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**Vendor:**Cisco

**Exam Code:**300-435

**Exam Name:**Automating and Programming Cisco  
Enterprise Solutions (ENAUTO)

**Version:**Demo

## QUESTION 1

```
1 {
2   'data':
3     [
4       {
5         'count': 4,
6         'detailsURL': '',
7         'name': 'vEdge Hardware Health',
8         'status': 'error',
9         'statusList':
10          [
11            {
12              'count': 4,
13              'detailsURL': '/dataservice/device/hardwarehealth/detail?state=normal',
14              'message': '4 {normal=4, warning=0, error=0}',
15              'name': 'normal',
16              'status': 'up'
17            }
18          ]
19       }
20     ]
21 }
```

Refer to the exhibit. Cisco SD-WAN deployment must be troubleshooted using vManage APIs. A call to vEdge Hardware Health API returns the data in the exhibit (only a portion is shown). If this JSON is converted to a Python dictionary and assigned to the variable "d", how the status is accessed that is indicated on line 16?

- A. `d[data][0][statusList][0][status]`
- B. `d['data']['statusList']['status']`
- C. `d{'data'}[0]{ 'statusList'}[0]{ 'status'}`
- D. `d['data'][0]['statusList'][0]['status']`

Correct Answer: B

The 0s in option AC and D are not logical in this scenario. The status tag already takes care of the error message.

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## QUESTION 2

```

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

data = OrderedDict([('ietf-interfaces:interface',
                    OrderedDict([
                        ('name', 'Loopback2'),
                        ('type', 'iana-if-type:softwareLoopback'),
                        ('ietf-ip:ipv4',
                         OrderedDict([
                             ('address', [OrderedDict([
                                 ('ip', '10.222.234.8'),
                                 ('netmask', '255.255.255.0')
                             ])]
                             )))
                    ]))

response =
requests.put("https://10.10.20.48:443/restconf/data/ietf-interfaces:interfaces/interface=Loopback2",
             auth=("cisco", "cisco 1234!"),
             headers=headers,
             verify=False,
             json=data
            )

```

Refer to the exhibit. A Python script is used to configure a Cisco IOS XE router. The Loopback2 interface currently has a description of Management2 and an IP address/netmask of 10.222.34.22/32. What is the result of executing the script?

- A. The interface description remains the same.
- B. The router rejects all commands and the configuration remains the same.
- C. The interface is removed from the configuration.
- D. The interface description is removed from the configuration.

Correct Answer: A

### QUESTION 3

DRAG DROP

```
GET: https://dnacsrvc/api/v1/network-device
{
  "response": [
    {
      "type": "Cisco Catalyst 9300 switch",
      "errorCode": null,
      "family": "Switches and Hubs",
      "location": "DC1",
      "role": "ACCESS",
      "macAddress": "a1:2b:30:40:41:50",
      "hostname": "cat_9k_1",
      "serialNumber": "FCW2136LOAK",
      "softwareVersion": "16.6.1",
      "locationName": null,
      "upTime": "13 days, 18:30:33.81",
      "softwareType": "IOS-XE",
      "collectionStatus": "Managed",
      "managementIpAddress": "10.10.22.66",
      "platformId": "C9300-24UX",
      "reachabilityStatus": "Reachable",
      "series": "Cisco Catalyst 9300 Series Switches",
      "snmpContact": "",
      "snmpLocation": ""
    }
  ]
}
```

Refer to the exhibit. A GET request is issued to the Cisco DNA Center REST API. Drag and drop the GET request URL subpaths from the left onto the objectives on the right. Not all options are used.

Select and Place:

## Answer Area

```
/api/v1/network-device?softwareType=IOS-XE&softwareVersion=16.4.2
```

```
/api/v1/network-device?location=DC2
```

```
/api/v1/network-device?(softwareType=IOS-XE) AND (softwareVersion=16.4.2)
```

```
/api/v1/network-device?family=Switches and Hubs
```

```
/api/v1/network-device?ipAddress=10.222.10.35
```

```
/api/v1/network-device?snmpLocation=DC2
```

```
/api/v1/network-device?managementIpAddress=10.222.10.35
```

```
/api/v1/network-device?family=cat_9k_1
```

List devices that are configured by using SNMP to be in the DC2 location

List device types

List the device that has an IP address of 10.222.10.35

Display Cisco IOS XE devices that have IOS version 16.4.2

Correct Answer:

## Answer Area

```
/api/v1/network-device?softwareType=IOS-XE&softwareVersion=16.4.2
```

```
/api/v1/network-device?location=DC2
```

```
/api/v1/network-device?managementIpAddress=10.222.10.35
```

```
/api/v1/network-device?ipAddress=10.222.10.35
```

```
/api/v1/network-device?family=Switches and Hubs
```

```
/api/v1/network-device?(softwareType=IOS-XE) AND (softwareVersion=16.4.2)
```

```
/api/v1/network-device?snmpLocation=DC2
```

```
/api/v1/network-device?family=cat_9k_1
```

Reference: [https://meraki.cisco.com/lib/pdf/meraki\\_whitepaper\\_captive\\_portal.pdf](https://meraki.cisco.com/lib/pdf/meraki_whitepaper_captive_portal.pdf)

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### QUESTION 4

What are two benefits of leveraging Ansible for automation of Cisco IOS XE Software? (Choose two.)

- A. Ansible playbooks are packaged and installed on IOS XE devices for automatic execution when an IOS device reboots.
- B. All IOS XE operating systems include Ansible playbooks for basic system administration tasks.
- C. It is a device-independent method for automation and can be used with any type of device or operating system.
- D. Ansible playbooks can be written from the IOS XE EXEC command line to configure the device itself.
- E. It does not require any modules of software except SSH to be loaded on the network device.

Correct Answer: AC

Reference: <https://developer.cisco.com/learning/modules/intro-ansible-iosxe/ansible-overview/step/4>

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### QUESTION 5

What is a benefit of developing an application in a Python virtual environment?

- A. The application operates in multiple target systems simultaneously.
- B. The application supports concurrency or multithreading.
- C. The application operates across systems that have different operating systems.
- D. The development environment is isolated from Python projects that already exist.

Correct Answer: B

Reference: <https://hackernoon.com/concurrent-programming-in-python-is-not-what-you-think-it-is-b6439c3f3e6a>

### QUESTION 6

DRAG DROP

Drag and drop the code from the bottom onto the box where the code is missing to construct a Python script to automate the process of updating the site-to-site VPN settings of the network. Not all options are used.

Select and Place:

```
import requests

url = "https://api.meraki.com/api/v0/networks/{{networkId}}/"

payload = {
    "mode": "spoke",
    "hubs": [
        {"hubId": "N_4901849", "useDefaultRoute": True},
        {"hubId": "N_1092409", "useDefaultRoute": False}
    ],
    "subnets": [
        {"localSubnet": "192.168.1.0/24", "useVpn": True},
        {"localSubnet": "192.168.128.0/24", }
    ]
}

headers = {
    'Accept': '*/*',
    'Content-Type': 'application/json'
}

response = requests.request("PUT", url,
                            headers=headers,
                            )

print(response.text.encode('utf8'))
```

- "useVpn": True
- networksVpn
- data=payload
- siteToSiteVpn

Correct Answer:

```
import requests

url = "https://api.meraki.com/api/v0/networks/({networkId})/siteToSiteVpn "

payload = {
    "mode": "spoke",
    "hubs": [
        {"hubId": "N_4901849", "useDefaultRoute": True},
        {"hubId": "N_1092409", "useDefaultRoute": False}
    ],
    "subnets": [
        {"localSubnet": "192.168.1.0/24", "useVpn": True},
        {"localSubnet": "192.168.128.0/24", "useVpn": True }
    ]
}

headers = {
    'Accept': '*/*',
    'Content-Type': 'application/json'
}

response = requests.request("PUT", url,
                            headers=headers,
                            data=payload )

print(response.text.encode('utf8'))
```

networksVpn

Reference: <https://developer.cisco.com/meraki/api-v1/#!get-network-appliance-vpn-site-to-site-vpn>

## QUESTION 7

DRAG DROP



```

$ pyang -f tree ietf-interfaces.yang
module: ietf-interfaces
  +--rw interfaces
  |   +--rw interface* [name]
  |       +--rw name                string
  |       +--rw description?        string
  |       +--rw type                 identityref
  |       +--rw enabled?             boolean
  |       +--ro statistics
  |           +--ro discontinuity-time yang:date-and-time
  |           +--ro in-unicast-pkts?  yang:counter64
  |           +--ro in-broadcast-pkts? yang:counter64
  x--ro interfaces-state
    x--ro interface* [name]
      x--ro name                string
      x--ro type                 identityref
      x--ro admin-status        enumeration {if-mib}?
      x--ro oper-status         enumeration
      x--ro statistics
        x--ro discontinuity-time yang:date-and-time
        x--ro in-octets?         yang:counter64
        x--ro in-unicast-pkts?  yang:counter64

```

Refer to the exhibit. Drag and drop the code from the bottom onto the box where the code is missing to complete the ncclient request that captures the operational data of the interfaces of a Cisco IOS XE device. Options may be used once, more than once, or not at all.

Select and Place:

```

from ncclient import manager
import xml.dom.minidom

USERNAME = 'cisco'
PASSWORD = 'cisco'
HOST = '10.10.20.181'

data = '''
  < [ ] xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    < [ ] >
      <statistics></statistics>
    </ [ ] >
  </ [ ] >
'''

with manager.connect(host=HOST, password=PASSWORD, port=830, username=USERNAME,
                    hostkey_verify=False, device_params={'name':'iosxe'}) as m:
    c = m.get(filter=(" [ ] ", data)).data_xml

    xml = xml.dom.minidom.parseString(c)
    xml_pretty_str = xml.toprettyxml()
    print(xml_pretty_str)

```

interfaces-state

interface-state

interfaces

xpath

subtree

interface

Correct Answer:

```

from ncclient import manager
import xml.dom.minidom

USERNAME = 'cisco'
PASSWORD = 'cisco'
HOST = '10.10.20.181'

data = '''
  < interfaces-state xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    < xpath >
      <statistics></statistics>
    </ interface >
  </ interfaces-state >
'''

with manager.connect(host=HOST, password=PASSWORD, port=830, username=USERNAME,
                    hostkey_verify=False, device_params={'name':'iosxe'}) as m:
    c = m.get(filter=(" subtree ", data)).data_xml

    xml = xml.dom.minidom.parseString(c)
    xml_pretty_str = xml.toprettyxml()
    print(xml_pretty_str)

```

interfaces-state

interface-state

interfaces

xpath

subtree

interface

### QUESTION 8

Which two features are foundations of a software-defined network instead of a traditional network? (Choose two.)

- A. control plane and data plane are tightly coupled
- B. build upon a robust software stack
- C. requires device by device-level configurations
- D. automated through expressed intent to a software controller
- E. requires significant physical hardware resources

Correct Answer: BD

In traditional networks, control plane and data plane are coupled tightly. It also requires device by device configurations and of course, it uses physical hardware resources to function. Whereas, SDN is based on a software stack. In Cisco SDNs are automated through expressed intent to a software controller.

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#### QUESTION 9

```
- name: Create VRFs as defined by local_vrfs
  ios_vrf:
    vrfs: "{{ local_vrfs }}"
    state: 
  register: addvrf
```

Refer to the exhibit. An engineer creates an Ansible playbook to configure VRF information using a local\_vrfs variable. The code must be completed so that it can be tested. Which string completes the code?

- A. present
- B. up
- C. on
- D. active

Correct Answer: A

Reference: [https://docs.ansible.com/ansible/latest/modules/ios\\_vrf\\_module.html](https://docs.ansible.com/ansible/latest/modules/ios_vrf_module.html)

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#### QUESTION 10

Setting is used for the dampening period when configuring an on-change publication for YANG-push versus OpenConfig. What are two characteristics of synchronous calls to APIs? (Choose two.)

- A. They block until a response is returned from the servers
- B. They make an application less portable, so asynchronous calls are preferred
- C. They add perceived latency to an application if data is not received
- D. Calls are limited to specific programming languages
- E. They do not block while waiting for the API to be processed

Correct Answer: AC

Reference: <https://docs.cloudmgmt.cisco.com/display/40API/Synchronous+and+Asynchronous+APIs>

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#### QUESTION 11

What is the purpose of using the Cisco SD-WAN vManage Certificate Management API?

- A. to generate a CSR
- B. to allocate resources to the certificate server
- C. to request a certificate from the certificate server
- D. to enable vManage Center

Correct Answer: A

Reference: <https://www.cisco.com/c/en/us/td/docs/routers/sdwan/configuration/sdwan-xe-gs-book/cisco-sd-wan-overlay-network-bringup.html>

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## QUESTION 12

Webhooks that are generated by Cisco DNA Center are REST calls with which properties?

- A. JSON payload delivered via PUT
- B. XML payload delivered via POST
- C. JSON payload delivered via POST
- D. XML payload delivered via PUT

Correct Answer: A

Reference: <https://developer.cisco.com/docs/dna-center/#!/using-id-values-in-rest-requests>