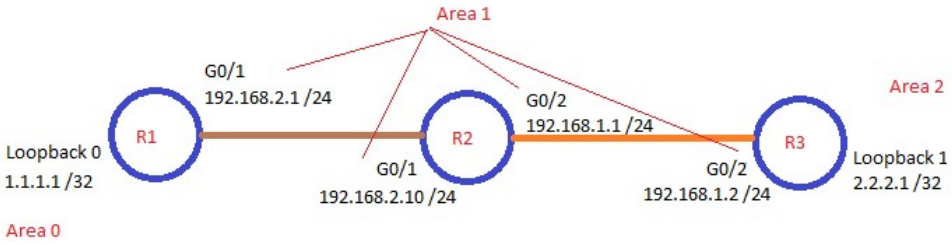
OSPF Authentication

Purpose	**For access installed Router via Telnet**
Test setup	
Test configuration	**Router1 Config** interface GigaEthernet0/1 ip address 192.168.2.1 255.255.255.0 **ip ospf network authentication message-digest** **ip ospf message-digest-key 1 md5 0 test** **Router2 Config** Interface GigaEthernet0/1 Ip address 192.168.2.10 255.255.255.0 **ip ospf network authentication message-digest** **ip ospf message-digest-key 1 md5 0 test**
Procedure	First, enabled authentication only on router 1, to verify neighborship does not work. Once confirmed, configure authentication on Router2. Then verify neighborship is up. Also, Authentication status is shown.
Test result	Router 1 – Enabled Authentication message digest, verify with command " **show ip ospf interface** "

```
Router_1_10#sh ip ospf interface
Loopback0 is up, line protocol is up
  Internet Address: 1.1.1.1/32
  Interface index: 8, 0x1c73db14
  Nettype: Broadcast
  OSPF process is 1,  AREA: 0, Router ID: 1.1.1.1
  Cost: 1, Priority 1, Transmit Delay is 1 sec
  Hello interval is 10, Dead timer is 40, Retransmit is 5
  OSPF INTF State is ILOOPBACK
  Neighbor Count is 0, Adjacent neighbor count is 0
  Null authentication enabled

GigaEthernet0/1 is up, line protocol is UP
  Internet Address: 192.168.2.1/24
  Interface index: 3, 0x1c7fe3a0
  Nettype: Broadcast
  OSPF process is 1,  AREA: 1, Router ID: 1.1.1.1
  Cost: 1, Priority 1, Transmit Delay is 1 sec
  Hello interval is 10, Dead timer is 40, Retransmit is 5
  OSPF INTF State is IDr
  Designated Router ID: 1.1.1.1, Interface address 192.168.2.1
  Neighbor Count is 0, Adjacent neighbor count is 0
  Message digest authentication enabled
    Youngest key id is 1
    Rollover in progress

Router_1_10#
```

Verify Router 2 " **show ip ospf interface** "

```
Router_2_20#sh ip ospf interface
GigaEthernet0/2 is up, line protocol is UP
  Internet Address: 192.168.1.1/24
  Interface index: 4, 0x1c7f72d4
  Nettype: Broadcast
  OSPF process is 1,  AREA: 1, Router ID: 192.168.2.10
  Cost: 1, Priority 1, Transmit Delay is 1 sec
  Hello interval is 10, Dead timer is 40, Retransmit is 5
  OSPF INTF State is IBACKUP
  Designated Router ID: 2.2.2.1, Interface address 192.168.1.2
  Backup Designated Router ID: 192.168.2.10, Interface address 192.168.1.1
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 2.2.2.1 (Designated Router)
  Null authentication enabled

GigaEthernet0/1 is up, line protocol is UP
  Internet Address: 192.168.2.10/24
  Interface index: 3, 0x1c781cec
  Nettype: Broadcast
  OSPF process is 1,  AREA: 1, Router ID: 192.168.2.10
  Cost: 1, Priority 1, Transmit Delay is 1 sec
  Hello interval is 10, Dead timer is 40, Retransmit is 5
  OSPF INTF State is IDr
  Designated Router ID: 192.168.2.10, Interface address 192.168.2.10
  Neighbor Count is 0, Adjacent neighbor count is 0
  Null authentication enabled

Router_2_20#
```

Configure Authentication message digest on Router 2

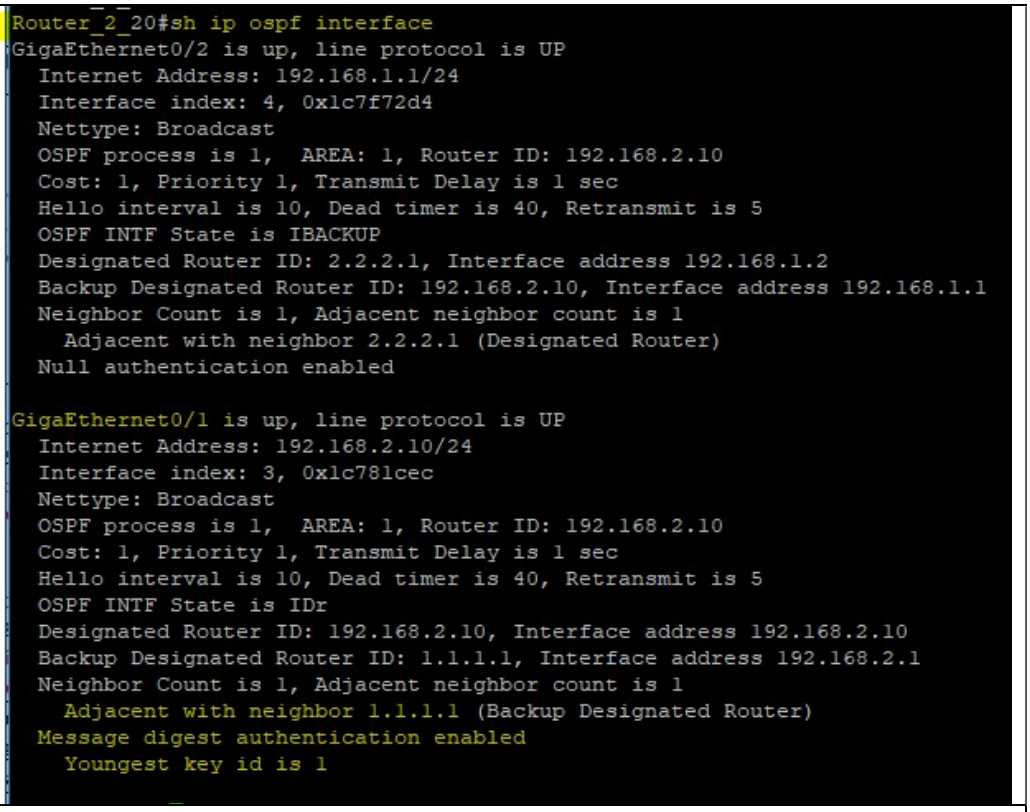
```
Router_2_20#sh run | begi  GigaEthernet0/1
Building configuration...

Current configuration:
!
interface GigaEthernet0/1
 ip address 192.168.2.10 255.255.255.0
 no ip directed-broadcast
 ipv6 enable
 ipv6 address autoconfig
 ipv6 dhcp client na
 ip ospf authentication message-digest
 ip ospf message-digest-key 1 md5 0 test
 ip http firewalltype 0
!
```

Verify <u>both routers</u> are now adjacent neighbor " **show ip ospf interface** "

```
Router_1_10#sh ip ospf interface
Loopback0 is up, line protocol is up
  Internet Address: 1.1.1.1/32
  Interface index: 8, 0x1c73db14
  Nettype: Broadcast
  OSPF process is 1,  AREA: 0, Router ID: 1.1.1.1
  Cost: 1, Priority 1, Transmit Delay is 1 sec
  Hello interval is 10, Dead timer is 40, Retransmit is 5
  OSPF INTF State is ILOOPBACK
  Neighbor Count is 0, Adjacent neighbor count is 0
  Null authentication enabled

GigaEthernet0/1 is up, line protocol is UP
  Internet Address: 192.168.2.1/24
  Interface index: 3, 0x1c7fe3a0
  Nettype: Broadcast
  OSPF process is 1,  AREA: 1, Router ID: 1.1.1.1
  Cost: 1, Priority 1, Transmit Delay is 1 sec
  Hello interval is 10, Dead timer is 40, Retransmit is 5
  OSPF INTF State is IBACKUP
  Designated Router ID: 192.168.2.10, Interface address 192.168.2.10
  Backup Designated Router ID: 1.1.1.1, Interface address 192.168.2.1
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 192.168.2.10 (Designated Router)
  Message digest authentication enabled
    Youngest key id is 1
```

	
Status	If Authentication configured on both routers correctly, neighborship comes up. If any of the router is missing configuration neighborship will not come up.