress hello for 0 neighbor(s)
```

```
Cryptographic authentication enabled
```

```
Youngest key id is 1
```

```
RP/0/0/CPU0:XR1#show ospf interface GigabitEthernet0/0/0.519
```

```
Sun Apr 19 20:44:49.371 UTC
```

```
GigabitEthernet0/0/0.519 is up, line protocol is up
```

```
Internet Address 20.5.19.19/24, Area 0
```

```
Process ID 1, Router ID 19.19.19.19, Network Type POINT_TO_POINT, Cost: 1
```

```
Transmit Delay is 1 sec, State POINT_TO_POINT, MTU 1500, MaxPktSz 1500
```

```
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
```

```
Hello due in 00:00:01:093
```

```
Index 2/2, flood queue length 0
```

```
Next 0(0)/0(0)
```

```
Last flood scan length is 1, maximum is 3
```

```
Last flood scan time is 0 msec, maximum is 0 msec
```

```
LS Ack List: current length 0, high water mark 16
```

```
Neighbor Count is 1, Adjacent neighbor count is 1
```

```
Adjacent with neighbor 5.5.5.5
```

```
Suppress hello for 0 neighbor(s)
```

```
Message digest authentication enabled
```

```
Youngest key id is 1
```

```
Multi-area interface Count is 0
```

```
RP/0/0/CPU0:XR1#debug ospf 1 packet GigabitEthernet0/0/0.519
```

```
Sun Apr 19 20:49:06.944 UTC
```

```
RP/0/0/CPU0:Apr 19 20:49:29.942 : ospf[1014]: Send: HLO 1:48 rid:19.19.19.19 aut:2 auk: from 20.5.19.19 to 224.0.0.5 on GigabitEthernet0/0/0.519, vrf default vrfid 0x60000000
```

```
RP/0/0/CPU0:Apr 19 20:49:32.162 : ospf[1014]: Recv: HLO 1:48 rid:5.5.5.5 aut:2 auk: from 20.5.19.5 to 224.0.0.5 on GigabitEthernet0/0/0.519, vrf default vrfid 0x60000000
```

R6 and XR1 have use clear text authentication and are adjacent with each other.

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```
R6#show ip ospf interface GigabitEthernet1.619
```

```
GigabitEthernet1.619 is up, line protocol is up
```

```
Internet Address 20.6.19.6/24, Area 0, Attached via Network Statement
```

```
Process ID 1, Router ID 6.6.6.6, Network Type BROADCAST, Cost: 100
```

```
Topology-MTID    Cost    Disabled    Shutdown    Topology Name
     0           100         no          no          Base
```

```
Transmit Delay is 1 sec, State BDR, Priority 1
```

```
Designated Router (ID) 19.19.19.19, Interface address 20.6.19.19
```

```
Backup Designated router (ID) 6.6.6.6, Interface address 20.6.19.6
```

```
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
```

```
oob-resync timeout 40
```

```
Hello due in 00:00:06
```

```
Supports Link-local Signaling (LLS)
```

```
Cisco NSF helper support enabled
```

```
IETF NSF helper support enabled
```

```
Can be protected by per-prefix Loop-Free FastReroute
```

```
Can be used for per-prefix Loop-Free FastReroute repair paths
```

```
Index 4/4, flood queue length 0
```

```
Next 0x0(0)/0x0(0)
```

```
Last flood scan length is 1, maximum is 2
```

```
Last flood scan time is 0 msec, maximum is 1 msec
```

```
Neighbor Count is 1, Adjacent neighbor count is 1
```

```
Adjacent with neighbor 19.19.19.19 (Designated Router)
```

```
Suppress hello for 0 neighbor(s)
```

```
Simple password authentication enabled
```

```
RP/0/0/CPU0:XR1#show ospf interface GigabitEthernet0/0/0.619
```

```
Sun Apr 19 20:46:18.715 UTC
```

```
GigabitEthernet0/0/0.619 is up, line protocol is up
```

```
Internet Address 20.6.19.19/24, Area 0
```

```
Process ID 1, Router ID 19.19.19.19, Network Type BROADCAST, Cost: 100
```

```
Transmit Delay is 1 sec, State DR, Priority 1, MTU 1500, MaxPktSz 1500
```

```
Designated Router (ID) 19.19.19.19, Interface address 20.6.19.19
```

```
Backup Designated router (ID) 6.6.6.6, Interface address 20.6.19.6
```

```
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
```

```
Hello due in 00:00:07:113
```

```
Index 3/3, flood queue length 0
```

```
Next 0(0)/0(0)
```

```
Last flood scan length is 1, maximum is 3
```

```
Last flood scan time is 0 msec, maximum is 0 msec
```

```
LS Ack List: current length 0, high water mark 6
```

```
Neighbor Count is 1, Adjacent neighbor count is 1
```

```
Adjacent with neighbor 6.6.6.6 (Backup Designated Router)
```

```
Suppress hello for 0 neighbor(s)
```

```
Clear text authentication enabled
```

```
Multi-area interface Count is 0
```

```
RP/0/0/CPU0:XR1#debug ospf 1 packet GigabitEthernet0/0/0.619
```

```
Sun Apr 19 20:47:28.721 UTC
```

```
RP/0/0/CPU0:Apr 19 20:48:01.358 : ospf[1014]: Send: HLO 1:48 rid:19.19.19.19 aut:1 auk:INECLEAR^?^? from 20.6.19.19 to 224.0.0.5 on GigabitEthernet0/0/0/0.619, vrf default vrfid 0x60000000
RP/0/0/CPU0:Apr 19 20:48:01.688 : ospf[1014]: Recv: HLO 1:48 rid:6.6.6.6 aut:1 auk: from 20.6.19.6 to 224.0.0.5 on GigabitEthernet0/0/0.619, vrf default vrfid 0x60000000
```

« OSPFv2 BFD (/workbook/view/service-provider-v4/task/ospfv2-bfd-MjgzMA%3D%3D) | OSPFv3 (/workbook/view/service-provider-v4/task/ospfv3-MjgzMg%3D%3D) »

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