```
username admin privilege 15 password 0 Cisco13579!
aaa new-model
!
aaa authentication login default local
aaa authentication enable default none
!
aaa common-criteria policy Administrators
 min-length 1
 max-length 127
 char-changes 4
 lifetime month 2
!
```

A. The password expiry mechanism is on the AAA server and must be configured there.
B. Add the aaa authentication enable default Administrators command.
C. Add the username admin privilege 15 common-criteria*policy Administrators password 0 Cisco13579! command.
D. No further action Is required. The configuration is complete.

Correct Answer: C
Explanation:
Perform this task to create a password security policy and to apply the policy to a specific user profile.

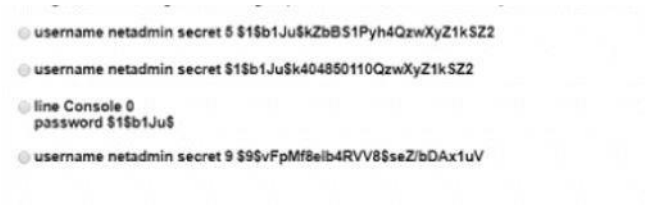
Device> enable
Device# configure terminal
Device(config)# aaa new-model
Device(config)# aaa common-criteria policy policy1
Device(config-cc-policy)# char-changes 4
Device(config-cc-policy)# max-length 20
Device(config-cc-policy)# min-length 6
Device(config-cc-policy)# numeric-count 2
Device(config-cc-policy)# special-case 2
Device(config-cc-policy)# exit
Device(config)# username user1 common-criteria-policy policy1 password password1
Device(config)# end

QUESTION 310
What does a YANG model provide?

A. standardized data structure independent of the transport protocols
B. creation of transport protocols and their interaction with the OS
C. user access to interact directly with the CLI of the device to receive or modify network configurations
D. standardized data structure that can be used only with NETCONF or RESTCONF transport protocols

Correct Answer: D

QUESTION 311
An engineer must configure the strongest password authentication to locally authenticate on a router. Which configuration must be used?



A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D
Explanation:
Scrypt is safer than MD5, so answer A is wrong and answer D is correct.

R1(config)#username user secret ?0 Specifies an UNENCRYPTED secret will follow5 Specifies a MD5 HASHED secret will follow8 Specifies a PBKDF2 HASHED secret will follow9 Specifies a SCRYPT HASHED secret will follow<0-9> Encryption types not explicitly specifiedLINE The UNENCRYPTED (cleartext) user secretLINE The UNENCRYPTED (cleartext) user secret

QUESTION 312
Which method displays text directly into the active console with a synchronous EEM applet policy?

A. event manager applet boom
event syslog pattern 'UP'
action 1.0 gets 'logging directly to console'
B. event manager applet boom
event syslog pattern 'UP'
action 1.0 syslog priority direct msg 'log directly to console'
C. event manager applet boom
event syslog pattern 'UP'
action 1.0 puts 'logging directly to console'
D. event manager applet boom
event syslog pattern 'UP'
action 1.0 string 'logging directly to console'

Correct Answer: B

QUESTION 313
How does CEF switching differ from process switching on Cisco devices?

A. CEF switching saves memory by sorting adjacency tables in dedicate memory on the line cards, and process switching stores all tables in the main memory
B. CEF switching uses adjacency tables built by the CDP protocol, and process switching uses the routing table
C. CEF switching uses dedicated hardware processors, and process switching uses the main processor
D. CEF switching uses proprietary protocol based on IS-IS for MAC address lookup, and process switching uses in MAC address table

Correct Answer: B
Explanation:
Cisco Express Forwarding (CEF) switching is a proprietary form of scalable switching intended to tackle the problems associated with demand caching. With CEF switching, the information which is conventionally stored in a route cache is split up over several data structures. The CEF code is able to maintain these data structures in the Gigabit Route Processor (GRP), and also in slave processors such as the line cards in the 12000 routers. The data structures that provide optimized lookup for efficient packet forwarding include:

- The Forwarding Information Base (FIB) table - CEF uses a FIB to make IP destination prefix-based switching decisions. The FIB is conceptually similar to a routing table or information base. It maintains a mirror image of the forwarding information contained in the IP routing table. When routing or topology changes occur in the network, the IP routing table is updated, and these changes are reflected in the FIB. The FIB maintains next-hop address information based on the information in the IP routing table.

Because there is a one-to-one correlation between FIB entries and routing table entries, the FIB contains all known routes and eliminates the need for route cache maintenance that is associated with switching paths such as fast switching and optimum switching.

- Adjacency table - Nodes in the network are said to be adjacent if they can reach each other with a single hop across a link layer. In addition to the FIB, CEF uses adjacency tables to prepend Layer 2 addressing information. The adjacency table maintains Layer 2 next-hop addresses for all FIB entries.

CEF can be enabled in one of two modes:

- Central CEF mode - When CEF mode is enabled, the CEF FIB and adjacency tables reside on the route processor, and the route processor performs the express forwarding. You can use CEF mode when line cards are not available for CEF switching, or when you need to use features not compatible with distributed CEF switching.
- Distributed CEF (dCEF) mode - When dCEF is enabled, line cards maintain identical copies of the FIB and adjacency tables. The line cards can perform the express forwarding by themselves, relieving the main processor - Gigabit Route Processor (GRP) - of involvement in the switching operation. This is the only switching method available on the Cisco 12000 Series Router.

dCEF uses an Inter-Process Communication (IPC) mechanism to ensure synchronization of FIBs and adjacency tables on the route processor and line cards.

For more information about CEF switching, see Cisco Express Forwarding (CEF) White Paper.

QUESTION 314
How cloud deployments differ from on-prem deployments?

A. Cloud deployments require longer implementation times than on-premises deployments
B. Cloud deployments are more customizable than on-premises deployments.
C. Cloud deployments require less frequent upgrades than on-premises deployments.
D. Cloud deployments have lower upfront costs than on-premises deployments.

Correct Answer: C

QUESTION 315
What is a characteristic of a type 2 hypervisor?

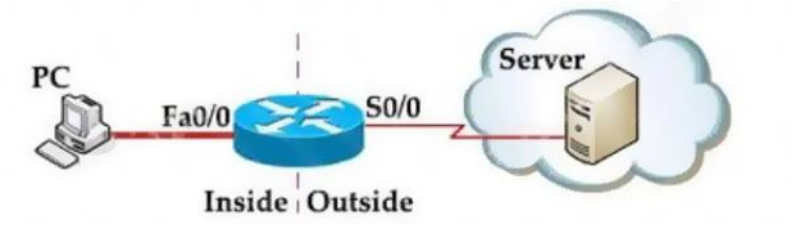
A. ideal for data center
B. complicated deployment
C. ideal for client/end-user system
D. referred to as bare-metal

Correct Answer: A

QUESTION 316
An engineer must configure an ACL that permits packets which include an ACK in the TCP header Which entry must be included in the ACL?

A. access-list 10 permit ip any any eq 21 tcp-ack
B. access-list 110 permit tcp any any eq 21 tcp-ack
C. access-list 10 permit tcp any any eq 21 established
D. access-list 110 permit tcp any any eq 21 established

Correct Answer: D
Explanation:
The established keyword is only applicable to TCP access list entries to match TCP segments that have the ACK and/or RST control bit set (regardless of the source and destination ports), which assumes that a TCP connection has already been established in one direction only. Let's see an example below:



Suppose you only want to allow the hosts inside your company to telnet to an outside server but not vice versa, you can simply use an "established" access-list like this:

access-list 100 permit tcp any any established

access-list 101 permit tcp any any eq telnet

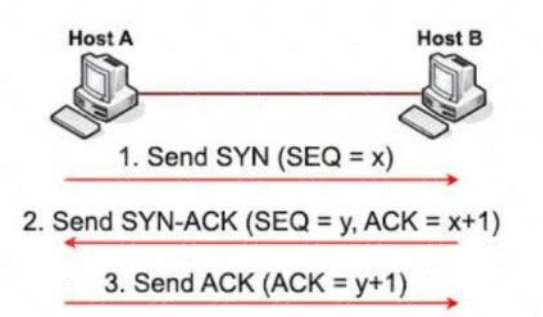
!

interface S0/0

ip access-group 100 in

ip access-group 101 out

Note:
Suppose host A wants to start communicating with host B using TCP. Before they can send real data, a three-way handshake must be established first. Let`s see how this process takes place:



1. First host A will send a SYN message (a TCP segment with SYN flag set to 1, SYN is short for SYNchronize) to indicate it wants to setup a connection with host B. This message includes a sequence (SEQ) number for tracking purpose. This sequence number can be any 32-bit number (range from 0 to 232) so we use "x" to represent it.

2. After receiving SYN message from host A, host B replies with SYN-ACK message (some books may call it SYN/ACK or SYN, ACK message. ACK is short for ACKnowledge). This message includes a SYN sequence number and an ACK number:

- SYN sequence number (let`s called it "y") is a random number and does not have any relationship with Host A`s SYN SEQ number.
- ACK number is the next number of Host A`s SYN sequence number it received, so we represent it with "x+1. It means I received your part. Now send me the next part (x + 1)".

The SYN-ACK message indicates host B accepts to talk to host A (via ACK part). And ask if host A still wants to talk to it as well (via SYN part).

3. After Host A received the SYN-ACK message from host B, it sends an ACK message with ACK number "y+1" to host B. This confirms host A still wants to talk to host B.

QUESTION 317
What is a characteristic of Cisco DNA Northbound APIs?

A. They simplify the management of network infrastructure devices.
B. They enable automation of network infrastructure based on intent.
C. They utilize RESTCONF.
D. They utilize multivendor support APIs.

Correct Answer: C

QUESTION 318
What is a characteristics of a vSwitch?

A. supports advanced Layer 3 routing protocols that are not offered by a hardware switch
B. enables VMs to communicate with each other within a virtualized server
C. has higher performance than a hardware switch
D. operates as a hub and broadcasts the traffic toward all the vPorts

Correct Answer: B