Number: 350-901
Passing Score: 800
Time Limit: 120
File Version: 12.0

Exam Code: 350-901
Exam Name: Developing Applications using Cisco Core Platforms and APIs (DEVCOR)

Exam A

QUESTION 1
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing on the Ansible task to enable a VLAN on a Meraki MX device. Not all options are used.

Select and Place:

Answer Area

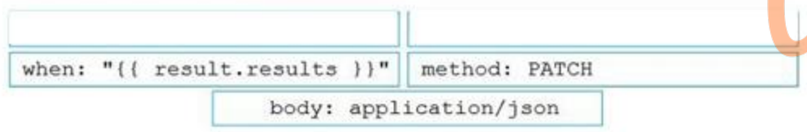
```
- name: Create combined network
  meraki_network:
    auth_key: "{{ meraki_api_key }}"
    net_name: "{{ item }}"
    org_id: "{{ meraki_org_id }}"
    type:
      -switch
      -wireless
      -appliance
    timezone: Europe/London
    tags: staging, uk
  loop: "{{ network_ids }}"
  delegate_to: localhost
  register: result

- name: Enable VLAN support on MX
  uri:
    url: "https://api.meraki.com/api/v0/networks/{{ item.data.id }}/vlansEnabledState"
    return_content: yes
    headers:
      X-Cisco-Meraki-API-Key: "{{ meraki_api_key }}"
    body:
      enabled: true
    follow_redirects: all
    status_code: 200
    body_format: json
    [                                    ]
  delegate_to: localhost
  [                                      ]
```

loop: "{{ result.results }}"	method: PUT
when: "{{ result.results }}"	method: PATCH
body: application/json	

Correct Answer:

Answer Area

```
- name: Create combined network
  meraki_network:
    auth_key: "{{ meraki_api_key }}"
    net_name: "{{ item }}"
    org_id: "{{ meraki_org_id }}"
    type:
      -switch
      -wireless
      -appliance
    timezone: Europe/London
    tags: staging, uk
  loop: "{{ network_ids }}"
  delegate_to: localhost
  register: result

- name: Enable VLAN support on MX
  uri:
    url: "https://api.meraki.com/api/v0/networks/{{ item.data.id }}/vlansEnabledState"
    return_content: yes
    headers:
      X-Cisco-Meraki-API-Key: "{{ meraki_api_key }}"
    body:
      enabled: true
    follow_redirects: all
    status_code: 200
    body_format: json
    method: PUT
  delegate_to: localhost
  loop: "{{ result.results }}"
```



Section:
Explanation:

QUESTION 2
DRAG DROP

```
"""Create UCS Server Pool and associate to template """
from ucsmsdk.ucshandle import UcsHandle
from ucsmsdk.mometa.compute.ComputePool import ComputePool
from ucsmsdk.mometa.compute.ComputePooledSlot import ComputePooledSlot
from ucsmsdk.mometa.ls.LsRequirement import LsRequirement

HANDLE = [ item 1 ] ("sandbox-ucsml.cisco.com",
                     "admin",
                     "password")
HANDLE.login()
SERVER_POOL = [ item 2 ] (parent_mo_or_dn="org-root/org-devnet",
                          name="devcore_pool")
HANDLE. [ item 3 ] (SERVER_POOL, modify_present=True)
for blade in HANDLE.query_classid(
    "computeBlade",
    filter_str='(chassis_id, "7")'
    ):
    SERVER = [ item 4 ] (
        parent_mo_or_dn=SERVER_POOL,
        chassis_id=blade.chassis_id,
        slot_id=blade.slot_id
    )
    HANDLE.add_mo(SERVER, modify_present=True)
HANDLE.commit()
SP_TEMPLATE = [ item 5 ] (parent_mo_or_dn="org-root/org-devnet/ls-devcore_template",
                          name="devcore_pool")
HANDLE.add_mo(SP_TEMPLATE, modify_present=True)
HANDLE. [ item 6 ] ()
HANDLE. [ item 7 ] ()
```

Refer to the exhibit above and click on the resource tabs in the top left corner to view resources to help with this question. Python code using the UCS Python SDK is creating a server pool named "devcore_pool" and populating the pool with all servers from chassis 7, and then the server pool is associated to existing Service Profile template "devcore_template". Drag and drop the code from the left onto the item numbers on the right that match the missing sections in the Python exhibit.

Select and Place:

Answer Area

add_mo	<item 1>
ComputePooledSlot	<item 2>
ComputePool	<item 3>
UcsHandle	<item 4>
commit	<item 5>
LsRequirement	<item 6>
logout	<item 7>

Correct Answer:

Answer Area

	UcsHandle
	ComputePool
	ComputePooledSlot
	add_mo
	LsRequirement
	commit
	logout

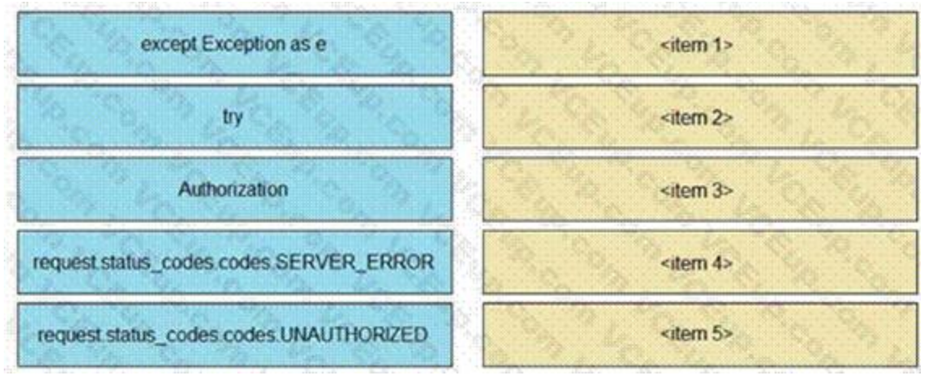
Section:
Explanation:

QUESTION 3
DRAG DROP

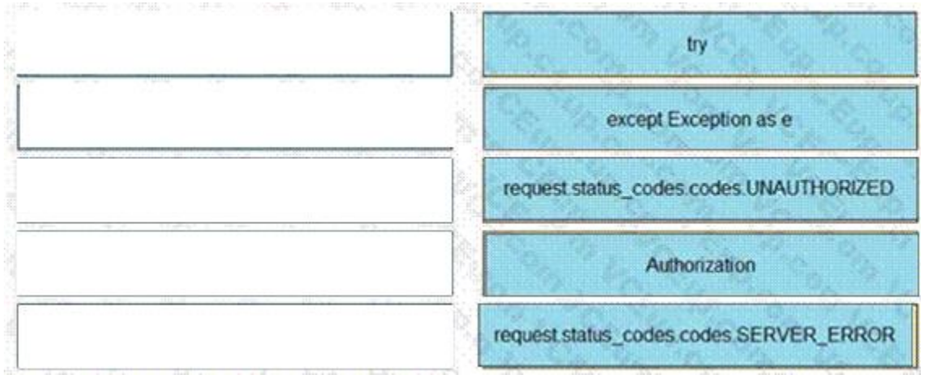
```
import requests, json, sys
token = ""
def get_dnac_devices():
     <item 1>:
          url = "https://sanboxdnac.cisco.com/dna/intent/api/v1/network-device"
          payload = {}
          headers = { 'Content-Type': 'application/json',
                      'Accept': 'application/json', 'x-auth-token': token }
          response = requests.request("GET", url, headers=headers, data = payload)
          response.raise_for_status()
          return response.text
     <item 2>:
          if str(<item 3>) in str(e):
             create_dnac_token()
def create_dnac_token():
     try:
          url = "https://sanboxdnac2.cisco.com/dna/system/api/v1/auth/token"
          payload = {}
          headers ={'<item4>': 'Basic ZGV2bmV0dXNlcjpDaXNjbzEyMyE=',
                    'Content-Type': 'application/json' }
          response = requests.request("POST", url, headers=headers, data = payload)
          response.raise_for_status()
          return response.json()["Token"]
     except Exception as e:
          if str(<item 5>) in str(e):
               sys.exit("DNAC Service is not reachable")

if ____name____ == "__main____":
     token = create_dnac_token()
     print(get_dnac_devices())
```

Refer to the exhibit. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to complete the script to implement control flow.

Select and Place:



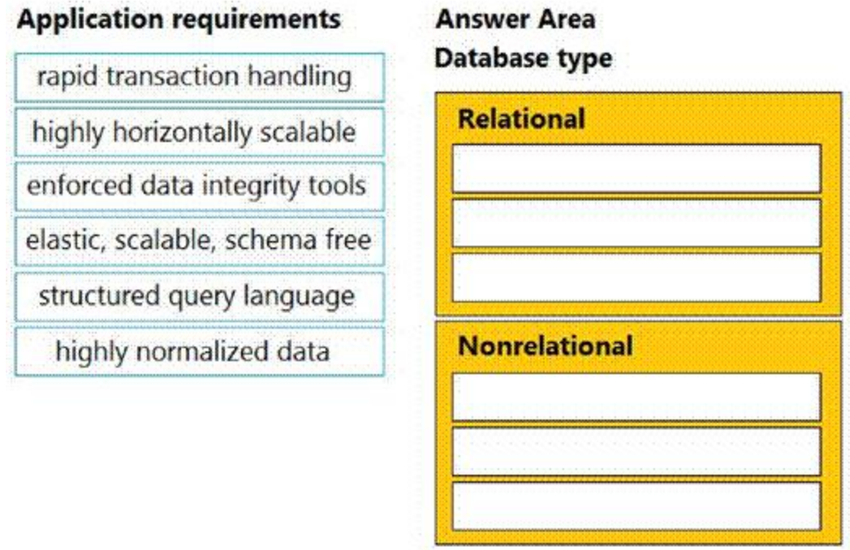
Correct Answer:



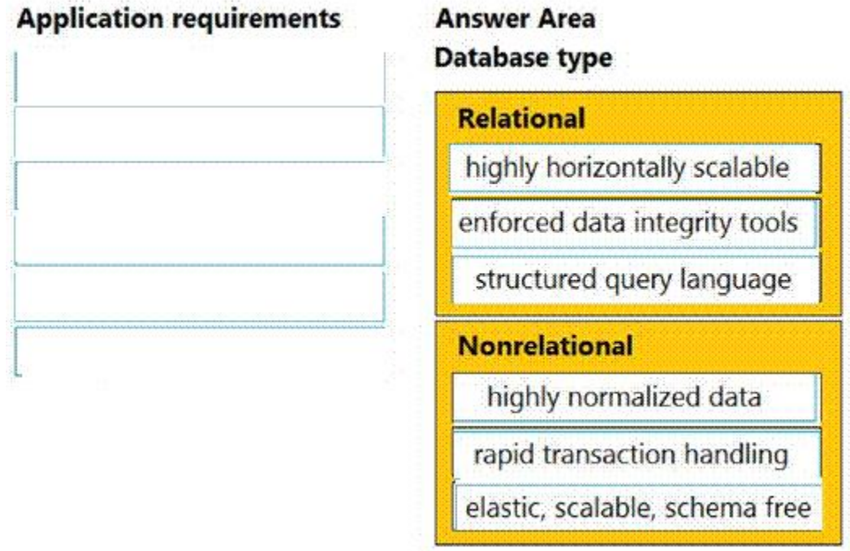
Section:
Explanation:

QUESTION 4
DRAG DROP
Drag and drop the application requirement on the left onto the database type that should be selected for the requirement on the right.

Select and Place:



Correct Answer:



Section:
Explanation:

QUESTION 5
DRAG DROP
Drag and drop the steps on the left into the order on the right for an end-user to access an OAuth2 protected resource using the 'Authorization Code Grant' flow.

Select and Place:

Answer Area

end-user initiates authentication OAuth client	step 1
OAuth client requests access token from authorization server	step 2
OAuth client requests a resource on the resource server	step 3
OAuth client receives access token from authorization server	step 4
OAuth client receives an authorization code	step 5
OAuth client communicates with authorization server to display login UI	step 6
end-user authenticates with the authorization server	step 7

Correct Answer:

Answer Area

	OAuth client requests a resource on the resource server
	OAuth client receives access token from authorization server
	end-user initiates authentication OAuth client
	OAuth client requests access token from authorization server
	OAuth client communicates with authorization server to display login UI
	end-user authenticates with the authorization server
	OAuth client receives an authorization code

Section:
Explanation:

QUESTION 6
DRAG DROP

Drag and drop the code from the bottom onto the box where the code is missing in the snippet to complete this Ansible playbook. Not all options are used.

Select and Place:

```
---
- hosts: ios
  gather_facts: no
  vars:

    dns_servers:
      -ip name-server [          ]
      -ip name-server 208.67.220.220

  tasks:

  - name: set name-server commands
    with_items: "{{ [          ] }}"
    ios_config:
      lines:
        -"{{ item }}"
    register: set_dns
```

name-server	208.67.222.222
dns_servers	dns-address

Correct Answer:

```
---
- hosts: ios
  gather_facts: no
  vars:

    dns_servers:
      -ip name-server [208.67.222.222]
      -ip name-server 208.67.220.220

  tasks:

  - name: set name-server commands
    with_items: "{{ [dns-address] }}"
    ios_config:
      lines:
        -"{{ item }}"
    register: set_dns
```

name-server	
dns_servers	

Section:
Explanation:

QUESTION 7
DRAG DROP

class ucsmsdk.mometa.ls.LsServer.**LsServerConsts** [source]

ASSIGN_STATE_ASSIGNED= *'assigned'*
ASSIGN_STATE_FAILED= *'failed'*
ASSIGN_STATE_UNASSIGNED= *'unassigned'*
ASSOC_STATE_ASSOCIATED= *'associated'*
ASSOC_STATE_ASSOCIATING= *'associating'*
ASSOC_STATE_DISASSOCIATING= *'disassociating'*
ASSOC_STATE_FAILED= *'failed'*
ASSOC_STATE_UNASSOCIATED= *'unassociated'*
CONFIG_STATE_APPLIED= *'applied'*
CONFIG_STATE_APPLYING= *'applying'*
CONFIG_STATE_FAILED_TO_APPLY= *'failed-to-apply'*
CONFIG_STATE_NOT_APPLIED= *'not-applied'*

Refer to the exhibit. Drag and drop the code snippets from the bottom onto the blanks in the code to provision a new UCS server. Not all options are used.

Select and Place:

```
from ucsmsdk.ucseventhandler import UcsEventHandle
from ucsmsdk.mometa.ls.LsServer import [          ]

end_script = False

def_sp_associate_callback(mce):
     global end_script
     if mce.mo.assoc_state == LsServerConsts.ASSOC_STATE_ASSOCIATED:
          log.debug("SP:" + mce.mo.dn + " Assoc Successful. assoc_state: "+
                    mce.mo.assoc_state
     elif mce.mo.assoc_state == LsServerConsts.ASSIGN_STATE_FAILED:
          log.error("SP:" + mce.mo.dn + "Assoc Failed. assoc_state: "+
                    mce.mo.assoc_state)
     end_script = True

def _sp_associate_monitor(event_handle, mo):
     [          ].add(managed_object=mo, prop= "assoc_state",
                      success_value=[LsServerConsts.ASSOC_STATE ASSOCIATED],
                      failure_value=[LsServerConsts.ASSOC_ [          ],
                      timeout_sec=600, call_back=_sp_associate_callback)
```

STATE_ERROR] | STATE_FAILED]
LsServerConsts | event_handle

Correct Answer:

```
from ucsmsdk.ucseventhandler import UcsEventHandle
from ucsmsdk.mometa.ls.LsServer import LsServerConsts

end_script = False

def sp_associate_callback(mce):
    global end_script
    if mce.mo.assoc_state == LsServerConsts.ASSOC_STATE_ASSOCIATED:
        log.debug("SP:" + mce.mo.dn + " Assoc Successful. assoc_state: "+
                  mce.mo.assoc_state
    elif mce.mo.assoc_state == LsServerConsts.ASSIGN_STATE_FAILED:
        log.error("SP:" + mce.mo.dn + "Assoc Failed. assoc_state: "+
                  mce.mo.assoc_state)
    end_script = True

def _sp_associate_monitor(event_handle, mo):
    event_handle.add(managed_object=mo, prop= "assoc_state",
                     success_value=[LsServerConsts.ASSOC_STATE_ASSOCIATED],
                     failure_value=[LsServerConsts.ASSOC_STATE_FAILED],
                     timeout_sec=600, call_back=_sp_associate_callback)
```

STATE_ERROR]

Section:
Explanation:

QUESTION 8
DRAG DROP
A Python application is being written to run inside a Cisco IOS XE device to assist with gathering telemetry data. Drag and drop the elements of the stack from the left onto the functions on the right to collect and display the telemetry streaming data.

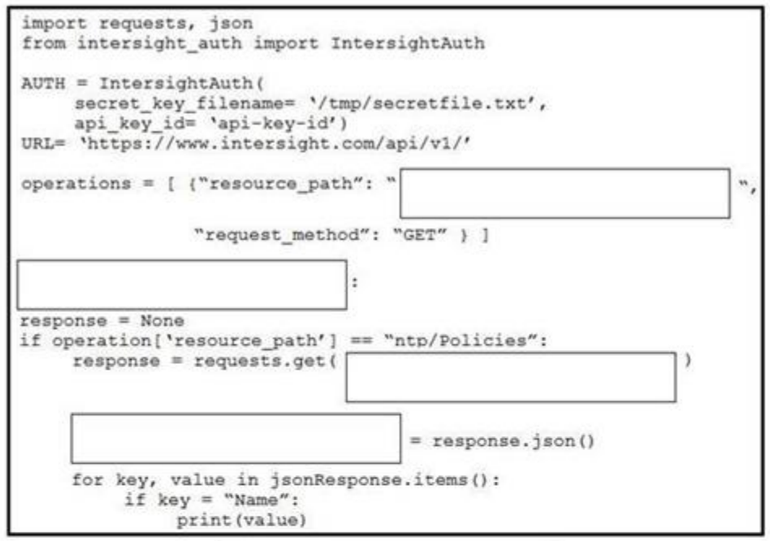
Select and Place:

Correct Answer:

Section:
Explanation:

QUESTION 9
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing in the Python script to execute a REST API call to query all the NTP policy names and print the name of each policy. Not all options are used.

Select and Place:



Correct Answer:

```
import requests, json
from intersight_auth import IntersightAuth

AUTH = IntersightAuth(
     secret_key_filename= '/tmp/secretfile.txt',
     api_key_id= 'api-key-id')
URL= 'https://www.intersight.com/api/v1/'

operations = [ {"resource_path": "          ntp/Policies          ",
                "request_method": "GET" } ]

 for operation in operations :
response = None
if operation['resource_path'] == "ntp/Policies":
     response = requests.get( URL+operation
                              ['resource_path'],auth=AUTH )

     jsonResponse = response.json()
     for key, value in jsonResponse.items():
          if key = "Name":
               print(value)
```

URL+operation[resource_path], auth=api_key_id

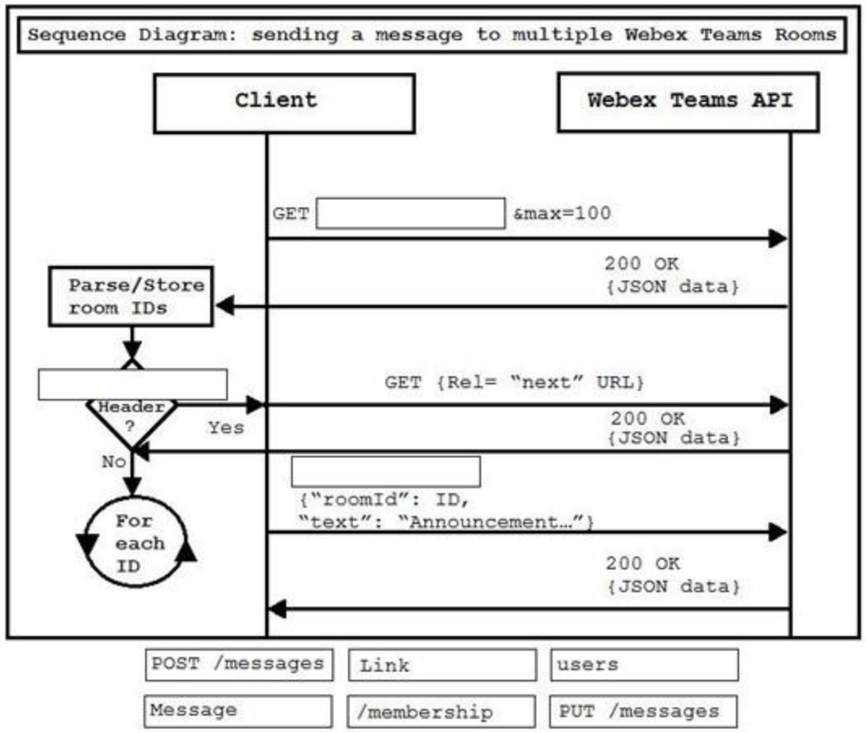
response.json

for each operations

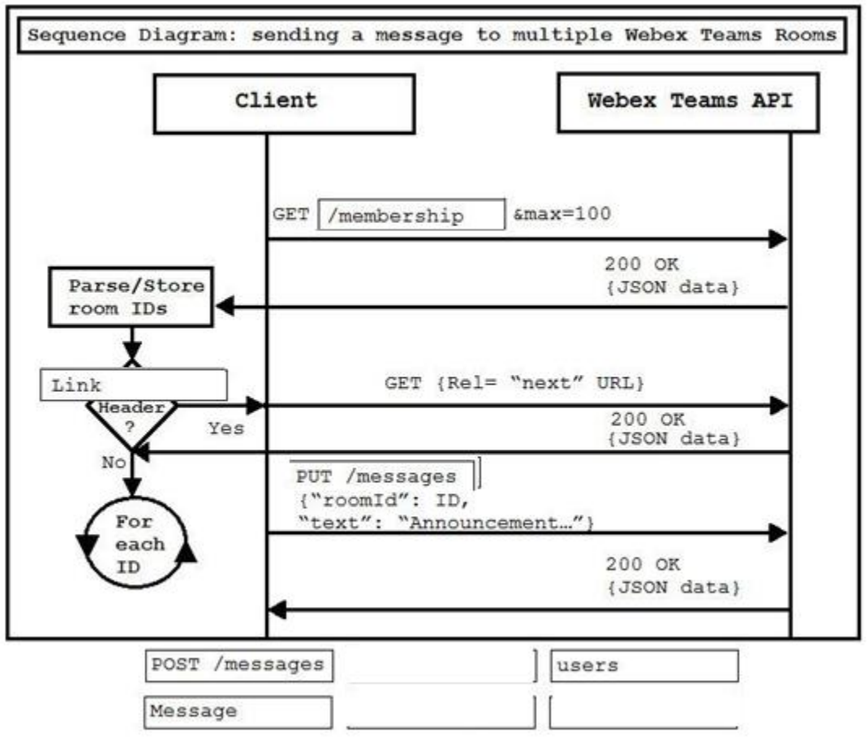
Section:
Explanation:

QUESTION 10
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing in the diagram to show how data is processed in Webex Teams. Not all options are used.

Select and Place:



Correct Answer:

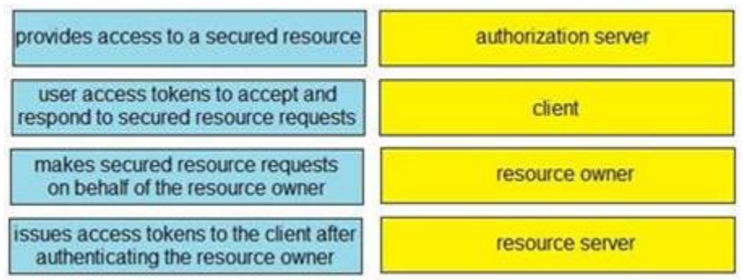


Section:

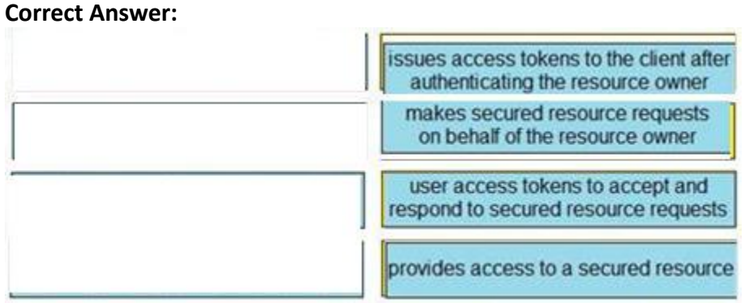
Explanation:

QUESTION 11
DRAG DROP
Drag and drop the descriptions from the left onto the related OAuth-defined roles on the right.

Select and Place:



Correct Answer:



Section:

Explanation:

QUESTION 12
DRAG DROP
Drag and drop the expressions from below onto the code to implement error handling. Not all options are used.

Select and Place:

Answer Area

```
base_url = "https://api.meraki.com/api/v0"
posturl = '%s/networks/%s/staticRoutes' % ((str(base_url), str(networkid)))
headers = {
     'x-cisco-meraki-api-key': api_key,
     'Content-Type': 'application/json'
}
routes = [ {
     "subnet": "10.16.4.0/22",
     "gatewayIp": "10.1.0.20",
     "name": "ROUTE1",
     "enabled": true
   },
   {
     "subnet": "10.253.254.0/24",
     "gatewayIp": "10.1.0.20",
     "name": "ROUTE2",
     "enabled": true
   },
   {
     "subnet": "10.168.0.0/21",
     "gatewayIp": "10.1.0.20",
     "name": "ROUTE3",
     "enabled": true
   } ]

for route in routes:
     print("Adding static: " + str(route['subnet'])
     response = requests.post(posturl, json=route, headers=headers)
     status = response.status_code
     [          ]
     print("Done!")
     [          ]
     print("Failed to add static: " + str(route['subnet']) + "\n" + response.text)
```

`if status == 601:` `else:` `when:`

`if status == 201:` `elif:`

Correct Answer:

Answer Area

```
base_url = "https://api.meraki.com/api/v0"
posturl = '%s/networks/%s/staticRoutes' % ((str(base_url), str(networkid)))
headers = {
     'x-cisco-meraki-api-key': api_key,
     'Content-Type': 'application/json'
}
routes = [ {
     "subnet": "10.16.4.0/22",
     "gatewayIp": "10.1.0.20",
     "name": "ROUTE1",
     "enabled": true
   },
   {
     "subnet": "10.253.254.0/24",
     "gatewayIp": "10.1.0.20",
     "name": "ROUTE2",
     "enabled": true
   },
   {
     "subnet": "10.168.0.0/21",
     "gatewayIp": "10.1.0.20",
     "name": "ROUTE3",
     "enabled": true
   } ]

for route in routes:
     print("Adding static: " + str(route['subnet'])
     response = requests.post(posturl, json=route, headers=headers)
     status = response.status_code
     if status == 201:
     print("Done!")
     else:
     print("Failed to add static: " + str(route['subnet']) + "\n" + response.text)
```

`if status == 601:` `when:`

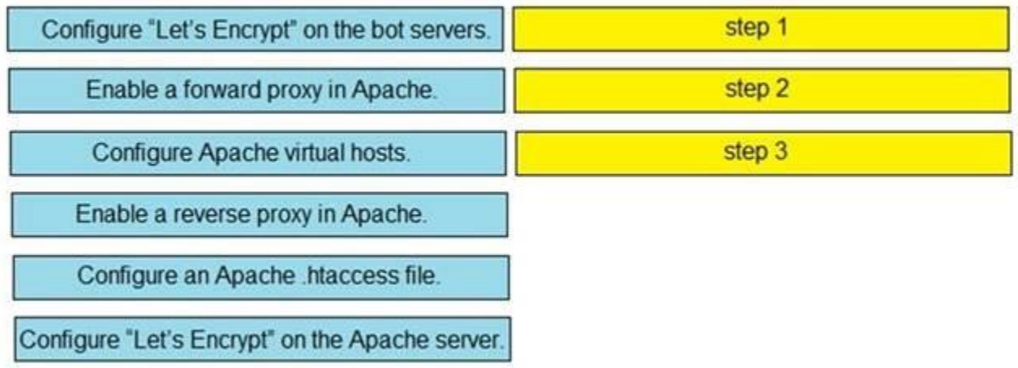
`elif:`

Section:
Explanation:

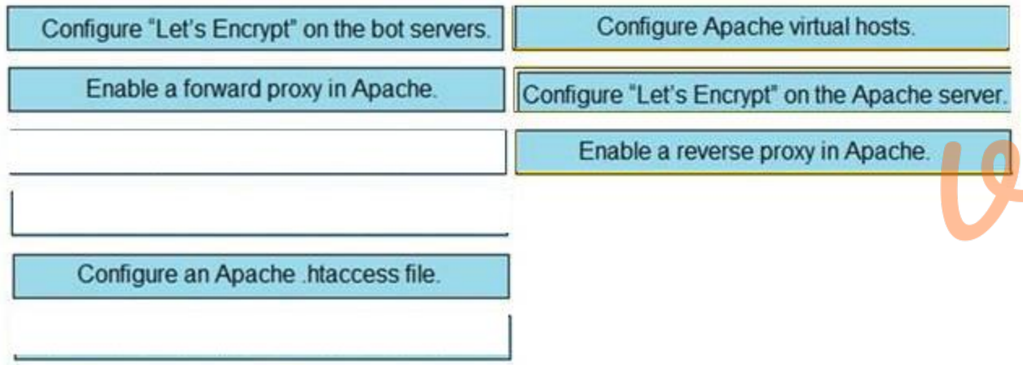
QUESTION 13

DRAG DROP
An engineer must access multiple bots that are running in an internal infrastructure. A different HTTPS URL is required for each bot. The infrastructure has just one public IP address and a Linux server with Apache installed. Drag and drop the actions from the left into the order of steps on the right to enable access to the bots inside. Not all options are used.

Select and Place:



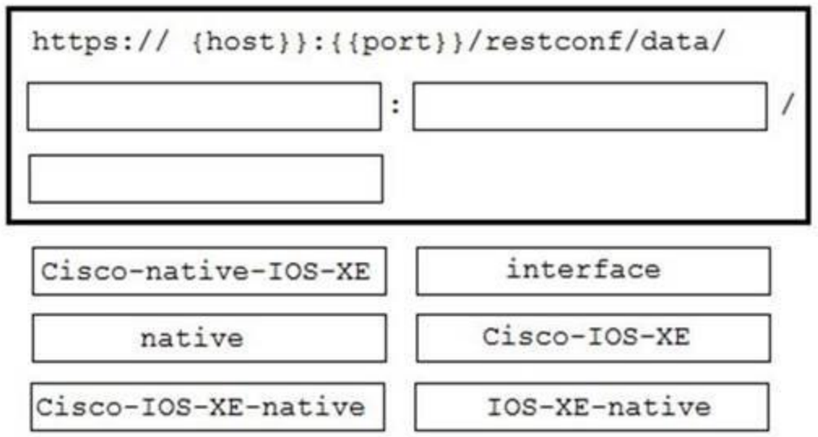
Correct Answer:



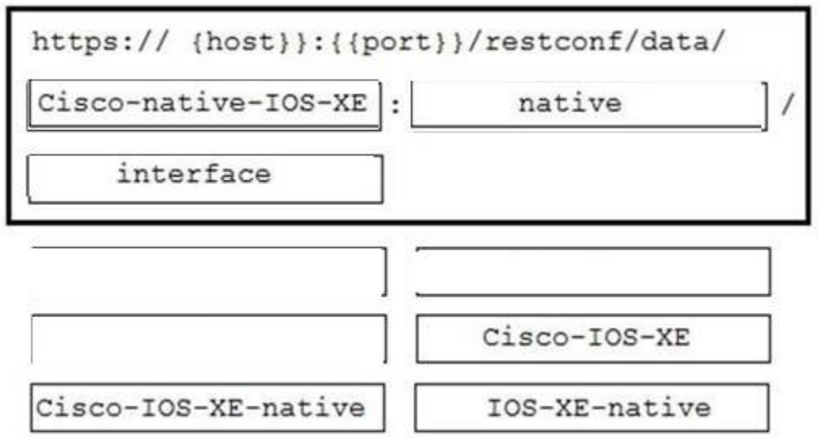
Section:
Explanation:

QUESTION 14
DRAG DROP
A network engineer needs to retrieve interface data using the Cisco IOS XE YANG Model. Drag and drop the components from the bottom onto the box where the code is missing to complete the RESTCONF URI. Not all options are used.

Select and Place:



Correct Answer:



Section:
Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/166/b_166_programmability_cg/restconf_prog_int.html

QUESTION 15
DRAG DROP

Operation Id: *getSiteHealth*
Description: *Returns Overall Health information for all sites*

`GET /dna/intent/api/v1/site-health`

Responses

Status: 200

The request was successful. The result is contained in the response body.

Schema Definition **Example Body**

- GetSiteHealthResponse
  - response: array[]
    - accessGoodCount: string
    - accessTotalCount: string
    - clientHealthWired: string
    - clientHealthWireless: object
    - clientIssueCount: object
    - clientNumberOfIssues: object
    - latitude: object
    - longitude: object
    - networkHealthAverage: object
    - networkHealthOthers: object
    - networkHealthWireless: object
    - networkNumberOfIssues: object
    - numberOfWirelessClients: object
    - wirelessGoodClients: object

Refer to the exhibit. A developer is creating a Python script by using Cisco DNA Center APIs. Drag and drop the code from the bottom onto the box where the code is missing in the Python script to retrieve and display wireless health information for each site. Not all options are used.

Select and Place:

```
import requests

URL = 'https://cisco.dnatest.com:443/dna/intent/api/v1/site-health'
ACCESS_TOKEN = 'ABCD1234'

headers =
{'X-Auth-Token':

'Content-type': 'application/json;charset=utf-8')

response = requests.get(URL, params=params_data, headers=headers)

    sites_response = response.json ['response']
    for site in sites_response:

else:
    print(                                    ,
response.text)
```

response.status_code	ACCESS_TOKEN
print(site['siteName'][0] ['networkHealthWireless'])	if response.status_code == 200:
response.error	while response.code == 200:

```
print('{}{}'.format(site['siteName'],
site['networkHealthWireless']))
```

Correct Answer:

```
import requests

URL = 'https://cisco.dnatest.com:443/dna/intent/api/v1/site-health'
ACCESS_TOKEN = 'ABCD1234'

headers =
{'X-Auth-Token':          ACCESS_TOKEN

'Content-type': 'application/json;charset=utf-8')

response = requests.get(URL, params=params_data, headers=headers)

    if response.status_code == 200:

    sites_response = response.json ['response']
    for site in sites_response:

      print('{}{}'.format(site['siteName'],
      site['networkHealthWireless']))
else:
    print(          response.status_code          ,

response.text)
```

print(site['siteName'][0] ['networkHealthWireless'])	
response.error	while response.code == 200:

Section:
Explanation:

QUESTION 16
DRAG DROP
An engineer is developing a web-based application that will be used as a central repository for the HR department. The application needs to authenticate user access and encrypt communication. Drag and drop the steps from the left into the order on the right to install an application-specific SSL certificate.

Select and Place:

Configure the application to use HTTPS.	step 1
Acquire the SSL certificate.	step 2
Install the SSL certificate.	step 3
Create a certificate signing request.	step 4

Correct Answer:

	Create a certificate signing request.
	Acquire the SSL certificate.
	Install the SSL certificate.
	Configure the application to use HTTPS.

Section:
Explanation:

QUESTION 17
DRAG DROP
Drag and drop the code from the bottom of the code snippet to the blanks in the code to construct a Puppet manifest that configures a VRF instance on a Cisco IOS XR device. Not all options are used.

Select and Place:

```
        'default' {
        { 'sample-configuration':

ensure => present,
target => '{"Cisco-IOS-XR-infra-rsi-cfg:vrfs": [null]}',
        => '{"Cisco-IOS-XR-infra-rsi-cfg:vrfs": {
    "vrf":[
      {
            "       ":"VOIP",
            "description":"Voice over IP",
            "vpn-id":{"vpn-oui":875, "vpn-index":3},
            "create":[null]
      }]
    }
  }',
}
```

vrf-name	node	device
source	function	cisco_yang

Correct Answer:

		device
	function	

Section:
Explanation:

QUESTION 18
DRAG DROP
A developer is creating a Python script to catch errors using REST API calls and to aid in debugging. Drag and drop the code from the bottom onto the box where the code is missing to implement control flow for REST API errors. Not all options are used.

Select and Place:

```
try:
    res = requests.get (address,timeout=30)
except requests.[          ]      as e:
        print ("Make sure you are connected to Internet.")
        print (str (e))
        continue
except requests.[          ]      as e:
        print("Timeout Error")
        print (str (e))
        continue
except requests.[          ]      as e:
        print("General Error")
        print (str (e))
        continue
except [                   ]:
  print ("Program closed")
```

ConnectionError	RequestException
Timeout	KeyboardInterrupt
Request	Error

Correct Answer:

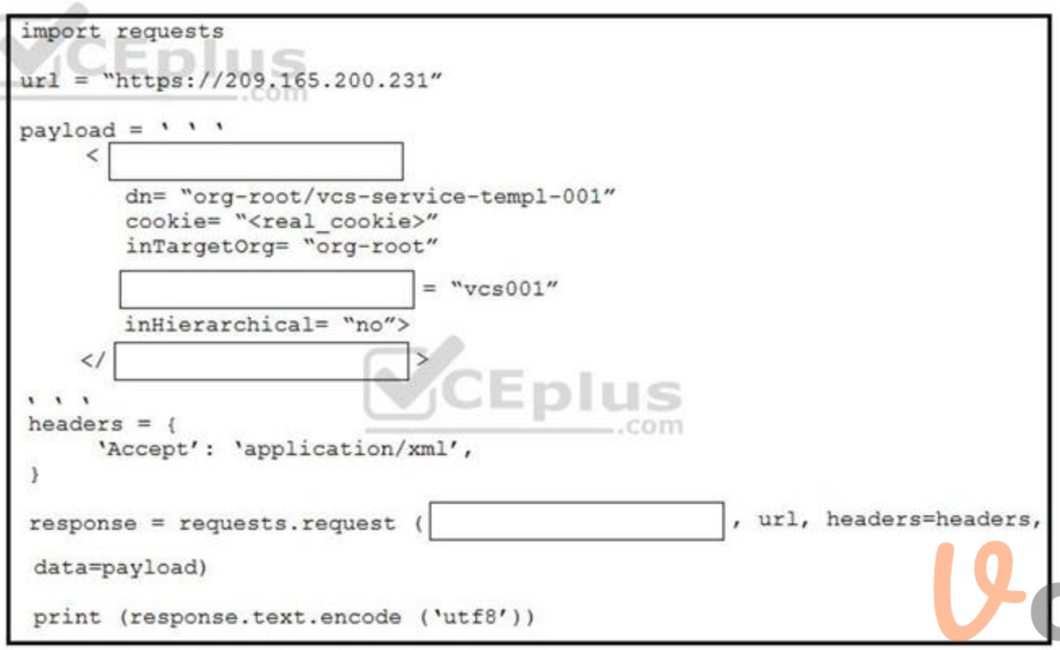
```
try:
    res = requests.get (address,timeout=30)
except requests.[ ConnectionError ]      as e:
        print ("Make sure you are connected to Internet.")
        print (str (e))
        continue
except requests.[    Timeout      ]      as e:
        print("Timeout Error")
        print (str (e))
        continue
except requests.[ RequestException ]      as e:
        print("General Error")
        print (str (e))
        continue
except [ KeyboardInterrupt ]:
  print ("Program closed")
```

Request	Error

Section:
Explanation:

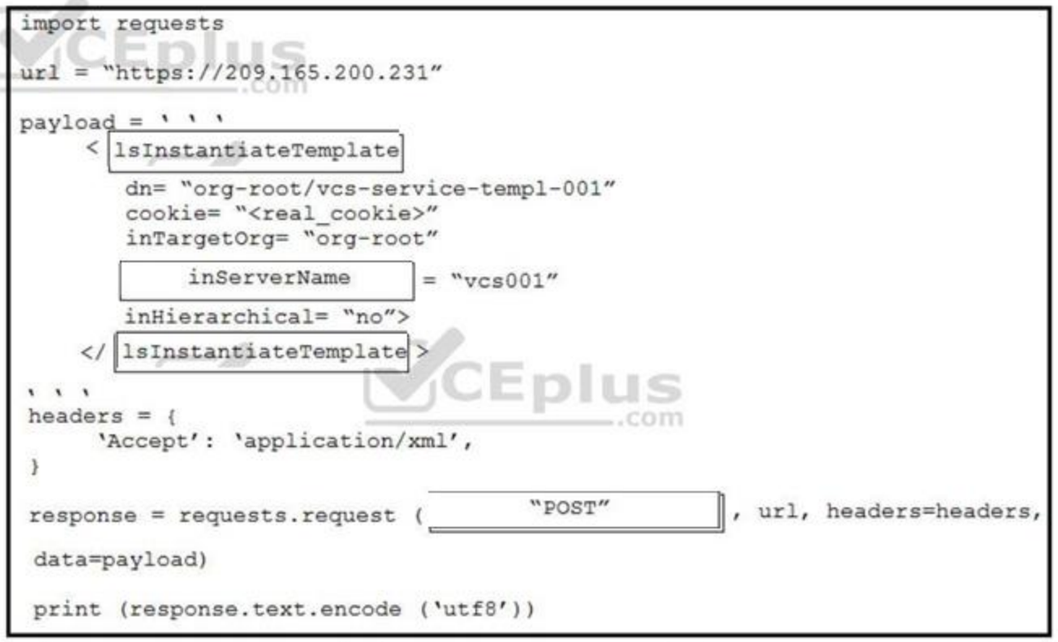
QUESTION 19
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to provision a new Cisco Unified Computing System server by using the UCS XML API. Options may be used more than once. Not all options are used.

Select and Place:



lsDeployTemplate	inDeployServerName	lsInstantiateTemplate
"POST"	inServerName	"PUT"

Correct Answer:



lsDeployTemplate | inDeployServerName | lsInstantiateTemplate

"POST" | inServerName | "PUT"

Section:
Explanation:

QUESTION 20
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to retrieve and display wireless network health information. The wireless network devices are being managed by Cisco DNA Center and are compatible with
REST API. Not all options are used.

Select and Place:

```
import requests
import json

BASE URL = "https://sandboxdnac.cisco.com"
url = "f" {BASE_URL}/dna/intent/ [          ]

token = 'eyJhbGc . . . yJbN8'
headers = {
     [          ]
   'Content-Type' : 'application/json',
   'Accept': 'application/json'
}

response = requests.request ('GET', url, headers=headers)

networkHealth = json.loads(response.text)

for healthDist in networkHealth["healthDistribution"]:
   if healthDist[ [          ] ]== [          ]:
      print(json.dumps (healthDist))
```

api/v1/network-health"	"Wireless"
'x-auth-token': token,	api/v1/wireless-health"
"category"	"Distribution"

Correct Answer:

```
import requests
import json

BASE URL = "https://sandboxdnac.cisco.com"
url = "f" {BASE_URL}/dna/intent/ api/v1/network-health"

token = 'eyJhbGc . . . yJbN8'
headers = {
      'x-auth-token': token,
   'Content-Type' : 'application/json',
   'Accept': 'application/json'
}

response = requests.request ('GET', url, headers=headers)

networkHealth = json.loads(response.text)

for healthDist in networkHealth["healthDistribution"]:
   if healthDist[ "Distribution" ]== "Wireless" :
      print(json.dumps (healthDist))
```

	api/v1/wireless-health"
"category"	

Section:
Explanation:

QUESTION 21
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to create a Webex space. Not all options are used.

Select and Place:

```
import requests
import json
url = "https://webexapis.com/v1/ [          ] "
token = 'eyJhbGc . . . yJbN8'
payload = {" [          ] ": "Championship Cup Operations"}
headers = {
  'Authorization': [          ]
  'Content-Type': 'application/json
}
response = requests.request( [          ] , url, headers=headers,
data=json.dumps(payload))
print(response.text.encode('utf8'))
```

rooms	f'Bearer {token}',
title	f'Basic {token}',
"POST"	"PUT"

Correct Answer:

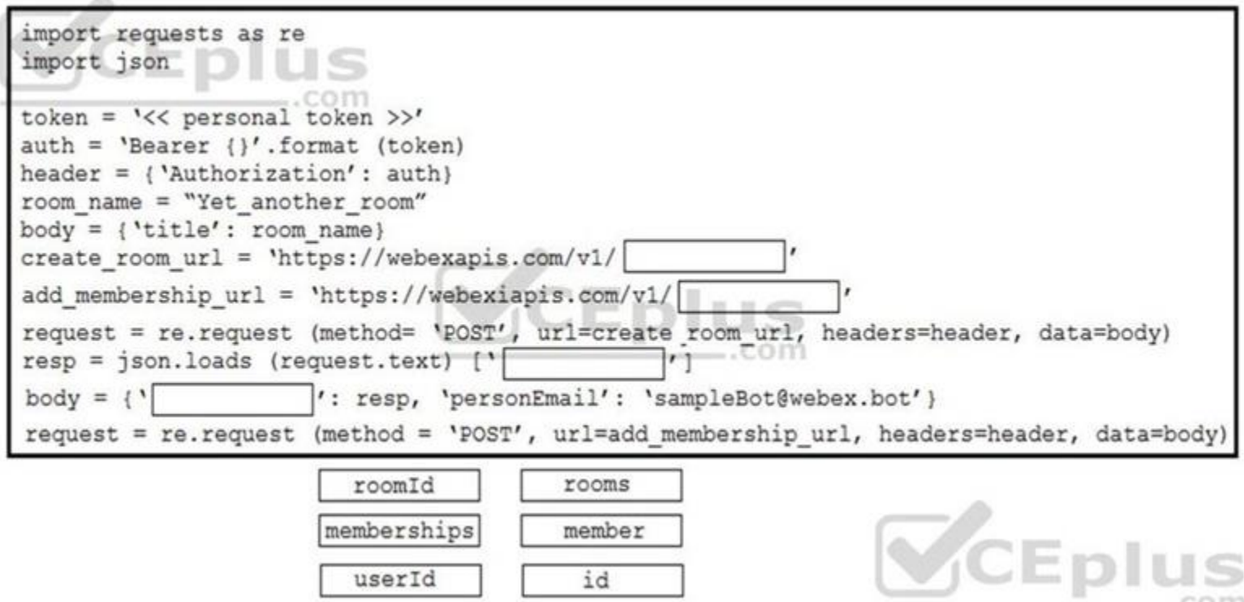
```
import requests
import json
url = "https://webexapis.com/v1/ [  rooms  ] "
token = 'eyJhbGc . . . yJbN8'
payload = {" [  title  ] ": "Championship Cup Operations"}
headers = {
  'Authorization': [ f'Bearer {token}', ]
  'Content-Type': 'application/json
}
response = requests.request( [  "POST"  ] , url, headers=headers,
data=json.dumps(payload))
print(response.text.encode('utf8'))
```

	f'Basic {token}',
	"PUT"

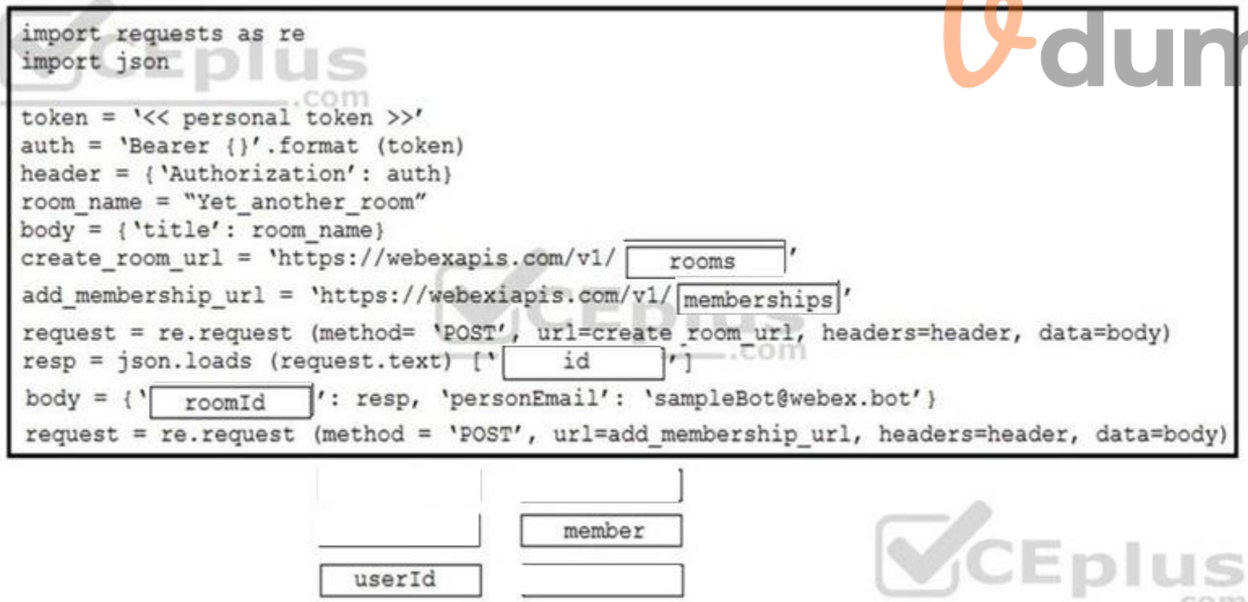
Section:
Explanation:

QUESTION 22
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to create a new Cisco Webex space and attach a previously configured bot named 'sampleBot'. Not all options are used.

Select and Place:



Correct Answer:



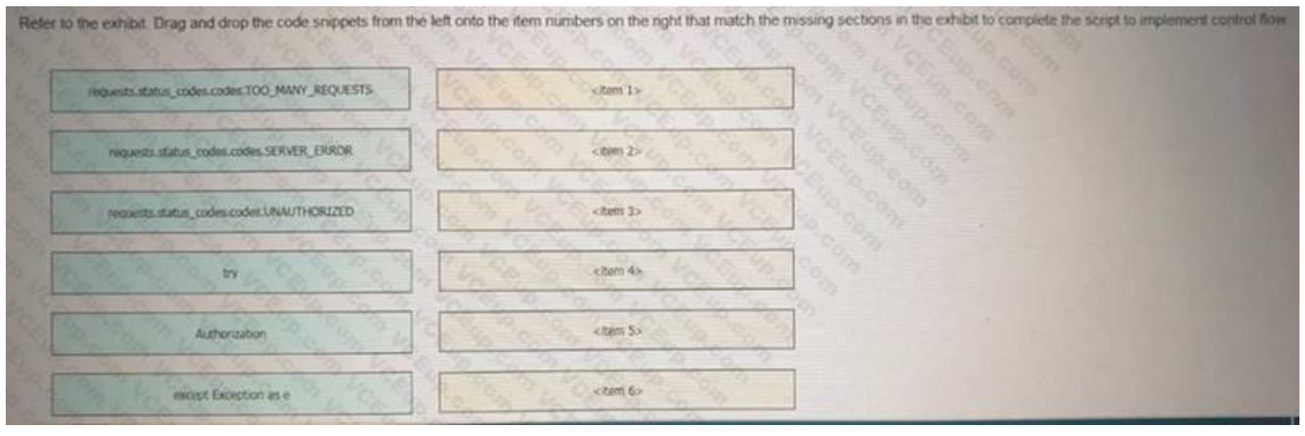
Section:
Explanation:

QUESTION 23
DRAG DROP

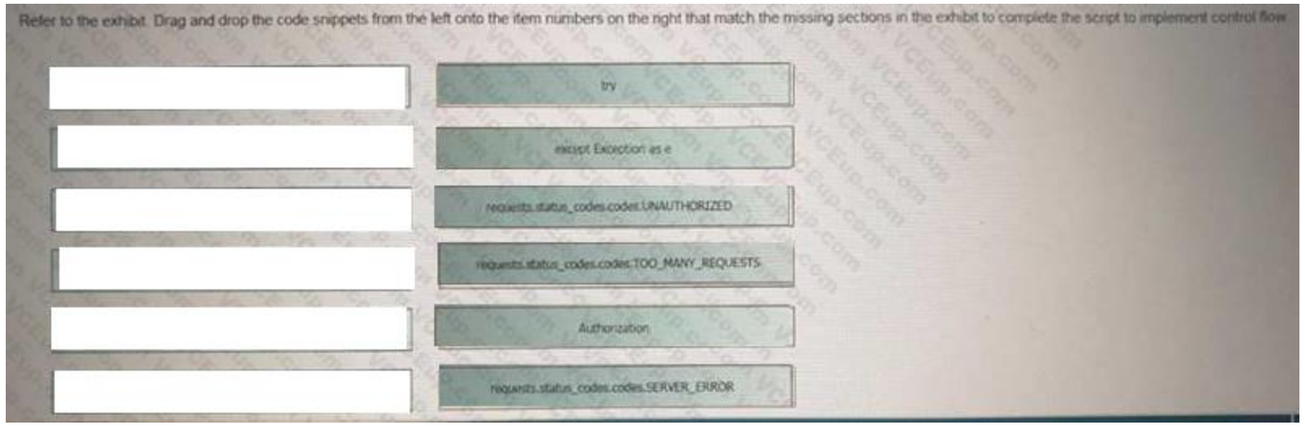
```
def get_dnac_devices():
  <item 1>:
      url = "https://sandboxdnac.cisco.com/dna/intent/api/v1/network-device"
      print(token)
      payload = {}
      headers = {
      'Content-Type': 'application/json',
      'Accept': 'application/json',
      'x-auth-token': token
      }
      response = requests.request("GET", url, headers=headers, data = payload)
      response.raise_for_status()
      return response.text

  <item 2>:
      print(e)
      if str(<item 3>) in str(e):
          create_dnac_token()
      elif str(<item 4>) in str(e) and i < RETRIES:
          backoff_retry(get_dnac_devices)

def create_dnac_token():
  try:
      url = "https://sandboxdnac.cisco.com/dna/system/api/v1/auth/token"
      payload  = {}
      headers = {
      <item 5>: 'Basic YGV2bmV0dXNlcjpDaXNjbzEyMyE=',
      'Content-Type': 'application/json'
      }
      response = requests.request("POST", url, headers=headers, data = payload)
      response.raise_for_status()
      return response.json()["Token"]
  except Exception as e:
      print(e)
      if str(<item 6>) in str(e):
          sys.exit("Server Unavailable")

def backoff_retry(func_retry):
    print("in backoff")
    time.sleep(backoff)
    backoff**2
    i+=1
    func_retry()

if __name__ == '__main__':
    token = create_dnac_token()
    while True:
        print(get_dnac_devices())
```

Refer to the exhibit Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to complete the script to implement control flow.

Select and Place:



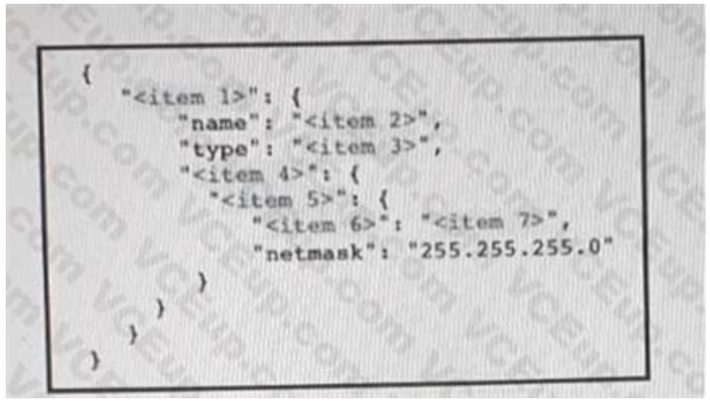
Correct Answer:



Section:
Explanation:

QUESTION 24
DRAG DROP

```
RFC 8344                    YANG IP Management                  March 2018
2.  IP Data Model
This document defines the YANG module "ietf-ip", which augments the
"interface" lists defined in the "ietf-interfaces" module [RFC8343]
with IP-specific data nodes.

The data model has the following structure for IP data nodes per
interface, excluding the deprecated data nodes:

module: ietf-ip
  augment /if:interfaces/if:interface:
    +--rw ipv4!
    |  +--rw enabled?       boolean
    |  +--rw forwarding?    boolean
    |  +--rw mtu?           uint16
    |  +--rw address* [ip]
    |  |  +--rw ip                  inet:ipv4-address-no-zone
    |  |  +--rw (subnet)
    |  |     +--:(prefix-length)
    |  |     |  +--rw prefix-length?   uint8
    |  |     +--:(netmask)
    |  |        +--rw netmask?         yang:dotted-quad
    |  |                 {ipv4-non-contiguous-netmasks}?
    |  |  +--ro origin?             ip-address-origin
    |  +--rw neighbor* [ip]
    |     +--rw ip                  inet:ipv4-address-no-zone
    |     +--rw link-layer-address  yang:phys-address
    |     +--ro origin?             neighbor-origin
    +--rw ipv6!
       +--rw enabled?                   boolean
       +--rw forwarding?                boolean
       +--rw mtu?                       uint32
       +--rw address* [ip]
       |  +--rw ip                  inet:ipv6-address-no-zone
       |  +--rw prefix-length       uint8
       |  +--ro origin?             ip-address-origin
       |  +--ro status?             enumeration
       +--rw neighbor* [ip]
          +--rw ip                  inet:ipv6-address-no-zone
          +--rw link-layer-address  yang:phys-address
          +--ro origin?             neighbor-origin
          +--ro is-router?          empty
          +--ro state?              enumeration
       +--rw dup-addr-detect-transmits?   uint32
```



Refer to the exhibit above and click on the resource tabs in the top left corner to view an IETF TANG MODEL and a Python file that changes the configuration via RESTCONF. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to complete the JSON file that changes configuration of interface GigabitEthernet1 to have an IPv4 configuration of 10.10.0.1/24. Not all options are used.

Select and Place:

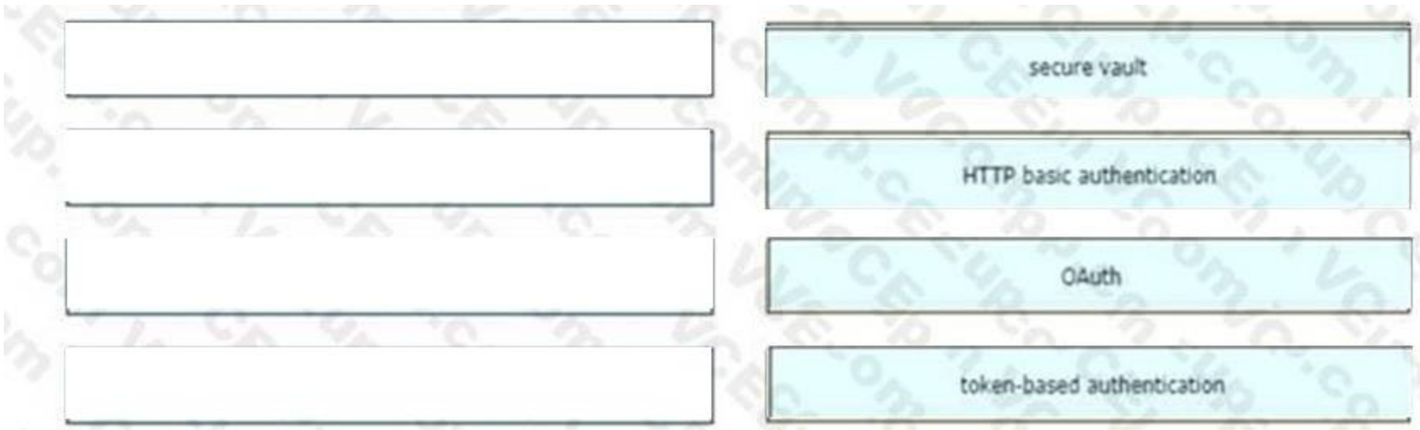
Correct Answer:

Section:
Explanation:

QUESTION 25
DRAG DROP
Drag and drop the REST API authentication method from the left to the description on the right

Select and Place:

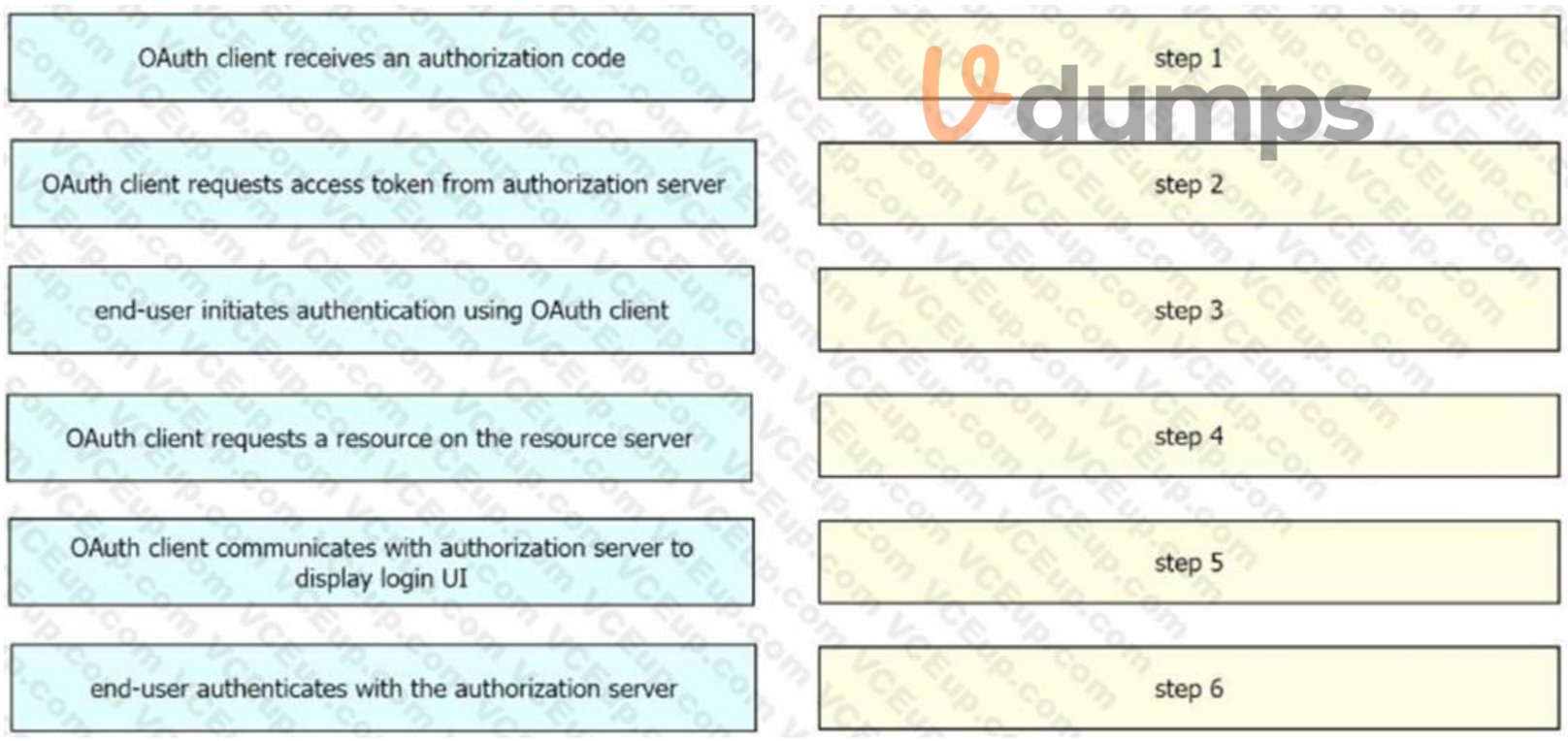
Correct Answer:



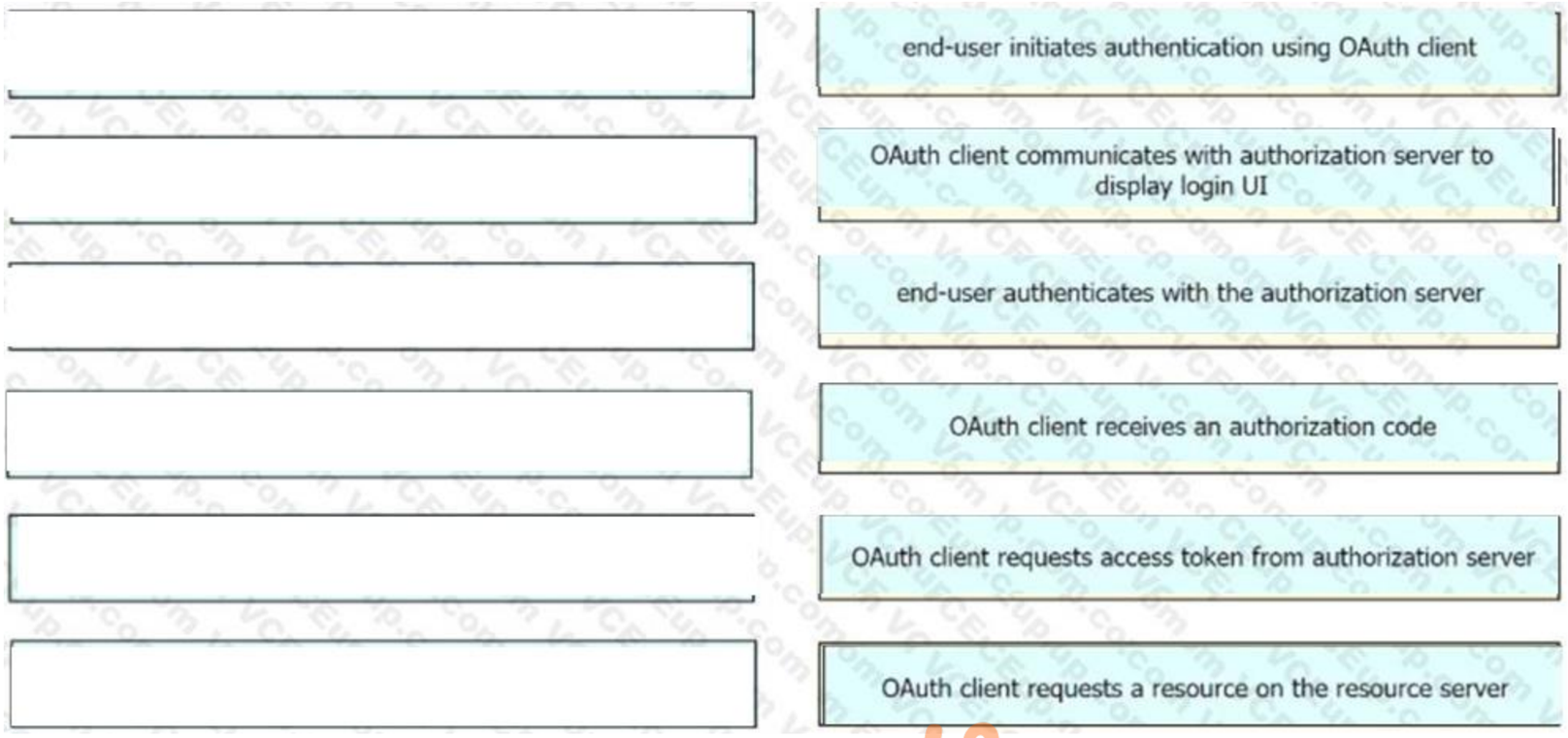
Section:
Explanation:

QUESTION 26
DRAG DROP
Drag and drop the steps on the left into the order on the right for an end-user to access an OAuth2 protected resource using the Authorization Code Grant1 flow.

Select and Place:



Correct Answer:



Section:
Explanation:

QUESTION 27
DRAG DROP
Drag and drop the code snippets from the bottom onto.the boxes where the code is missing to create a Cisco Webex meeting by using the Webex API. Not all options are used.

Select and Place:

```
import requests, json

token = 'eyJhbGc  ...  yJbN8'

headers = {
  'Authorization': f'Bearer {token}',
  'Content-Type': 'application/json'
}

payload = {
    "[          ]": "DevNet Webex Discussion",
    "password": "AGrtg12[ ]
    "start": "2020-11-10T[ ]:00:00Z",
    "end": "2020-11-10T17:00:00Z",
    "enabledAutoRecordMeeting": False,
    "allowAnyUserToBeCoHost": False
}

response = requests.request("[          ]",
          f'{BASE_URL}[          ]',
          headers=headers, data=json.dumps(payload))
print(response.text.encode('utf8'))
```

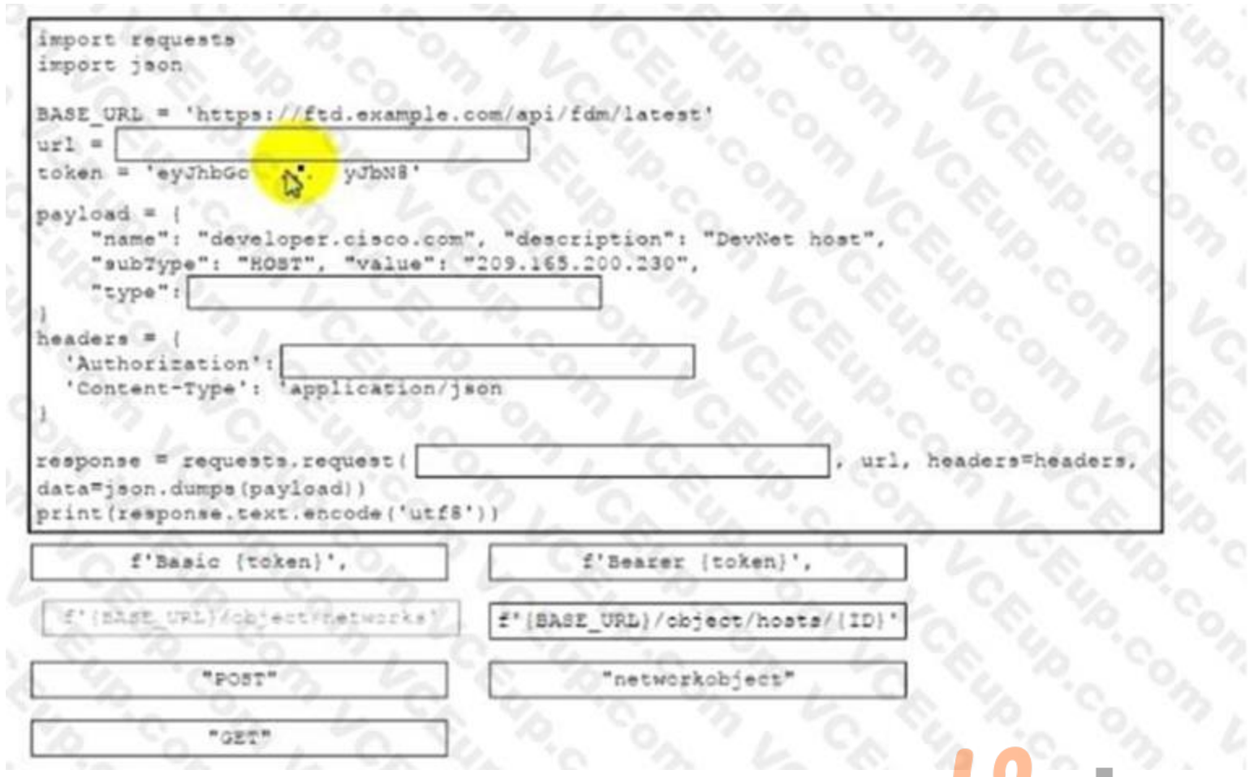
name	
POST	PUT
/v1/meetings	/v1/meetingmanager

Correct Answer:

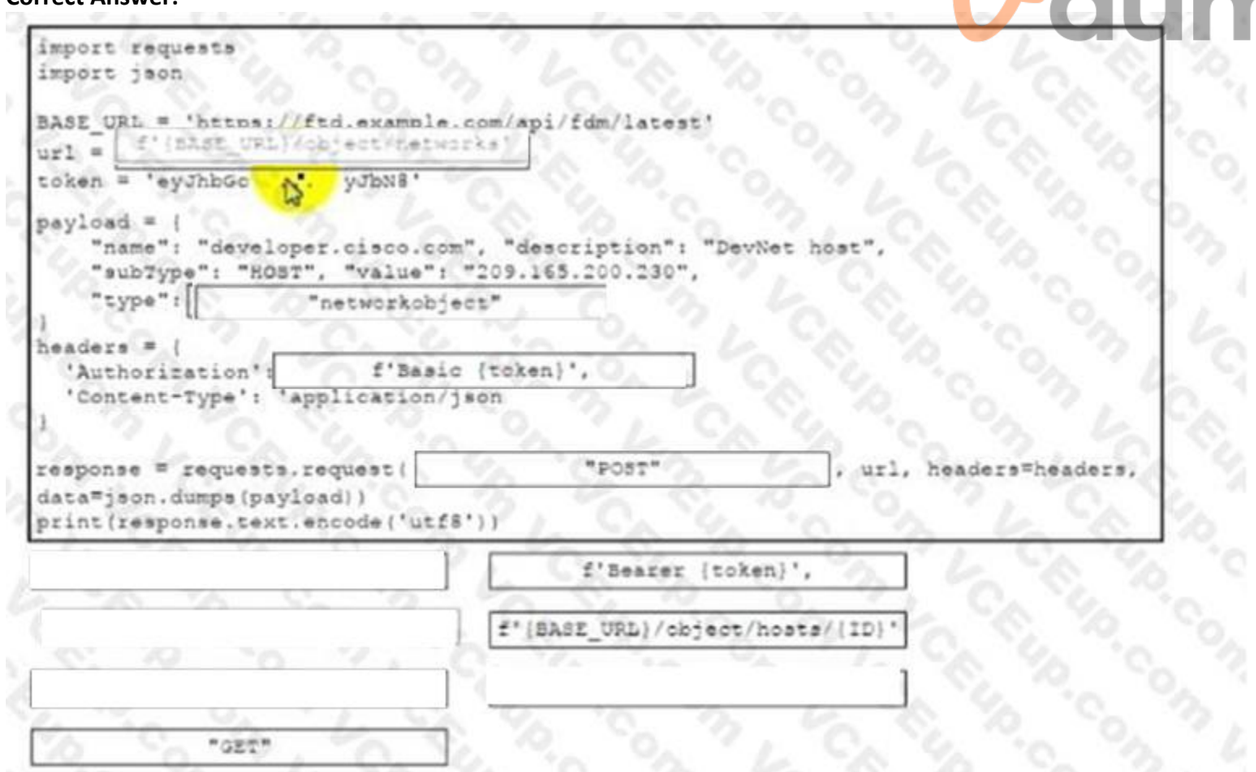
Section:
Explanation:

QUESTION 28
DRAG DROP
Drag and drop the code from the bottom onto the where the code is missing to create a host object by using the Cisco Firepower Device Manager API. Not all options are used.

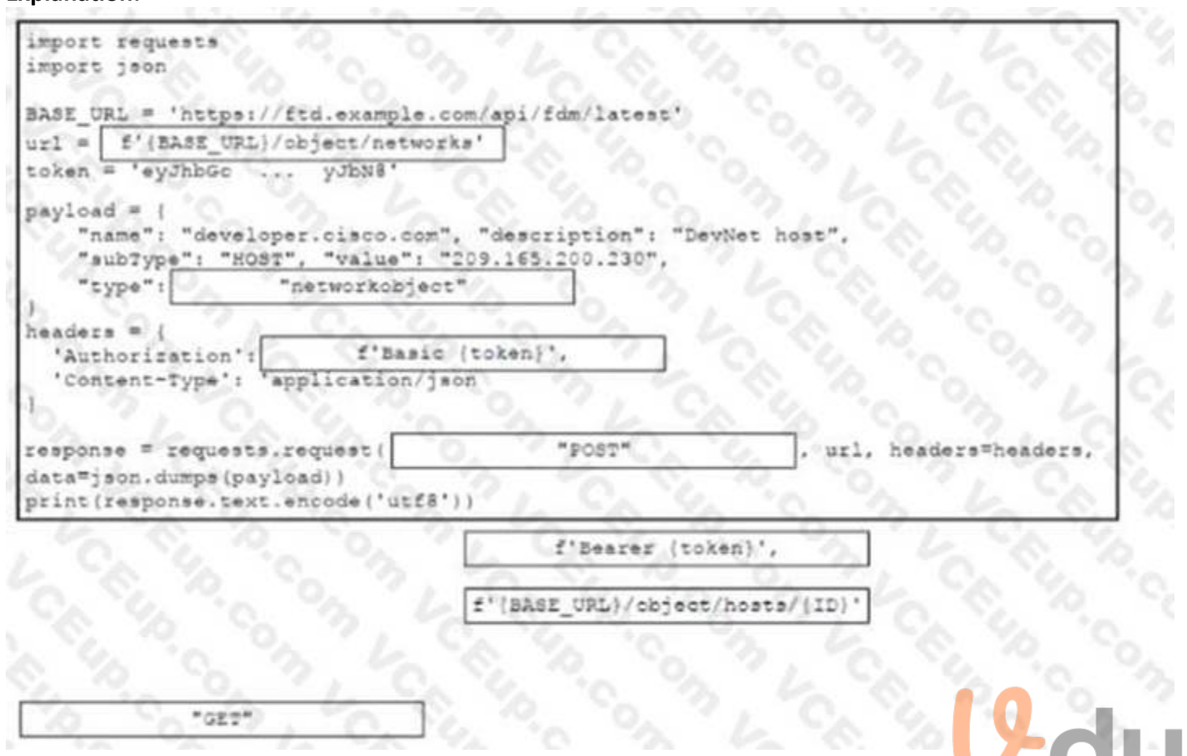
Select and Place:



Correct Answer:



Section:
Explanation:



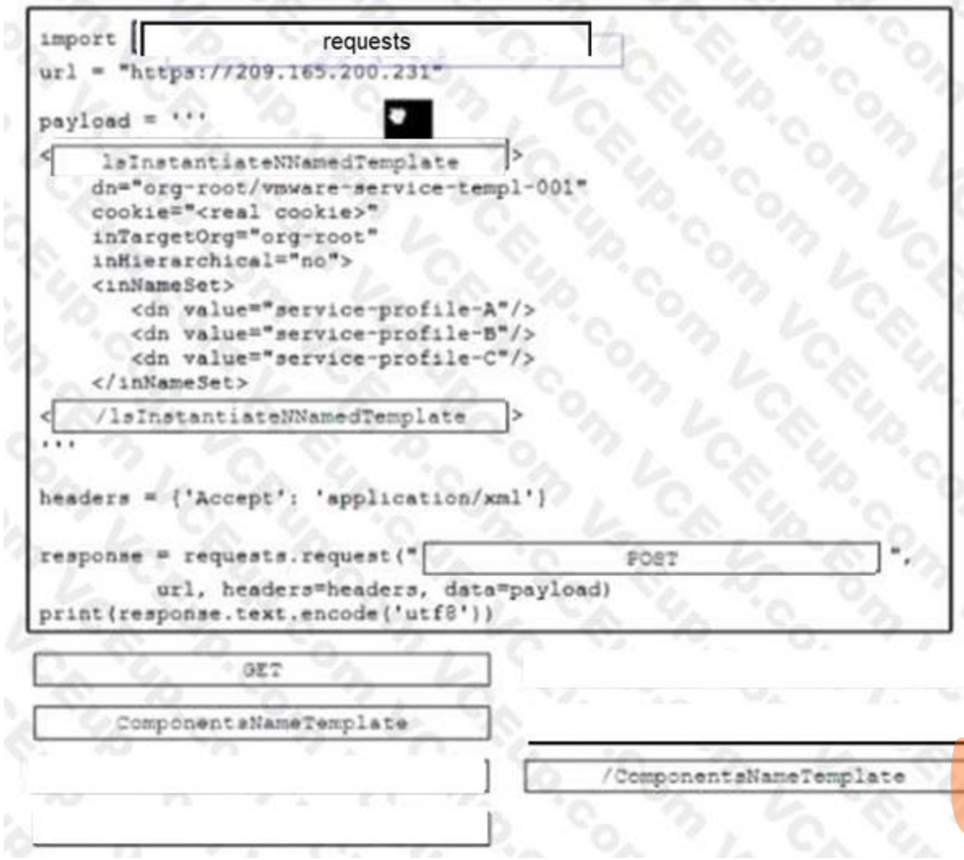
QUESTION 29
DRAG DROP
Drag and drop the code snippets from the bottom onto the boxes where the code is missing to deploy three Cisco UCS servers each from a different template Not all options ate used.

Select and Place:

```
import [redacted]
url = "https://209.165.200.231"

payload = '''
<[redacted]>
    dn="org-root/vmware-service-templ-001"
    cookie="<real cookie>"
    inTargetOrg="org-root"
    inHierarchical="no">
    <inNameSet>
       <dn value="service-profile-A"/>
       <dn value="service-profile-B"/>
       <dn value="service-profile-C"/>
    </inNameSet>
<[redacted]>
'''

headers = {'Accept': 'application/xml'}

response = requests.request("[redacted]",
        url, headers=headers, data=payload)
print(response.text.encode('utf8'))
```

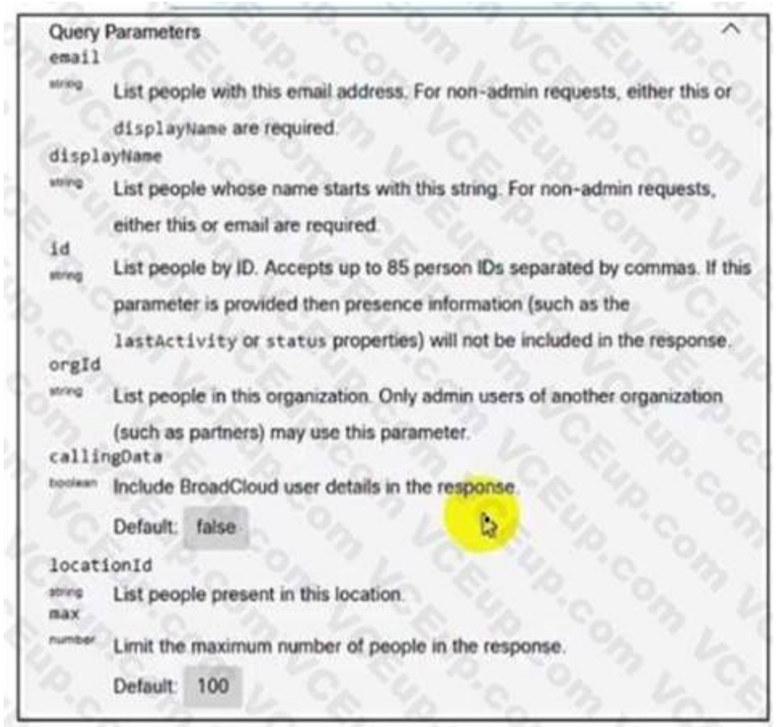
GET	/lsInstantiateNNamedTemplate
ComponentsNameTemplate	requests
POST	/ComponentsNameTemplate
lsInstantiateNNamedTemplate	

Correct Answer:



Section:
Explanation:

QUESTION 30
DRAG DROP
Refer to the exhibit.



Drag and drop the code snippets from the bottom onto the boxes where the code is missing to retrieve a list of all the members of a specific Cisco Webex organization Not at options are used.

Select and Place:

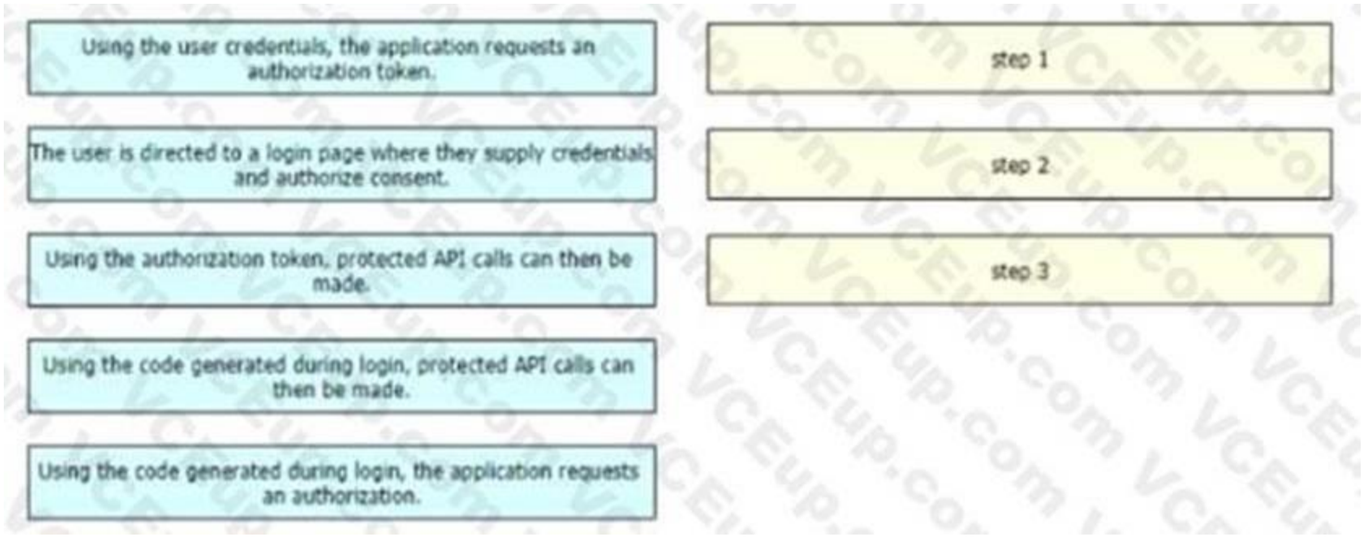
Correct Answer:

```
import requests as req
import json

headers = {
    "Authorization": "Bearer D1kZdcYQtOTcxy0iMzcxNDM1ZTR-4851-
    }
params = {
    "orgId": "Y2lzY29zcGFyazovL3VzLlRFQU0vZDk3OYasdi0xNWU5LTaGRk0hm",
    "max":"10"
}
url="https://api.ciscospark.com/v1/people"
response=req.request("GET", url, params=params, headers=headers)

responseHeaders=response.headers
if "Link" in responseHeaders:
    print(responseHeaders["link"])
else:
                    print("No pagination!")
print("Results:", json.dumps(response.json(),indent=4)
]
"Authorization": "Basic D1kZdcYQtOTcxy0iMzcxNDM1ZTR-4851-9309"
          print("Paginated results detected!")
```

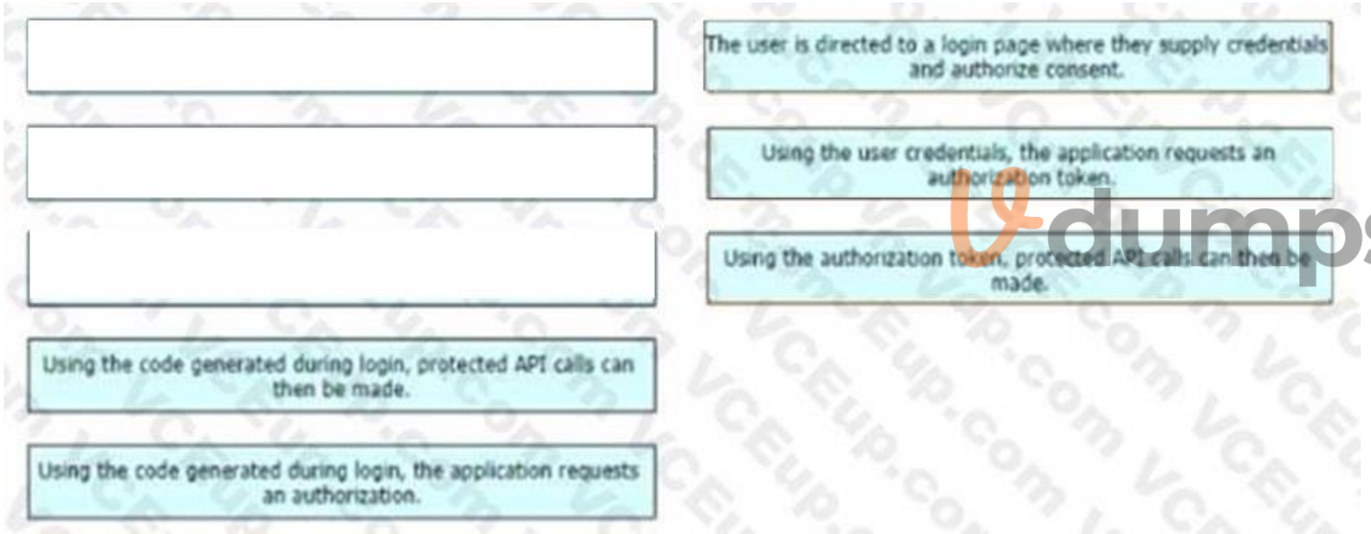
Section:
Explanation:

QUESTION 31
DRAG DROP
Drag and drop the steps from the left into the sequence on the fight to implement an OAuth2 threelegged authorization code flow grant type in an application Not all options are used.

Select and Place:



Correct Answer:



Section:
Explanation:

QUESTION 32
DRAG DROP
A developer is creating a Python script to analyze errors during REST API call operations. The script will be used with Cisco solution and devices. Drag and drop the code from the bottom to the box where the code is missing to implement control flow for handling unrecoverable REST API calls. Not all options are used.

Select and Place:

```
import requests, json, sys

BASE URL = "https://10.10.20.90:8443"
AUTH URL = f"{BASE URL}/j security check"
headers = {'Content-Type': 'application/x-www-form-urlencoded'}
payload = {'j username' : "admin", 'j password' : "password"}

session = requests.Session()
response = session.post(AUTH URL, headers=headers, data=payload, verify=False)

if                                  :
    DEVICE URL = f"{BASE URL}/dataservice/device/interface/synced?deviceId=10.10.1.11"
    response = session.get(DEVICE URL, verify=False)
    print(response.text.encode('utf8'))
                                    

elif                                :
    print("Authentication error")

else:
    print("Unknown Error!")
                                    
```

response.status == 403

response.status_code == 200

response.status_code == 403

sys.exit(0)

sys.exit(1)

response.status == 200

Correct Answer:

```
import requests, json, sys

BASE_URL = "https://10.10.20.90:8443"
AUTH_URL = f"{BASE_URL}/j_security_check"
headers = {'Content-Type': 'application/x-www-form-urlencoded'}
payload = {'j_username' : "admin", 'j_password' : "password"}

session = requests.Session()
response = session.post(AUTH_URL, headers=headers, data=payload, verify=False)

if  response.status_code == 200  :
    DEVICE_URL = f"{BASE_URL}/dataservice/device/interface/synced?deviceId=10.10.1.11"
    response = session.get(DEVICE_URL, verify=False)
    print(response.text.encode('utf8'))
          sys.exit(0)

elif  response.status_code == 403  :
    print("Authentication error")

else:
    print("Unknown Error!")
        sys.exit(1)
```

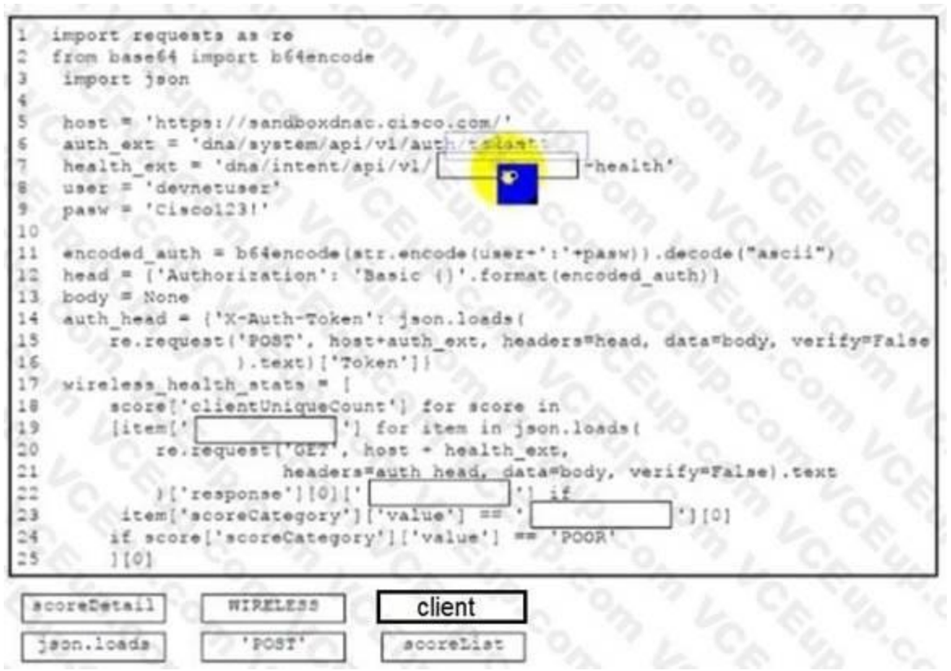
response.status == 403

response.status == 200

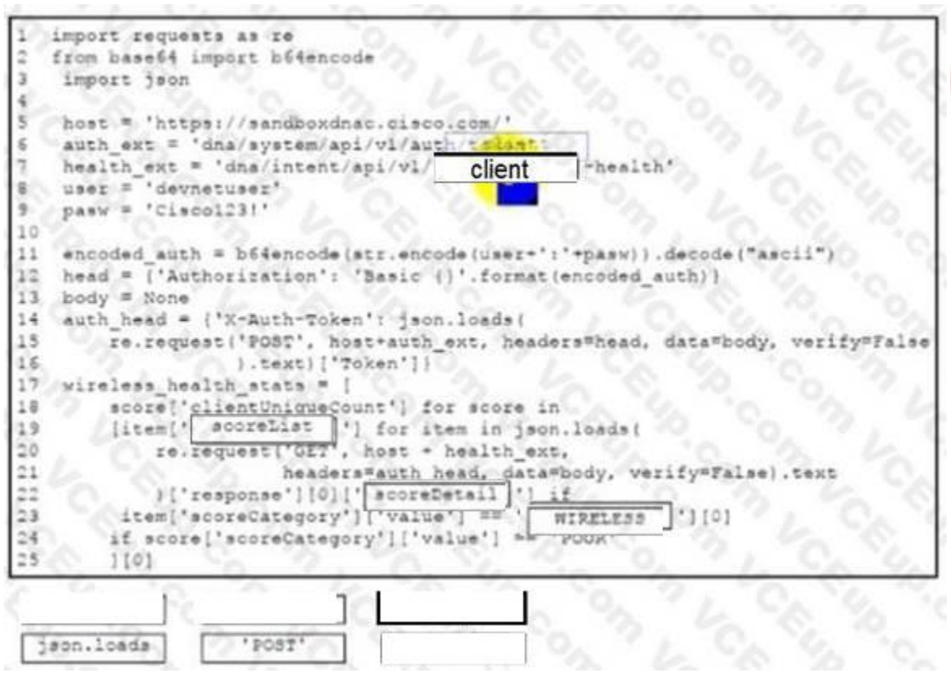
Section:
Explanation:

QUESTION 33
DRAG DROP
A Python script must query the Cisco DNA center API for the number of unique wireless clients that are exhibiting poor health behavior. Drag and drop the code from the bottom onto the box where the code is missing to complete the script
Not all options are used.

Select and Place:



Correct Answer:



Section:
Explanation:

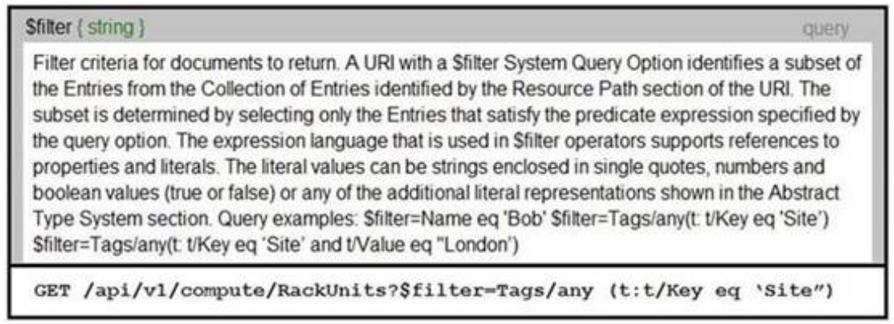
QUESTION 34
User report that they can no longer process transactions with the online ordering application, and the logging dashboard is displaying these messages.
Fri Jan 10 19:37:31.123 EST 2020 [FRONTEND] INFO: Incoming request to add item to cart from user 45834534858 Fri Jan 10 19:37:31 247 EST 2020 [BACKEND] INFO: Attempting to add item to cart Fri Jan 10 19:37:31 250 EST 2020

[BACKEND] ERROR: Failed to add item: MYSQLDB ERROR:
Connection refused
What is causing the problem seen in these log messages?

A. The database server container has crashed.
B. The backend process is overwhelmed with too many transactions.
C. The backend is not authorized to commit to the database.
D. The user is not authorized to add the item to their cart.

Correct Answer: A
Section:

QUESTION 35
Refer to the exhibit.



An Intersight API is being used to query RackUnit resources that have a tag keyword set to "Site".
What is the expected output of this command?

A. list of all resources that have a tag with the keyword "Site"
B. error message because the Value field was not specified
C. error message because the tag filter should be lowercase
D. list of all sites that contain RackUnit tagged compute resources

Correct Answer: A
Section:

QUESTION 36
A user is receiving a 429 Too Many Requests error. Which scheme is the server employing that causes this error?

A. rate limiting
B. time outs
C. caching
D. redirection

Correct Answer: A
Section:

QUESTION 37
Meraki Dashboard API Response

Response Status Code 200
Response Link Header
<https://n6.meraki.com/api/vO/organizations/681155/devices ?perPage-3&startingAfter-0000-0000-0000>; rel-first,
<https://n6.meraki .com/api/v0/organizations/681155/devices?perPage -3&startingAfter-Q2EK-3UBE-RRUY>; rel-next,
<https://n6.meraki.com/api/vO/organizations/681155/devices?endingBefore -zzzz-zzzzzzzz&perPage-3>; rel-last Response Body
{' name": \\II '
"serial": "Q2CV-V49B -RCMZ",
"mac": "0c:8d:db:95:aa:39",
"networkid": "L-566327653141846927",
"model11 : "MV71",
"address": "430 E Cactus Ave .\nLas Vegas, NV 89183",
"lat": 36.00017,
"lng": -115.15302,
"notes": "",
"tagsn: "",,
"lanip: "192.168.0.25",
' configurationUpdatedAt": "2019-08-08T02:15:36Z", ' firmware11 : "ca.rnera-3-3011
},
{
"ncune": "Alex's MR84 - 1"1
"serial": "Q2EK-2LYB-PCZP",
"mac": 'eO: 55:3d:10:56:8a", "networkid": "L 566327653141846927",
"model": "MR84",
"address": "11 ,
"lat": 39.9482993357826,
"lng": -82.9895675461739,
"notes": "",
"tags": ' ",
"lanip: null,
"configurationVpdatedAt": "2018-02-03Tll:02:37Z",
"firmware11 : "Not running configured version"
},
{
"na.rne11 : "Vegas Living Room MR84 11 ,
"serial": "Q2EK-3UBE-RRUY",
"mac": "e0:55:3d:10:5a:ca", "networkid": "L_566327653141846927" 1
"model": "MR84",
"address": "430 E Cactus Ave.\nLas vegas, NV 89183", "lat": 36.00015,
"lng": -115.15308,
"notes": ' ",
"tags": "11
1" lanip: "
192.168.0 .20",
"configurationVpdatedAt": "2018-09-29Tl2:23:21Z",
' firmware": "Not running configured version"
Refer to the exhibit.

```
import request
import json

meraki_api_key = "<api key>"
url =
"https://api.meraki.com/api/v0/organizations/12345567890/devices"
headers = {
        "X-Cisco-Meraki-API-Key": meraki_api_key,
    }
params = {
    "perPage": 3
}
res = requests.get(url, headers=headers, params=params)
formatted_message = """
Meraki Dasboard API Response
-----------------------------
Response Status Code  : {}
Response Link Header  : {}
Response Body         : {}
-----------------------------
""".format(res.status_code, res.headers.get('Link'),
json.dumps(res.json(), indent=4))
print(formatted_message)
```

```
<https://n6.meraki.com/api/v0/organizations/1234567890/devices?perPage=
3&startingAfter=0000-0000-0000>; rel=first,
<https://n6.meraki.com/api/v0/organizations/1234567890/devices?perPage=
3&startingAfter=Q2EK-3UBE-RRUY>; rel=next,
<https://n6.meraki.com/api/v0/organizations/1234567890/devices?
endingBefore=zzzz-zzzz-zzzz&perPage=3>; rel=last
```

Which line of code must be added to this code snippet to allow an application to pull the next set of paginated items?

A. requests.get(url, links=['next']['url'])
B. requests.get(url, headers=links['next']['url'])
C. requests.get(res.links['next']['url'], headers=headers)
D. requests.get(res.headers.get('Link")['next']['url'], headers=headers)

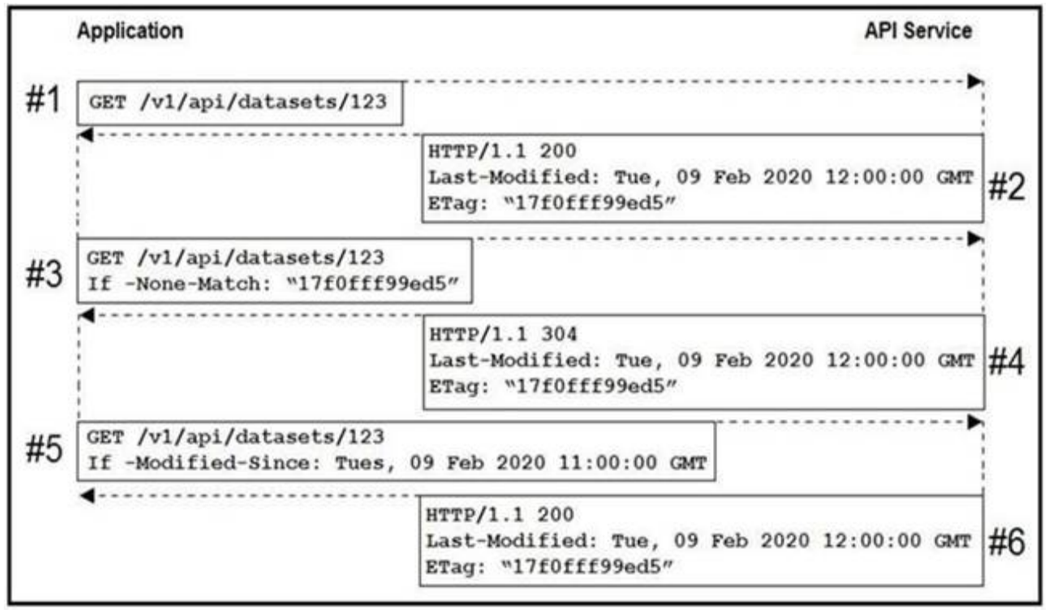
Correct Answer: C
Section:

QUESTION 38
An Etag header is included in the HTTP response for an API resource. What are two benefits of usingthe value of the Etag for future interactions involving the same API resource? (Choose two.)

A. caching and optimization of response payloads
B. creating conditional requests
C. categorizing and comparing this API resource with others
D. checking the integrity of the resource
E. requesting the list of operations authorized for this resource

Correct Answer: A, B
Section:
Explanation:
• The ETag HTTP response header is an identifier for a specific version of a resource. It lets caches bemore efficient and save bandwidth, as a web server does not need to resend a full response if thecontent has not changed. Additionally, etags help prevent simultaneous updates of a resource fromoverwriting each other ("mid-air collisions").
• The ETag or entity tag is part of HTTP, the protocol for the World Wide Web. It is one of severalmechanisms that HTTP provides for Web cache validation, which allows a client to make conditionalrequests.

QUESTION 39
Refer to the exhibit.



An application uses an API to periodically sync a large data set. Based on the HTTP messagesequence provided, which statements are true about the caching behavior seen in the scenario? (Choose two.)

A. The full dataset was transmitted to the client twice.
B. The dataset changed sometime between message #4 and #5.
C. A partial dataset was transmitted to the client in message #4.
D. The dataset did not change during the scenario.
E. Messages #3 and #5 are equivalent.

Correct Answer: A, D
Section:

QUESTION 40
Which RFC5988 (Web Linking) relation type is used in the Link header to control pagination in APIs?

A. rel="index"
B. rel="page"
C. rel="next"
D. rel="section"

Correct Answer: C
Section:

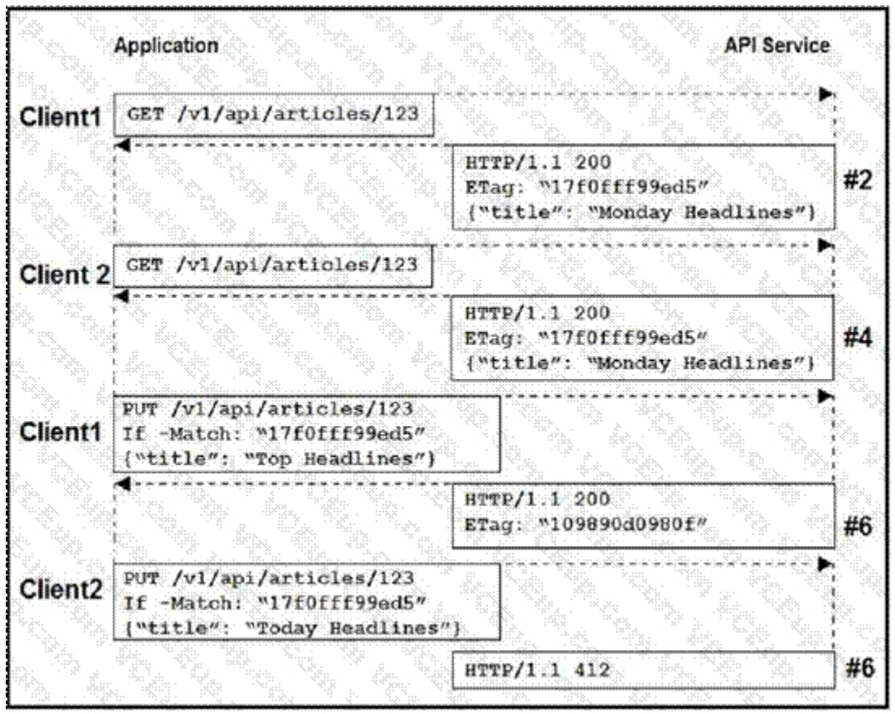
QUESTION 41
A client is written that uses a REST API to interact with a server. Using HTTPS as the transport, anHTTP request is sent and received an HTTP response. The response contains the HTTP responsestatus code: 503 Service Unavailable.
Which action is the appropriate response?

A. Add an Authorization header that supplies appropriate credentials and sends the updated request.

B. Resend the request using HTTP as the transport instead of HTTPS.
C. Add an Accept header that indicates the content types that the client understands and send the updated request.
D. Look for a Retry-After header in the response and resend the request after the amount of time indicated.

Correct Answer: D
Section:

QUESTION 42
Refer to the exhibit.



Two editors are concurrently updating an article's headline from their mobile devices. What results from this scenario based on this REST API sequence?

A. The article is marked as "Conflicted"
B. The article headline is "Monday Headlines"
C. The article headline is "Today Headlines"
D. The article headline is "Top Headlines"

Correct Answer: D
Section:

QUESTION 43
Refer to the exhibit.

```
response = requests.get(url)
if response.status_code != 200:
    error_message = "Unexpected HTTP Response code: {}".format(response.status_code)
    raise Exception(error_message)
data = response.json()
```

This snippet of a script has recently started exiting abnormally with an exception stating "Unexpected HTTP Response code: 429".

Which solution handles rate limiting by the remote API?

A.

```
response = requests.get(url)
if response.status_code == 429:
    backoff_seconds = int(response.headers['Retry-After'])
    sleep(backoff_seconds)
elif response.status_code != 200:
    error_message = "Unexpected HTTP Response code: {}".format(response.status_code)
    raise Exception(error_message)
data = response.json()
```

B.

```
response = requests.get(url)
if response.status_code != 200 and response.status_code != 429:
    error_message = "Unexpected HTTP Response code: {}".format(response.status_code)
    raise Exception(error_message)
data = response.json()
```

C.

```
response = requests.get(url)
if response.status_code != 200 and response.status_code != 429:
    backoff_seconds = int(response.headers['Retry-After'])
    sleep(backoff_seconds)
    error_message = "Unexpected HTTP Response code: {}".format(response.status_code)
    raise Exception(error_message)
data = response.json()
```

D.

```
response = requests.get(url)
if response.status_code == 429:
    backoff_seconds = int(response.headers['Retry-After'])
    sleep(backoff_seconds)
    response = requests.get(url)
elif response.status_code != 200:
    error_message = "Unexpected HTTP Response code: {}".format(response.status_code)
    raise Exception(error_message)
data = response.json()
```

Correct Answer: D
Section:

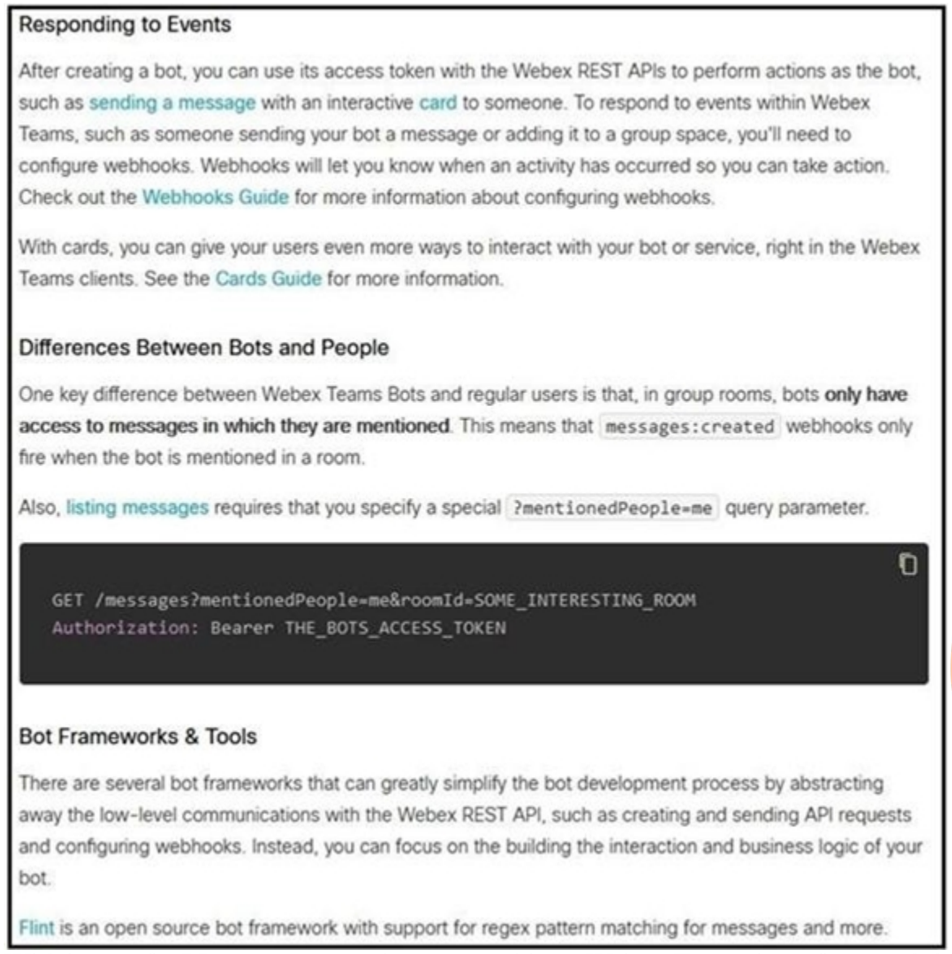
QUESTION 44
An application uses OAuth to get access to several API resources on behalf of an end user. What are two valid parameters to send to the authorization server as part of the first step of an authorization code grant flow? (Choose two.)

A. URI to which the authorization server will send the user-agent back when access is granted or denied
B. list of the API resources that the application is requesting to access
C. secret that was generated by the authorization server when the application registered as an OAuth integration
D. list of scopes that correspond to the API resources to which the application is requesting to access
E. name of the application under which the application registered as an OAuth integration

Correct Answer: A, C

Section:

QUESTION 45
Refer to the exhibit.



Responding to Events

After creating a bot, you can use its access token with the Webex REST APIs to perform actions as the bot, such as sending a message with an interactive card to someone. To respond to events within Webex Teams, such as someone sending your bot a message or adding it to a group space, you'll need to configure webhooks. Webhooks will let you know when an activity has occurred so you can take action. Check out the Webhooks Guide for more information about configuring webhooks.

With cards, you can give your users even more ways to interact with your bot or service, right in the Webex Teams clients. See the Cards Guide for more information.

Differences Between Bots and People

One key difference between Webex Teams Bots and regular users is that, in group rooms, bots **only have access to messages in which they are mentioned**. This means that `messages:created` webhooks only fire when the bot is mentioned in a room.

Also, listing messages requires that you specify a special `?mentionedPeople=me` query parameter.

```
GET /messages?mentionedPeople=me&roomId=SOME_INTERESTING_ROOM
Authorization: Bearer THE_BOTS_ACCESS_TOKEN
```

Bot Frameworks & Tools

There are several bot frameworks that can greatly simplify the bot development process by abstracting away the low-level communications with the Webex REST API, such as creating and sending API requests and configuring webhooks. Instead, you can focus on the building the interaction and business logic of your bot.

Flint is an open source bot framework with support for regex pattern matching for messages and more.

Which set of API requests must be executed by a Webex Teams bot after receiving a webhook callback to process messages in a room and reply with a new message back to the same room?

A. GET /message&roomId=<ROOM_ID>

POST /messages
{ “roomId :”<ROOM_ID>” , “text” :<MESSAGE>”}

B. GET /messages&mentionedPeople=me&roomId=<ROOM_ID>

PUT /messages
{ “roomId :”<ROOM_ID>” , “text” :<MESSAGE>”}

C. GET /message&roomId=<ROOM_ID>

PUT /messages
{ “roomId :”<ROOM_ID>” , “text” :<MESSAGE>”}

D. GET /messages&mentionedPeople=me&roomId=<ROOM_ID>

POST /messages
{ “roomId :”<ROOM_ID>” , “text” :<MESSAGE>”}

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

Correct Answer: D
Section:

QUESTION 46
Which snippet presents the correct API call to configure, secure, and enable an SSID using the Meraki API?

A.

```
curl -X PUT \
--url 'https://api.meraki.com/api/v0/networks/:networkId/ssids/2' \
-H 'X-Cisco-Meraki-API-Key: 15da0c6ffff295f16267f88f98694cf29a86ed87' \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"name": "My SSID",
"enabled": false,
"authMode": "psk",
"encryptionMode": "wpa",
"psk": "meraki123",
"wpaEncryptionMode": "WPA1 and WPA2"
}'
```

B.

```
curl -X PUT \
--url 'https://api.meraki.com/api/v0/networks/:networkId/ssids/2' \
-H 'X-Cisco-Meraki-API-Key: 15da0c6ffff295f16267f88f98694cf29a86ed87' \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"name": "My SSID",
"enabled": true,
"authMode": "psk",
"encryptionMode": "wpa",
"psk": "meraki123",
"wpaEncryptionMode": "WPA1 and WPA2"
}'
```

C.

```
curl -X PUT \
--url 'https://api.meraki.com/api/v0/networks/:networkId/ssids/2' \
-H 'X-Cisco-Meraki-API-Key:
15da0c6ffff295f16267f88f98694cf29a86ed87' \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"enabled": true,
"useVlanTagging": true
}'
```

D.

```
curl -X PUT \
--url 'https://api.meraki.com/api/v0/networks/:networkId/ssids/2' \
-H 'X-Cisco-Meraki-API-Key: 15da0c6ffff295f16267f88f98694cf29a86ed87' \
-H 'Accept: application/json' \
-H 'Content-type: application/json'\
--data-raw '{
"name": "My SSID",
"enabled": true,
}'
```

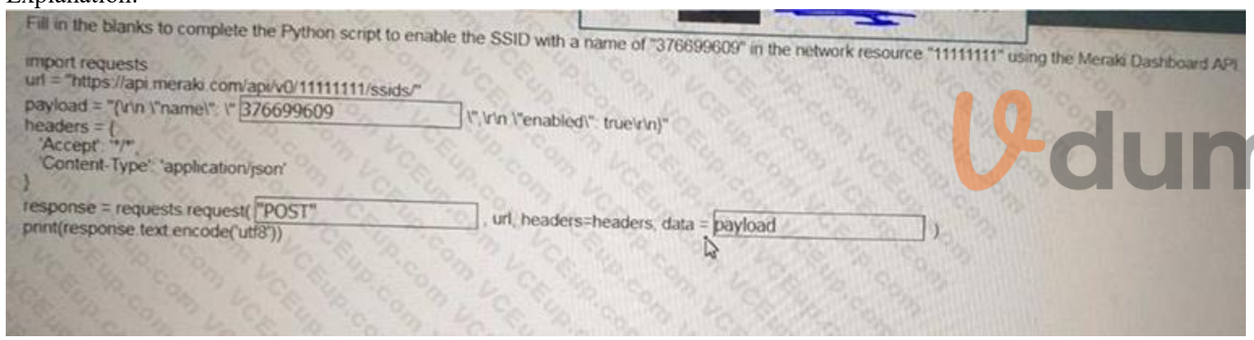
Correct Answer: B
Section:

QUESTION 47
FILL BLANK
Fill in the blanks to complete the Python script to enable the SSID with a name of "371767916" in the network resource "11111111" using the Meraki Dashboard API.

```
import requests
url = "https://api.meraki.com/api/v0/11111111/ssids/"
payload = "{\r\n \"name\": \" [          ] \",\r\n \"enabled\": true\r\n}"
headers = {
   'Accept': '*/*',
   'Content-Type': 'application/json'
}
response = requests.request( [          ] , url, headers=headers, data = [          ] )
print(response.text.encode('utf8'))
```

A.

Correct Answer: A
Section:
Explanation:
Answer: A
Explanation:



1. 371767916
2. 'PUT'
3. payload

QUESTION 48
The UCS Python SDK includes modules for Service Profile template creation. Which two UCS Service Profile template types are supported? (Choose two.)

A. initial-template
B. updating-template
C. abstract-template
D. attached-template
E. base-template

Correct Answer: A, B
Section:

QUESTION 49
A container running a Python script is failing when it reaches the integration testing phase of the CI/CD process. The code has been reviewed thoroughly and the build process works on this container and all other containers

pass unit and integration testing.
What should be verified to resolve the issue?

A. that the correct port is exposed in the Dockerfile
B. that the necessary modules and packages are installed on build
C. that the script is running from the right directory
D. that the Python version of the container image is correct

Correct Answer: A
Section:

QUESTION 50
Click on the GET Resource button above to view resources that will help with this question.

"Greater Than" Operator

The **gt** operator returns true is the left operand is greater than the right operand, otherwise it returns false. The **gt** operator accepts numeric, dates and string values.

Example: Query RackUnit resources where AvailableMemory is greater than 98304MB:

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory gt 98304
```

Example: Query Audit log records where 'CreationTime' is greater than '2018-06-20T05:31:38.862Z'. The date must be specified in UTC time without quotes.

```
GET /api/v1/aaa/AuditRecords?$filter=CreateTime gt 2018-06-20T05:31:38.862Z
```

"Less Than" Operator

The **lt** operator returns true is the left operand is less than the right operand, otherwise it returns false. The **lt** operator accepts numeric, dates and string values.

Example: Query RackUnit resources where AvailableMemory is less than 98304MB:

```
GET /api/v1/compute/RackUnits$filter=AvailableMemory lt 98304
```

"Greater Than Or Equal" Operator

The **ge** operator returns true if the left operand is greater than or equal to the right operand, otherwise it returns false. The **ge** operator accepts numeric, dates and string values.

Example: Query RackUnit resources where AvailableMemory is greater than or equal to 98304MB:

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory ge 98304
```

"Less Than Or Equal" Operator

The **le** operator returns true if the left operand is less than or equal to the right operand, otherwise it returns false. The **le** operator accepts numeric, dates and string values.

Example: Query RackUnit resources where AvailableMemory is less than or equal to 98304MB:

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory le 98304
```

"And" Operator

The **and** operator returns true if both the left and right operands evaluate to true, otherwise it returns false.

Example: Query RackUnit resources where the Model property is equal to 'UCSC-C240- M5SN' and thy server has more than 64GB of memory:

```
GET /api/v1/compute/RackUnits?$filter=Model eq 'UCSC-C240-M5SN' and AvailableMemory gt
65000
```

"Or" Operator

The **or** operator returns true if either the left or right operand evaluate to true, otherwise it returns false.

Example: Query RackUnit resources where the Model property is equal to 'UCSC-C240-M5SN' **or** the Model property is equal to 'UCSC-C240-M5SN'. Use the $select keyword to reduce the size of the output JSON document.

"Not" Operator

The **not** operator returns true if the operand returns false, otherwise it returns false.

Example: Query RackUnit resources where the model property is not ('HX220C-M5SX' or 'HX220C-M5S'). The example shows how grouping parenthesis can be used to set the operator precedence.

```
GET /api/v1/compute/RackUnits?$select=Vendor,Model,Serial&top=10&$filter=not(Model eq
'HX220C-M5SX' or Model eq 'HX220C-M5S')
```

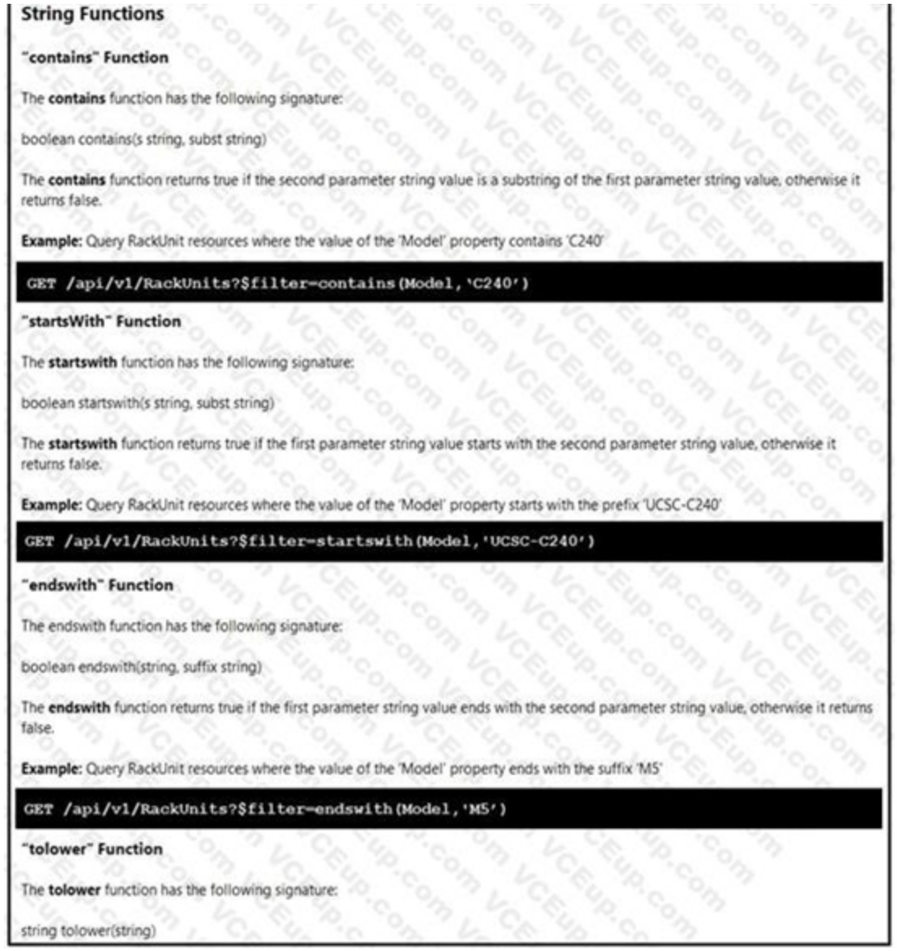
"In" Operator

The **in** operator returns true if the left operand is equal to one of the values specified in the right operand, otherwise it returns false. The **in** operator accepts numeric and string values.

Values must be specified as a comma-separated list enclosed in parenthesis.

Example: Query RackUnit resources where the Model is either 'HX220C-M5SX' or 'UCSC-C240-M5SN'.

```
GET /api/v1/compute/RackUnits?$filter=Model in ('HX220C-M5SX','UCSC-C240-M5SN')
```



String Functions

"contains" Function

The **contains** function has the following signature:

boolean contains(s string, subst string)

The **contains** function returns true if the second parameter string value is a substring of the first parameter string value, otherwise it returns false.

Example: Query RackUnit resources where the value of the 'Model' property contains 'C240'

```
GET /api/v1/RackUnits?$filter=contains(Model,'C240')
```

"startsWith" Function

The **startswith** function has the following signature:

boolean startswith(s string, subst string)

The **startswith** function returns true if the first parameter string value starts with the second parameter string value, otherwise it returns false.

Example: Query RackUnit resources where the value of the 'Model' property starts with the prefix 'UCSC-C240'

```
GET /api/v1/RackUnits?$filter=startswith(Model,'UCSC-C240')
```

"endswith" Function

The endswith function has the following signature:

boolean endswith(string, suffix string)

The **endswith** function returns true if the first parameter string value ends with the second parameter string value, otherwise it returns false.

Example: Query RackUnit resources where the value of the 'Model' property ends with the suffix 'M5'

```
GET /api/v1/RackUnits?$filter=endswith(Model,'M5')
```

"tolower" Function

The **tolower** function has the following signature:

string tolower(string)

An engineer is managing a DC with 6000 Cisco UCS servers installed and running. The engineer has been asked to identify all resources where the model is in the UCSB family and the available memory is less than or equal to 5 GB.
Which REST API call accomplishes this task?

A. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=not(Model eq 'UCSC') and AvailableMemory le 5000
B. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=Model eq 'UCSB' and AvailableMemory lt 5000
C. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=contains(Model, UCSB') and AvailableMemory lt 5000
D. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=contains(Model, UCSB') and AvailableMemory le 5000

Correct Answer: D
Section:
Explanation:

QUESTION 51
AppGigabitEthernet interface is used as data port for a container on a Cisco Catalyst 9000 Series Switch. Which two interface configuration options should be used? (Choose two.)

A. trunk interface
B. bridged virtual interface
C. SPAN port

D. management interface
E. subinterface

Correct Answer: A, C
Section:

QUESTION 52
Which two types of storage are supported for app hosting on a Cisco Catalyst 9000 Series Switch?
(Choose two.)

A. external USB storage
B. internal SSD
C. CD-ROM
D. SD-card
E. bootflash

Correct Answer: A, B
Section:

QUESTION 53
Refer to the exhibit.

```
import http.client

conn = http.client.HTTPSConnection("dnac.cisco.com")

headers = {
  '__runsync': "true",
  '__timeout': "30",
  '__persistbapioutput': "true",
}

conn.request("[ ]", "/dna/intent/api/v1/[ ]?timestamp=10000", headers=headers)

res = conn.getresponse()
data = res.read()

print(data.decode("utf-8"))
```

Which configuration of method and parameter retrieves the health of a laptop connected to the network from Cisco DNA Center?

A. PUT; network-health;
B. GET; client-health;
C. GET; network-device;
D. POST; network-device;

Correct Answer: B
Section:
Explanation:
Get Overall Client Health
GET
/dna /intent /api /v1 /client-health
Returns Overall Client Health information by Client type (Wired and Wireless) for any given point of time

https://developer.cisco.com/docs/dna-center/api/1-3-3-x/#!intent-api-v1-3-3-x

QUESTION 54
On a Cisco Catalyst 9300 Series Switch, the guest shell is being used to create a service within a container. Which change is needed to allow the service to have external access?

A. Apply ip nat overload on VirtualPortGroup0.
B. Apply ip nat inside on Interface VirtualPortGroup0.
C. Apply ip nat outside on Interface VirtualPortGroup0.
D. Apply ip nat inside on Interface GigabitEthernet1.

Correct Answer: B
Section:

QUESTION 55
Refer to the exhibit.

```
headers = (_____)
try:
    response = requests.get("https://sandboxdnac.cisco.com/dna/intent/api/v1/wireless/profile",
    headers=headers, verify=False)
except requests/exceptions.RequestException as cerror:
    print("Error processing request", cerror)
    sys.exit(1)
```

Which code snippet is required in the headers to successfully authorize wireless information from Cisco DNA Center?

A. headers = {'X-auth-token':'fa8426a0-8eaf-4d22-8e13-7c1b16a9370c'}
B. headers = {'Authorization':'Basic YWRtaW46R3JhcGV2aW5IMQ=='}
C. headers = {'Authorization':'Bearer ASDNFALKJER23412RKDALSNKF"}
D. headers = {'Content-type':'application/json}

Correct Answer: A
Section:

QUESTION 56
Into which two areas are AppDynamics APIs categorized? (Choose two.)

A. application-centric
B. analytics-events
C. database-visibility
D. platform-side
E. agent-side

Correct Answer: D, E
Section:

QUESTION 57
Refer to the exhibit.

```
node 'default' {
  cisco_yang_netconf { 'my-config':
    target => '<vrfs xmlns='http://cisco.com/ns/yang/Cisco-IOS-XR-infra-rsi-cfg"/>',
    source => '<vrfs xmlns='http://cisco.com/ns/yang/Cisco-IOS-XR-infra-rsi-cfg">
                <vrf>
                   <vrf-name>VOIP</vrf-name>
                   <create/>
                   <description>Voice over IP</description>
                   <vpn-id>
                     <vpn-oui>875</vpn-oui>
                     <vpn-index>3</vpn-index>
                   </vpn-id>
                </vrf>
                <vrf>
                   <vrf-name>INTERNET</vrf-name>
                   <create/>
                   <description>Generic external traffic</description>
                   <vpn-id>
                     <vpn-oui>875</vpn-oui>
                     <vpn-index>22</vpn-index>
                   </vpn-id>
                </vrf>
               </vrfs>
    mode => [          ],
    force => [          ],
  }
}
--
```

This script uses ciscoyang to configure two VRF instances on a Cisco IOS-XR device using the Yang NETCONF type.
Which two words are required to complete the script? (Choose two.)

A. ensure
B. commit
C. false
D. replace
E. none

Correct Answer: C, D
Section:

QUESTION 58
There is a requirement to securely store unique usernames and passwords. Given a valid username, it is also required to validate that the password provided is correct. Which action accomplishes this task?

A. Encrypt the username, hash the password, and store these values.
B. Hash the username, hash the password, and store these values.
C. Encrypt the username, encrypt the password, and store these values.
D. Hash the username, encrypt the password, and store these values.

Correct Answer: A
Section:

QUESTION 59

While developing an application following the 12-factor app methodology, which approach should be used in the application for logging?

A. Write a log to a file in the application directory.
B. Write a log to a file in /var/log.
C. Write the logs buffered to stdout.
D. Write the logs unbuffered to stdout.

Correct Answer: D
Section:

QUESTION 60
An application has initiated an OAuth authorization code grant flow to get access to an API resource on behalf of an end user.
Which two parameters are specified in the HTTP request coming back to the application as the enduser grants access? (Choose two.)

A. access token and a refresh token with respective expiration times to access the API resource
B. access token and expiration time to access the API resource
C. redirect URI a panel that shows the list of permissions to grant
D. code that can be exchanged for an access token
E. state can be used for correlation and security checks

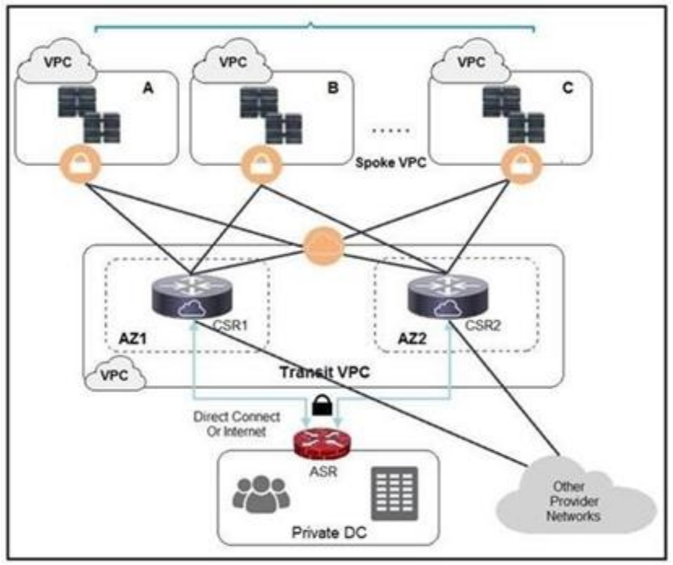
Correct Answer: A, B
Section:

QUESTION 61
A web application is susceptible to cross-site scripting. Which two methods allow this issue to be mitigated? (Choose two.)

A. Use only drop downs.
B. Limit user input to acceptable characters.
C. Encrypt user input on the client side.
D. Use AES encryption to secure the script.
E. Remove all HTML/XML tags from user input.

Correct Answer: B, E
Section:
Explanation:
https://cheatsheetseries.owasp.org/cheatsheets/Cross_Site_Scripting_Prevention_Cheat_Sheet.html

QUESTION 62
Refer to the exhibit.



A company has extended networking from the data center to the cloud through Transit VPC.
Which two statements describe the benefits of this approach? (Choose two.)

A. Dynamic routing combined with multi-AZ- deployment creates a robust network infrastructure.
B. VPC virtual gateways provide highly available connections to virtual networks.
C. Dedicated VPC simplifies load balancing by combining internal and external web services.
D. VPC virtual gateways provide more secure connections to virtual networks.
E. Dedicated VPC simplifies routing by not combining this service with other shared services.

Correct Answer: B, D
Section:

QUESTION 63
A developer has just completed the configuration of an API that connects sensitive internal systems.
Based on company policies, the security of the data is a high priority.
Which approach must be taken to secure API keys and passwords?

A. Embed them directly in the code.
B. Store them in a hidden file.
C. Store them inside the source tree of the application.
D. Change them periodically.

Correct Answer: D
Section:

QUESTION 64
Which two principles are included in the codebase tenet of the 12-factor app methodology? (Choose two.)

A. An application is always tracked in a version control system.
B. There are multiple codebases per application.

C. The codebase is the same across all deploys.
D. There can be a many-to-one correlation between codebase and application.
E. It is only possible to have one application deployment per codebase.

Correct Answer: A, C
Section:

QUESTION 65
What is submitted when an SSL certificate is requested?

A. PEM
B. CRT
C. DER
D. CSR

Correct Answer: D
Section:

QUESTION 66
Which two actions must be taken when an observable microservice application is developed? (Choose two.)

A. Know the state of a single instance of a single service.
B. Place "try/except" statement in code.
C. Place log statements in the code.
D. Use distributed tracing techniques.
E. Deploy microservice to multiple datacenters.

Correct Answer: C, D
Section:

QUESTION 67
Which two countermeasures help reduce the risk of playback attacks? (Choose two.)

A. Store data in a NoSQL database.
B. Implement message authentication (HMAC).
C. Enable end-to-end encryption.
D. Remove stack traces from errors.
E. Use short-lived access tokens.

Correct Answer: B, E
Section:

QUESTION 68
Which type of file is created from issued intermediate, root, and primary certificates for SSL installation on a server?

A. DER

B. CSR
C. PEM
D. CRT

Correct Answer: C
Section:
Explanation:
SSL .pem files (concatenated certificate container files), are frequently required for certificate installations when multiple certificates are being imported as one file.

QUESTION 69
Which two statements describe advantages of static code analysis over unit tests? (Choose two.)

A. It checks for potential tainted data where input is not checked.
B. It enforces proper coding standards and style.
C. It performs a quick analysis of whether tests will pass or fail when run.
D. It checks for race conditions in threaded applications.
E. It estimates the performance of the code when run.

Correct Answer: A, B
Section:

QUESTION 70
Refer to the exhibit.

```
FROM alpine:3.7
RUN apk add --no-cache bash
```

Which additional line results in the output of Test 1 upon execution of the docker run --rm devnet 1 command in a Dockerfile with this content?

A. CMD ["/bin/echo", "Test"]
B. RUN ["/bin/echo", "Test"]
C. ENTRYPOINT ["/bin/echo", "Test"]
D. CMD ["/bin/echo Test"]

Correct Answer: A
Section:

QUESTION 71
Which two techniques protect against injection attacks? (Choose two.)

A. input validation
B. trim whitespace
C. limit text areas to 255 characters
D. string escaping of user free text and data entry
E. only use dropdown, checkbox, and radio button fields

Correct Answer: A, D
Section:

QUESTION 72
Refer to the exhibit.

```
apiVersion: v1
clusters:
- cluster:
    certificate-authority: fake-ca-file
    server: https://1.2.3.4
  name: development
- cluster:
    insecure-skip-tls-verify: true
    server: https://5.6.7.8
  name: scratch
contexts:
- context:
    cluster: development
    namespace: frontend
    user: developer
  name: dev-frontend
- context:
    cluster: development
    namespace: storage
    user: developer
  name: dev-storage
- context:
    cluster: scratch
    namespace: default
    user: experimenter
  name: exp-scratch
current context: ""
kind: Config
preferences: {}
users:
- name: developer
  user:
    client-certificate: fake-cert-file
    client-key: fake-key-file
- name: experimenter
  user:
    password: some-password
    username: exp
```

A kubeconfig file to manage access to clusters is provided. How many clusters are defined and which of them are accessed using username/password authentication versus certificate?

A. two clusters; scratch
B. three clusters; scratch
C. three clusters; development
D. two clusters; development

Correct Answer: A
Section:

QUESTION 73
Which two strategies are used to protect personally identifiable information? (Choose two.)

A. Encrypt data in transit.

B. Encrypt hash values of data.
C. Encrypt data at rest.
D. Only hash usernames and passwords for efficient lookup.
E. Only encrypt usernames and passwords for efficient lookup.

Correct Answer: A, C
Section:

QUESTION 74
The response from a server includes the header ETag: W/"7eb8b94419e371767916ef13e0d6e63d".
Which statement is true?

A. The ETag has a Strong validator directive.
B. The ETag has a Weak validator directive, which is an optional directive.
C. The ETag has a Weak validator directive, which is a mandatory directive.
D. The ETag has a Strong validator directive, which it is incorrectly formatted.

Correct Answer: B
Section:
Explanation:
https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/ETagThe ETag HTTP response header is an identifier for a specific version of a resource. It lets caches bemore efficient and save bandwidth, as a web server does not need to resend a full response if thecontent has not changed. Additionally, etags help prevent simultaneous updates of a resource fromoverwriting each otherSyntax:
ETag: W/"<etag_value>"
Directives:
W/ (Optional)
'W/' (case-sensitive) indicates that a weak validator is used. Weak etags are easy to generate, but are far less useful for comparisons.
"<etag_value>"
Entity tag uniquely representing the requested resource. They are a string of ASCII characters placed between double quotes, like "675af34563dc-tr34"

QUESTION 75
Refer to the exhibit.

```
open_file = open("text_file.txt", "r")
read_file = open_file.read()
print(read_file)
```

A developer created the code, but it fails to execute. Which code snippet helps to identify the issue?

A.
```
try:
  open_file = open("text_file.txt", "r")
  read_file = open_file.read()
  print(read_file)
except:
  print("File not there")
```

B.
```
try:
  print("File not there")
except:
  open_file = open("text_file.txt", "r")
  read_file = open_file.read()
  print(read_file)
```

C.
```
try:
  open_file = open("text_file.txt", "r")
  read_file = open_file.read()
  print(read_file)
except:
  print("File not there")
catch:
  error(read_file)
```

D.
```
  open_file = open("text_file.txt", "r")
  read_file = open_file.read()
try:
  print(read_file)
except:
  print("File not there")
```

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

Correct Answer: A
Section:
Explanation:
>>> read_file = open("me.txt", "r")
Traceback (most recent call last):
File "<stdin>", line 1, in <module>
FileNotFoundError: [Errno 2] No such file or directory: 'me.txt'
>>>

QUESTION 76
Which HTTP status code indicates that a client application is experiencing intentional rate limiting bythe server?

A. 202
B. 401
C. 429
D. 503

Correct Answer: C
Section:
Explanation:

https://httpstatuses.com/429

QUESTION 77
Which database type should be used to store data received from model-driven telemetry?

A. BigQuery database
B. Time series database
C. NoSQL database
D. PostgreSQL database

Correct Answer: B
Section:

QUESTION 78
A heterogeneous network of vendors and device types needs automating for better efficiency and to enable future automated testing. The network consists of switches, routers, firewalls and load balancers from different vendors, however they all support the NETCONF/RESTCONF configuration standards and the YAML models with every feature the business requires. The business is looking for a buy versus build solution because they cannot dedicate engineering resources, and they need configuration diff and rollback functionality from day 1.
Which configuration management for automation tooling is needed for this solution?

A. Ansible
B. Ansible and Terraform
C. NSO
D. Terraform
E. Ansible and NSO

Correct Answer: C
Section:
Explanation:
https://www.ciscolive.com/c/dam/r/ciscolive/emea/docs/2020/pdf/DEVLIT-4019.pdf

QUESTION 79
An automated solution is needed to configure VMs in numerous cloud provider environments to connect the environments to an SDWAN. The SDWAN edge VM is provided as an image in each of the relevant clouds and can be given an identity and all required configuration via cloud-init without needing to log into the VM once online.
Which configuration management and/or automation tooling is needed for this solution?

A. Ansible
B. Ansible and Terraform
C. NSO
D. Terraform
E. Ansible and NSO

Correct Answer: D
Section:

QUESTION 80
Refer to the exhibit.

```
- name: Configure Interfaces
  with_items: "{{interfaces}}"
  netconf_config:
    <<: *host_info
    xml: |
      <config>
        <interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
          <interface>
            <name>{{item.interface_type}}{{item.interface_id}}</name>
            <description>{{item.description}}</description>
            <type xmlns:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
            <enabled>true</enabled>
            <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
              <address>
                <ip>{{item.ip_address}}</ip>
                <netmask>{{item.subnet_mask}}</netmask>
              </address>
            </ipv4>
          </interface>
        </interfaces>
      </config>
```

The Ansible playbook is using the netconf_module to configure an interface using a YANG model. As part of this workflow, which YANG models augment the interface?

A. ietf-interfaces and ietf-ip
B. iana-if-type and ietf-interfaces
C. ietf-ip and openconfig-interface
D. ietf-ip and iana-if-type

Correct Answer: B
Section:

QUESTION 81
Refer to the exhibit.

```
---
- name: IOS XE Configuration
  hosts: ios_xe
  connection: local
  gather_facts: false

  tasks:
  - name: IOS NTP
    ios_ntp:
      provider: "{{ creds }}"
      server: 10.0.255.10
      source_int: GigabitEthernet2
      logging: false
```

Which key value pair from the ios_ntp Ansible module creates an NTP server peer?

A. state: present
B. state: True
C. config: present
D. config: True

Correct Answer: A
Section:
Explanation:
ios_ntp : Manages core NTP configuration state : Manage the state of the resource Choices : present | absent Example:
Set new NTP server and source interface
- ios_ntp: server: 10.0.255.10 source_int: Loopback0 logging: false state: present

https://docs.ansible.com/ansible/latest/modules/ios_ntp_module.html

QUESTION 82
Refer to the exhibit.

```
name: VRFs
ios_vrf:
    vrfs: "{{ local_vrfs }}"
    state: present
   purge: yes
```

The YAML represented is using the ios_vrf module. As part of the Ansible playbook workflow, what is the result when this task is run?

A. VRFs not defined in the host_vars file are removed from the device.
B. VRFs not defined in the host_vars file are added to the device, and any other VRFs on the device remain.
C. VRFs defined in the host_vars file are removed from the device.
D. VRFs are added to the device from the host_vars file, and any other VRFs on the device are removed.

Correct Answer: D
Section:

QUESTION 83
Refer to the exhibit.

```
- name: Configure Interfaces
  with_items: "{{interfaces}}"
  netconf_config:
    <<: *host_info
    xml: |
      <config>
        <interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interefaces">
          <interface>
            <name>{{item.interface_type}}{{item.interface_id}}</name>
            <description>{{item.description}}</description>
            <type xmlns:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
            <enabled>true</enabled>
            <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
              <address>
                <ip>{{item.ip_address}}</ip>
                <netmask>{{item.subnet_mask}}</netmask>
              </address>
            </ipv4>
          </interface>
        </interfaces>
      </config>
```

As part of the Ansible playbook workflow, several new interfaces are being configured using the netconf_config module. The task references the interface variables that are unique per device. In which directory is the YAML file with these variables found?

A. host_vars directory
B. home directory
C. group_vars directory
D. current working directory

Correct Answer: A
Section:
Explanation:
https://docs.ansible.com/ansible/latest/user_guide/intro_inventory.html#organizing-host-andgroup-variables

QUESTION 84
A developer needs to configure an environment to orchestrate and configure. Which two tools should be used for each task? (Choose two.)

A. Puppet for orchestration
B. Terraform for orchestration
C. Terraform for configuration
D. Ansible for orchestration
E. Ansible for configuration

Correct Answer: B, E
Section:

QUESTION 85
Application sometimes store configuration as constants in the code, which is a violation of strict separation of configuration from code. Where should application configuration be stored?

A. environment variables
B. YAML files
C. Python libraries
D. Dockerfiles
E. INI files

Correct Answer: A
Section:

QUESTION 86
Refer to the exhibit.

```
import sys, requests

URL = "http://ios-xe-mgmt.cisco.com:9443"
USER = 'root'
PASS = 'C!isco0123'

url = URL + "/restconf/data/ietf-interfaces:interfaces-state"
headers = {'content-type': 'application/vang-data+json', 'accept':
          'application/yang-data+json'          }

try:
   result = requests.get(url, auth=(USER,PASS), headers=headers)
   r_json = result.json()
   flagDown = 0
   for record in r_json["ietf-interfaces:interfaces"]["interface"]:
        print("{0:<35}".format("interface: " + record["name"]), end="")
        print("{0:<5}".format("ip: "), end="")
        if('address' in record["ietf-ip:ipv4"]):
             print("{0:<15}".format(record["ietf-ip:ipv4"]["address"][0]["ip"]), end="")
        else:
             print("{0:<15}".format(record["No IPv4"], end="")
        print("{0:<9}".format("status: "), end="")
        print(str(record["enabled"]))
        if(record["enabled"]==False):
             flagDown=1
   print("")
   if(flagDown):
        print("At least one interface is down")
   else
        print("All interfaces are up")

except:
   print("Exception: " + str(sys.ecx_info()[0] + " " + str(sys.ecx_info()[1]))
   print("Error: " + str(result.status_code), result.text)
```

What is the output of this IOS-XE configuration program?

A. interface operational status in IPv6 addresses
B. interface administrative status in IPv4 addresses
C. interface operational status in IPv4 addresses
D. interface administrative status in IPv6 addresses

Correct Answer: B
Section:

QUESTION 87

```
module: ietf-routing
  +--ro routing-state
     +--ro routing-instance* [name]
        +--ro name                        string
        +--ro type?                       identityref
        +--ro router-id?                  yang:dotted-quad
        +--ro interfaces
        |  +--ro interface*   if:interface-state-ref
        +--ro routing-protocols
        |  +--ro routing-protocol* [type name]
        |     +--ro type    identityref
        |     +--ro name    string
        +--ro ribs
           +--ro rib* [name]
              +--ro name              string
              +--ro address-family    identityref
              +--ro default-rib?      boolean {multiple-ribs}?
              +--ro routes
                 +--ro route* [destination-prefix]
                    +--ro route-preference?     route-preference
                    +--ro destination-prefix    string
                    +--ro metric?               uint32
                    +--ro next-hop
                    |  +--ro (next-hop-options)
                    |     +--:(simple-next-hop)
                    |     |  +--ro outgoing-interface?   string
                    |     |  +--ro next-hop-address?     string
                    |     +--:(special-next-hop)
                    |        +--ro special-next-hop?     enumeration
                    +--ro source-protocol       identityref
                    +--ro active?               empty
                    +--ro last-updated?         yang:date-and-time
                    +--ro update-source?        string
  +--rw routing
     +--rw routing-instance* [name]
        +--rw name                      string
        +--rw type?                     identityref
        +--rw enabled?                  boolean
        +--rw router-id?                yang:dotted-quad {router-id}?
        +--rw description?              string
        +--rw interfaces
        |  +--rw interface*   if:interface-ref
        +--rw routing-protocols
        |  +--rw routing-protocol* [type name]
        |     +--rw type                identityref
        |     +--rw name                string
        |     +--rw description?        string
        |     +--rw static-routes
        +--rw ribs
           +--rw rib* [name]
              +--rw name                string
              +--rw address-family?     identityref
              +--rw description?        string
```

```
(
  "errors": {
    "error": [
      {
        "error-message": "object is not writable: /rt:routing=
state/rt:routing-instance",
        "error-path": "/ietf-routing:routing-state/routing-instance=default",
        "error-tag": "malformed-message",
        "error-type": "application"
      )
     ]
    }
   )
```

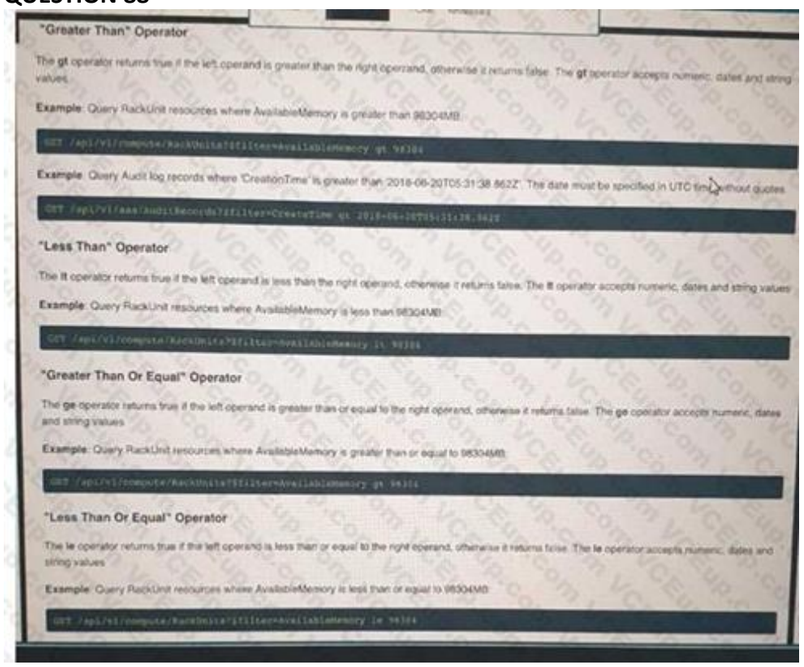
```
https://ios-xe-ngmt-latest.cisco.com:9443/restconf/data/ietf-routing:routing-
state/routing-instance-default
```

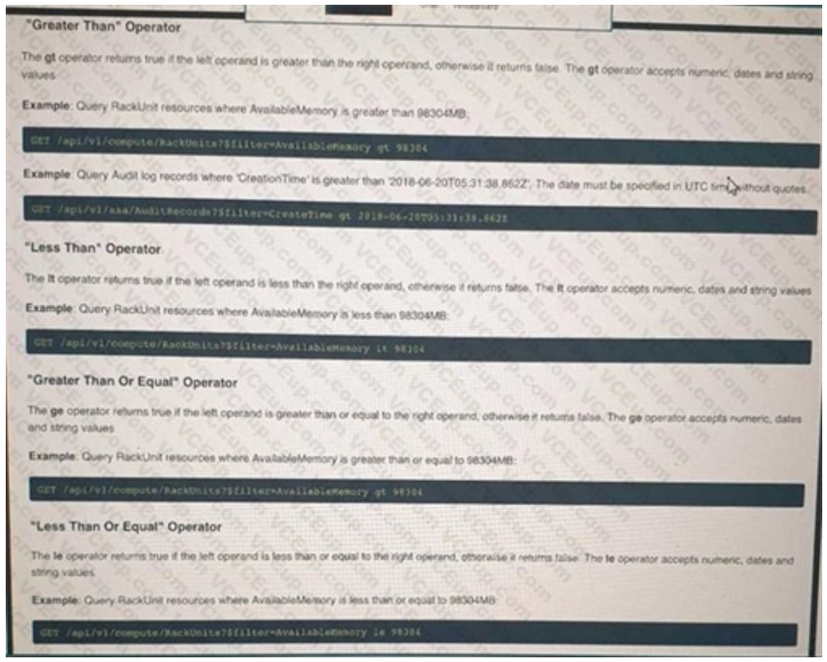
Refer to the exhibit above and click on the IETF Routing tab in the top left corner to help with this question. A developer is trying to update the routing instance by adding a new route to the routes list using the URL in the exhibit. What action must be taken to fix the error being received?

A. Fix the body being sent to update the routes list.
B. Update the authorization credentials.
C. Change the url to "/ietf-routing:routing/routing-instance=default".
D. Change the URL to "/ietf-routing:routing-instance/default".
E. Change the HTTP Method being used to make the change

Correct Answer: C
Section:

QUESTION 88





"Greater Than" Operator

The **gt** operator returns true if the left operand is greater than the right operand, otherwise it returns false. The **gt** operator accepts numeric, dates and string values

Example: Query RackUnit resources where AvailableMemory is greater than 98304MB:

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory gt 98304
```

Example: Query Audit log records where 'CreationTime' is greater than '2018-06-20T05:31:38.862Z'. The date must be specified in UTC time without quotes.

```
GET /api/v1/aaa/AuditRecords?$filter=CreateTime gt 2018-06-20T05:31:38.862Z
```

"Less Than" Operator

The **lt** operator returns true if the left operand is less than the right operand, otherwise it returns false. The **lt** operator accepts numeric, dates and string values

Example: Query RackUnit resources where AvailableMemory is less than 98304MB:

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory lt 98304
```

"Greater Than Or Equal" Operator

The **ge** operator returns true if the left operand is greater than or equal to the right operand, otherwise it returns false. The **ge** operator accepts numeric, dates and string values

Example: Query RackUnit resources where AvailableMemory is greater than or equal to 98304MB:

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory gt 98304
```

"Less Than Or Equal" Operator

The **le** operator returns true if the left operand is less than or equal to the right operand, otherwise it returns false. The **le** operator accepts numeric, dates and string values

Example: Query RackUnit resources where AvailableMemory is less than or equal to 98304MB

```
GET /api/v1/compute/RackUnits?$filter=AvailableMemory le 98304
```

Click on the GET Resource button above to view resources that will help with this question. An engineer is managing a DC with 6000 Cisco UCS servers installed and running. The engineer has been asked to identify all resources where the model is in the UCSB family and the available memory is less than or equal to 5 GB. Which REST API call accomplishes this task?

A. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=not(Model eq 'UCSC') and AvailableMemory le 5000
B. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=Model eq 'UCSB' and AvailableMemory lt 5000
C. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=contains(Model, UCSB') and AvailableMemory lt 5000
D. GET/api/v1/compute/RackUnits?$select=Vendor,Model,Serial&$filter=contains(Model, UCSB') and AvailableMemory le 5000

Correct Answer: D
Section:
Explanation:
https://intersight.com/apidocs/introduction/query/#filter-query-option-filtering-the-resources

QUESTION 89
Refer to the exhibit.

```
import json, requests
USER = 'admin'
PASS = 'cisco'

url = "https://ios-xe-mgmt.cisco.com:9443/restconf/data/Cisco-IOS-XE-native:native" \
      "/interface/GigabitEthernet=2/ip/address/primary"

payload = {"primary": {"address": "10.10.10.1", "mask": "255.255.255.0"}}
data = json.dumps(payload)
headers = {
           'Accept': "application/yang-data+json",
           'Content-Type': "application/yang-data+json",
           }

response = requests.request("[          ]", url, auth=(USER,PASS), data=data, headers=headers,
                            verify=False)

print(response.text)
```

Which RESTCONF verb changes the GigabitEthernet2 interface from 192.168.100.1/24 to 10.10.10.1/24

A. POST
B. PATCH
C. GET
D. HEAD

Correct Answer: A
Section:

QUESTION 90
The Meraki API URL https://api.meraki.com/api/v0/networks/123456789/ssids/2 has been stored inthe environment variable meraki_url and the API key has been stored in meraki_api_key. Whichsnippet presents the API call to configure, secure and enable an SSID using the Meraki API?

A.

B.

```
curl -X PUT --url $meraki_url \
-H 'X-Cisco-Meraki-API-Key: '$meraki_api_key \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"name": "My SSID",
"enabled": true,
}'
```

C.

```
curl -X PUT --url $meraki_url \
-H 'X-Cisco-Meraki-API-Key: '$meraki_api_key \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"enabled": true,
"useVlanTagging": true
}'
```

D.

```
curl -X PUT --url $meraki_url \
-H 'X-Cisco-Meraki-API-Key: '$meraki_api_key \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"name": "My SSID", "enabled": true,
"authMode": "psk", "encryptionMode": "wpa",
"psk": "meraki123",
"wpaEncryptionMode": "WPA1 and WPA2"
}'
```

```
curl -X PUT --url $meraki_url \
-H 'X-Cisco-Meraki-API-Key: '$meraki_api_key \
-H 'Accept: application/json' \
-H 'Content-type: application/json' \
--data-raw '{
"name": "My SSID", "enabled": false,
"authMode": "psk", "encryptionMode": "wpa",
```

Correct Answer: C
Section:

QUESTION 91
A developer plans to create a new bugfix branch to fix a bug that was found on the release branch.
Which command completes the task?

A. git checkout -b RELEASE BUGFIX

B. git checkout -t BUGF1X RELEASE
C. git checkout -b BUG FIX RELEASE
D. git checkout -t RELEASE BUGFIX

Correct Answer: C
Section:

QUESTION 92
What is a benefit of continuous testing?

A. decreases the frequency of code check-ins
B. removes the requirement for test environments
C. enables parallel testing
D. increases the number of bugs found in production

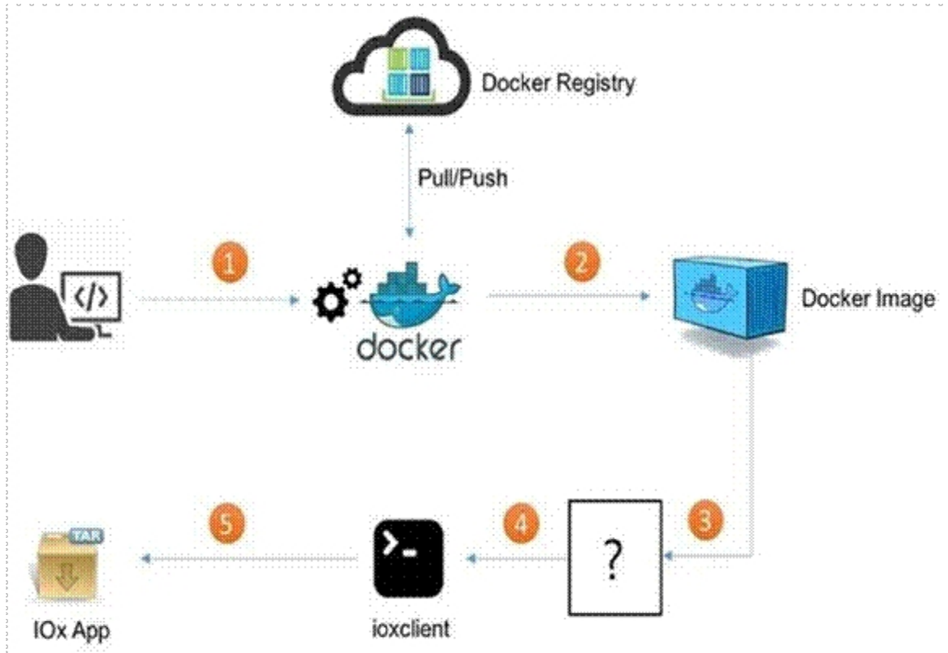
Correct Answer: C
Section:

QUESTION 93
In the three-legged OAuth2 authorization workflow, which entity grants access to a protected resource?

A. resource server
B. resource owner
C. client
D. authorization server

Correct Answer: A
Section:

QUESTION 94
Refer to the exhibit.



What is the missing step in deploying a Docker container to lOx?

A. Pull/push the image to the Docker registry,
B. Build the package.yaml file.
C. Build the package.cert file to sign the app ,
D. Log in to Device Manager.

Correct Answer: B
Section:
Explanation:
Reference : https://www.cisco.com/c/en/us/support/docs/routers/1101-industrial-integratedservices-router/214383-build-and-deploy-a-docker-iox-package-fo.html
https://www.ciscolive.com/c/dam/r/ciscolive/apjc/docs/2017/pdf/DEVNET-2039.pdf
https://www.cisco.com/c/en/us/support/docs/cloud-systems-management/iox/211534-Configure-a-Small-Alpine-Linux-Docker-Im.html

QUESTION 95
Refer to the exhibit.

```
apiVersion: v1
clusters:
- cluster:
    certificate-authority: fake-ca-file
    server: https://1.2.3.4
  name: development
- cluster:
    insecure-skip-tls-verify: true
    server: https://5.6.7.8
  name: scratch
contexts:
- context:
    cluster: development
    namespace: frontend
    user: developer
  name: dev-frontend
- context:
    cluster: development
    namespace: storage
    user: developer
  name: dev-storage
- context:
    cluster: scratch
    namespace: default
    user: experimenter
  name: exp-scratch
current-context: ""
kind: Config
preferences: {}
users:
- name: developer
  user:
    client-certificate: fake-cert-file
    client-key: fake-key-file
- name: experimenter
  user:
    password: some-password
    username: exp
```

A kubeconfig file to manage access to Kubernetes clusters is shown. How many Kubernetes clusters are defined in the file, and which cluster FS accessed using username/password authentication rather than using a certificate?

A. three dusters; scratch
B. three clusters: development
C. two dusters; development
D. two clusters: scratch

Correct Answer: D
Section:

QUESTION 96
Which tool is used to deploy an IOx application to a group of lOx devices at one time?

A. ioxclient
B. lOx local manager
C. Fog Network Director
D. Kubernetes

Correct Answer: C
Section:

QUESTION 97
Which two design considerations should be considered when building a Cisco Meraki dashboard out of available APIs? (Choose two,)

A. API call volume is rate-limited to five calls per second per organization.
B. The API version does not need to be specified in the URL.
C. Access to the API must first be enabled by using the settings for an organization.
D. The API requests require the key and the user credentials.
E. If the API key is shared, it cannot be regenerated

Correct Answer: C, D
Section:
Explanation:
https://documentation.meraki.com/General_Administration/Other_Topics/Cisco_Meraki_Dashboar d_API#Enable_API_Access

QUESTION 98
Refer to the exhibit , The command docker build -tag=friendlyhello . is run to build a docker image from the given Dockerfile, requirements,txt, and app.py, Then the command docker run -p 4000:80 friendlyhello is executed to run the application. Which URL is entered in the web browser to see the content served by the application?

A. http://localhost:4000
B. http ://localhost:80
C. http ://127.0.0.1:80
D. http:///4000:80

Correct Answer: D
Section:

QUESTION 99
Refer to the exhibit.

```
while attempts < max_attempts:
  response = requests.get(request_url,
    headers = { "Authorization": "Bearer " + api_token})

    # If not rate-limited, exit loop and continue with rest of the code
    if [          ]:
      break

    time.sleep((2 ** attempts) + random.random())
    attempts += 1
```

Which code snippet completes this code to handle API rate-limit?

A. response.status_code !*= 408
B. response.status != 408
C. response.status_code 1= 429
D. response.status_code == 429

Correct Answer: C
Section:

QUESTION 100
An engineer must enable an SSID in a Meraki network. Which request accomplishes this task?

A. PUT /networks/{networkld}/ssids/{number} {"enable": true)
B. POST /networks/{networkid}/ssids/{number) {"enable": true)
C. PUT /networks/{networkld}/ssids/{number}?enabled=true
D. POST /networks/{networkid}/sslds/{number}?enabled=true

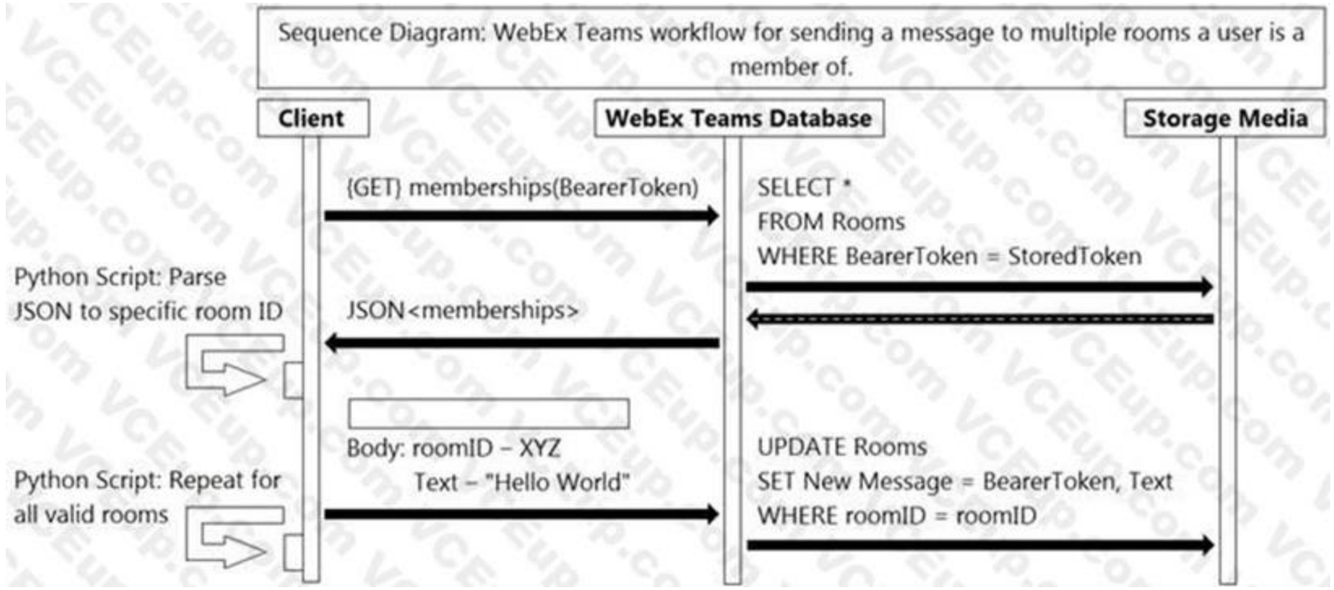
Correct Answer: A
Section:

QUESTION 101
A team of developers created their own CA and started signing certificates for all of their loT devices, Which action will make the browser accept these certificates?

A. Set the private keys 1024-bit RSA.
B. Preload the developer CA on the trusted CA list of the browser.
C. Enable HTTPS or port 443 on the browser.
D. install a TLS instead of SSL certificate on the loT devices.

Correct Answer: B
Section:

QUESTION 102
Refer to the exhibit.



Which action will complete the workflow that represents how an API call sends multiple messages?

A. {PUT} messages(roomID)
B. {PUT} messages(BearerToken)
C. {POST} messages(roomID)
D. {POST} messages(BearerToken)

Correct Answer: D
Section:
Explanation:
https://developer.webex.com/docs/api/v1/messages/create-a-message

QUESTION 103
Which two types of organization are subject to GDPR? (Choose two.)

A. only organizations that operate outside the EU
B. any organization that offers goods or services to customers in the EU
C. only organizations that have offices in countries that are part of the EU
D. any organization that operates within the EU
E. only organizations that physically reside in the EU

Correct Answer: B, D
Section:
Explanation:
Reference: https://www.cisco.com/c/en/us/products/security/comply-with-GDPR.html

QUESTION 104
A developer deploys a SQLite database in a Docker container. Single-use secret keys are generated each time a user accesses the database. The keys expire after 24 hours. Where should the keys be stored?

A. Outside of the Docker container in the source code of applications that connect to the SQLite database.

B. In a separate file inside the Docker container that runs the SQLite database.
C. In an encrypted database table within the SQLite database.
D. In a separate storage volume within the Docker container.

Correct Answer: D
Section:

QUESTION 105
While working with the Webex Teams API, on an application that uses end-to-end encryption, a webhook has been received. What must be considered to read the message?

A. Webhook information cannot be used to read the message because of end-to-end encryption. The API key is needed to decrypt the message.
B. Webhook returns the full unencrypted message. Only the body is needed to query the API.
C. Webhook returns a hashed version of the message that must be unhashed with the API key.
D. Webhook returns message identification. To query, the API is needed for that message to get the decrypted information.

Correct Answer: D
Section:
Explanation:
room messages are considered sensitive information and since Webex initiated the request to your backend, it did not have your Access Token with which to decrypt the message. In order to get the sensitive information, your app needs to use the resource id to fetch the full resource. Using the above messages example, your app could fetch the complete message object along with the text by doing an authenticated (via your Bearer Token) GET request to /
messages/{id}
https://developer.webex.com/docs/api/guides/webhooks

QUESTION 106
Which Puppet manifest needs to be used to configure an interface GigabitEthernet 0/1 on a Cisco IOS switch?

A.
```
ios_interface {
    name                        => 'GigabitEthernet0/1',
    link_status                 => false,
    logging_event               => [
        'spanning-tree',
        'subif-link-status'
    ],
    logging_event_link_status   => false,
    ip_dhcp_snooping_trust      => true,
    ip_dhcp_snooping_limit      => 1500,
}
```

B.
```
ios_interface {
    'GigabitEthernet0/1'        => {
      link_status               => false,
      logging_event             => [
        'spanning-tree',
        'subif-link-status'
    ],
    logging_event_link_staus    => false,
    ip_dhcp_snooping_trust      => true,
    ip_dhcp_snooping_limit      => 1500,
    }
}
```

C.

```
ios_interface {
    id                          => 'GigabitEthernet0/1',
    link_status                 => false,
    logging_event               => [
        'spanning-tree',
        'subif-link-status'
    ],
    logging-event_link_status   => false,
    ip_dhcp_snooping_trust      => true,
    ip_dhcp_snooping_limit      => 1500,
}
```

D.

```
ios_interface      { 'GigabitEthernet0/1':
    link_status                 => false,
    logging_event               => [
        'spanning-tree',
        'subif-link-status'
    ],
    logging_event_link_status   => false,
    ip_dhcp_snooping_trust      => true,
    ip_dhcp_snooping_limit      => 1500,
}
```

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

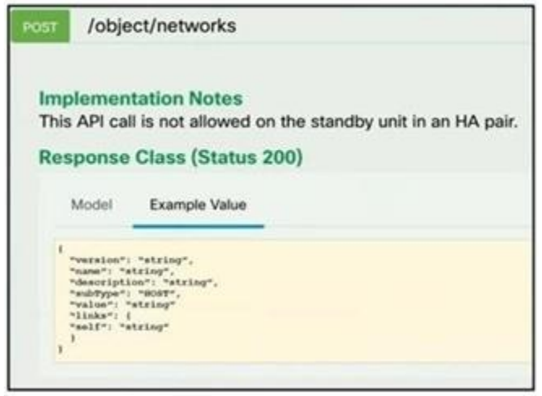
Correct Answer: D
Section:
Explanation:
https://github.com/puppetlabs/cisco_ios/blob/main/examples/network_interface.pp

QUESTION 107
What are two steps in the OAuth2 protocol flow? (Choose two.)

A. The user is authenticated by the authorization server and granted an access token.
B. The user's original credentials are validated by the resource server and authorization is granted.
C. The user indirectly requests authorization through the authorization server.
D. The user requests an access token by authentication and authorization grant presentation.
E. The user requests the protected resource from the resource server using the original credentials.

Correct Answer: A, E
Section:
Explanation:
Reference: https://www.digitalocean.com/community/tutorials/an-introduction-to-oauth-2

QUESTION 108



Refer to the exhibit. A developer must create a new network object named testnetwork by using the Cisco Firepower Device Management API. The script must also handle any exceptions that occur during the request and print out any resulting errors. Which script must be used?

A.

```
import requests, json
headers = { 'Content-type': 'application/json'}
data = {"name": "testnetwork",
"description": "Test Network", "subType" : "HOST",
"value": "192.168.1.1", "type" : "networkobject"}
try:
    response = requests.post(
        'https://firepower-server/object/networks',
        data=data)
except:
    print(error)
```

B.

```
import requests, json
headers = { 'Content-type': 'application/json'}
data = {"name": "testnetwork",
"description": "Test Network", "subType" : "HOST",
"value": "192.168.1.1", "type" : "networkobject"}
try:
    response = requests.post(
        'https://firepower-server/object/networks',
        data=data, headers=headers)
    response.raise_for_status()
except:
    print(error)
```

C.

```
import requests, json
headers = { 'Content-type': 'application/json'}
data = {"name": "testnetwork",
"description": "Test Network", "subType" : "HOST",
"value": "192.168.1.1", "type" : "networkobject"}
try:
    response = requests.post(
        'http://firepower-server/object/networks',
        data=json.dumps(headers), headers=data)
    response.raise_for_status()
except:
    print(error)
```

D.

```
import requests, json
headers = { 'Content-type': 'application/json'}
data = {"name": "testnetwork",
"description": "Test Network", "subType" : "HOST",
"value": "192.168.1.1", "type" : "networkobject"}
try:
    response = requests.post(
        'https://firepower-server/object/networks',
        data=json.dumps(data), headers=headers)
    response.raise_for_status()
except:
    print(error)
```

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

Correct Answer: A
Section:

QUESTION 109
What is the gRPC Network Management Interface protocol?

A. a unified management protocol for streaming telemetry and database logging
B. a configuration management protocol for monitoring
C. a protocol for configuration management and streaming telemetry
D. a logging protocol used across database servers

Correct Answer: C
Section:
Explanation:
Reference: https://infohub.delltechnologies.com/l/enterprise-sonic-distribution-by-delltechnologies-lifecyclemanagement/grpc-network-management-interface

QUESTION 110
An application has been developed for monitoring rooms in Cisco Webex. An engineer uses the application to retrieve all the messages from a Cisco Webex room, but the results are slowly presented. Which action optimizes

calls to retrieve the messages from the /v1/messages endpoint?

A. Define the ma property by using the pagination functionality.
B. Set the beforeMessage property to retrieve the messages sent before a specific message ID.
C. Avoid unnecessary calls by using a prior request to /v1/rooms to retrieve the last activity property.
D. Filter the response results by specifying the created property in the request.

Correct Answer: A
Section:
Explanation:
Reference: https://apphub.webex.com/messaging/applications/paginate-cisco-systems-82277

QUESTION 111
What are two principles according to the build, release, run principle of the twelve-factor app methodology? (Choose two.)

A. Code changes are able to be made at runtime.
B. Separation between the build, release, and run phases.
C. Releases should have a unique identifier.
D. Existing releases are able to be mutated after creation.
E. Release stage is responsible for compilation of assets and binaries.

Correct Answer: B, C
Section:
Explanation:
Reference: https://www.bmc.com/blogs/twelve-factor-app/

QUESTION 112
A developer is building an application to access a website. When running the application, an HTTP403 errorcode has been received. How should the application be modified to handle this code?

A. Create a loop on cancel the operation and run a new one after the code is received.
B. Use exponential backoff when retrying distributed services and other remote endpoints.
C. Build a try/except around the urlopen to find errors occurring in the request.
D. Redirect the request to an internal web server and make a new request from the internal resource.

Correct Answer: B
Section:

QUESTION 113
When end-to-end encryption is implemented, which area is most vulnerable to exploitation?

A. cryptographic key exchange
B. endpoint security
C. cryptographic key generation
D. security of data in transit

Correct Answer: B

Section:

QUESTION 114

```
#k8s-nginx.yml
- - -
apiVersion: apps/v1
kind: Deployment
metadata:
     name: nginx-deployment
     labels:
     app: nginx
spec:
     replicas: 1
     selector:
      matchLabels:
          app: nginx
     template:
      metadata:
          labels:
              app: nginx
      spec:
          containers:
          - name: nginx
            image: nginx
            ports:
            - name: nginx-port
              containerPort: 80
- - -
apiVersion: v1
kind: Service
metadata:
     name: load-balancer
spec:
     selector:
      app: nginx
 ports:
     - port: 80
      targetPort: nginx-port
 type: LoadBalancer
```

Refer to the exhibit. The presented application consists of a Nginx container and a load balancer service. Which GitLab CI/CD configuration implements the Kubernetes deployment?

A.
```
Deploy:
    stage: Deployment
    script:
        - kubectl exec -k k8s-nginx.yml
```

B.
```
Deploy:
    stage: Deployment
    script:
        - kubectl apply -f k8s-nginx.yml
```

C.
```
Deploy:
    stage: Deployment
    script:
        - kubectl apply -k k8s-nginx.yml /patch/to/cluster
```

D.
```
Deploy:
    stage: Deployment
    script:
        - kubectl exec -f k8s-nginx.yml /patch/to/cluster
```

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

Correct Answer: B
Section:
Explanation:
https://kubernetes.io/docs/reference/kubectl/kubectl/

QUESTION 115
What are two benefits of using distributed log collectors? (Choose two.)

A. supports multiple transport protocols such as TCP/UDP
B. improves performance and reduces resource consumption
C. provides flexibility due to a wide range of plugins and accepted log formats

D. enables extension of logs with fields and export to backend systems
E. buffers and resends data when the network is unavailable

Correct Answer: B, E
Section:

QUESTION 116
What are two features of On-Box Python for hosting an application on a network device? (Choose two.)

A. It has direct access to Cisco IOS XE CLI commands.
B. It is a Python interpreter installed inside the guest shell.
C. It enables execution of XML scripts on a Cisco IOS XE router or switch.
D. It supports Qt for graphical interfaces and dashboards.
E. It has access to Cisco IOS XE web UI through a controller.

Correct Answer: A, B
Section:
Explanation:
Reference: https://blog.wimwauters.com/networkprogrammability/2020-06-08_guestshell_onbox/

QUESTION 117
Refer to the exhibit.

```
[all:vars]
ansible_connection=
ansible_user=admin
ansible_network_os=ios
```


An engineer is configuring Ansible to run playbooks against Cisco IOS XE Software. What should be configured in ansible.cfg as the connection type?

A. network_cli
B. ssh
C. shell
D. command

Correct Answer: B
Section:
Explanation:
Reference: https://docs.ansible.com/ansible/latest/user_guide/intro_inventory.html

QUESTION 118
A local Docker container with a Container ID of 391441516e7a is running a Python application. Which command is used to connect to a bash shell in the running container?

A.
```
docker attach <Container ID>
```
B.
```
docker exec -it <Container ID> /bin/bash
```
C.
```
docker run -a stdin -a stdout <Container ID> /bin/bash
```
D.
```
docker container attach <Container ID>
```

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

Correct Answer: A
Section:

QUESTION 119

```
{
    "version": "3.0",
    "secret": "supersecret",
    "type": "WiFi",
    "data": {
        "networkId" : "L_00000000000391274",
        "observations": [
            {
                "locations": [],
                "ipv4": null,
                "ssid": null,
                "os": null,
                "[redacted]": "cc:cc:66:58:85:23",
                "latestRecord": {
                    "time": "2020-10-19T10:23:21z",
                    "nearestApMac": "aa:aa:22:56:2e:42",
                    "nearestApRssi": "-62"
                },
```

Refer to the exhibit. The JSON response is received from the Meraki location API. Which parameter is missing?

A. apMac
B. clientMac
C. clientId
D. accesspoint

Correct Answer: B
Section:
Explanation:
Reference: https://community.meraki.com/t5/Developers-APIs/Location-lat-lng-and-x-y-areshowing-similar-for-all-devices/td-p/65707

QUESTION 120
Which two gRPC modes of model-driven telemetry are supported on Cisco IOS XE Software? (Choose two.)

A. dial-in
B. dial-out
C. call-in
D. call-out
E. passive

Correct Answer: A, B
Section:
Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/1612/b_1612_programmability_cg/model_driven_telemetry.html#id_86392

QUESTION 121
Refer to the exhibit.

```
{
"version": [redacted],
"secret": "supersecret",
"type": "DevicesSeen",
"data": {
    "apMac": "00:18:0a:13:dd:b0",
    "apFloors": [],
    "apTags": [
        "dev",
        "home",
        "test"
    ],
```

Which parameter is missing from the JSON response to confirm the API version that is used?

A. version 4
B. v 10
C. 2
D. version 2

Correct Answer: C
Section:

QUESTION 122
What is a capability of the End User Monitoring feature of the AppDynamics platform?

A. discovers traffic flows, nodes, and transport connections where network or application/network issues are developing
B. monitoring local processes, services, and resource use, to explain problematic server performance
C. identifies the slowest mobile and IoT network requests, to locate the cause of problems
D. provides metrics on the performance of the database to troubleshoot performance-related issues

Correct Answer: C
Section:
Explanation:
Reference: https://docs.appdynamics.com/display/PRO21/Overview+of+End+User+Monitoring

QUESTION 123

```
$ git checkout release-2.1
Switched to branch 'release-2.1'
Your branch is up to date with 'origin/release-2.1'.

$ git add -A
& git commit -m "Demo"
[release-2.1 6226cf6] Demo
 1 file changed, 3 insertions(+)
$ git merge dev
Auto-merging python/mac.py
CONFLICT (content): Merge conflict in python/mac.py
Automatic merge failed; fix conflicts and then commit the result.
```

Refer to the exhibit. Which command resolves the merge conflict by removing the previous commit from the commit history?

A.
```
git checkout mac.py
```

B.
```
git reset --hard HEAD~1
```

C.
```
git rebase --abort
```

D.
```
git revert -m 1 HEAD
```

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

Correct Answer: B
Section:

QUESTION 124
What is the function of dependency management?

A. separating code into modules that execute independently

B. utilizing a single programming language/framework for each code project
C. automating the identification and resolution of code dependencies
D. managing and enforcing unique software version names or numbers

Correct Answer: A
Section:

QUESTION 125

```
module: ietf-interfaces
  +--rw interfaces
  |  +--rw interface* [name]
  |  +--rw name                          string
  |  +rw description?                    string
  |  +--rw type                          identityref
  |  +--rw enabled?                      boolean
  |  +--rw link-up-down-trap-enable?     enumeration {if-mib}?
  +--ro   interfaces-state
    +--ro interface* [name]
     +--ro name                 string
     +--ro type                 identityref
     +--ro admin-status         enumeration {if-mib}?
     +--ro oper-status          enumeration
     +--ro last-change?         yang:date-and-time
     +--ro if-index             int32 {if-mib}?
     +--ro phys-address?        yang:phys-address
     +--ro higher-layer-if*     interface-state-ref
     +--ro lower-layer-if*      interface-state-ref
     +--ro speed?               yang:gauge64
     +--ro statistics
              +--ro discontinuity-time     yang:date-and-time
              +--ro in-octets?             yang:counter64
              +--ro in-unicast-pkts?       yang:counter64
              +--ro in-broadcast-pkts?     yang:counter64
              +--ro in-multicast-pkts?     yang:counter64
              +--ro in-discards?           yang:counter32
              +--ro in-errors?             yang:counter32
              +--ro in-unknown-protos?     yang:counter32
              +--ro out-octets?            yang:counter64
              +--ro out-unicast-pkts?      yang:counter64
              +--ro out-broadcast-pkts?    yang:counter64
              +--ro out-multicast-pltas?   yang:counter64
              +--ro out-discards?          yang:counter32
              +--ro out-errors?            yang:counter32
```

```
import requests
url = ("https://ios-xe-mgmt.cisco.com:9443/restconf/data/ietf-interfaces:" +
    "interfaces/interface=GigabitEthernet2")

headers = {
    'Accept': "application/yang-data+json",
    'Authorization': "Basic cm9vdDpEX1ZheSFfMTAm",
    'Content-Type': "application"
}

response = requests.request(rest_operation, url, data=payload,
    headers = headers, verify=False)

print (response.text)
```

Refer to the exhibits. An interface named "GigabitEthernet2" has been configured on a Cisco IOS XE device. Using RESTCONF APIs as defined by the ietf-interfaces@2014-05-08.yang model, which two combinations of "rest_operation" and "payload" must be added to the Python script to set the "description" to "Configured by RESTCONF"? (Choose two.)

A.

```
rest_operation = "PATCH"

payload = " {\n    \"ietf-interfaces:interface\": {\n
    \"name\": \"GigabitEthernet2\", \n
    \ "description\": \"Configured by RESTCONF\" \n
    }\n}"
```

B.

```
rest_operation = "PUT"

payload = " {\n    \"ietf-interfaces:interface\": {\n
    \"name\": \"GigabitEthernet2\", \n
    \ "description\": \"Configured by RESTCONF\" \n
    }\n}"
```

C.

```
rest_operation = "PUT"

payload = "{\n \"ietf=interfaces:interface\": {\n
    \"name\": \"GigabitEthernet2\",\n
    \"description\": \"Configured by RESTCONF\", \n
    \"type\": \"iana-if-type:ethernetCsmacd\", \n
    \"enabled\" true,\n \"ietf-ip:ipv4\": {\n
        \"address\": [\n{\n\"ip\": \"10.255.255.1\",
        \n"netmask\": \"255.255.255.0\"\n  }\n
    ]\n      }\n      }\n}"
```

D.

```
rest_operation = "POST"

payload = " {\n    \"ietf-interfaces:interface\": {\n
    \"name\": \"GigabitEthernet2\", \n
    \ "description\": \"Configured by RESTCONF\" \n
    }\n}"
```

E.

```
rest_operation = "POST"

payload = "{\n \"ietf=interfaces:interface\": {\n
    \"name\": \"GigabitEthernet2\",\n
    \"description\": \"Configured by RESTCONF\", \n
    \"type\": \"iana-if-type:ethernetCsmacd\", \n
    \"enabled\" true,\n \"ietf-ip:ipv4\": {\n
        \"address\": [\n{\n\"ip\": \"10.255.255.1\",
        \n"netmask\": \"255.255.255.0\"\n  }\n
    ]\n      }\n      }\n}"
```

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

Correct Answer: A, B
Section:

QUESTION 126
What is a well-defined concept for GDPR compliance?

A. Records that are relevant to an existing contract agreement can be retained as long as the contract is in effect.
B. Data controllers must confirm to data subjects as to whether where, and why personal data is being processed.
C. Personal data that was collected before the compliance standards were set do not need to be protected.
D. Compliance standards apply to organizations that have a physical presence in Europe.

Correct Answer: B
Section:

QUESTION 127
Refer to the exhibit.

```
module: Cisco-IOS-XE-native
  +--rw native
    +--rw interface
      |  +--rw GigabitEthernet* [name]
      |     +--rw name                              string
      |     +--rw media-type?                       enumeration
      |     +--rw port-type?                        enumeration
      |     +--rw description?                      string
      |     +--rw switchport-conf
      |     |  +--rw switchport?   boolean
      |     +--rw switchport (ios-features:switching-platform)?
      |     +--rw stackwise-virtual
      |     |  +--rw link?                          uint8
      |     |  +--rw dual-active-detection?         empty
      |     +--rw mac-address?                      string
      |     +--rw shutdown?                         empty
      |     +--rw arp
      |     |  +--rw timeout?   uint32
```

Interface Lookback 1 must be created with IP address 10.30.0.1/24 in a Cisco IOS XE device using RESTCONF. The schema that is defined by the exhibit must be used. Which body and URI should be used for this operation?

A.

```
PUT
/restconf/data/Cisco-IOS-XE-native:native/interfaces
{
  "Loopback": [{
    "name": "1",
    "description": "Loopback 1 - description",
    "ip": {
      "address": {
        "primary: { "address": 10.30.0.1",
          "mask": "255.255.255.0" }
      }
    }
  }]
}
```

B.

```
POST
/restconf/data/Cisco-IOS-XE-native:native/interfaces
{
  "Loopback": [{
    "name": "1",
    "description": "Loopback 1 - description",
    "ip": {
      "address": {
        "primary: { "address": 10.30.0.1",
          "mask": "24" }
      }
    }
  }]
}
```

C.

```
POST
/restconf/data/Cisco-IOS-XE-native:native/interface
{
  "Loopback": {{
    "name": "1",
    "description": "Loopback 1 - description",
    "ip": {
      "address": {
        "primary: { "address": 10.30.0.1",
          "mask": "255.255.255.0" }
      }
    }
  }}
}
```

D.

```
PUT
/restconf/data/Cisco-IOS-XE-native:native/interface
{
  "Loopback": [{
    "name": "1",
    "description": "Loopback 1 - description",
    "ip": {
      "address": {
        "primary: { "address": 10.30.0.1",
          "mask": "24" }
      }
    }
  }]
}
```

Correct Answer: A
Section:

QUESTION 128
Refer to the exhibit.

```
tasks:
 - name: Base config template
   ios_config:
       [redacted]:
       - logging buffered 10240
       - service timestamps debug datetime msec localtime show-timezone
       - service timestamps log datetime msec localtime show-timezone
```

Which word is missing from this Ansible playbook shown, to allow the Cisco IOS XE commands for router configuration to be pushed after the playbook is executed?

A. Commands
B. Input
C. Lines
D. cofig

Correct Answer: C
Section:

QUESTION 129
Refer to the exhibit.

```
$ docker service ps cisco_devnet
ID            NAME              SERVICE        IMAGE              LAST
STATE          DESIRED STATE  NODE
d61834d1d0ce  cisco_devnet.1    cisco_devnet   devnet/test:1.0    Running 25
minutes  Running        dc1.cisco.com
a8479669efee  cisco_devnet.2    cisco_devnet   devnet/test:1.0    Running 25
minutes  Running        dc1.cisco.com
0a9abcd93c47  cisco_devnet.3    cisco_devnet   devnet/test:1.0    Running 25
minutes  Running        dc2.cisco.com
ef60dadb56bc  cisco_devnet.4    cisco_devnet   devnet/test:1.0    Running 25
minutes  Running        dc3.cisco.com
88dd012de364  cisco_devnet.5    cisco_devnet   devnet/test:1.0    Running 25
minutes  Running        dc4.cisco.com
```

The cisco_devnet Docker swarm service runs across five replicas The development team tags and imports a new image named devnet'test 1 1 and requests that the image be upgraded on each container There must be no service outages during the upgrade process Which two design approaches must be used? (Choose two.)

A. Implement rolling upgrades by using the docker service update command.
B. Enable parallel upgrades by using the docker service update command.
C. Ensure that the service is hosted behind a VIP with no session persistence.
D. Update the restart policy of the containers to restart upon failure.
E. Ensure that the service replicas are set to a minimum of 5

Correct Answer: A, C
Section:

QUESTION 130
How is AppDynamics used to instrument an application?

A. Provides visibility into the transaction logs that can be correlated to specific business transaction requests
B. Enables instrumenting a backend web server (or packet installation by using an AppDynamics agent
C. Retrieves a significant amount of information from the perspective of the database server by using application monitoring
D. Monitors traffic flows by using an AppDynamics agent installed on a network infrastructure device

Correct Answer: A
Section:

QUESTION 131
An engineer is developing a Docket container for an application in Python For security reasons the application needs to be accessible on port 5001 only Which line should be added to the dockerfile m order to accomplish this?

A. ENTRYPOINT 5001
B. PORT SRC 5001
C. ADO PORT 5001
D. EXPOSE 5001

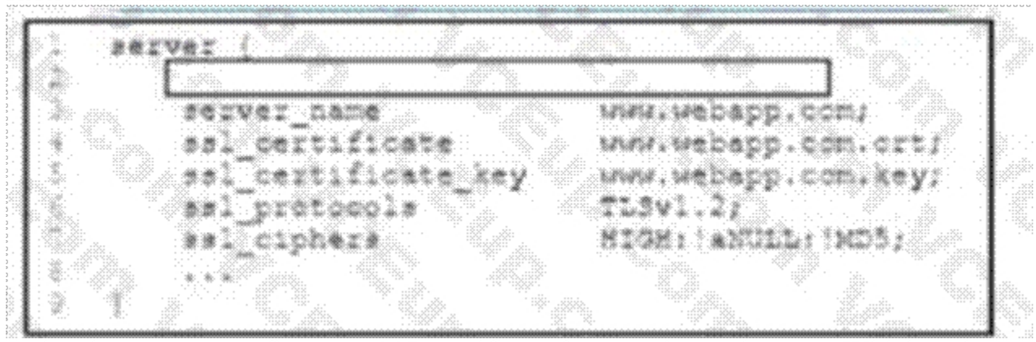
Correct Answer: D
Section:

QUESTION 132
Which OAuth mechanism enables clients to continue to have an active access token without further interaction from the user?

A. JWT
B. password grant
C. refresh grant
D. preshared key

Correct Answer: C
Section:

QUESTION 133
Refer to the exhibit.



A developer must configure an SSL certificate for an nginx web server Which code must be added on the script to accomplish this configuration?

A.

B.

C.

D.

Correct Answer: A

Section:

QUESTION 134
A web application is being developed to provide online sales to a retailer. The customers will need to use their username and passwords to login into then profile and complete their order For this reason the application must store user passwords Which approach ensures that an attacker wifi need to crack the passwords one at a time?

A. Apply the peppering technique
B. Store the passwords by using asymmetric encryption
C. Apply the salting technique
D. Store the passwords by using symmetric encryption

Correct Answer: C
Section:

QUESTION 135

Which scenario is an example of the pseudonymization of sensitive data that meets GDPR requirements?

A. encrypting sensitive data at rest by using native cloud services and data in transit by using SSL/TLS transport
B. implementing XFowarded For at the frontend of a web app to enable the source IP addresses of headers to change
C. leveraging an application load balancer at the frontend of a web app for SSL/TLS decryption to inspect data in transit
D. separating the sensitive data into its own dedicated secured data store and using tokens in its place

Correct Answer: A
Section:

QUESTION 136
Refer to the exhibit.

```
using GIT_ASKPASS to set credentials
 > git fetch --tags --force --progress -- http://73aee195f715/root/ms-master.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
ERROR: Error fetching remote repo 'origin'
hudson.plugins.git.GitException: Failed to fetch from http://73aee195f715/root/ms-
master.git
      at hudson.plugins.git.GitSCM.fetchFrom(GitSCM.java:908)
      at hudson.plugins.git.GitSCM.retrieveChanges(GitSCM.java:1123)
      at hudson.plugins.git.GitSCM.checkout(GitSCM.java:1159)
      at hudson.scm.SCM.checkout(SCM.java:505)
      at hudson.model.AbstractProject.checkout(AbstractProject.java:1205)
      at
hudson.model.AbstractBuild$AbstractBuildExecution.defaultCheckout(AbstractBuild.java
:574)
      at jenkins.scm.SCMCheckoutStrategy.checkout(SCMCheckoutStrategy.java:86)
      at
hudson.model.AbstractBuild$AbstractBuildExecution.run(AbstractBuild.java:499)
      at hudson.model.Run.execute(Run.java:1853)
      at hudson.model.FreeStyleBuild.run(FreeStyleBuild.java:43)
      at hudson.model.ResourceController.execute(ResourceController.java:97)
      at hudson.model.Executor.run(Executor.java:427)
Caused by: hudson.plugins.git.GitException: Command "git fetch --tags --force --
progress -- http://73aee195f715/root/ms-master.git
+refs/heads/*:refs/remotes/origin/*" returned status code 128:
stdout:
stderr: remote: GitLab is not responding
fatal: unable to access 'http://73aee195f715/root/ms-master.git/': The requested URL
returned error: 502
```

An attempt to execute a CI/CD pipeline results m the error shown What is the cause of the error?

A. The VCS repository is unavailable
B. The unit tests failed to complete
C. The built artifacts failed to publish to the target server
D. The remote library repository is unavailable

Correct Answer: D
Section:

QUESTION 137
Which security approach should be used for developing a REST API?

A. Use custom security relevant HTTP response codes
B. Utilise TLS for end to end encryption
C. Add an API key to each URL string
D. Utilize CORS headers

Correct Answer: B
Section:

QUESTION 138
What is a benefit of using model-driven telemetry?

A. enables operational data to be collected at higher rates and a higher scale
B. enables the application to pull data faster than pushing the data
C. reduces the load on the server by enabling the client to pull data
D. simplifies the development of clients by using a single encoding standard for the data

Correct Answer: D
Section:

QUESTION 139
A developer has issued git add file1 and file2 test.py command to add the three files for the next commit, but then decides to executed test.py from this command. Which command needs to be used to exclude test.py from this commit but keep the rest of the files?

A. git clean — test.py
B. git reset - test py
C. git checkout - file1 file2
D. git stash -- file1 file 2

Correct Answer: B
Section:

QUESTION 140
Refer to the exhibit.

```
import requests, requests_cache
from flask import Flask, render_template, request, jsonify

app = Flask(__name__)

requests_cache.install_cache('app_cache', backend='redis', expire_after=900)

@app.route('/', methods=['GET','POST'])
def devnet():
    if request.method == 'POST':
        location = request.form.get('location')
        url = "https://devnet.com/api/search/{0}".format(location)
        response_dict = requests.get(url).json()
        return jsonify(response_dict)
    return render_template('index.html')

if __name__ == '__main__':
    app.run()
```

An application has been developed to serve the users in an enterprise After HTTP cache controls areimplemented m the application users report that they receive state data when they refresh the pageWithout removing HTTP cache controls, which change ensures that the users get current data whenrefreshing the page'

A. Reduce the expire_after value to 60.
B. Add a Cache-Control header that has a value of no-cache, no-store must-revalidate.
C. Add an H-None-Match header that has a value of an Entity Tag.
D. Add an Expires header that has a value of 0.

Correct Answer: B
Section:

QUESTION 141
A developer must create VLANs 2-5 on a remote Cisco NX-OS switch by using an Ansible playbook The playbook must meet these requirements
• Configure the VLANs and a name for each VLAN
• Only run against the switches inventory group
• Execute from the local Ansible controller
• Prevent the collection of system information prior to execution
Which playbook must be used?

A.

```
- targets: switches
  connection: local
  collect_info: false
  tasks:
      block:
        - nxos_vlan: vlan_id="2-5" state=present
          host={{ inventory_hostname }}
```

B.

```
- hosts: switches
  connection: local
  gather_facts: no
  tasks:
    - name: Create VLANs
      nxos_vlan: vlan_id="2-5" state=present
      host={{ inventory_hostname }}

    - name: Configure VLAN Name
      nxos_vlan: vlan_id={{ item.vid }} name={{
      item.name }} host={{ inventory_hostname }}
      state=present
      with_items:
        - { vid: 2, name: web }
        - { vid: 3, name: db }
        - { vid: 4, name: app }
        - { vid: 5, name: mgmt }
```

C.

```
- groups: switches
  connection: localhost
  collect_info: no
    - name: Create VLANs
      nxos_vlan: vlan_id="2-5" state=present
      host={{ inventory_hostname }}

    - name: Configure VLAN Name
      nxos_vlan: vlan_id={{ item.vid }} name={{
      item.name }} host={{ inventory_hostname }}
      state=present
      loop:
        - { vid: 2, name: web }
        - { vid: 3, name: db }
        - { vid: 4, name: app }
        - { vid: 5, name: mgmt }
```

D.

```
- hosts: switches
  connection: 127.0.0.1
  gather_facts: false
  tasks:
    - name: Create VLANs
      nxos_vlan: vlan_id="2-5"
      state: present
      host: {{ inventory_hostname }}

    - name: Configure VLAN Name
      nxos_vlan: vlan_id={{ item.vid }} name={{
      item.name }} host={{ inventory_hostname }}
      state=present
      loop: "{ vid: 2, name: web }, { vid: 3, name:
      db }, { vid: 4, name: app }, { vid: 5, name:
      mgmt }"
```

E. Option A
F. Option B
G. Option C
H. Option D

Correct Answer: A
Section:

QUESTION 142
Refer to the exhibit.

```
1  import json
2  import requests
3  from requests.exceptions import HTTPError
4
5  url='https://devnet.ap.net/accesspoints/266'
6  try:
7      response = requests.get(url)
8      response.raise_for_status()
9  except HTTPError as http_err:
10     print('HTTP error occurred:'.format(http_err))
11 else:
12     print('Success!')
13     aps = json.loads(response.text)
14     print json[0]['apId']
```

```
$ python get-ap.py
Success!
{u'isactive': False, u'apId': 266, u'apName': 'reception'}
Traceback (most recent call last):
  File "get-ap.py", line 14, in <module>
    print aps[0]['apId']
KeyError: 0
```

A Python developer is creating a wireless network device inventory application for local deployment of Cisco access points The developer is retrieving an access point ID by using a REST API The output indicates that there was a KeyError when parsing the JSON response. What returns the expected output of 266 at line 14?

A.
```
print aps['apId']
```

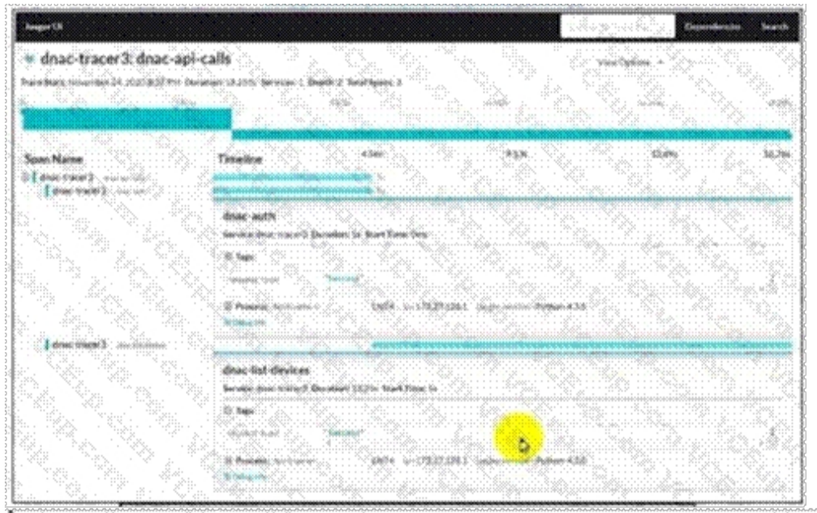
B.
```
print aps[1]['apId']
```

C.
```
print aps[0]['apId']
```

D.
```
print aps.['apId']
```

Correct Answer: A
Section:

QUESTION 143
Refer to the exhibit




```
def init_tracer(service):
    logging.getLogger('').handlers = []
    logging.basicConfig(format="%(message)s", level=logging.DEBUG)
    config = Config(
        config={'sampler': {'type': 'const', 'param': 1,},'logging': True,},
        service_name=service,)
    return config.initialize_tracer()

tracer = init_tracer('dnac-tracer')
base_url = 'https://sandboxdnac.cisco.com/'

with tracer.start_span('dnac-api-calls') as span:
    with tracer.start_span('dnac-auth', child_of=span) as site_span:
        try:
            dnac = DNACenterAPI(username='devnetuser', password='Cisco123!',
                                base_url=base_url, version='1.3.3',
                                verify=False)
            print('auth passed')
            site_span.set_tag('request-type', 'Success')
        except Exception as e:
            print('failed')
            site_span.set_tag('request-type', e)

with tracer.start_span('dnac-list-devices', child_of=span) as site_span:
    try:
        devices = [dnac.devices.get_device_list() for device in devices]
        print(devices)
        site_span.set_tag('request-type', 'Success')
    except Exception as e:
        print('Failed to list devices')
        site_span.set_tag('request-type', e)
```


An application is developed to perform multiple API calls. The calls will be performed on the infrastructure devices Delays in the information transfer occur when the application is executed What are two reasons for the issue? (Choose two)

A. The list devices API call is failing and does not return a result
B. Listing devices lakes longer than usual due to high network latency
C. One of the API calls takes roughly three times as long to complete
D. The list devices API call is inefficient and should be refactored
E. The requests are being rate limited to prevent multiple calls causing the excessive load

Correct Answer: B, C
Section:

QUESTION 144

Refer to the exhibit.

```
import MySQLdb
db = MySQLdb.connect(host="localhost",
                     user="",
                     passwd="",
                     db="")

cur = db.cursor()

platform = raw_input('Enter language: ')

cur.execute("SELECT * FROM platforms \
             WHERE language = '%s';" % platform)
for row in cur.fetchall():
   print(row)

db.close()
```

Which action should be performed to avoid an SQL injection attack?

A. Encrypt the password that is used to connect to the database
B. Develop a denial of service response plan
C. Vacate the input on the platform variable
D. Compile the Python file instead of allowing live interpretation

Correct Answer: C
Section:

QUESTION 145
A developer is working on a new feature in a branch named 'newfeay000222118' and the current working primary branch is named 'pnm409024967' The developer requires a merge commit during a fast forward merge for record-keeping purposes. Which Git command must Be used?

A.
```
git reset --commit-ff newfeat000222118
```
B.
```
git add --commit-ff newfeat000222118
```
C.
```
git merge --no-ff newfeat000222118
```
D.
```
git commit --no-ff newfeat000222118
```


Correct Answer: C
Section:

QUESTION 146
A developer is deploying an application to automate the configuration and management of Osco network files and routers The application must use REST API interface lo achieve programmability.
The security team mandates that the network must be protected against DDoS attacks What mitigates the attacks without impacting genuine requests?

A. API rate limiting at the application layer
B. IP address filtering at the application layer
C. traffic routing on the network perimeter
D. firewall on the network perimeter

Correct Answer: D
Section:

QUESTION 147
A development team is working on a bug fix in a remote branch named "UXbug000222134' and the current working primary branch is named ,prod409024967' A developer who just joined the learn needs to checkout the remote branch
Which Git commands must be used?

A.

```
git add UXbug000222134
git push origin
```

B.

```
git add UXbug000222134
git checkout -a
```

C.

```
git fetch --multiple
git branch UXbug000222134
```

D.

```
git fetch --all
git checkout UXbug000222134
```

Correct Answer: C
Section:

QUESTION 148
Refer to the exhibit.

```
try:
    response = requests.post(url)
    if [          ] == 401:
        print(f'--- returned {response.status code} from {url}.')
        print('--- Check Authentication!')
    else:
        print(f'--- returned {response.status code} from {url}')
```

A network engineer writes a script to test authentication workflow using Python and REST API. The engineer wants to ensure that the script handles expected errors by matching output to HTTP status codes The scnpt uses the Python requests module. Which line of code must be added on the snippet where the code is missing?

A. requests.error_code
B. response.sutus_code
C. response
D. requests.post

Correct Answer: B
Section:

QUESTION 149

Refer to the exhibit Pipenv is used to manage dependencies The test funs successfully on a local environment. What is the reason for the error when running the test on a CI'CD pipeline?

A. The piple in the local environment was not pushed to the remote repository
B. All the unit tests in testsum py failed
C. Pytest did not detect any functions that start with test_'.
D. Nose2 was not used as the test runner

Correct Answer: A
Section:

QUESTION 150
Refer to the exhibit.

An engineer is managing a network that consists of Cisco IOSXE devices. There is a need to retrieve the details of the interface GigabitEthernet2 using RESTCONF. Which URI will accomplish this by providing the same response as shown in the JSON body?

A.
```
https://ios-xe-mgmt.cisco.com/restconf/data/
interface/name/GigabitEthernet2
```

B.
```
https://ios-xe-mgmt.cisco.com/restconf/data/
ietf-interfaces:interfaces/GigabitEthernet2
```

C.
```
https://ios-xe-mgmt.cisco.com/restconf/data/
ietf-interfaces/GigabitEthernet2
```

D.
```
https://ios-xe-mgmt.cisco.com/restconf/data/
ietf-interfaces:interface/GigabitEthernet2
```

Correct Answer: D
Section:

QUESTION 151

Refer to the exhibit.

```
+--rw interfaces
|  +--rw interface* [name]
|     +--rw name                          string
|     +--rw description?                  string
|     +--rw type                          identityref
|     +--rw enabled?                      boolean
|     +--rw link-up-down-trap-enable?     enumeration
+--ro interfaces-state
   +--ro interface* [name]
      +--ro name                string
      +--ro type                identityref
      +--ro admin-status        enumeration
      +--ro oper-status         enumeration
      +--ro last-change?        yang:date-and-time
      +--ro if-index            int32
      +--ro phys-address?       yang:phys-address
      +--ro higher-layer-if*    interface-state-ref
      +--ro lower-layer-if*     interface-state-ref
      +--ro speed?              yang:gauge64
      +--ro statistics
         +--ro discontinuity-time   yang:date-and-time
         +--ro in-octets?           yang:counter64
         +--ro in-unicast-pkts?     yang:counter64
         +--ro in-broadcast-pkts?   yang:counter64
         +--ro in-multicast-pkts?   yang:counter64
         +--ro in-discards?         yang:counter32
         +--ro in-errors?           yang:counter32
         +--ro in-unknown-protos?   yang:counter32
```

Which URL retrieves the errors in the GigabitEthernet 1 interface?

A.

```
/restconf/data/ietf-interfaces:interfaces/interface/\
   GigabitEthernet1
```

B.

```
/restconf/data/ietf-interfaces:interfaces-state/\
   GigabitEthernet1
```

C.

```
/restconf/data/ietf-interfaces:interfaces/\
   GigabitEthernet1
```

D.

```
/restconf/data/ietf-interfaces:interfaces-state/\
   interface=GigabitEthernet1
```

Correct Answer: D
Section:

QUESTION 152
A local data center deployment using Cisco NX-OS switches is scaling and requires automatic configuration at scale Configuration management must be set up for a Cisco NX-OS switch by using Ansible. The Ansible control server is currently located on a different subnet than the switch The solution has these requirements
• The transport protocol used must be encrypted
• The connections must originate from a server m the same local network
• Enable mode must be supported Which connectivity method must be used?

A. SSH through a bastion host and ansible_become method for privilege escalation.
B. HTTPS through a repository and ansible_become method for privilege escalation
C. XML-RPC through a web proxy.
D. HTTP through a web proxy.

Correct Answer: A
Section:

QUESTION 153

Which Puppet manifest changes the NTP server and generates the traffic from VLAN 15?

A.

```
ntp_server { '172.30.200.11':
  ensure          => 'present',
  key             => 94,
  prefer          => true,
  minpoll         => 4,
  maxpoll         => 14,
  vlan            => '15',
}
```

B.

```
ntp_server {
  ip              => '172.30.200.11',
  ensure          => 'present',
  key             => 94,
  prefer          => true,
  minpoll         => 4,
  maxpoll         => 14,
  source_interface => '15',
}
```

C.

```
ntp_server { '172.30.200.11':
  ensure          => 'present',
  key             => 94,
  prefer          => true,
  minpoll         => 4,
  maxpoll         => 14,
  source_interface => 'Vlan 15',
}
```

D.

```
ntp_server {
  server          => '172.30.200.11'
  ensure          => 'present',
  key             => 94,
  prefer          => true,
  minpoll         => 4,
  maxpoll         => 14,
  source_interface => 'Vlan 15',
}
```

Correct Answer: C
Section:

QUESTION 154
DRAG DROP
Drag and drop the steps from the left into the order on the right to ensure that an application requiring communication to the external network is hosted on a Cisco Catalyst 9000 switch.

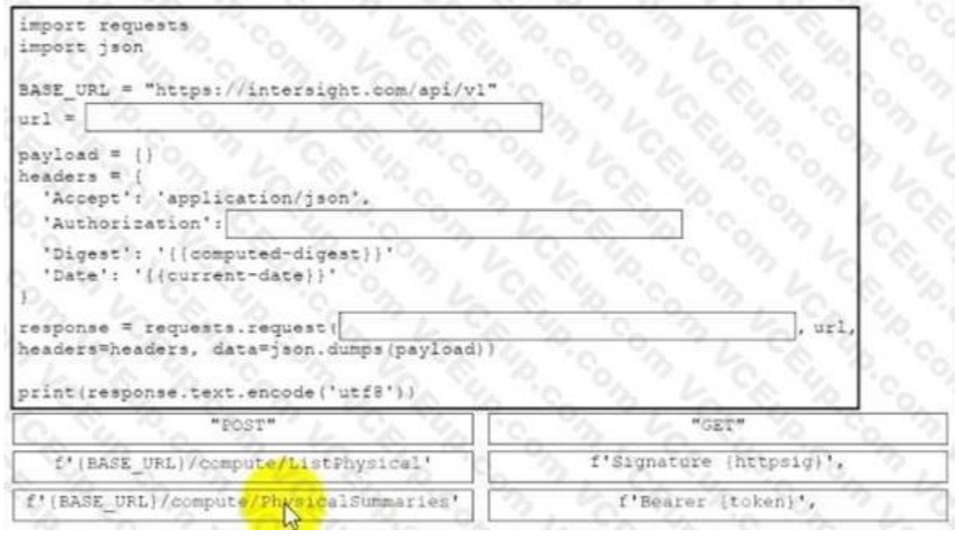
Select and Place:

Correct Answer:

Section:
Explanation:

QUESTION 155
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to retrieve a summary of physical compute resources. The collected information about the compute resources will be presented in a dashboard to be developed for device monitoring purposes. Not all snippets are used.

Select and Place:



Correct Answer:

Section:
Explanation:

QUESTION 156
DRAG DROP
Refer to the exhibit.

Drag and drop the code from the bottom onto the box where the code is missing to complete the API request. An engineer is using this API request to implement Chat-Ops to generate notifications m a Webex space by using webhooks. Not all options are used.

Select and Place:

Correct Answer:

Section:
Explanation:

QUESTION 157
DRAG DROP
A developer is creating a Python function that adds network engineers to a Webex room to troubleshoot after a monitoring alert Drag and drop the code from the bottom onto the box where the code is missing in the Python function to add the engineers to the room. Not all options are used.

Select and Place:

```
def gather_all(token, room_id, teamMembers):
    for member in teamMembers:
        header = {"                ": "Bearer %s" % token,
                  "Content-Type": "application/json"}

        payload = {
            "roomId": room_id,
            "personEmail": member
        }

        response = requests.post("https://api.webexapi.com/v1/memberships",
                                 headers=header,                , verify=True)
        if response.                != :
            print("error inviting:" + member)
```

500	code	200
status_code	json=payload	Authorization

Correct Answer:

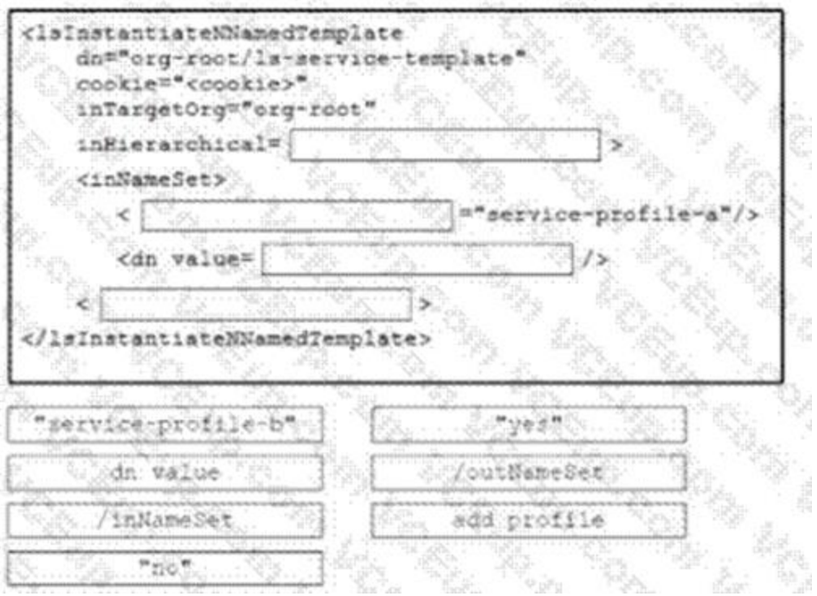
```
def gather_all(token, room_id, teamMembers):
    for member in teamMembers:
        header = {"  Authorization  ": "Bearer %s" % token,
                  "Content-Type": "application/json"}

        payload = {
            "roomId": room_id,
            "personEmail": member
        }

        response = requests.post("https://api.webexapi.com/v1/memberships",
                                 headers=header,  json=payload  , verify=True)
        if response.  status_code  !=  200  :
            print("error inviting:" + member)
```

500	code	

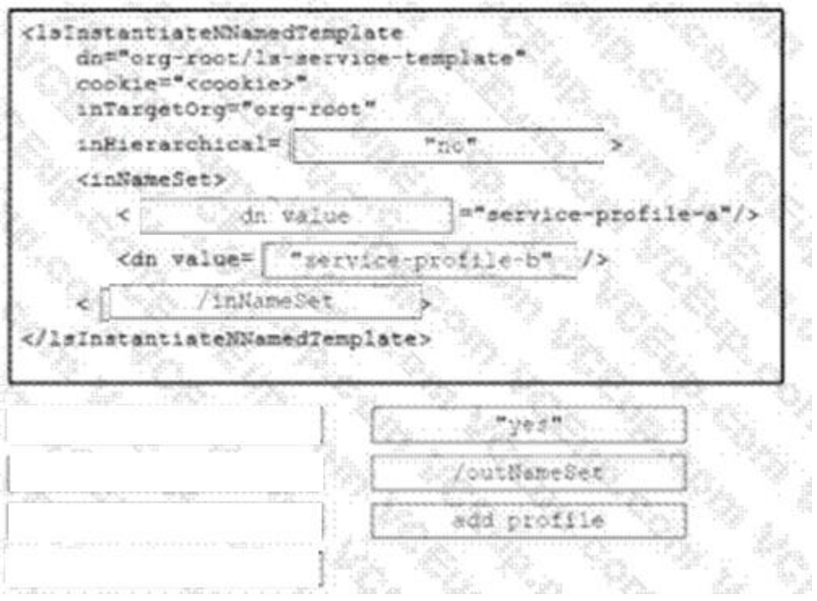
Section:
Explanation:

QUESTION 158
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to construct a UCS XML API request to generate two service profiles from the template org-root/is-service-template.
Not at options are used

Select and Place:



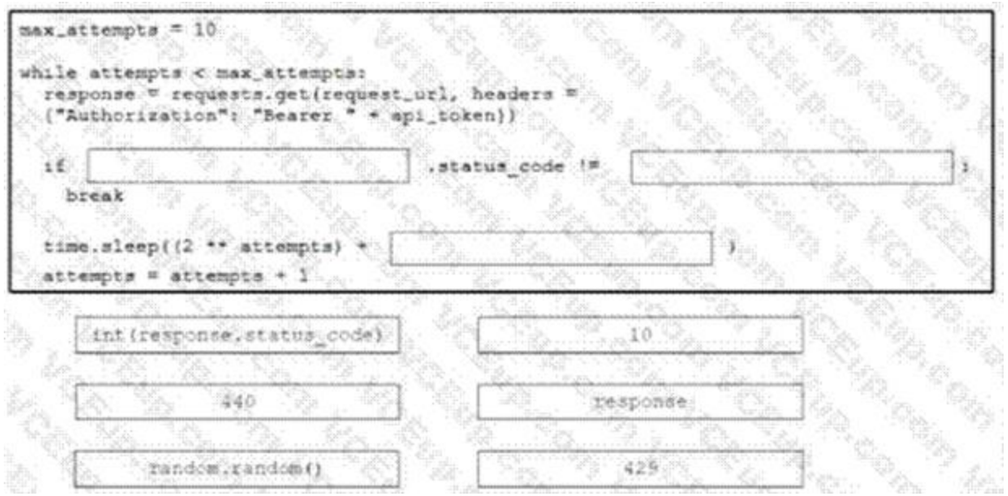
Correct Answer:



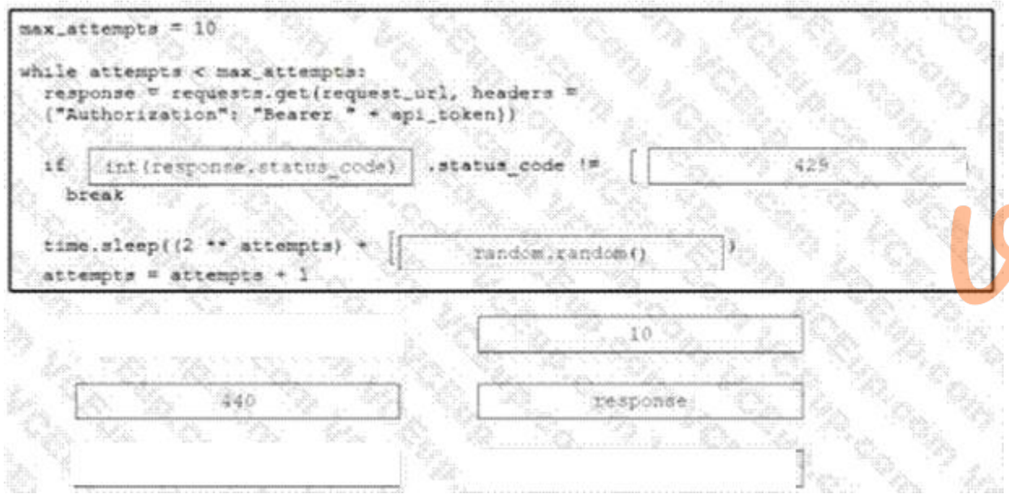
Section:
Explanation:

QUESTION 159
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to stop the REST API requests if a 'Too Many Requests" response is received Not all options are used.

Select and Place:



Correct Answer:



Section:
Explanation:

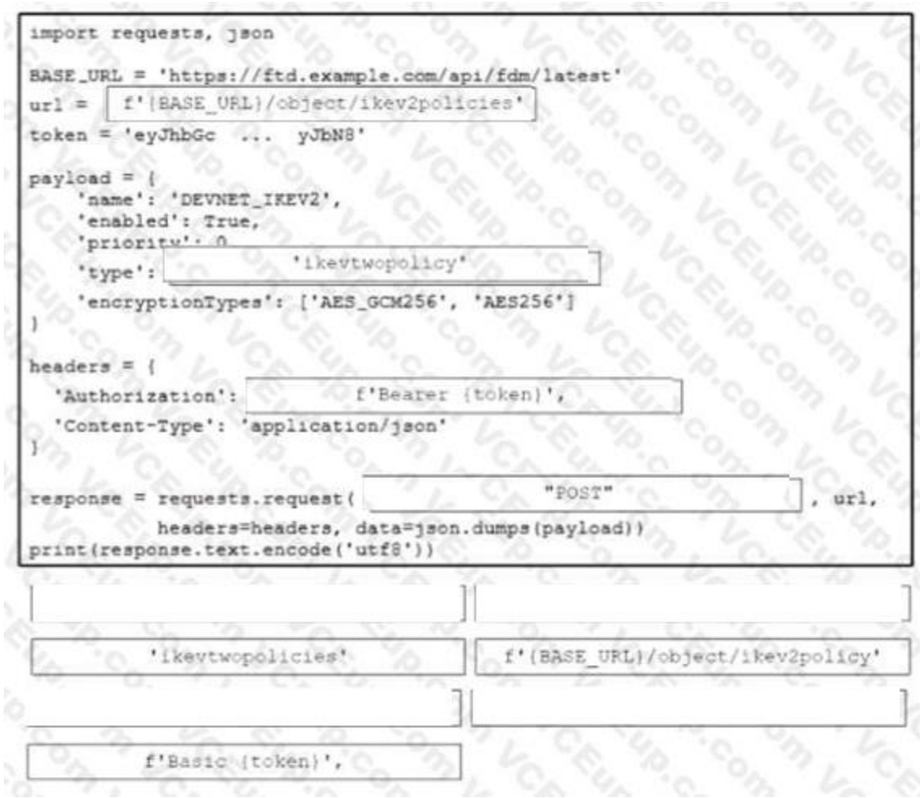
QUESTION 160
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to create a new IKEv2 policy Not all options are used

Select and Place:

```
import requests, json

BASE_URL = 'https://ftd.example.com/api/fdm/latest'
url = [                                   ]
token = 'eyJhbGc  ...  yJbN8'

payload = {
    'name': 'DEVNET_IKEV2',
    'enabled': True,
    'priority': 0,
    'type': [                             ]
    'encryptionTypes': ['AES_GCM256', 'AES256']
}

headers = {
  'Authorization': [                      ]
  'Content-Type': 'application/json'
}

response = requests.request( [                                  ], url,
          headers=headers, data=json.dumps(payload))
print(response.text.encode('utf8'))
```

f'Bearer {token}',	'ikevtwopolicy'
'ikevtwopolicies'	f'{BASE_URL}/object/ikev2policy'
f'{BASE_URL}/object/ikev2policies'	"POST"
f'Basic {token}',	

Correct Answer:

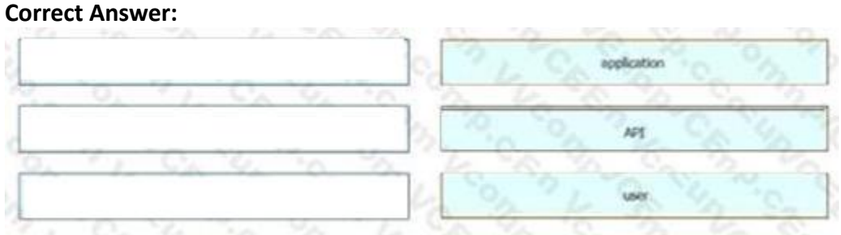


Section:
Explanation:

QUESTION 161
DRAG DROP
Drag and drop the components from the left into the order on the right to create the flow of the three-legged OAuth2.

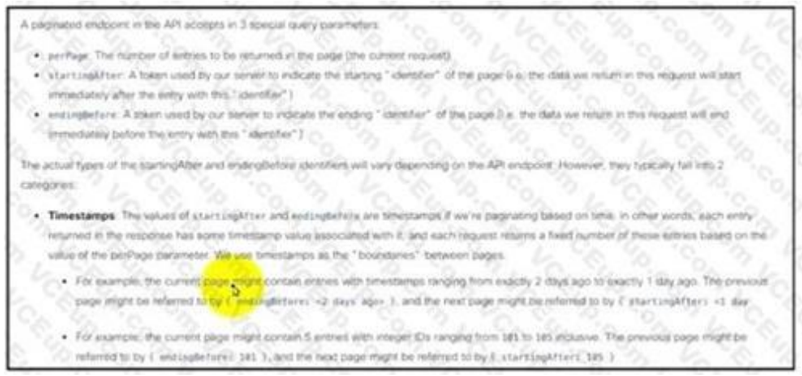
Select and Place:

Correct Answer:



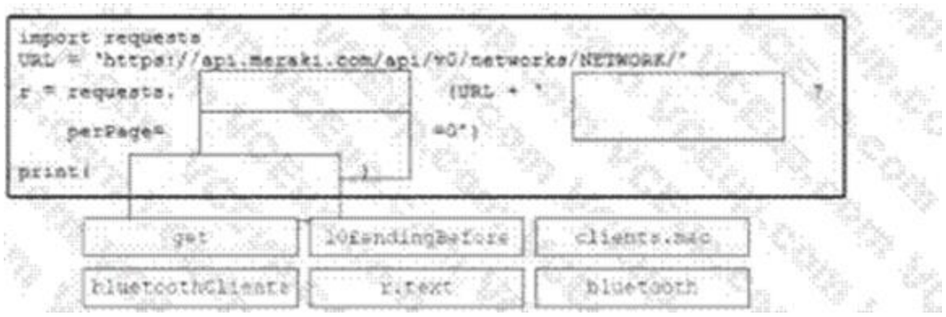
Section:
Explanation:

QUESTION 162
DRAG DROP

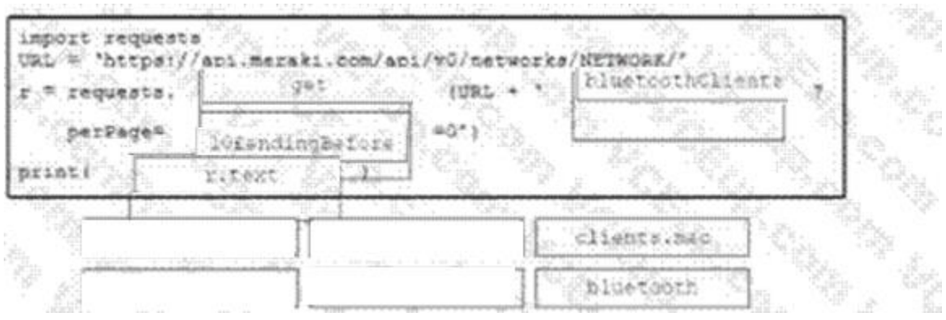


Refer to the exhibit Drag and drop the code from the bottom onto the box where the code is missing to query the last 10 Bluetooth clients seen by APs in their network using the Meraki Dashboard API Not all options are used.

Select and Place:



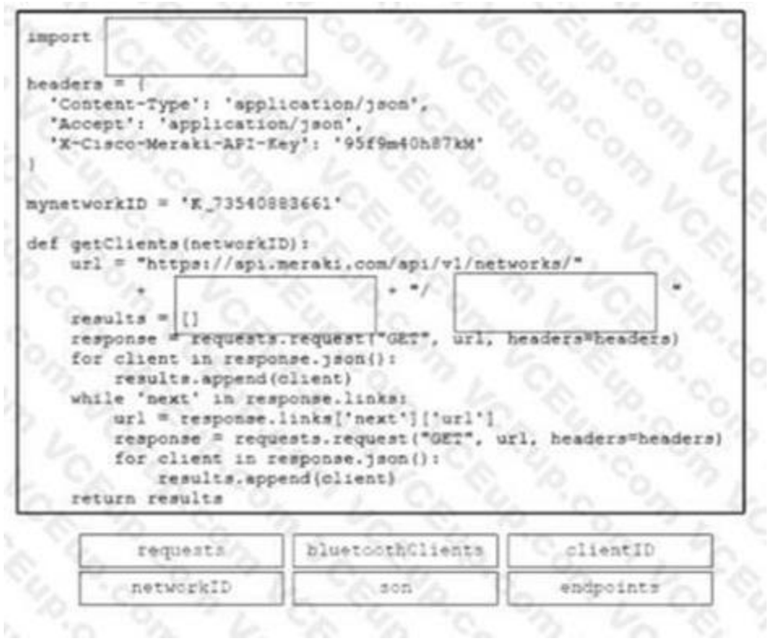
Correct Answer:



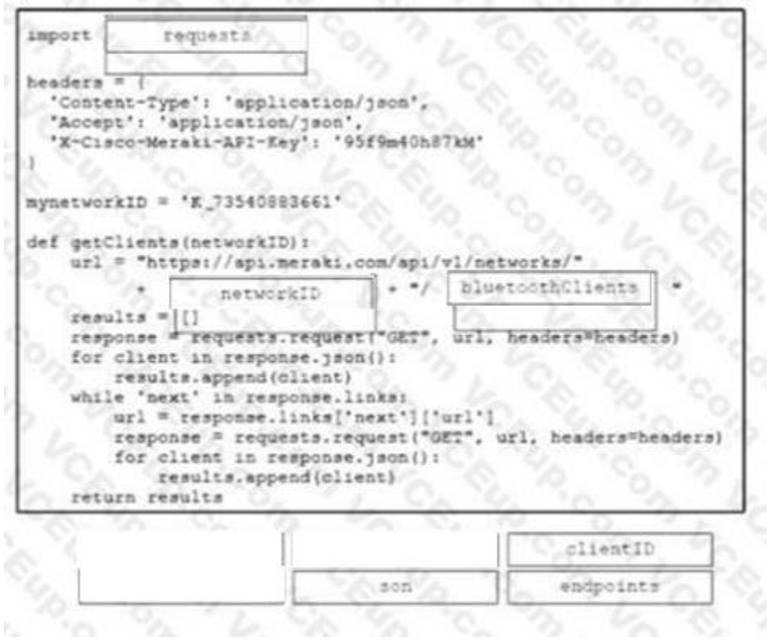
Section:
Explanation:

QUESTION 163
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to construct a contact tracking application that dynamically returns all the Bluetooth clients on a given Meraki network. Not all options are used.

Select and Place:



Correct Answer:



Section:
Explanation:

QUESTION 164
Refer to the exhibit.

```
response = requests.get(url, auth= (username, password))
[                                                      ]
    print("Invalid credentials. Please login again")
    username, password = get_credentials()
    response = requests.get(url, auth= (username, password))
```

Which code snippet must be added to the blank in the code to automate the evaluation and handling of errors due to wrong credentials when Basic Authorization is used?

A.

```
while response.get.status_code == 404 :
```

B.

```
while response.status_code == 403 :
```

C.

```
while response.status_code == 401 :
```

D.

```
while response.get.status_code == 400 :
```

Correct Answer: C
Section:

QUESTION 165
A developer needs to build a new Docker image and has created a tag by using the command:
$ docker tag 32df423320458 local/app.1.2
Which command must be executed next to build the Docker image using the tag?

A.

```
$ docker run -p local/app:1.2
```

B.

```
$ docker run -t local/app:1.2
```

C.

```
$ docker build -t local/app:1.2
```

D.

```
$ docker build -p local/app:1.2
```

Correct Answer: C
Section:

QUESTION 166
Refer to the exhibit.

```
1  import http.client
2  import mimetypes
3
4  MER_API_KEY = '345ed8d63e19179cf88a100bc2f8056fad512345'
5
6  conn = http.client.HTTPSConnection("https://api.meraki.com/api/v0")
7  payload = {}
8
9  headers = {
10     'Content-Type': 'application/json',
11     'API_KEY': MER_API_KEY
12 }
13
14 conn.request("GET", "/interfaces", payload, headers)
```

A developer created a Python script to retrieve interface information for the devices in a MeraKi network environment. A security analyst has reviewed the code and observed poor secret storage practices. What is the appropriate password storage approach?

A. Set the Base64 encoded version of the API key as MER_API_KEY in the code and Base64 decode before using in the header.
B. Set an OS environment variable for MER_API_KEY to the API key during running the code and longer set MER_API_KEY within the code.
C. Create a secret for the API key, set MER_API_KEY using the value from the secret in the Pod. and no longer set MER_API_KEY within the code.
D. Leverage an external secret vault to retrieve MER_API_KEY and embed the vault key as a new variable before running the code.

Correct Answer: D
Section:

QUESTION 167
Which action enhances end-user privacy when an application is built that collects and processes the location data from devices?

A. Pepper the MAC address for each device.
B. Salt the MAC address for each device.
C. Implement an algorithmic information theoretic loss to the MAC address for each device.
D. Use the network device serial number to encrypt the MAC address for each device.

Correct Answer: C
Section:

QUESTION 168
Refer to the exhibit.

```
import requests
import getpass

device_list = ['192.168.243.1', '192.168.243.2']
port = "8080"

username = input("Enter Username  -->")
password = getpass.getpass(prompt="Enter Password:  ->")

for device in device_list:
    [                                                    ]

    headers = {'Content-Type': 'application/vnd.yang.data+json',\
               'Accept': 'application/vnd.yang.data+json'}

    response = requests.get( url, auth=(username, password),\
                             headers=headers, verify=False)

    print(f"Interfaces present on  {device}:")
    for interfaces in response.json():
        print(f"{interfaces}")
```

A.

```
url="http://"+device+":"+port"/api/running/
     interfaces/interface/name"
```

B.

```
url="http://"+device+":"+port"/api/running/
     interfaces/interface"
```

C.

```
url="http://"+device+":"+port+"/api/running/
     interfaces"
```

D.

```
url=http://f"{device_list}+{port}/api/running/
     interfaces"
```

Correct Answer: B
Section:

QUESTION 169
A new record-keeping application for employees to track customer orders must be deployed to a company's existing infrastructure. The host servers reside in a data center in a different country to where the majority of users work. The new network configuration for the database server is: •IP:
10.8.32.10
• Subnet Mask: 255.255.255.0
• Hostname: CustOrd423320458-Prod-010
• MAC: 18-46-AC-6F-F4-52.
The performance of the client-side application is a priority due to the high demand placed on it by employees. Which area should the team consider in terms of impact to application performance due to the planned deployment?

A. jitter
B. decreased bandwidth
C. latency
D. connectivity loss

Correct Answer: C
Section:

QUESTION 170
An application requires SSL certificates signed by an intermediate CA certificate. The crt files must be available to the application:
• The root CA certificate is root_certrficate.crt.
• The intermediate CA certificate is intermediate_certificate.crt
• The application-specific SSL certificate is crt_certificate.crt.
Which Bash command outputs the certificate bundle as a .pern file?

A.
```
cat root certificate.crt intermediate certificate.crt >
certificate bundle.pem
```

B.
```
cat root certificate.crt intermediate certificate.crt
crl certificate.crt > certificate bundle.pem
```

C.
```
cat crl certificate.crt intermediate certificate.crt
root certificate.crt > certificate bundle.pem
```

D.
```
cat intermediate_certificate.crt root_certificate.crt >
certificate_bundle.pem
```

Correct Answer: D
Section:

QUESTION 171
Refer to the exhibit.

```
from http.server import HTTPServer, BaseHTTPRequestHandler
import json

class MainHandler(BaseHTTPRequestHandler):
    def do_GET(self):
        users = get_users()
        self.send_response(200)
        self.wfile.write(json.dumps(users).encode("utf-8"))
        self.end_headers()

if __name__ == "__main__":

    def run(server_class=HTTPServer, handler_class=BaseHTTPRequestHandler):
        server_address = ('0.0.0.0', 8000)
        httpd = server_class(server_address, MainHandler)
        httpd.serve_forever()
    run()
```

Refer to the exhibit An application hosting server with the local data center is experiencing large amounts of traffic from enclusers. A developer must optimize this API server to reduce the toad on its host. What are two ways to optimize this code through HTTP cache controls? (Choose two.)

A. Include the "ETag" header in the API response.
B. Include the "Last-Modified" header in the API response.
C. Include the "Content-Type" header in the API response.
D. Leverage middleware caching and respond with HTTP code 104 m the API response
E. Leverage middleware caching and respond with HTTP code 204 m the API response.

Correct Answer: A, B
Section:

QUESTION 172
Refer to the exhibit.

```
import requests
import json

BASE_URL = 'https://api.meraki.com/api/v0'
API_KEY = '6bec40cf957de430a6f1f2baa056b99a4fac9fa0'

headers = {
    'Content-Type': 'application/json',
    'X-Cisco-Meraki-API-Key': API_KEY
}

url = f'{BASE_URL}/organizations/2930418/networks'
network_response = requests.get(url, headers=headers)

if network_response.status_code == 200:
    for network in network_response.json():

        url = f'{BASE_URL}/networks/{network["id"]}/clients'
        clients_response = requests.get(url, headers=headers)

        if clients_response.status_code == 200:
            print(clients_response.decode("utf-8"))
```

One part of an application routinely uses the Cisco Meraki API to collate data about all clients Other parts of the application also use the Meraki API, but a single API key is used within the application The organization has approximately 4.000 clients across 30 networks Some of the application users report poor performance and missing dat a. Which two changes improve the performance of the application? (Choose two.)

A. Check for HTTP code 429 and wait until Retry-After time before further calls are made
B. Configure multiple API keys in the application and rotate usage of each one.
C. Use random values in the User-Agent header when HTTP calls are made.

D. Use fewer API calls to create a more efficient endpoint.
E. Check API response payloads for later reuse in real time during code execution.

Correct Answer: A, B
Section:

QUESTION 173
How should logs for an application be created?

A. Use a standard and easily configurable logging framework.
B. Use fault-tolerant protocols.
C. Monitor for backlogs and outages.
D. Filter sensitive data before transmitting logs.

Correct Answer: A
Section:

QUESTION 174
Which approach is used to protect East-West API traffic?

A. Use encryption between services
B. Install a perimeter firewall
C. Use a dedicated cloud connection service.
D. Implement an API gateway

Correct Answer: A
Section:

QUESTION 175
A developer creates an application for a Cisco Catalyst 9000 switch in a Docker container. Which action must be taken to host the application on the switch?

A. Copy the application code to a NETCONF file and upload the file to the switch
B. Connect the switch to Cisco DNA Center and push the application through the platform.
C. Use the Cisco IOxClient tool to export the application to a ZIP file and push the file to the switch
D. Export the application as a TAR file and import the file to the switch

Correct Answer: D
Section:

QUESTION 176
Refer to the exhibit.

```
import requests
import time
import json

class Connection:
    def __init__(self, config):
        self._config = config
        self._session = None
        self._retries = 0
        self._MAX_RETRIES = 12

    def _setupSession(self):
        self._retries = 0
        if self._session is None:
            self._session = requests.Session()
        return

    def get(self, url, params=None):
        self._setupSession()
        resp = self._session.get(self._config.host + url, verify=False, params=params)
        if resp.status_code == 200:
            return json.loads(resp.content.decode('utf-8'))
            [                                              ]
            self._retries += 1
            exp_backoff = (2**(self._retries+3))/1000
            time.sleep(exp_backoff)
            self.get(url=url, params=params)
        return resp
```

A network engineer must integrate error handling tor time-outs on network devices using the REST interface. Which line of code needs to be placed on the snippet where the code is missing to accomplish this task?

A. elif resp.status_code == 429 or serf._retries < selff._MAX_RETRIES:
B. elif resp.status_code == 404 or self, retries < self._MAX_RETRIES:
C. elif resp.status_code == 429 and self .retries < self._MAX_RETRIES:
D. elif resp.status_code == 404 and self._relries < self._MAX_RETRIES:

Correct Answer: C
Section:

QUESTION 177
Two Elasticsearch database servers use bidirectional asynchronous data replication Both servers accept writes from clients The design must meet these requirements:
• The cluster must survive if a fault occurs that causes the network connection to go down between nodes
• The data must remain consistent if communication between nodes fails.
• The data must be spread evenly across all nodes in the cluster.
Which design approach must be used to meet the requirements?

A. Set the initial voting configuration to force a specific node as the master.
B. Scale the master nodes down to a single node.
C. Set the minimum_master_nodes to 2 in the configuration.
D. Add a third cluster node to provide majority votes.

Correct Answer: C
Section:

QUESTION 178
Refer to the exhibit.

```
Running on runner-kzy3auq6-project-2-concurrent-0 via d277177ad901...
Getting source from Git repository
Fetching changes with git depth set to 50...
Reinitialized existing Git repository in /builds/pod01/nxos_cicd/.git/
Checking out 140cb64b as master...
Skipping Git submodules setup
Executing "step_script" stage of the job script
$ ansible-playbook --syntax-check -i hosts site.yml
ERROR! We were unable to read either as JSON nor YAML, these are the errors we got from each:
JSON: Expecting value: line 1 column 1 (char 0)
Syntax Error while loading YAML.
  did not find expected '-' indicator
The error appears to be in '/builds/pod01/nxos_cicd/roles/spine/tasks/main.yml': line 5, column 3, but may
be elsewhere in the file depending on the exact syntax problem.
The offending line appears to be:
  - name: ENABLE FEATURES
  cisco.nxos.nxos_feature:
  ^ here
Cleaning up file based variables
ERROR: Job failed: exit code 1
```

A network engineer developed an Ansible playbook and committed it to GitLab. A GitLab CI pipeline is started but immediately fails. What is the issue?

A. The runner task uses an incorrect parameter.
B. The Ansible playbook task has a formatting issue.
C. The Ansible playbook has an undefined variable.
D. The runner is running the wrong Docker version.

Correct Answer: B
Section:

QUESTION 179

```
        container protocols {
      description
        "The routing protocols that are enabled for this network-instance.";

      list protocol {
        key "identifier name";

        description
          "A process (instance) of a routing protocol. Some systems may not support
          more than one instance of a particular routing protocol";

        leaf identifier {
          type leafref {
            path "../config/identifier";
          }
          description
            "The protocol name for the routing or forwarding protocol to be
            instantiated";
        }

        leaf name {
          type leafref {
            path "../config/name";
          }
          description
            "An operator-assigned identifier for the routing or forwarding protocol.
            For some processes this leaf may be system defined.";
        }
.
.
      }
    }
  }
.
.
.
  uses network-instance-top;
}
```

Refer to the exhibit. Which URI string retrieves configured static routes in a VRF named CUSTOMER from a RESTCONF-enabled device?

A.

```
/restconf/data/\
  openconfig-network-instance:network-instances/\
  network-instance/=CUSTOMER/protocols/protocol=STATIC
```

B.

```
/restconf/data/ietf-interfaces:interfaces/\
  interface/GigabitEthernet1
```

C.

```
/restconf/data/\
  openconfig-network-instance:network-instances/\
  network-instance/CUSTOMER/protocols/protocol/\
  STATIC,DEFAULT
```

D.

```
/restconf/data/\
  openconfig-network-instance:network-instances/\
  network-instance=/CUSTOMER/protocols/protocol/STATIC
```

Correct Answer: D
Section:

QUESTION 180
Refer to the exhibit.

```
Running with gitlab-runner 12.9.0-rc1 (a350f628)
   on docker-auto-scale fa6cab46
Preparing the "docker+machine" executor
00:14
 Using Docker executor with image alpine:3.10 ...
 Pulling docker image alpine:3.10 ...
 Using docker image
sha256:5e35e350aded98340bc8fcb0ba392d805c807bc3eb5c618d4a0674d98d88bccd for
alpine:3.10...
$ eval "$CI_PRE_CLONE_SCRIPT"
   * [new ref]         refs/pipelines/125695607 -> refs/pipelines/125695607
   * [new branch]      development              -> origin/development
 Checking out 65702af3 as development...
 Skipping Git submodules setup
Restoring cache
00:01
Downloading artifacts
00:02
Running script from Job
00:01
 $ python3 --version
 /usr/bin/bash: line 94: python3: command not found
Running after script
00:02
Uploading artifacts for failed job
00:01
 ERROR: Job failed: exit code 1
```

Which action resolves the error for the GitLab CI/CD pipeline execution?

A. Download the correct artifacts by specifying them in GitLab.
B. Use the python:3.9.0a4-alpine3.10 Docker image
C. Install the missing python libraries via pip3.
D. Add the absolute path to the python3 executable

Correct Answer: B
Section:

QUESTION 181

Refer to the exhibit.

```
import requests

url = "https://ios-xe-mgmt.cisco.com:9443/restconf/data/Cisco-IOS-XE-native:native"

headers = {'Authorization': 'Basic ZGV2ZWxvcGVyOkMxc2NvMTIzNDU='}

response = requests.get(url, headers=headers, verify=False)

if response.status_code in [500, 501, 502, 503, 504]:
    print(                                                    )
```

An engineer is implementing the response for unrecoverable REST API errors. Which message needs to be placed on the snippet where the code is missing to complete the print statement?

A. "Error; The server is unable to handle your request." "Error:
B. The data requested has not been found."
C. "Error: The rate limit has been exceeded for sending API requests at this time"
D. "Enor: The server requires authentication to complete this request."

Correct Answer: A
Section:

QUESTION 182
Refer to the exhibit.

```
Started POST "/users/auth/ldapmain/callback" for 172.17.4.98 at 2021-02-11 21:06:47 +0000
2021-02-11_21:06:49.80956 127.0.0.1 - - [11/Feb/2021:21:06:49 UTC] "GET /sidekiq HTTP/1.1" 200 57318
2021-02-11_21:06:49.80959 - -> /sidekiq
{"severity":"ERROR","timestamp":"2021-02-11T21:06:52.813Z","pid":20966,"progname":"omniauth", \
  "message":"(ldapmain) Authentication failure! ldap_error: Net::LDAP::Error, Connection timed out -
  user specified timeout"}
Processing by OmniauthCallbacksController#failure as HTML
  Parameters: {"utf8"=>"✓", "authenticity_token"=>"[FILTERED]", "username"=>"user1",
"password"=>"[FILTERED]"}
Redirected to http://192.168.24.55/users/sign_in
Completed 302 Found in 119ms (ActiveRecord: 32.9ms | Elasticsearch: 0.0ms | Allocations: 40775)
{"method":"POST","path":"/users/auth/ldapmain/callback","format":"html","controller":
 "OmniauthCallbacksController","action":"failure","status":302, \
  "location":"http://192.168.24.55/users/sign_in","time":"2021-02-11T21:06:52.934Z",
  "params":[{"key":"utf8","value":"✓"}, \
  {"key":"authenticity_token","value":"[FILTERED]"},{"key":"username","value":"user1"},
  {"key":"password","value":"[FILTERED]"}], \
  "remote_ip":"172.17.4.98","user_id":null,"username":null,"ua":"Mozilla/5.0
  "redis_shared_state_read_bytes":109,"redis_shared_state_write_bytes":85,"db_count":5,\
  "db_write_count":1,"db_cached_count":0,"queue_duration_s":0.008279,"cpu_s":0.11,"db_duration_s":0.03294,
  "view_duration_s":0.0,"duration_s":0.11892}
```

Recently, users have reported problems logging into an application with their usernames and passwords. The logs have captured an authentication attempt. Based on the messages and errors contained, what is the cause of the problem?

A. The sign-in redirection is sending clients to the wrong server for SSO.
B. There is a time synchronization issue between the application and LDAP.
C. Users are providing incorrect credentials when logging in.
D. The LDAP server used for authentication fails to respond to connection requests

Correct Answer: A
Section:

QUESTION 183
What are two benefits of using a centralized logging service? (Choose two.)

A. reduces the time required to query log data across multiple hosts
B. reduces the loss of logs after a single disk failure
C. improves application performance by reducing CPU usage
D. improves application performance by reducing memory usage
E. provides compression and layout of log data

Correct Answer: A, E
Section:

QUESTION 184
Refer to the exhibit. A developer wants to automatically deploy infrastructure for a containerized application. A .gitlab-ci.yml file must describe a pipeline that builds a container based on a supplied Dockerfile and executes an Ansible playbook on the configured container. What must be added where the code S missing to complete the script?

```
image: docker:19.03.1
services:
  - name: docker:19.03.1-dind

stages:
  - build_container
  - get_config

variables:
  DOCKER_DRIVER: overlay2
  DOCKER_TLS_CERTDIR: ""
  ANSIBLE_HOST_KEY_CHECKING: "False"

Build container and install Dependencies:
  stage: build_container
  before_script:
    - docker info
    - docker login registry.gitlab.com -u "$DOCKER_USERNAME" -p
    "$DOCKER_PASSWORD"
  script:
    - docker build . -t registry.gitlab.com/$DOCKER_USERNAME/$DOCKER_REPOSITORY
    - docker run -t -d --rm --name nettest registry.gitlab.com/
    $DOCKER_USERNAME/$DOCKER_REPOSITORY
    - docker commit nettest registry.gitlab.com/$DOCKER_REPOSITORY
  after_script:
    -

Connect to Cisco Sandbox and backup config:
  image: registry.gitlab.com/$DOCKER_USERNAME/$DOCKER_REPOSITORY
  stage: get_config
  script:
    - ansible-playbook gather_and_proocess_configs.yml -i inventory
```

A.
```
docker assign nettest
registry.gitlab.com/DOCKER USERNAME/$DOCKER REPOSITORY
```

B.
```
docker info registry.gitlab.com/$DOCKER REPOSITORY
```

C.
```
docker logout registry.gitlab.com
```

D.

```
docker push registry.gitlab.com/
$DOCKER_USERNAME/$DOCKER_REPOSITORY
```

Correct Answer: D
Section:

QUESTION 185
A developer must deploy a containerized application for network device inventory management. The developer sets up a Kubernetes cluster on two separate hypervisors The SLA is not currently meeting a specified maximum value for network latency/jitter. CPU/memory and disk 1,0 are functioning property.
Which two design approaches resolve the issue? (Choose two.)

A. Upgrade the server NIC card.
B. Colocate services in the same pod.
C. Enable IPv6 within the cluster
D. Replace the HDD drives with SSD drives.
E. Deploy the cluster to a bare metal server.

Correct Answer: A, B
Section:

QUESTION 186
A developer IS deploying an action to automate the configuration and management of Cisco network switches and routers. The application must use REST API interlace to achieve programmability. The security team mandates that the network must be protected against DDoS attacks. What mitigates the attacks without impacting genuine requests?

A. traffic routing on the network perimeter
B. firewall on the network perimeter
C. API rate limiting at the application layer
D. IP address filtering at the application layer

Correct Answer: B
Section:

QUESTION 187
Which kind of API that is used with Cisco DNA Center provisions SSIDs, QoS policies, and update software versions on switches?

A. Event
B. Multivendor
C. Integration
D. Intent

Correct Answer: A
Section:

QUESTION 188
Cisco sensorBase gathers threat information from a variety of cisco products and services and performs analytics on threats. Which term describes this process?

A. consumption

B. deployment
C. sharing
D. authoring

Correct Answer: C
Section:

QUESTION 189
Refer to the exhibits. Which data payload completes the CURL command to run the create port object API call In Cisco Firepower Threat Defense?

```
curl -X POST \
--header "Accept: application/json" \
--header "Authorization: Bearer ${ACCESS_TOKEN}" \
--header "Content-Type: application/json" \
-d '{
                                                    }' \
https://${HOST}:${PORT}/api/fdm/v3/object/icmpv4ports
```

Refer to the exhibits. Which data payload completes the CURL command to run the create port object API call In Cisco Firepower Threat Defense?

A.

```
"icmpv4Type": "ANY",
"name": "string",
"type": "icmpv4portobject"
```

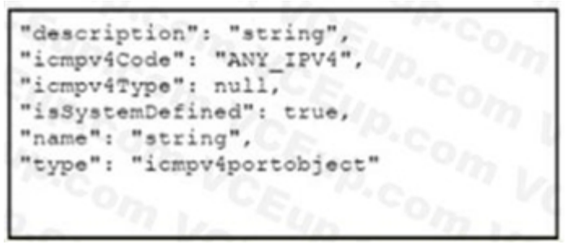
B.

```
"description": "This is an ICMP Echo",
"icmpv4Code": "8",
"icmpv4Type": "Echo",
"isSystemDefined": true,
"name": "ICMP Echo",
"version": "2.2"
```

C.

```
"description": "string",
"icmpv4Code": "ANY_IPV4",
"icmpv4Type": "ANY",
"id": "string",
"isSystemDefined": "string",
"name": "string",
"type": "icmpv4portobject",
"version": "string"
```

D.



Correct Answer: A
Section:

QUESTION 190
Which transport layer protocol does gRPC use to retrieve telemetry information?

A. SSH
B. SNMP
C. TCP
D. HTTP/2

Correct Answer: D
Section:

QUESTION 191
A developer corrects an application bug with ID buglDa98416945110x and then installs it on a Cisco Catalyst 9300 series switch. Which command will enable the application called myapp?

A. app-hosting install appid myapp package usbflash1:myapp.tar
B. app-hosting run re-start appid my app bugfix
C. app-hosting activate appid myapp
D. app-hosting start appid myapp

Correct Answer: D
Section:

QUESTION 192
Refer to the exhibit.

```
import requests
import getpass

device_list = ['192.168.243.1', '192.168.243.2']
port = "8080"

username = input("Enter Username  -->")
password = getpass.getpass(prompt="Enter Password:  ->")

for device in device_list:
    [                                                    ]

    headers = {'Content-Type': 'application/vnd.yang.data+json',\
               'Accept': 'application/vnd.yang.data+json'}

    response = requests.get( url, auth=(username, password),\
                             headers=headers, verify=False)

    print(f"Interfaces present on  {device}:")
    for interfaces in response.json():
        print(f"{interfaces}")
```

Cisco IOS XE switches are used across the entire network and the description that is filed for all interfaces must be configured. Which code snippet must be placed in the blank in the script to leverage RESTCONF to query all the devices in the device list for the interfaces that are present?

A.

```
url="http://"+device+":"+port+"/api/running/
     interfaces"
```

B.

```
url="http://"+device+":"+port"/api/running/
     interfaces/interface"
```

C.

```
url="http://"+device+":"+port"/api/running/
     interfaces/interface/name"
```

D.

```
url=http://f"{device_list}+{port}/api/running/
    interfaces"
```

Correct Answer: A
Section:

QUESTION 193
Refer to the exhibit.

```
def init_tracer(service):
    logging.getLogger('').handlers = []
    logging.basicConfig(format='%(message)s', level=logging.DEBUG)
    config = Config(
        config={'sampler': {'type': 'const', 'param': 1,},'logging': True,},
        service_name=service,)
    return config.initialize_tracer()

base_url = 'https://sandboxdnac.cisco.com/'

        try:
            dnac = DNACenterAPI(username='devnetuser', password='Cisco123!',
                                base_url=base_url, version='1.3.3',
                                verify=False)
            print('auth passed')
        except Exception as e:
            print('failed')
    try:
        devices = dnac.devices.get_device_list()
        devices = devices['response']

        devices = [device['hostname'] for device in devices]
        print(devices)
    except Exception as e:
```

An application is created to serve the needs of an enterprise. Slow performance now impacts certain API calls, and the application design lacks observability. Which two commands improve observability and provide an output that is similar to the sample output? (Choose two.)

A.

```
dnac-tracer3 = init_tracer('dnac-tracer3')
```

B.

```
with dnac-tracer3.start_span('dnac-api-calls') as span:
```

C.

```
with tracer.start_span('dnac-api-calls') as span:
```

D.

```
dnac-tracer3.start_span('dnac-api-calls') as span:
```

E.

```
tracer = init_tracer('dnac-tracer3')
```

Correct Answer: C, E
Section:

QUESTION 194
Refer to the exhibit.

```
response = requests.post(url)
[                                                    ]
    backoff = 5
    time.sleep(int(backoff))
    response = requests.post(url)
    while response.status_code != 200 and backoff < 80:
        backoff *= 2
        time.sleep(int(backoff))
        response = requests.post(url)
else:
    continue
```

An engineer needs to implement REST API error handling when a timeout or rate limit scenario is present. Which code snippet must be placed into the blank in the code to complete the API request?

A.

```
if response.status_code == 429:
    wait = response.headers.get('Retry-After', 99)
    print(f'-> got {response.status_code} from {url}. retrying after {wait}s')
    time.sleep(int(wait))
    response = requests.post(url)
elif response.status_code == 408:
```

B.

```
if response.status_code == 401:
    wait = response.headers.get('Retry-After', 99)
    print(f'-> got {response.status_code} from {url}. retrying after {wait}s')
    time.sleep(int(wait))
    response = requests.post(url)
elif response.status_code == 408:
```

C.

```
if response.status_code == 408:
    wait = response.headers.get('Retry-After', 99)
    print(f'-> got {response.status_code} from {url}. retrying after {wait}s')
    time.sleep(int(wait))
    response = requests.post(url)
elif response.status_code == 429:
```

D.

```
if response.status_code == 429:
    wait = response.headers.get('Retry-After', 99)
    print(f'-> got {response.status_code} from {url}. retrying after {wait}s')
    time.sleep(int(wait))
    response = requests.post(url)
elif response.status_code == 401:
```

Correct Answer: A
Section:

QUESTION 195
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to create a Puppet manifest that implements an NTP configuration when applied to a device in the master inventory.
Not all options are used.

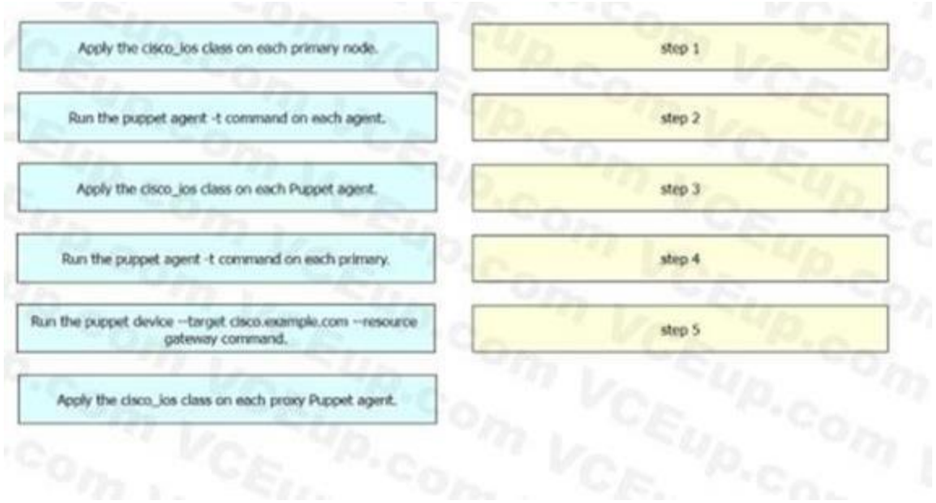
Select and Place:

Correct Answer:

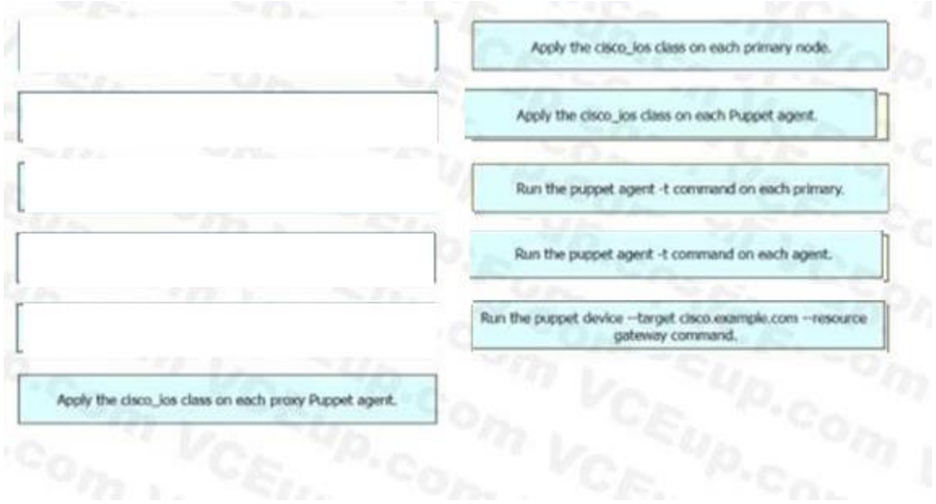
Section:
Explanation:

QUESTION 196
DRAG DROP
Drag and drop the steps from the left into the order on the right to create the workflow to retrieve the gateway information from a set of Cisco IOS devices. Not all options are used.

Select and Place:



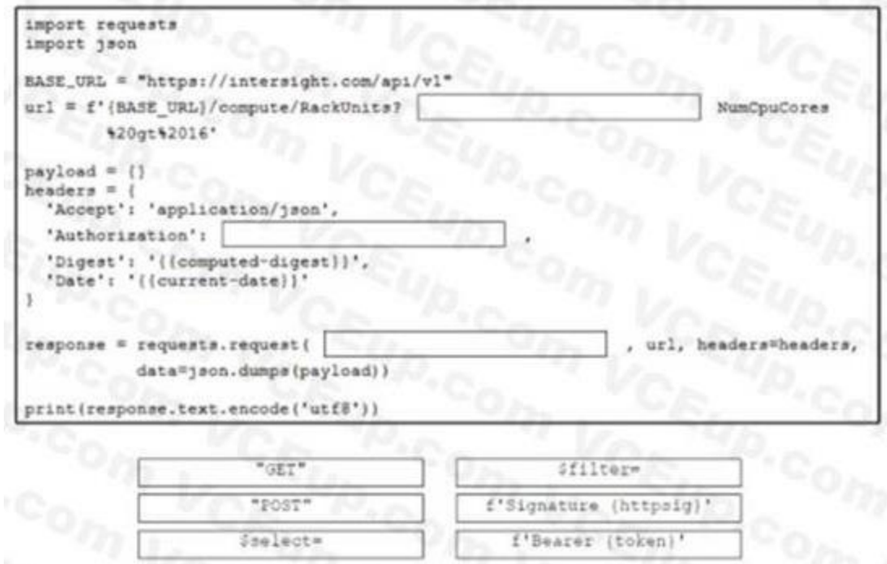
Correct Answer:



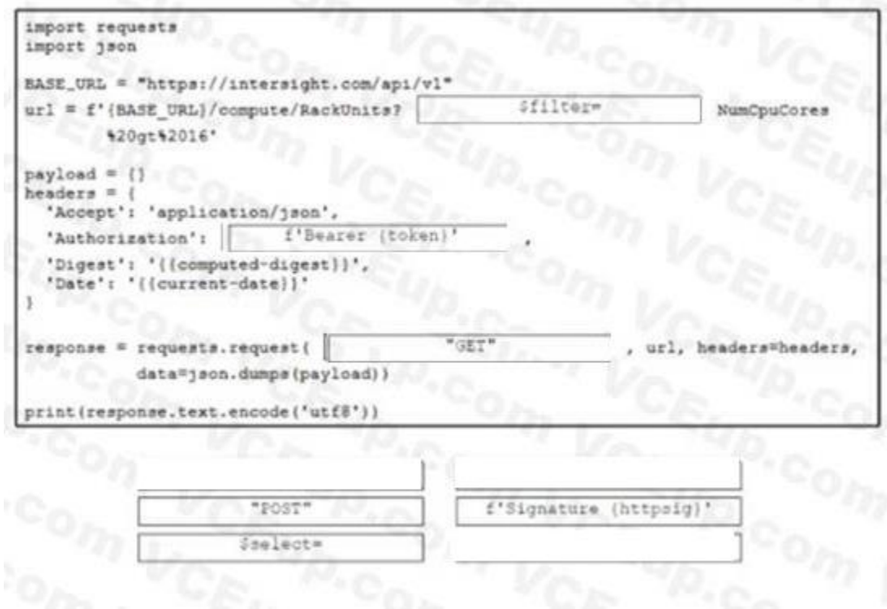
Section:
Explanation:

QUESTION 197
DRAG DROP
Drag and drop the code from the bottom onto the box whore the code is missing to retrieve a list of rack units that have more than 16 CPU cores. The filtered list will be used to create a summary on the monitoring dashboard. Not all options are used.

Select and Place:



Correct Answer:



Section:
Explanation:

QUESTION 198
DRAG DROP
An engineer has created an NGINX web server. The server will be accessible from outside the organization. A public-key certificate must be installed before external access is allowed Drag and drop the steps from the left into the order on the right to configure the certificate. Not all options are used

Select and Place:

Correct Answer:

Section:
Explanation:

QUESTION 199
An engineer needs to automate the configuration on a Cisco NX-OS switch. The solution must meet these requirements:
• Ansible is used
• The transport protocol is encrypted
• Support for Asynchronous requests.
Which two access mechanisms must be used? (Choose two.)

A. SNMP Version 2c
B. NETCONF
C. NX-API
D. HTTPS
E. JSON-RPC

Correct Answer: B, D

Section: