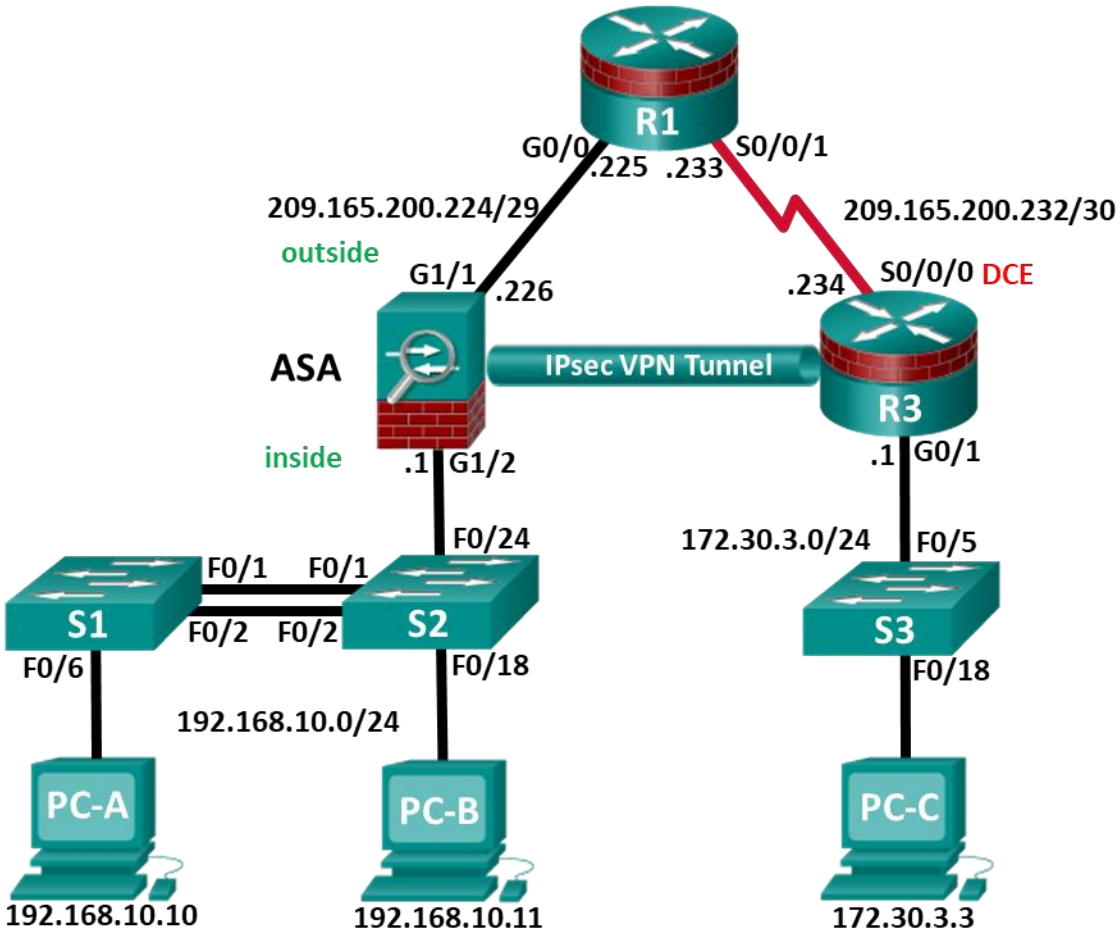
Skills Assessment Using ASA 5506-X – Form B (Answer Key)

Instructor Note: Red font color or gray highlights indicate text that appears in the instructor copy only.

Topology



Assessment Objectives

Part 1: Verify Network Connectivity (1 points, 5 minutes**)**

Note: Basic configuration is completed by the instructor in preparation for the exam.

Part 2: Configure Secure Router Administrative Access (17 points, 15 minutes)

Part 3: Configure a Zone-Based Policy Firewall (14 points, 10 minutes)

Part 4: Secure Layer 2 Switches (22 points, 20 minutes)

Part 5: Configure ASA Basic Management and Firewall Settings (18 points, 15 minutes)

Part 6: Configure a Site-To-Site IPsec VPN (28 points, 25 minutes)

Scenario

This Skills Assessment (SA) is the final practical exam of student training for the CCNA Security course. The exam is divided into six parts. The parts should be completed sequentially and signed off by your instructor before moving on to the next part. In Part 1 you will verify that the basic device settings have been preconfigured by the instructor. In Part 2, you will secure a network router using the command-line interface (CLI) to configure various IOS features including AAA and SSH. In Part 3, you will configure zone-based policy firewall (ZPF) on an integrated service router (ISR) using the CLI. In Part 4, you will configure and secure Layer 2 switches using the CLI. In Part 5, you will configure the ASA management and firewall settings using the CLI. In Part 6, you will configure a site-to-site IPsec VPN between R3 and the ASA using the CLI and ASDM.

Instructor Note: The routers used in this SA are Cisco 1941 ISRs with Cisco IOS Release 15.4(3)M2 (universalk9 image). Other routers and Cisco IOS versions can be used. Depending on the model and Cisco IOS version, the commands available and output produced might vary from what is shown in this SA. Refer to the Router Interface Summary table at the end of this SA for the correct interface identifiers.

Instructor Note: Sample scoring and estimated times for each exam are provided. These can be adjusted by the instructor as necessary to suit the testing environment. Total points for the exam are 100 and total time is estimated at 90 minutes. The instructor may elect to deduct points if excessive time is taken for a part of the assessment.

Required Resources

- 2 Routers (Cisco 1941 with Cisco IOS Release 15.4(3)M2 image with a Security Technology Package license)
- 3 Switches (Cisco 2960 with cryptography IOS image for SSH support – Release 15.0(2)SE7 or comparable)
- 1 ASA 5506-X (OS version 9.10(1) and ASDM version 7.10(1) and Base license or comparable)
- 3 PCs (Windows, SSH Client and Java version compatible with installed ASDM version)
- Console cable to configure the Cisco IOS devices via the console ports
- Ethernet and Serial cables as shown in the topology

Instructor Notes:

Router Resource Requirements:

Note: The following requirements are critical to successful completion of this SA.

Instructor Note: In the interest of time, the instructor should pre-configure the basic device settings. Basic configurations are provided below for R1 and R3. Static IP address settings have also been provided for the PC hosts.

R1 Startup Configuration

```
hostname R1
no ip domain lookup
interface GigabitEthernet0/0
 ip address 209.165.200.225 255.255.255.248
 no shutdown
interface Serial0/0/1
 ip address 209.165.200.233 255.255.255.252
 no shutdown
ip route 172.30.3.0 255.255.255.0 209.165.200.234
```

```
ntp authentication-key 1 md5 NTPpassword
ntp trusted-key 1
ntp authenticate
ntp master 3
end
```

R3 Startup Configuration

```
hostname R3
no ip domain lookup
interface G0/1
 ip address 172.30.3.1 255.255.255.0
 no shut
int S0/0/0
 ip address 209.165.200.234 255.255.255.252
 no shutdown
ip route 0.0.0.0 0.0.0.0 209.165.200.233
end
```

S1 Startup Configuration

```
hostname S1
no ip domain lookup
spanning-tree vlan 1 root primary
interface range f0/3-5, f0/7-24, g0/1-2
 shutdown
end
```

S2 Startup Configuration

```
hostname S2
no ip domain lookup
spanning-tree vlan 1 root secondary
end
```

PC-A

IP Address: **192.168.10.10**
Subnet Mask: **255.255.255.0**
Default Gateway: **192.168.10.1**

PC-B

IP Address: **192.168.10.11**
Subnet Mask: **255.255.255.0**
Default Gateway: **192.168.10.1**

PC-C

IP Address: **172.30.3.3**
Subnet Mask: **255.255.255.0**

Default Gateway: **172.30.3.1**

Part 1: Verify Network Connectivity

Total points: 17

Time: 15 minutes

In the interest of time, your instructor has pre-configured basic settings on R1 and R3, and the static IP address information for the PC hosts in the topology. In Part 1, you will verify that PC-C can ping the G0/1 interface on R3.

Configuration Task	Specification	Points
Ping the G0/1 interface on R3 from PC-C.	See Topology for specific settings.	1/2
Ping the S0/0/1 interface on R1 from R3.	See Topology for specific settings.	1/2

Instructor Sign-Off Part 1: _____

Points: _____ **of 1**

Note: Do not proceed to Part 2 until your instructor has signed off on Part 1.

Part 2: Configure Secure Router Administrative Access

Total points: 17

Time: 15 minutes

In Part 2, you will secure administrative access on router R3 using the CLI. Configuration tasks include the following:

Configuration Item or Task	Specification	Points
Set minimum password length.	Minimum Length: **10** characters	1
Assign and encrypt a privileged EXEC password.	Password: **cisco12345** Encryption type: 9 (**scrypt**)	1
Add a user in the local database for administrator access	Username: **Admin01** Privilege level: **15** Encryption type: 9 (**scrypt**) Password: **admin01pass**	1
Configure MOTD banner.	**Unauthorized Access is Prohibited!**	1/2
Disable HTTP server services.		1/2
Configure SSH.	Domain name: **ccnassecurity.com** RSA Keys size: **1024** Version: **2** Timeout: **90** seconds Authentication retries: **2**	4
Configure VTY lines to allow SSH access.	Allow only **SSH** access.	1

Configuration Item or Task	Specification	Points
Configure AAA authentication and authorization settings.	Enable AAA Use **local database** as default setting.	2
Configure NTP.	Authentication Key: **NTPpassword** Encryption: **MD5** Key: **1** NTP Server: **209.165.200.233** Configure for periodic calendar updates.	4
Configure syslog.	Enable timestamp service to log the date and time in milliseconds. Send syslog messages to: **172.30.3.3** Set message logging severity level: **Warnings**	2

Configuration Item or Task	Configuration Commands	Verification Commands
Set minimum password length.	security passwords min-length 10	show run | inc passwords
Assign and encrypt a privileged EXEC password.	enable algorithm-type scrypt secret cisco12345	show run | inc enable Verify encryption type 9.
Add a user in the local database for administrator access.	username Admin01 privilege 15 algorithm-type scrypt secret admin01pass	show run | include username Verify Username, Privilege level, and encryption type. The password can be verified.
Configure MOTD banner.	banner motd $Unauthorized Access is Prohibited!$	show run | inc banner
Disable HTTP server services.	no ip http server	show run | inc http
Configure SSH.	ip domain-name ccnasecurity.com crypto key generate rsa general-keys modulus 1024 ip ssh version 2 ip ssh time-out 90 ip ssh authentication-retries 2	show ip ssh
Configure VTY lines to allow SSH access.	line vty 0 4 transport input ssh exit	show run | sec vty

Configuration Item or Task	Configuration Commands	Verification Commands
Configure AAA authentication and authorization settings.	aaa new-model aaa authentication login default local aaa authorization exec default local	show run | inc aaa
Configure NTP.	ntp authentication-key 1 md5 NTPpassword ntp authenticate ntp server 209.165.200.233 ntp update-calendar	show ntp associations show run | sec ntp
Configure syslog.	service timestamps log datetime msec logging 172.30.3.3 logging trap warnings	show run | sec logging show logging

Note: Before proceeding to Part 3, ask your instructor to verify R3's configuration and functionality.

Instructor Sign-Off Part 2: _____

Points: _____ **of 17**

Part 3: Configure a Zone-Based Policy Firewall

Total points: 14

Time: 10 minutes

In Part 3, you will configure a zone-based policy firewall on R3 using the CLI. Configuration tasks include the following:

Configuration Item or Task	Specification	Points
Create security zone names.	Inside zone name: **INSIDE** Outside zone name: **INTERNET**	2
Create an inspect class map.	Class map name: **INSIDE_PROTOCOLS** Inspection type: **match-any** Protocols allowed: **tcp, udp, icmp**	3
Create an inspect policy map.	Policy map name: **INSIDE_TO_INTERNET** Bind the class map to the policy map. Matched packets should be inspected.	3
Create a zone pair.	Zone pair name: **IN_TO_OUT_ZONE** Source zone: **INSIDE** Destination zone: **INTERNET**	2
Apply the policy map to the zone pair.	Zone pair name: **IN_TO_OUT_ZONE** Policy map name: **INSIDE_TO_INTERNET**	2
Assign interfaces to the proper security zones.	Interface G0/1: **INSIDE** Interface S0/0/0: **INTERNET**	2

Configuration Item or Task	Configuration Commands	Verification Commands
Create security zone names.	zone security INSIDE zone security INTERNET	show run | section zone security
Create an inspect class map.	class-map type inspect match-any INSIDE_PROTOCOLS match protocol tcp match protocol udp match protocol icmp	show class-map type inspect
Create an inspect policy map.	policy-map type inspect INSIDE_TO_INTERNET class type inspect INSIDE_PROTOCOLS inspect	show policy-map type inspect
Create a zone pair.	zone-pair security IN_TO_OUT_ZONE source INSIDE destination INTERNET	show zone-pair security
Apply the policy map to the zone pair.	zone-pair security IN_TO_OUT_ZONE service-policy type inspect INSIDE_TO_INTERNET	show zone-pair security
Assign interfaces to the proper security zones.	interface g0/1 zone-member security INSIDE interface s0/0/0 zone-member security INTERNET	show zone security

Troubleshoot as necessary to correct any issues discovered.

Note: Before proceeding to Part 4, ask your instructor to verify your ZPF configuration and functionality.

Instructor Sign-Off Part 2: _____

Points: _____ **of 14**

Part 4: Secure Layer 2 Switches

Total points: 22

Time: 20 minutes

Note: Not all security features in this part of the exam will be configured on all switches. However, in a production network, all security feature will be configured on all switches. In the interest of time, the security features are configured on just S2, except where noted.

In Part 4, you will configure security settings on the indicated switch using the CLI. Configuration tasks include the following:

Configuration Item or Task	Specification	Points
Assign and encrypt a privileged EXEC password.	Switch: **S2** Password: **cisco12345**. Encryption type: 9 (**scrypt**)	1/2

Configuration Item or Task	Specification	Points
Add a user in the local database for administrator access	Switch: **S2** Username: **Admin01** Privilege level: **15** Encryption type: 9 (**scrypt**) Password: **admin01pass**	1
Configure MOTD banner.	Switch: **S2** Banner: **Unauthorized Access is Prohibited!**	1/2
Disable HTTP and HTTP secure server.	Switch: **S2**	1
Configure SSH.	Switch: **S2** Domain name: **ccnassecurity.com** RSA Keys size: **1024** Version: **2** Timeout: **90** seconds Authentication retries: **2**	2
Configure VTY lines to allow SSH access.	Switch: **S2** Allow **SSH** access only.	1/2
Configure AAA authentication and authorization settings.	Switch: **S2** Enable **AAA** Use **local database** as default setting	2
Create VLAN list.	Switches: **S1 & S2** VLAN**: 2,** Name: **NewNative** VLAN: **10**, Name: **LAN** VLAN: **99**, Name: **Blackhole**	1/2
Configure trunk ports.	Switches: **S1 & S2** Interfaces: **F0/1, F0/2** Native VLAN: 2 Prevent DTP.	2
Disable trunking.	Switch: **S2** Ports: **F0/18, F0/24** VLAN assignment: **10**	2
Enable PortFast and BPDU guard.	Switch: **S2** Ports: **F0/18, F0/24**	2
Configure basic port security.	Switch: **S2** Port: **F0/18** Maximum limit: **1** Remember MAC Address Violation Action: **Shutdown**	3

Configuration Item or Task	Specification	Points
Disable unused ports on S2, and assign ports to VLAN 99.	Switch: **S2** Ports: **F0/3-17, F0/19-23, G0/1-2**	1
Configure Loop guard.	Switch: **S2** Loop guard: **Default**	1
Configure DHCP snooping.	Enable DHCP Snooping globally Enable DHCP for VLAN: **10** DHCP trusted interface: **F0/24**	3

NETLAB+ Note: Use a Maximum limit of **2** when configuring basic port security. Otherwise, the hidden Control Switch will cause a violation to occur and the port will be shutdown.

Configuration Item or Task	Configuration Commands	Verification Commands
Assign and encrypt a privileged EXEC password. (Switch: **S2 only)**	enable algorithm-type scrypt secret cisco12345	show run | inc enable Verify encryption type 9.
Add a user in the local database for administrator access. (Switch: **S2 only)**	username Admin01 privilege 15 algorithm-type scrypt secret admin01pass	show run | include username Verify username, privilege level, and encryption type. The password can be verified.
Configure MOTD banner. (Switch: **S2 only)**	banner motd $Unauthorized Access is Prohibited!$	show run | inc banner
Disable HTTP and HTTP secure server. (Switch: **S2 only)**	no ip http server no ip http secure-server	show run | inc http
Configure SSH. (Switch: **S2 only)**	ip domain-name ccnasecurity.com crypto key generate rsa general-keys modulus 1024 ip ssh version 2 ip ssh time-out 90 ip ssh authentication-retries 2	show ip ssh
Configure VTY lines to allow SSH access. (Switch: **S2 only)**	line vty 0 15 transport input ssh exit	show run | sec vty

Configuration Item or Task	Configuration Commands	Verification Commands
Configure AAA authentication and authorization settings. (Switch: **S2 only)**	aaa new-model aaa authentication login default local aaa authorization exec default local	show run | inc aaa
Create VLAN list. (Switch: **S1 & S2**)	vlan 2 name NewNative vlan 10 name LAN vlan 99 name Blackhole exit	show vlan
Configure trunk ports. (Switch: **S1 & S2**)	interface range f0/1-2 switchport mode trunk switchport trunk native vlan 2 switchport nonegotiate	show run | beg interface
Disable trunking. (Switch: **S2 only)**	interface ran f0/18, f0/24 switchport mode access switchport access vlan 10	show run interface f0/18 show run interface f0/24
Enable PortFast and BPDU guard. (Switch: **S2 only)**	interface ran f0/18, f0/24 spanning-tree portfast spanning-tree bpduguard enable	show run interface f0/18 show run interface f0/24
Configure basic port security. (Switch: **S2 only)**	Interface f0/18 switchport port-security switchport port-security maximum 1 switchport port-security mac-address sticky switchport port-security violation shutdown	show port-security interface fa0/18
Disable unused ports on S2, and assign ports to VLAN 99. (Switch: **S2 only)**	interface range f0/3-17, f0/19-23, g0/1-2 switchport mode access switchport access vlan 99 shutdown	show ip interface brief (Determine whether interfaces are administratively down.)
Configure Loop guard. (Switch: **S2 only)**	spanning-tree loopguard default	show spanning-tree summary (Determine whether Loopguard Default is enabled.)

Configuration Item or Task	Configuration Commands	Verification Commands
Configure DHCP snooping. (Switch: **S2 only)**	ip dhcp snooping ip dhcp snooping vlan 10 int f0/24 ip dhcp snooping trust end	show ip dhcp snooping

Troubleshoot as necessary to correct any issues discovered.

Note: Before proceeding to Part 5, ask your instructor to verify your switch configuration and functionality.

Instructor Sign-Off Part 4: _____

Points: _____ **of 22**

Part 5: Configure ASA Basic Management and Firewall Settings

Total points: 18

Time: 15 minutes

Note: By default, the privileged EXEC password is blank. Press **Enter** at the password prompt.

In Part 5, you will configure the ASA's basic setting and firewall using the CLI. Configuration tasks include the following:

Configuration Item or Task	Specification	Points
Configure the ASA hostname.	Name: **CCNAS-ASA**	1/2
Configure the domain name.	Domain Name: **ccnasecurity.com**	1/2
Configure the privileged EXEC password.	Password: **cisco12345**	1/2
Add a user to the local database for administrator console access.	User: **Admin01** Password: **admin01pass**	1/2
Configure AAA to use the local database for SSH user authentication for console access.		1
Configure interface G1/2.	Name: **inside** IP address: **192.168.10.1** Subnet Mask: **255.255.255.0** Security Level: **100**	3
Configure interface G1/1.	Name: **outside** IP address: **209.165.200.226** Subnet Mask: **255.255.255.248** Security Level: **0** Activate the VLAN	3
Generate an RSA key pair to support the SSH connections.	Key: **RSA** Modulus size: **1024**	1

Configuration Item or Task	Specification	Points
Configure ASA to accept SSH connections from hosts on the inside LAN.	Inside Network: **192.168.10.0/24** Timeout: **10** minutes Version: **2**	2
Configure the default route.	Default route IP address: **209.165.200.225**	1
Configure ASDM access to the ASA.	Enable HTTPS server services. Enable HTTPS on the inside network.	2
Create a network object to identify internal addresses for PAT. Bind interfaces dynamically by using the interface address as the mapped IP.	Object name: **INSIDE-NET** Subnet: **192.168.10.0/24** Interfaces: **inside, outside**	2
Modify the default global policy to allow returning ICMP traffic through the firewall.	Policy-map: **global_policy** Class: **inspection_default** Inspect: **icmp**	1

Configuration Item or Task	Configuration Commands	Verification Commands
Configure the ASA hostname.	hostname CCNAS-ASA	(Look at command prompt to verify CCNAS-ASA name.)
Configure the domain name.	domain-name ccnasecurity.com	show run domain
Configure the privileged EXEC password.	enable password cisco12345	show run enable
Add a user to the local database for administrator console access.	username Admin01 password admin01pass	show run username
Configure AAA to use the local database for SSH user authentication and for console access.	aaa authentication ssh console LOCAL	show run aaa
Configure interface G1/2.	interface g1/2 nameif inside ip add 192.168.10.1 255.255.255.0 security-level 100 no shutdown	show run interface g1/2
Configure interface G1/1.	interface g1/1 nameif outside ip add 209.165.200.226 255.255.255.248 security-level 0 no shutdown	show run interface g1/1

Configuration Item or Task	Configuration Commands	Verification Commands
Generate an RSA key pair to support the SSH connections.	crypto key generate rsa modulus 1024	show crypto key mypubkey rsa
Configure ASA to accept SSH connections from hosts on the inside LAN.	ssh 192.168.10.0 255.255.255.0 inside ssh timeout 10 ssh version 2	show ssh
Configure the default route.	route outside 0.0.0.0 0.0.0.0 209.165.200.225	show route (Look for quad-zero static route.)
Configure ASDM access to the ASA.	http server enable http 192.168.10.0 255.255.255.0 inside	show run http
Create a network object to identify internal addresses for PAT. Bind the interfaces dynamically by using the interface address as the mapped IP.	object network INSIDE-NET subnet 192.168.10.0 255.255.255.0 nat (inside,outside) dynamic interface	show nat show run object
Modify the default global policy to allow returning ICMP traffic through the firewall.	policy-map global_policy class inspection_default inspect icmp	show run policy-map

Troubleshoot as necessary to correct any issues discovered.

Note: Before proceeding to Part 6, ask your instructor to verify your ASA configuration and functionality.

Instructor Sign-Off Part 5: _____

Points: _____ **of 18**

Part 6: Configure a Site-to-Site VPN

Total points: 28

Time: 25 minutes

In Part 6, you will configure a Site-to-Site IPsec VPN between R3 and the ASA. You will use the CLI to configure R3 and use ASDM to configure the ASA.

Step 1: Configure Site-to-Site VPN on R3 using CLI.

Configuration parameters include the following:

Configuration Item or Task	Specification	Points
Enable IKE.	Note: ISAKMP is enabled by default.	1

Configuration Item or Task	Specification	Points
Create an ISAKMP policy.	ISAKMP Policy Priority: **1** Authentication type: **pre-share** Encryption: **3des** Hash algorithm: **sha** Diffie-Hellman Group Key Exchange: **2**	5
Configure the pre-shared key.	Preshare key: **ciscopreshare** Address: **209.165.200.226**	2
Configure the IPsec transform set.	Tag: **TRNSFRM-SET** ESP transform: **ESP_3DES** Hash function: **ESP_SHA_HMAC**	3
Define interesting traffic.	ACL: **101** Source Network: **172.30.3.0 0.0.0.255** Destination Network: **192.168.10.0 0.0.0.255**	1
Create a crypto map.	Crypto map name: **CMAP** Sequence number: **1** Type: **ipsec-isakmp** ACL to match: **101** Peer: **209.165.200.226** Transform-set: **TRNSFRM-SET**	5
Apply crypto map to the interface.	Interface: **S0/0/0** Crypto map name: **CMAP**	1

Configuration Item or Task	Configuration Commands	Verification Commands
Enable IKE.	crypto isakmp enable	show run | include crypto
Create an ISAKMP policy.	crypto isakmp policy 1 authentication pre-share encryption 3des hash sha group 2	show crypto isakmp policy
Configure the pre-shared key.	crypto isakmp key ciscopreshare address 209.165.200.226	show run | include crypto
Configure the IPsec transform set.	crypto ipsec transform-set TRNSFRM-SET esp-3des esp-sha-hmac	show run | include crypto
Define interesting traffic.	access-list 101 permit ip 172.30.3.0 0.0.0.255 192.168.10.0 0.0.0.255	show run | inc access-list

Configuration Item or Task	Configuration Commands	Verification Commands
Create a crypto map.	crypto map CMAP 1 ipsec-isakmp match address 101 set transform-set TRNSFRM-SET set peer 209.165.200.226	show crypto map
Apply crypto map to interface.	interface s0/0/0 crypto map CMAP	show crypto map show run interface s0/0/0

Step 2: Configure Site-to-Site VPN on ASA using ASDM

Use a browser on PC-B to establish an ASDM session to the ASA. When the session is established, use the **Site-to-Site VPN Wizard** to configure the ASA for IPsec Site-to-Site VPN. Configuration parameters include the following:

Configuration Item or Task	Specification	Points
Use a browser on PC-B, connect to the ASA, and run ASDM.	Connection: **HTTPS** IP Address: **192.168.10.1** Username: **Admin01** Password: **admin01pass** **Note:** You will need to accept all security messages.	2
Use the Site-to-site VPN Wizard to configure the site-to-site VPN settings on the ASA.	Peer IP Address: **209.165.200.234** VPN Access Interface: **outside** Local Network: **inside-network/24** Remote Network: **172.30.3.0/24** Pre-shared Key: **ciscopreshare** Exempt ASA side/host network from NAT: **Enable**	5
Ping PC-B from PC-C.	This should generate interesting traffic and start site-to-site VPN.	1/2
Ping PC-C from PC-B.		1/2
Display the ISAKMP and IPsec SAs on R3.	show crypto isakmp sa show crypto ipsec sa (Look for an active session.)	1
Verify that a site-to-site session has been established using ASDM from PC-B.	ASDM **Monitoring** **VPN** tab Filter by: **IPsec Site-to-Site**	1

Troubleshoot as necessary to correct any issues discovered.

Instructor Note: Have the student ping PC-B to demonstrate that PC-C has established an SSL VPN connection to the ASA. The student should also be able to use ASDM on PC-B to display the established VPN session.

Instructor Sign-Off Part 6: _____

Points: _____ **of 28**

Router Interface Summary

Router Interface Summary				
Router Model	**Ethernet Interface #1**	**Ethernet Interface #2**	**Serial Interface #1**	**Serial Interface #2**
1800	Fast Ethernet 0/0 (F0/0)	Fast Ethernet 0/1 (F0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)
1900	Gigabit Ethernet 0/0 (G0/0)	Gigabit Ethernet 0/1 (G0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)
2801	Fast Ethernet 0/0 (F0/0)	Fast Ethernet 0/1 (F0/1)	Serial 0/1/0 (S0/1/0)	Serial 0/1/1 (S0/0/1)
2811	Fast Ethernet 0/0 (F0/0)	Fast Ethernet 0/1 (F0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)
2900	Gigabit Ethernet 0/0 (G0/0)	Gigabit Ethernet 0/1 (G0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)

Note: To find out how the router is configured, look at the interfaces to identify the type of router and how many interfaces the router has. There is no way to effectively list all the combinations of configurations for each router class. This table includes identifiers for the possible combinations of Ethernet and Serial interfaces in the device. The table does not include any other type of interface, even though a specific router may contain one. An example of this might be an ISDN BRI interface. The string in parenthesis is the legal abbreviation that can be used in Cisco IOS commands to represent the interface.

Device Configs

Router R1 (Initial Configuration)

```
R1#sh run
Building configuration...

Current configuration : 1582 bytes
!
version 15.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R1
!
boot-start-marker
boot-end-marker
!
no aaa new-model
memory-size iomem 15
!
no ip domain lookup
ip cef
no ipv6 cef
!
```

```
multilink bundle-name authenticated
!
cts logging verbose
!
redundancy
!
interface Embedded-Service-Engine0/0
 no ip address
 shutdown
!
interface GigabitEthernet0/0
 ip address 209.165.200.225 255.255.255.248
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface Serial0/0/0
 no ip address
 shutdown
 clock rate 2000000
!
interface Serial0/0/1
 ip address 209.165.200.233 255.255.255.252
!
ip forward-protocol nd
!
no ip http server
no ip http secure-server
!
ip route 172.30.3.0 255.255.255.0 209.165.200.234
ip route 192.168.10.0 255.255.255.0 209.165.200.226
!
control-plane
!
line con 0
line aux 0
line 2
 no activation-character
 no exec
 transport preferred none
 transport output pad telnet rlogin lapb-ta mop udptn v120 ssh
 stopbits 1
line vty 0 4
 login
```

```
 transport input none
!
scheduler allocate 20000 1000
ntp authentication-key 1 md5 153C3F3C142B38373F3C2726 7
ntp authenticate
ntp trusted-key 1
ntp master 3
!
end
```

Router R3 (After completion of Part 3)

```
R3#show run
Building configuration...

Current configuration : 2438 bytes
!
version 15.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R3
!
boot-start-marker
boot-end-marker
!
security passwords min-length 10
enable secret 9 $9$KNLoNKx4jYzt8k$wz88KSBb5KMY9121/qkhOTiXkV0XCothrCZLB1lbyko
!
aaa new-model
!
aaa authentication login default local
aaa authorization exec default local
!
aaa session-id common
memory-size iomem 15
!
no ip domain lookup
ip domain name ccnasecurity.com
ip cef
no ipv6 cef
!
multilink bundle-name authenticated
!
cts logging verbose
!
username Admin01 privilege 15 secret 9
$9$kbOeb3f5lka0rU$hLnVWpzbOBfZWFY1qX4xngsVwQPTojqeJGnujbcIllI
!
```

```
redundancy
!
ip ssh time-out 90
ip ssh authentication-retries 2
ip ssh version 2
!
class-map type inspect match-any INSIDE_PROTOCOLS
 match protocol tcp
 match protocol udp
 match protocol icmp
!
policy-map type inspect INSIDE_TO_INTERNET
 class type inspect INSIDE_PROTOCOLS
  inspect
 class class-default
  drop
!
zone security INSIDE
zone security INTERNET
zone-pair security IN_TO_OUT_ZONE source INSIDE destination INTERNET
 service-policy type inspect INSIDE_TO_INTERNET
!
interface Embedded-Service-Engine0/0
 no ip address
 shutdown
!
interface GigabitEthernet0/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 172.30.3.1 255.255.255.0
 zone-member security INSIDE
 duplex auto
 speed auto
!
interface Serial0/0/0
 ip address 209.165.200.234 255.255.255.252
 zone-member security INTERNET
 clock rate 125000
!
interface Serial0/0/1
 no ip address
 shutdown
!
ip forward-protocol nd
!
```

```
no ip http server
no ip http secure-server
!
ip route 0.0.0.0 0.0.0.0 209.165.200.233
!
logging trap warnings
logging host 172.30.3.3
!
control-plane
!
banner motd ^CUnauthorized Access is Prohibited!^C
!
line con 0
line aux 0
line 2
 no activation-character
 no exec
 transport preferred none
 transport output pad telnet rlogin lapb-ta mop udptn v120 ssh
 stopbits 1
line vty 0 4
 transport input ssh
!
scheduler allocate 20000 1000
ntp authentication-key 1 md5 153C3F3C142B38373F3C2726 7
ntp authenticate
ntp update-calendar
ntp server 209.165.200.233
!
end
```

Switch S1 (After completion of Part 4)

```
S1# show run
hostname S1
!
no ip domain-lookup
!
spanning-tree mode pvst
spanning-tree extend system-id
spanning-tree vlan 1 priority 24576
!
interface FastEthernet0/1
 switchport mode trunk
 switchport nonegotiate
!
interface FastEthernet0/2
 switchport mode trunk
 switchport nonegotiate
!
```

```
end
```

Switch S2 (After completion of Part 4)

```
S2# show run
Building configuration...

Current configuration : 2599 bytes
!
version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname S2
!
boot-start-marker
boot-end-marker
!
enable secret 9 $9$6E0RH.UQ3Nt221$fSKp.he411vh54DhobJk678MmZzj3sHxY3JMX/QdcTE
!
username Admin01 privilege 15 secret 9
$9$ELG3vxsMl43KNo$V3AYoDX3ogPeDL2FWjpeM9R.2/Sek8UY65l6OcqxK3E
aaa new-model
!
aaa authentication login default local
aaa authorization exec default local
!
aaa session-id common
system mtu routing 1500
!
ip dhcp snooping vlan 10
ip dhcp snooping
no ip domain-lookup
ip domain-name ccnasecurity.com
!
spanning-tree mode pvst
spanning-tree loopguard default
spanning-tree extend system-id
spanning-tree vlan 1 priority 28672
!
vlan internal allocation policy ascending
!
ip ssh time-out 90
ip ssh authentication-retries 2
ip ssh version 2
!
interface FastEthernet0/1
switchport trunk native vlan2
```

```
 switchport mode trunk
 switchport nonegotiate
!
interface FastEthernet0/2
switchport trunk native vlan2
 switchport mode trunk
 switchport nonegotiate
!
interface FastEthernet0/3
 switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/4
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/5
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/6
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/7
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/8
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/9
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/10
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/11
```

```
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/12
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/13
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/14
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/15
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/16
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/17
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/18
 switchport access vlan 10
 switchport mode access
 switchport port-security mac-address sticky
 switchport port-security mac-address sticky 0050.56be.dca4
 switchport port-security
 spanning-tree portfast
 spanning-tree bpduguard enable
!
interface FastEthernet0/19
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/20
```

```
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/21
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/22
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/23
switchport access vlan 99
 switchport mode access
 shutdown
!
interface FastEthernet0/24
 switchport access vlan 10
 switchport mode access
 spanning-tree portfast
 spanning-tree bpduguard enable
ip dhcp snooping trust
!
interface GigabitEthernet0/1
switchport access vlan 99
 switchport mode access
 shutdown
!
interface GigabitEthernet0/2
switchport access vlan 99
 switchport mode access
 shutdown
!
interface Vlan1
 no ip address
!
no ip http server
no ip http secure-server
!
banner motd ^CUnauthorized Access is Prohibited!^C
!
line con 0
line vty 0 4
 transport input ssh
line vty 5 15
 transport input ssh
```

```
!
end
```

ASA (Config after Part 5)

```
CCNAS-ASA# show run
: Saved

:
: Hardware:   ASA5506, 4096 MB RAM, CPU Atom C2000 series 1250 MHz, 1 CPU (4 cores)
:
ASA Version 9.10(1)
!
hostname CCNAS-ASA
domain-name ccnasecurity.com
enable password ***** pbkdf2
names
no mac-address auto

!
interface GigabitEthernet1/1
 nameif outside
 security-level 0
 ip address 209.165.200.226 255.255.255.248
!
interface GigabitEthernet1/2
 nameif inside
 security-level 100
 ip address 192.168.10.1 255.255.255.0
!
interface GigabitEthernet1/3
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/4
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/5
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/6
 shutdown
```

```
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/7
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/8
 shutdown
 no nameif
 no security-level
 no ip address
!
interface Management1/1
 management-only
 shutdown
 no nameif
 no security-level
 no ip address
!
ftp mode passive
dns server-group DefaultDNS
 domain-name ccnasecurity.com
object network INSIDE-NET
 subnet 192.168.10.0 255.255.255.0
pager lines 24
mtu inside 1500
mtu outside 1500
icmp unreachable rate-limit 1 burst-size 1
no asdm history enable
arp timeout 14400
no arp permit-nonconnected
arp rate-limit 16384
!
object network INSIDE-NET
 nat (inside,outside) dynamic interface
route outside 0.0.0.0 0.0.0.0 209.165.200.225 1
timeout xlate 3:00:00
timeout pat-xlate 0:00:30
timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 sctp 0:02:00 icmp 0:00:02
timeout sunrpc 0:10:00 h323 0:05:00 h225 1:00:00 mgcp 0:05:00 mgcp-pat 0:05:00
timeout sip 0:30:00 sip_media 0:02:00 sip-invite 0:03:00 sip-disconnect 0:02:00
timeout sip-provisional-media 0:02:00 uauth 0:05:00 absolute
timeout tcp-proxy-reassembly 0:01:00
timeout floating-conn 0:00:00
timeout conn-holddown 0:00:15
```

```
timeout igp stale-route 0:01:10
user-identity default-domain LOCAL
aaa authentication ssh console LOCAL
aaa authentication login-history
http server enable
http 192.168.10.0 255.255.255.0 inside
no snmp-server location
no snmp-server contact
service sw-reset-button
crypto ipsec security-association pmtu-aging infinite
crypto ca trustpool policy
telnet timeout 5
ssh stricthostkeycheck
ssh 192.168.10.0 255.255.255.0 inside
ssh timeout 10
ssh version 2
ssh key-exchange group dh-group1-sha1
console timeout 0

threat-detection basic-threat
threat-detection statistics access-list
no threat-detection statistics tcp-intercept
dynamic-access-policy-record DfltAccessPolicy
username Admin01 password ***** pbkdf2
!
class-map inspection_default
 match default-inspection-traffic
!
!
policy-map type inspect dns preset_dns_map
 parameters
  message-length maximum client auto
  message-length maximum 512
  no tcp-inspection
policy-map global_policy
 class inspection_default
  inspect ftp
  inspect h323 h225
  inspect h323 ras
  inspect ip-options
  inspect netbios
  inspect rsh
  inspect rtsp
  inspect skinny
  inspect esmtp
  inspect sqlnet
  inspect sunrpc
  inspect tftp
  inspect sip
```

```
  inspect xdmcp
  inspect dns preset_dns_map
  inspect icmp
policy-map type inspect dns migrated_dns_map_2
 parameters
  message-length maximum client auto
  message-length maximum 512
  no tcp-inspection
policy-map type inspect dns migrated_dns_map_1
 parameters
  message-length maximum client auto
  message-length maximum 512
  no tcp-inspection
!
service-policy global_policy global
prompt hostname context
no call-home reporting anonymous
call-home
 profile CiscoTAC-1
  no active
  destination address http
https://tools.cisco.com/its/service/oddce/services/DDCEService
  destination address email callhome@cisco.com
  destination transport-method http
  subscribe-to-alert-group diagnostic
  subscribe-to-alert-group environment
  subscribe-to-alert-group inventory periodic monthly
  subscribe-to-alert-group configuration periodic monthly
  subscribe-to-alert-group telemetry periodic daily
Cryptochecksum:9e5cb61eedfd32913637f0020625158c
: end
```

R3 (Final Configuration)

```
R3# show run
Building configuration...

Current configuration : 2908 bytes
!
! Last configuration change at 01:19:28 UTC Thu Feb 5 2015 by Admin01
! NVRAM config last updated at 00:34:31 UTC Thu Feb 5 2015
!
version 15.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R3
!
boot-start-marker
```

```
boot-end-marker
!
security passwords min-length 10
enable secret 9 $9$KNLoNKx4jYzt8k$wz88KSBb5KMY9121/qkhOTiXkV0XCothrCZLB1lbyko
!
aaa new-model
!
aaa authentication login default local
aaa authorization exec default local
!
aaa session-id common
memory-size iomem 15
!
no ip domain lookup
ip domain name ccnasecurity.com
ip cef
no ipv6 cef
!
multilink bundle-name authenticated
!
cts logging verbose
!
username Admin01 privilege 15 secret 9
$9$kbOeb3f5lka0rU$hLnVWpzbOBfZWFY1qX4xngsVwQPTojqeJGnujbcIllI
!
redundancy
!
ip ssh time-out 90
ip ssh authentication-retries 2
ip ssh version 2
!
class-map type inspect match-any INSIDE_PROTOCOLS
 match protocol tcp
 match protocol udp
 match protocol icmp
!
policy-map type inspect INSIDE_TO_INTERNET
 class type inspect INSIDE_PROTOCOLS
  inspect
 class class-default
  drop
!
zone security INSIDE
zone security INTERNET
zone-pair security IN_TO_OUT_ZONE source INSIDE destination INTERNET
 service-policy type inspect INSIDE_TO_INTERNET
!
crypto isakmp policy 1
 encr 3des
```

```
 authentication pre-share
 group 2
crypto isakmp key ciscopreshare address 209.165.200.226
!
crypto ipsec transform-set TRNSFRM-SET esp-3des esp-sha-hmac
 mode tunnel
!
crypto map CMAP 1 ipsec-isakmp
 set peer 209.165.200.226
 set transform-set TRNSFRM-SET
 match address 101
!
interface Embedded-Service-Engine0/0
 no ip address
 shutdown
!
interface GigabitEthernet0/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 172.30.3.1 255.255.255.0
 zone-member security INSIDE
 duplex auto
 speed auto
!
interface Serial0/0/0
 ip address 209.165.200.234 255.255.255.252
 zone-member security INTERNET
 clock rate 125000
 crypto map CMAP
!
interface Serial0/0/1
 no ip address
 shutdown
!
ip forward-protocol nd
!
no ip http server
no ip http secure-server
!
ip route 0.0.0.0 0.0.0.0 209.165.200.233
!
logging trap warnings
logging host 172.30.3.3
!
access-list 101 permit ip 172.30.3.0 0.0.0.255 192.168.10.0 0.0.0.255
```

```
!
control-plane
!
banner motd ^CUnauthorized Access is Prohibited!^C
!
line con 0
line aux 0
line 2
 no activation-character
 no exec
 transport preferred none
 transport output pad telnet rlogin lapb-ta mop udptn v120 ssh
 stopbits 1
line vty 0 4
 transport input ssh
!
scheduler allocate 20000 1000
ntp authentication-key 1 md5 153C3F3C142B38373F3C2726 7
ntp authenticate
ntp update-calendar
ntp server 209.165.200.233
!
end
```

ASA (Final Configuration)

```
CCNAS-ASA# show run
: Saved

:
: Hardware:   ASA5506, 4096 MB RAM, CPU Atom C2000 series 1250 MHz, 1 CPU (4 cores)
:
ASA Version 9.10(1)
!
hostname CCNAS-ASA
domain-name ccnasecurity.com
enable password ***** pbkdf2
names
no mac-address auto

!
interface GigabitEthernet1/1
 nameif outside
 security-level 0
 ip address 209.165.200.226 255.255.255.248
!
interface GigabitEthernet1/2
 nameif inside
 security-level 100
 ip address 192.168.10.1 255.255.255.0
```

```
!
interface GigabitEthernet1/3
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/4
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/5
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/6
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/7
 shutdown
 no nameif
 no security-level
 no ip address
!
interface GigabitEthernet1/8
 shutdown
 no nameif
 no security-level
 no ip address
!
interface Management1/1
 management-only
 shutdown
 no nameif
 no security-level
 no ip address
!
ftp mode passive
dns server-group DefaultDNS
 domain-name ccnasecurity.com
object network INSIDE-NET
 subnet 192.168.10.0 255.255.255.0
```

```
object network NETWORK_OBJ_172.30.3.0_24
 subnet 172.30.3.0 255.255.255.0
object network NETWORK_OBJ_192.168.10.0_24
 subnet 192.168.10.0 255.255.255.0
access-list outside_cryptomap extended permit ip 192.168.10.0 255.255.255.0
172.30.3.0 255.255.255.0
pager lines 24
mtu inside 1500
mtu outside 1500
icmp unreachable rate-limit 1 burst-size 1
no asdm history enable
arp timeout 14400
no arp permit-nonconnected
arp rate-limit 16384
nat (inside,outside) source static NETWORK_OBJ_192.168.10.0_24
NETWORK_OBJ_192.168.10.0_24 destination static NETWORK_OBJ_172.30.3.0_24
NETWORK_OBJ_172.30.3.0_24 no-proxy-arp route-lookup
!
object network INSIDE-NET
 nat (inside,outside) dynamic interface
route outside 0.0.0.0 0.0.0.0 209.165.200.225 1
timeout xlate 3:00:00
timeout pat-xlate 0:00:30
timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 sctp 0:02:00 icmp 0:00:02
timeout sunrpc 0:10:00 h323 0:05:00 h225 1:00:00 mgcp 0:05:00 mgcp-pat 0:05:00
timeout sip 0:30:00 sip_media 0:02:00 sip-invite 0:03:00 sip-disconnect 0:02:00
timeout sip-provisional-media 0:02:00 uauth 0:05:00 absolute
timeout tcp-proxy-reassembly 0:01:00
timeout floating-conn 0:00:00
timeout conn-holddown 0:00:15
timeout igp stale-route 0:01:10
user-identity default-domain LOCAL
aaa authentication ssh console LOCAL
aaa authentication login-history
http server enable
http 192.168.10.0 255.255.255.0 inside
no snmp-server location
no snmp-server contact
service sw-reset-button
crypto ipsec ikev1 transform-set ESP-AES-128-SHA esp-aes esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-AES-128-MD5 esp-aes esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-AES-192-SHA esp-aes-192 esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-AES-192-MD5 esp-aes-192 esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-AES-256-SHA esp-aes-256 esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-AES-256-MD5 esp-aes-256 esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-AES-128-SHA-TRANS esp-aes esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-AES-128-SHA-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-AES-128-MD5-TRANS esp-aes esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-AES-128-MD5-TRANS mode transport
```

```
crypto ipsec ikev1 transform-set ESP-AES-192-SHA-TRANS esp-aes-192 esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-AES-192-SHA-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-AES-192-MD5-TRANS esp-aes-192 esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-AES-192-MD5-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-AES-256-SHA-TRANS esp-aes-256 esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-AES-256-SHA-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-AES-256-MD5-TRANS esp-aes-256 esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-AES-256-MD5-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-3DES-SHA esp-3des esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-3DES-MD5 esp-3des esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-3DES-SHA-TRANS esp-3des esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-3DES-SHA-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-3DES-MD5-TRANS esp-3des esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-3DES-MD5-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-DES-SHA esp-des esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-DES-MD5 esp-des esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-DES-SHA-TRANS esp-des esp-sha-hmac
crypto ipsec ikev1 transform-set ESP-DES-SHA-TRANS mode transport
crypto ipsec ikev1 transform-set ESP-DES-MD5-TRANS esp-des esp-md5-hmac
crypto ipsec ikev1 transform-set ESP-DES-MD5-TRANS mode transport
crypto ipsec ikev2 ipsec-proposal AES256
 protocol esp encryption aes-256
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal AES192
 protocol esp encryption aes-192
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal AES
 protocol esp encryption aes
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal 3DES
 protocol esp encryption 3des
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal DES
 protocol esp encryption des
 protocol esp integrity sha-1 md5
crypto ipsec security-association pmtu-aging infinite
crypto map outside_map 1 match address outside_cryptomap
crypto map outside_map 1 set peer 209.165.200.234
crypto map outside_map 1 set ikev1 transform-set ESP-AES-128-SHA ESP-AES-128-MD5
ESP-AES-192-SHA ESP-AES-192-MD5 ESP-AES-256-SHA ESP-AES-256-MD5 ESP-3DES-SHA ESP-
3DES-MD5 ESP-DES-SHA ESP-DES-MD5
crypto map outside_map 1 set ikev2 ipsec-proposal AES256 AES192 AES 3DES DES
crypto map outside_map interface outside
crypto ca trustpool policy
crypto ikev2 policy 1
 encryption aes-256
 integrity sha
 group 5 2
 prf sha
```

```
 lifetime seconds 86400
crypto ikev2 policy 10
 encryption aes-192
 integrity sha
 group 5 2
 prf sha
 lifetime seconds 86400
crypto ikev2 policy 20
 encryption aes
 integrity sha
 group 5 2
 prf sha
 lifetime seconds 86400
crypto ikev2 policy 30
 encryption 3des
 integrity sha
 group 5 2
 prf sha
 lifetime seconds 86400
crypto ikev2 policy 40
 encryption des
 integrity sha
 group 5 2
 prf sha
 lifetime seconds 86400
crypto ikev2 enable outside
crypto ikev1 enable outside
crypto ikev1 policy 10
 authentication pre-share
 encryption aes-256
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 20
 authentication rsa-sig
 encryption aes-256
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 40
 authentication pre-share
 encryption aes-192
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 50
 authentication rsa-sig
 encryption aes-192
 hash sha
```

```
 group 2
 lifetime 86400
crypto ikev1 policy 70
 authentication pre-share
 encryption aes
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 80
 authentication rsa-sig
 encryption aes
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 100
 authentication pre-share
 encryption 3des
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 110
 authentication rsa-sig
 encryption 3des
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 130
 authentication pre-share
 encryption des
 hash sha
 group 2
 lifetime 86400
crypto ikev1 policy 140
 authentication rsa-sig
 encryption des
 hash sha
 group 2
 lifetime 86400
telnet timeout 5
ssh stricthostkeycheck
ssh 192.168.10.0 255.255.255.0 inside
ssh timeout 10
ssh version 2
ssh key-exchange group dh-group1-sha1
console timeout 0

threat-detection basic-threat
threat-detection statistics access-list
no threat-detection statistics tcp-intercept
```

```
group-policy GroupPolicy_209.165.200.234 internal
group-policy GroupPolicy_209.165.200.234 attributes
 vpn-tunnel-protocol ikev1 ikev2
dynamic-access-policy-record DfltAccessPolicy
username Admin01 password ***** pbkdf2
tunnel-group 209.165.200.234 type ipsec-l2l
tunnel-group 209.165.200.234 general-attributes
 default-group-policy GroupPolicy_209.165.200.234
tunnel-group 209.165.200.234 ipsec-attributes
 ikev1 pre-shared-key *****
 ikev2 remote-authentication pre-shared-key *****
 ikev2 local-authentication pre-shared-key *****
!
class-map inspection_default
 match default-inspection-traffic
!
!
policy-map type inspect dns preset_dns_map
 parameters
  message-length maximum client auto
  message-length maximum 512
  no tcp-inspection
policy-map global_policy
 class inspection_default
  inspect ftp
  inspect h323 h225
  inspect h323 ras
  inspect ip-options
  inspect netbios
  inspect rsh
  inspect rtsp
  inspect skinny
  inspect esmtp
  inspect sqlnet
  inspect sunrpc
  inspect tftp
  inspect sip
  inspect xdmcp
  inspect dns preset_dns_map
  inspect icmp
policy-map type inspect dns migrated_dns_map_2
 parameters
  message-length maximum client auto
  message-length maximum 512
  no tcp-inspection
policy-map type inspect dns migrated_dns_map_1
 parameters
  message-length maximum client auto
  message-length maximum 512
```

```
  no tcp-inspection
!
service-policy global_policy global
prompt hostname context
no call-home reporting anonymous
call-home
 profile CiscoTAC-1
  no active
  destination address http
https://tools.cisco.com/its/service/oddce/services/DDCEService
  destination address email callhome@cisco.com
  destination transport-method http
  subscribe-to-alert-group diagnostic
  subscribe-to-alert-group environment
  subscribe-to-alert-group inventory periodic monthly
  subscribe-to-alert-group configuration periodic monthly
  subscribe-to-alert-group telemetry periodic daily
Cryptochecksum:7300ef04b96b5b7ff4f4c7989a5e23a8
: end
```