For this lab section, refer to Figure 26-6 on page 927 of the book.

Step 1

```
hostname R6
!
ip nat inside source list 1 interface Serial0/0 overload
!
ip nat inside source static tcp 130.100.26.10 80
140.100.56.6 80 extendable no-alias
ip nat inside source static tcp 130.100.26.12 21
140.100.56.6 21 extendable no-alias
ip nat inside source static tcp 130.100.26.12 20
140.100.56.6 20 extendable no-alias
ip nat inside source static tcp 130.100.26.11 23
140.100.56.6 23 extendable no-alias
!
interface FastEthernet0/0
 ip address 130.100.26.6 255.255.255.224
 ip nat inside
!
interface Serial0/0
 ip address 140.100.56.6 255.255.255.192
ip nat outside
!
access-list 1 permit 130.100.26.0 0.0.0.255


R6#sho ip nat tr
Pro Inside global      Inside local       Outside local
Outside global
tcp 140.100.56.6:20    130.100.26.12:20   ---
---
tcp 140.100.56.6:21    130.100.26.12:21   ---
---
tcp 140.100.56.6:23    130.100.26.11:23   ---
---
tcp 140.100.56.6:80    130.100.26.10:80   ---
---
```

Step 2

```
hostname R6
!
ip inspect audit-trail
ip inspect name ccie_cbac tcp
ip inspect name ccie_cbac udp
ip inspect name ccie_cbac ftp
ip inspect name ccie_cbac http
ip inspect name ccie_cbac smtp

ip audit notify log
ip audit po max-events 100
!
interface FastEthernet0/0
 ip address 130.100.26.6 255.255.255.224
 ip access-group 101 in
 no ip proxy-arp
 ip nat inside
```

```
 ip inspect ccie_cbac in
!
interface Serial0/0
 ip address 140.100.56.6 255.255.255.192
 ip access-group 112 in
 ip nat outside
 ip ospf authentication message-digest
 ip ospf message-digest-key 5 md5 cisco
 ip ospf network point-to-point
 no cdp enable
 crypto map vpn
!
access-list 101 permit tcp any any log
access-list 101 permit udp any any log
access-list 101 permit icmp any any log
access-list 101 permit gre any any log
access-list 101 permit ospf any any log
!
access-list 112 permit tcp any any eq bgp log
access-list 112 permit eigrp any any log
access-list 112 permit ospf any any log
access-list 112 permit gre any any log
access-list 112 permit esp any any log
access-list 112 permit ahp any any log
access-list 112 permit icmp any any unreachable
access-list 112 permit icmp any any echo-reply
access-list 112 permit icmp any any packet-too-big
access-list 112 permit icmp any any time-exceeded
access-list 112 permit icmp any any traceroute
access-list 112 permit icmp any any administratively-
prohibited
access-list 112 permit icmp any any echo
access-list 112 permit tcp any any eq telnet
```

Step 3

```
hostname R8
!
ip inspect audit-trail
ip inspect max-incomplete low 300
ip inspect max-incomplete high 950
ip inspect dns-timeout 50
ip inspect tcp idle-time 130
ip inspect tcp max-incomplete host 132 block-time 15
ip inspect name r8_cbac tcp
ip inspect name r8_cbac http java-list 2 alert on audit-
trail on
ip audit notify log
ip audit po max-events 100
!
interface FastEthernet0/0
 description NAT to Internet
 ip address 65.25.160.24 255.255.255.0
 ip access-group 150 in
 ip inspect r8_cbac out
 no ip route-cache
 no ip mroute-cache
 duplex auto
 speed auto
```

```
 no cdp enable
!
access-list 150 permit gre any any
access-list 150 permit ospf any any
access-list 150 permit tcp any any eq telnet
access-list 150 permit tcp any any eq bgp
access-list 150 permit icmp any any echo-reply
access-list 150 permit icmp any any time-exceeded
access-list 150 permit icmp any any packet-too-big
access-list 150 permit icmp any any traceroute
access-list 150 permit icmp any any unreachable
access-list 150 deny   tcp any any
access-list 150 deny   udp any any
```

```
R8#sho ip inspect all
Session audit trail is enabled
Session alert is enabled
one-minute (sampling period) thresholds are [400:500]
connections
max-incomplete sessions thresholds are [300:950]
max-incomplete tcp connections per host is 132. Block-time
15 minutes.
tcp synwait-time is 30 sec -- tcp finwait-time is 5 sec
tcp idle-time is 130 sec -- udp idle-time is 30 sec
dns-timeout is 50 sec
Inspection Rule Configuration
 Inspection name r8_cbac
    tcp alert is on audit-trail is on timeout 130
    http java-list 2 alert is on audit-trail is on timeout
130

Interface Configuration
 Interface FastEthernet0/0
  Inbound inspection rule is not set
  Outgoing inspection rule is r8_cbac
    tcp alert is on audit-trail is on timeout 130
    http java-list 2 alert is on audit-trail is on timeout
130
  Inbound access list is 150
  Outgoing access list is not set
```

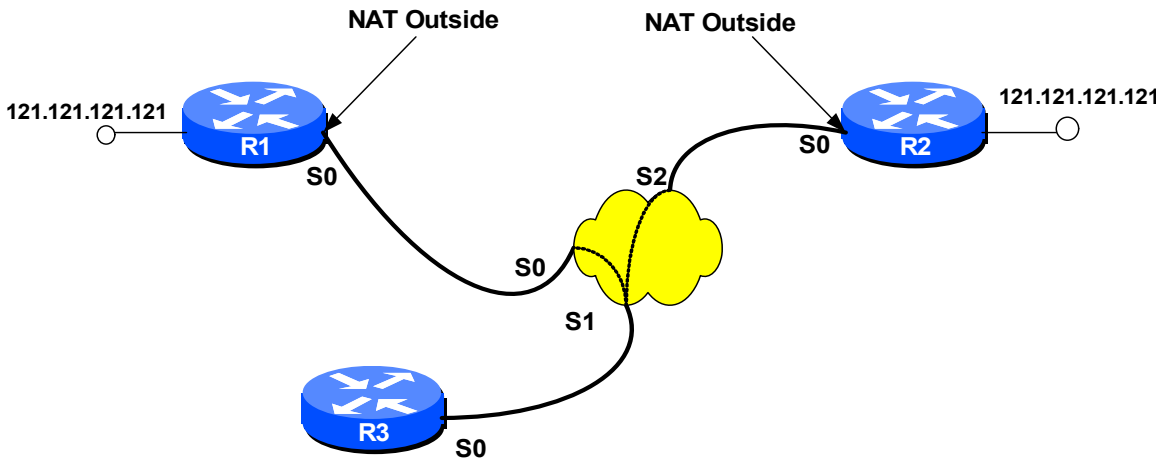
```
R8#sho ip inspect sessions
Established Sessions
 Session 82B3FED0 (192.168.1.8:2287)=>(198.133.219.25:80)
http SIS_OPEN
 Session 82B40490 (192.168.1.6:4103)=>(216.136.226.118:23)
tcp SIS_OPEN
 Session 82B3C100 (192.168.1.6:4105)=>(207.46.106.47:1863)
tcp SIS_OPEN
 Session 82B3E4F0 (192.168.1.6:4106)=>(65.210.179.117:2525)
tcp SIS_OPEN
 Session 82B40040 (192.168.1.6:4104)=>(64.0.96.33:80) http
SIS_OPEN
```

```
R8#sho access-lists 150
Extended IP access list 150
```

```
 permit tcp host 216.136.226.118 eq telnet host 65.25.160.24
eq 4103 (9 matches)
 permit tcp host 64.0.96.33 eq www host 65.25.160.24 eq 4104
(7 matches)
 permit tcp host 207.46.106.47 eq 1863 host 65.25.160.24 eq
4105 (23 matches)
 permit tcp host 65.210.179.117 eq 2525 host 65.25.160.24 eq
4106 (6 matches)
 permit tcp host 198.133.219.25 eq www host 65.25.160.24 eq
2287 (4 matches)
    permit gre any any
    permit ospf any any
    permit tcp any any eq telnet (186 matches)
    permit tcp any any eq bgp
    permit icmp any any echo-reply
    permit icmp any any time-exceeded
    permit icmp any any packet-too-big
    permit icmp any any traceroute
    permit icmp any any unreachable (10 matches)
    deny tcp any any (116 matches)
    deny udp any any (199 matches)
```

```
R8#sho ip inspect config
Session audit trail is enabled
Session alert is enabled
one-minute (sampling period) thresholds are [400:500]
connections
max-incomplete sessions thresholds are [300:950]
max-incomplete tcp connections per host is 132. Block-time
15 minutes.
tcp synwait-time is 30 sec -- tcp finwait-time is 5 sec
tcp idle-time is 130 sec -- udp idle-time is 30 sec
dns-timeout is 50 sec
Inspection Rule Configuration
 Inspection name r8_cbac
    tcp alert is on audit-trail is on timeout 130
    http java-list 2 alert is on audit-trail is on timeout
130
```

Step 4




```
hostname R1
```

```
!
logging queue-limit 100
enable secret 5 $1$1xxK$LWh42sY9aO17mvAuehLPM.
!
ip subnet-zero
!
!
interface Loopback1
 description OSPF Loopback
 ip ospf network point-to-point
 ip address 1.1.1.1 255.255.255.255
!
interface Loopback10
 description BGP Loopback
 ip address 1.1.1.11 255.255.255.255
!
interface Loopback11
 ip address 11.11.11.11 255.255.255.255
!
interface Loopback12
 description Same IP Address as R2
 ip address 121.121.121.121 255.255.255.0
 ip nat inside
!
interface Serial0
 ip address 150.100.31.1 255.255.255.240
 ip nat outside
 encapsulation frame-relay
 ip ospf authentication message-digest
 ip ospf message-digest-key 5 md5 7 094F471A1A0A
 ip ospf network point-to-point
 ip ospf hello-interval 65
 traffic-shape rate 512000 12800 12800 1000
 traffic-shape adaptive 32000
 frame-relay map ip 150.100.31.3 101 broadcast
 frame-relay interface-dlci 101
 frame-relay lmi-type ansi
!
router ospf 123
 router-id 1.1.1.1
 log-adjacency-changes
 area 0 authentication message-digest
 redistribute static subnets
 network 1.1.1.1 0.0.0.0 area 0
 network 150.100.31.0 0.0.0.15 area 0
 distribute-list 2 in Serial0
 distribute-list 1 in
!
router bgp 1
 no synchronization
 bgp router-id 1.1.1.1
 bgp cluster-id 16843019
 bgp log-neighbor-changes
 bgp confederation identifier 1234
 bgp confederation peers 2 3
 network 1.1.1.11 mask 255.255.255.255
 neighbor 150.100.31.3 remote-as 3
 no auto-summary
```

```
!
ip nat inside source static network 121.121.121.121
172.18.1.1 /32 no-alias
ip classless
ip route 172.18.1.1 255.255.255.255 Null0
ip http server
!
access-list 1 deny   5.5.5.55
access-list 1 permit any
access-list 2 deny   6.6.6.6
access-list 2 permit any
```

```
R1# sho ip ospf da | include 172.18
172.18.1.1      1.1.1.1         1817        0x80000001
0x0017C4 0
R1#
```

```
R2#sho ip route 172.18.1.1
Routing entry for 172.18.1.1/32
  Known via "ospf 123", distance 110, metric 20, type extern
2, forward metric 128
  Last update from 150.100.32.3 on Serial0, 00:28:36 ago
  Routing Descriptor Blocks:
  * 150.100.32.3, from 1.1.1.1, 00:28:36 ago, via Serial0
      Route metric is 20, traffic share count is 1
```

```
R2# From R2 ping Loopback 12

R2#ping 172.18.1.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.18.1.1, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max =
108/108/112 ms
R2#
```

```
hostname R2
!
logging queue-limit 100
enable secret 5 $1$OiDj$4.39veJ97UQ7La4nOLLiC0
!
ip subnet-zero
no ip domain-lookup
!
!
!
!
!
interface Loopback2
 description OSPF Loopback
 ip address 2.2.2.2 255.255.255.255
!
interface Loopback12
 description Same IP Address AS R1
 ip address 121.121.121.121 255.255.255.0
```

```
 ip nat inside
!
interface Loopback22
 description BGP Loopback
 ip address 2.2.2.22 255.255.255.255
!
interface Ethernet0
 ip address 222.222.222.1 255.255.255.0
!
interface Serial0
 ip address 150.100.32.2 255.255.255.224
 ip access-group 100 in
 ip nat outside
 encapsulation frame-relay
 ip ospf authentication message-digest
 ip ospf message-digest-key 5 md5 7 045802150C2E
 ip ospf network point-to-point
 ip ospf hello-interval 65
 ip ospf priority 0
 frame-relay map ip 150.100.32.3 202 broadcast
 frame-relay interface-dlci 202
!
!
router ospf 123
 router-id 2.2.2.2
 log-adjacency-changes
 area 0 authentication message-digest
 area 2 nssa
 redistribute static subnets
 network 2.2.2.2 0.0.0.0 area 0
 network 150.100.32.0 0.0.0.31 area 0
 network 222.222.222.0 0.0.0.255 area 2

!
router bgp 2
 bgp router-id 2.2.2.2
 bgp cluster-id 33686038
 bgp log-neighbor-changes
 bgp confederation identifier 1234
 bgp confederation peers 1 3
 network 2.2.2.22 mask 255.255.255.255
 neighbor 150.100.32.3 remote-as 3
 neighbor 150.100.32.3 description R3
!
ip nat inside source static network 121.121.121.121
172.19.1.1 /32 no-alias
ip classless
ip route 172.19.1.1 255.255.255.255 Null0
ip http server
!
access-list 100 permit tcp any any eq bgp
access-list 100 permit ip any 224.0.0.0 0.255.255.255
access-list 100 permit icmp any any echo
access-list 100 permit icmp any any echo-reply
access-list 100 permit ospf any any
access-list 100 permit tcp any any eq www
!
```

```
R2#sho ip nat translations
Pro Inside global      Inside local       Outside local
Outside global
--- 172.19.1.1         121.121.121.121    ---
---

Subnet translation:
Inside global   Inside local    Outside local   Outside
global /prefix
172.19.1.1      121.121.121.121 ---             ---
/32


R2#sho ip ospf database | include 172.19
172.19.1.1      2.2.2.2         50          0x80000002
0x00CE05 0
172.19.1.1      2.2.2.2         50          0x80000002
0x00EAEA 0
R2#
```

```
R1#ping 172.19.1.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.19.1.1, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max =
108/108/112 ms
```

```
R1#sho ip route 172.19.1.1
Routing entry for 172.19.1.1/32
  Known via "ospf 123", distance 110, metric 20, type extern
2, forward metric 128
  Last update from 150.100.31.3 on Serial0, 00:33:44 ago
  Routing Descriptor Blocks:
  * 150.100.31.3, from 2.2.2.2, 00:33:44 ago, via Serial0
      Route metric is 20, traffic share count is 1
```

Step 5:

```
hostname R6
!
interface FastEthernet0/0
 ip address 130.100.26.6 255.255.255.224
 ip access-group time_acl in
 no ip proxy-arp
 ip nat inside
 ip rip authentication mode md5
 ip rip authentication key-chain ccie
 ip inspect ccie in
no cdp enable
!
ip access-list extended time_acl
 deny   tcp any any eq www log time-range weekdays
 permit udp any any time-range weekends
 permit gre any any log
```

```
 permit ospf any any log
 permit icmp any any log
  permit tcp any any eq bgp log
!
time-range weekdays
 periodic weekdays 8:00 to 18:00
!
time-range weekends
 periodic weekend 12:00 to 18:00
```

```
R6#sho access-lists time_acl
Extended IP access list time_acl
    deny tcp any any eq www log time-range weekdays
(inactive)
    permit udp any any time-range weekends (inactive)
    permit gre any any log (174 matches)
    permit ospf any any log (48 matches)
    permit icmp any any log (10 matches)
    permit tcp any any eq bgp log (9 matches)
```

```
R6#clock set 17:00:12 18 MARCH 2003
```

```
R6#sho access-lists time_acl
Extended IP access list time_acl
    deny tcp any any eq www log time-range weekdays (active)
    permit udp any any time-range weekends (inactive)
    permit gre any any log (394 matches)
    permit ospf any any log (74 matches)
    permit icmp any any log (10 matches)
    permit tcp any any eq bgp log (14 matches)
```

Step 6

```
line vty 0 4
 access-class 67 in
 !
access-list 67 permit 150.100.32.2 log
access-list 67 permit 150.100.31.1 log
```