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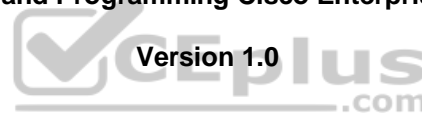
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300-435

Automating and Programming Cisco Enterprise Solutions



Sections

1. Network Programmability Foundation
2. Automate APIs and Protocols
3. Network Device Programmability
4. Cisco DNA Center
5. Cisco SD-WAN
6. Cisco Meraki

Exam A

QUESTION 1

What are two characteristics of RPC API calls? (Choose two.)

- A. They can be used only on network devices.
- B. They use only UDP for communications.
- C. Parameters can be passed to the calls.
- D. They must use SSL/TLS.
- E. They call a single function or service.

Correct Answer: AC

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

Reference: <https://pubs.opengroup.org/onlinepubs/9629399/chap6.htm>

QUESTION 2 Which two actions do Python virtual environments allow users to perform?
(Choose two.)

- A. Simplify the CI/CD pipeline when checking a project into a version control system, such as Git.
- B. Efficiently port code between different languages, such as JavaScript and Python.
- C. Run and simulate other operating systems within a development environment.
- D. Quickly create any Python environment for testing and debugging purposes.
- E. Quickly create an isolated Python environment with module dependencies.

Correct Answer: DE

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

Reference: <https://realpython.com/python-virtual-environments-a-primer/>

QUESTION 3 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

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

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

QUESTION 4



```
return_val=
{
  "alertId": "643451796765672516",
  "alertType": "appliances went down",
  "deviceMac": "e0:55:3d:6c:c1:7a",
  "deviceName": "MX65 c1:7a",
  "deviceSerial": "Q2QN-58EA-XXXX",
  "deviceUrl": "https://n143.meraki.com/Branch-1/n/.../manage/nodes/new_wired_status",
  "networkId": "L_1234567890",
  "networkName": "Branch 1",
  "networkUrl": "https://n143.meraki.com/Branch-1/n/.../manage/nodes/wired_status",
  "occuredAt": "2018-11-10T18:45:20.000000Z",
  "organizationId": "1234567",
  "organizationName": "Meraki Demo",
  "organizationUrl": "https://n143.meraki.com/o/.../manage/organization/overview",
  "sentAt": "2018-11-10T18:50:30.479982Z",
  "SharedSecret": "asdf1234",
  "version": "0.1"
}
```

Refer to the exhibit. The task is to create a Python script to display an alert message when a Meraki MX Security Appliance goes down. The exhibit shows sample data that is received. Which Python snippet displays the device name and the time at which the switch went down? A.

```
with return_val:
    print("The Switch: "+deviceName+ ",
    went down at: "+occurredAt)

print("The Switch: "+return_val.deviceName+ ", \
went down at: "+return_val.occurredAt)

print("The Switch: "+return_val['deviceName']+ ", \
went down at: "+return_val['occurredAt'])

with items as return_val:
    print("The Switch: "+items.deviceName+ ",
    went down at: "+items.occurredAt)
```



B.

C.

D.

Correct Answer: B

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

QUESTION 5

```
{
  "alertData": {
    "countNode": 1,
    "bssids": [
      "aa:bb:cc:dd:ee:ff",
      "11:22:33:44:55:66"
    ],
    "minFirstSeen": 1548512334,
    "maxLastSeen": 1548512802,
    "countIsContained": 0,
    "reason": "Seen on LAN",
    "wiredMac": "aa:bb:cc:dd:ee:f0"
  },
  "alertId": "629378047939282802",
  "alertType": "Air Marshal -Roque AP detected",
  "occuredAt": "2019-01-26T14:18:54.000000Z",
  "organizationId": "123456",
  "organizationName": "Organization",
  "organizationUrl": "https://nl.meraki.com/o/.../manage/organization/overview",
  "networkId": "L_123456789012345678",
  "networkName": "Network",
  "networkUrl": "https://nl.meraki.com/.../manage/nodes/list",
  "version": "0.1",
  "SharedSecret": "supersecret",
  "sentAt": "2019-01-26T14:35:20.442869Z",
}
```



Refer to the exhibit. The goal is to write a Python script to automatically send a message to an external messaging application when a rogue AP is detected on the network. The message should include the broadcast SSID that is in the alert. A function called "send_to_application" is created, and this is the declaration:

```
send_to_application(message)
```

The exhibit also shows the data that is received by the application and stored in the variable return_val. Which Python code completes the task? A.

```
bssids =return_val["bssids"]
for number in range(return_val["alertData"]["countNode"]):
    send_to_application ("ALERT: detected a bssid on the
    network: "+ return_val["alertData"][bssids][number])

bssids =return_val["bssids"]
for value in bssids:
    send_to_application ("ALERT: detected a bssid on the
    network: "+value)

count = return_val["alertData"]["countNode"]
bssids =return_val["alertData"][count]["bssids"]
for value in bssids:
    send_to_application ("ALERT: detected a bssid on the
    network: "+value)
```

B.

C.

```
bssids =return_val["alertData"]["bssids"]
for value in bssids:
    send_to_application ("ALERT: detected a bssid on the
network: "+value)
```

D.

Correct Answer: A

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

Explanation

For number in range value is required for the application to send the alert. Bssids are also included.

QUESTION 6

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

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

Explanation:

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.

QUESTION 7

A new project called "device_status" must be stored in a central Git repository called "device_status" with the first file named "device_status.py". The Git repository is created using the account python_programmer. Which set of commands inserts the project into Git? A.

```
git init
git add device_status.py
git commit -m "Initial Revision"
git remote add origin \
    https://git.cisco.com/python_programmer/device_status.git
git push -u origin master

git init
git remote add origin \
    https://git.cisco.com/python_programmer/device_status.git
git add device_status.py
git pull

git init
git remote add origin \
    https://git.cisco.com/python_programmer/device_status.git
git add device_status.py
git commit -m "Initial Revision"
git pull -u origin master
```

B.

C.

```
git init
git add device_status.py
git remote add python_programmer/device_status
git push
```

D.

Correct Answer: A

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

Reference: <https://help.github.com/en/github/importing-your-projects-to-github/adding-an-existing-project-to-github-using-the-command-line>

QUESTION 8 What are two characteristics of synchronous calls to APIs?

(Choose two.)

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



Correct Answer: CE

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

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

QUESTION 9

```
neighbors = ['s1', 's2', 's3']
switch = {'hostname': 'nexus', 'os': '7.0.3', 'neighbors': neighbors}
print(switch['neighbors'][1])
```

Refer to the exhibit. What is the result when running the Python scripts?

- A. s1
- B. s2
- C. s1, s2, s3
- D. s3

Correct Answer: B

Section: Network Programmability Foundation

Explanation

Explanation/Reference:

Explanation:

```
1 neighbors = ['s1', 's2', 's3']
2 switch = {'hostname': 'nexus', 'os': '7.0.3', 'neighbors': neighbors}
3 print(switch['neighbors'] [1])
```

Execute Mode, Version, Inputs & Arguments

3.7.4



Int

CommandLine Arguments

Result

CPU Time: 0.02 sec(s), Memory: 7604 kilobyte(s)

s2

QUESTION 10

```
{
  "Cisco-IOS-XR-ifmgr-cfg:interface-configurations": {
    "interface-configuration": [
      {
        "active": "act",
        "interface-name": "Loopback0",
        "description": "PRIMARY ROUTER LOOPBACK"
      }
    ]
  }
}
```

Refer to the exhibit. Which type of YANG container is described by the JSON instance provided?

- A. interface-configurations
- B. active
- C. interface-name
- D. description

Correct Answer: A

Section: Automate APIs and Protocols**Explanation****Explanation/Reference:**

Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k-r7-0/programmability/configuration/guide/b-programmability-cg-asr9000-70x/b-programmability-cg-asr9000-70x_chapter_011.html **QUESTION**

11

```
module: Cisco-IOS-XE-vlan-oper
  +--ro vlans
    +--ro vlan* [id]
      +--ro id          uint16
      +--ro name?       string
      +--ro status?     vlan-iso-xe-oper:vlan-status-type
      +--ro ports* []
        | +--ro interface?  string
        | +--ro subinterface? uint32
      +--ro vlan-interfaces* [interface]
        +--ro interface    string
        +--ro subinterface  uint32
```

Refer to the exhibit. Which NETCONF protocol operation is used to interact with the YANG model?

- A. <edit-config>
- B. <get>
- C. <get-config>
- D. <copy-config>

Correct Answer: A

Section: Automate APIs and Protocols**Explanation****Explanation/Reference:**

Reference: <https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs-r6-4/programmability/configuration/guide/b-programmability-cg-crs-64x.pdf>

QUESTION 12


```
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101">
  <get>
    <filter>
      <native xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-native">
        <ntp>
          <server xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-ntp">
            <server-list>
              <ip-address>10.11.10.65</ip-address>
            </server-list>
          <server>
        </ntp>
      </native>
      <ntp-oper-data xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-ntp-oper">
        <ntp-status-info>
          <ntp-associations>
            <peer-stratum/>
          </ntp-associations>
        </ntp-status-info>
      </ntp-oper-data>
    </filter>
  </get>
</rpc>
```

Refer to the exhibit. How many YANG models does the NETCONF **<get>** operation interact with?



- A. one
- B. two
- C. three
- D. four

Correct Answer: A

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

Explanation:

The get operation tag is at the beginning of the document. It interacted only with NTP and its related services. There get operation interacted only with one model.

QUESTION 13 Which statement describe the difference between OpenConfig and native YANG data models?

- A. Native models are designed to be independent of the underlying platform and are developed by vendors and standards bodies, such as the IETF.
- B. Native models are developed by individual developers and designed to apply configurations on platforms.
- C. OpenConfig models are developed by vendors and designed to integrate to features or configurations that are relevant only to that platform.
- D. Native models are developed by vendors and designed to integrate to features or configurations that are relevant only to that platform.

Correct Answer: A

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

Reference: <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/white-paper-c11-741518.html>

QUESTION 14

```
import requests
import sys

requests.package.urllib3.disable_warnings()

HOST = '10.1.2.3'
PORT = 9443
USER = 'user'
PASS = 'password'

def main():
    url = "https://{h}:{p}/restconf/data/Cisco-IOS-XE-native:native/hostname".format(h=HOST, p=PORT)

    headers = {'Content-Type': 'application/ ',
               'Accept': 'application/ '}
    response = requests.get(url, auth=(USER, PASS),
                           headers=headers, verify=False)
    print(response.text)

if __name__ == '__main__':
    sys.exit(main())
```



Refer to the exhibit. An engineer creates a Python script using RESTCONF to display hostname information. The code must be completed so that it can be tested. Which string completes the highlighted areas in the exhibit?

- A. yang-data+json
- B. yang +json
- C. yang.data+json
- D. json

Correct Answer: A

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

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 Which statement is true for Cisco IOS XE Software?

- A. RESTCONF supports JSON and XML and NETCONF supports XML. B. RESTCONF supports XML and NETCONF supports JSON and XML.
- C. RESTCONF and NETCONF supports JSON and XML.
- D. RESTCONF supports XML and NETCONF supports JSON.

Correct Answer: A

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/169/b_169_programmability_cg/restconf_programmable_interface.html

QUESTION 16 Which **curl** command is used to update the SNMP community of network ID

"1234567" to read-only? A.

```
curl -L -H 'X-Cisco-Meraki-API-Key: <key>' \
-H 'Content-Type: application/json' \
-X PUT --data-binary '{ \
  "access": "users", \
    "communityString": "readonly"}' \
'https://api.meraki.com/api/v0/networks/1234567/snmpSettings'
```

```
curl -L -H 'X-Cisco-Meraki-API-Key: <key>' \
-H 'Content-Type: application/json' \
-X PUT --data-binary '{ \
  "access": "community", \
    "communityString": "readonly"}' \
'https://api.meraki.com/api/v0/networks/1234567/snmpSettings'
```

```
curl -L -H 'X-Cisco-Meraki-API-Key: <key>' \
-H 'Content-Type: application/json' \
-X PUT --data-binary '{ \
  "access": "users", \
    "username": "snmp", \
    "passphrase": "readonly"}' \
'https://api.meraki.com/api/v0/networks/1234567/snmpSettings'
```

```
curl -L -H 'X-Cisco-Meraki-API-Key: <key>' \
-H 'Content-Type: application/json' \
-X POST --data-binary '{ \
  "access": "community", \
    "communityString": "readonly"}' \
'https://api.meraki.com/api/v0/networks/1234567/snmpSettings'
```



B.

C.

D.

Correct Answer: B

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

Explanation:

PUT is used to update the snmp network ID. The access has to be community and not users. Therefore, option B is correct.

QUESTION 17

```
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
```

Refer to the exhibit. Which NETCONF statement type is represented by **+--rw address* [ip]**?

- A. list
- B. leaf-list
- C. container
- D. submodule

Correct Answer: A

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

Explanation:

Symbols after data node names: "?" means an optional node, "!" means a presence container, and "*" denotes a list and leaf-list.

QUESTION 18 The automation engineer must replace device configuration using RESTCONF. How is this configured using the Python library **Requests**?

- A. **delete()**
- B. **post()**
- C. **put()**
- D. **patch()**

Correct Answer: C

Section: Automate APIs and Protocols

Explanation

Explanation/Reference:

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 19 Which two Netmiko methods are used to configure a device? (Choose two.)

- A. `send_config()`
- B. `send_control_from_file()`
- C. `send_config_set()`
- D. `send_command()`
- E. `send_config_from_file()`

Correct Answer: CE

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: <https://pynet.twb-tech.com/blog/automation/netmiko.html>

QUESTION 20

```
- 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

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: https://docs.ansible.com/ansible/latest/modules/ios_vrf_module.html

QUESTION 21

DRAG DROP

Drag and drop the commands to the Ansible playbook that applies configuration to an interface on a Cisco IOS XE device. Not all options are used.

Select and Place:

Answer Area

ioscmd	interface
parents	iosxe
iosconfig	ios_config

```
- name: configure interface settings
  :
    lines:
      -ip address 172.31.1.1 255.255.255.0
      -no shutdown
  : interface GigabitEthernet1/0
```

Correct Answer:

Answer Area

ioscmd	interface
parents	iosxe
iosconfig	ios_config

```
- name: configure interface settings
  ios_config:
    lines:
      -ip address 172.31.1.1 255.255.255.0
      -no shutdown
  parents: interface GigabitEthernet1/0
```

Section: Network Device Programmability
Explanation

Explanation/Reference:

Reference: <http://imxing.cn/?p=464>

QUESTION 22

```
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <establish-subscription
    xmlns="urn:ietf:params:xml:ns:yang:ietf-event-notifications"
    xmlns:yp="urn:ietf:params:xml:ns:yang:ietf-yang-push">
    <stream>yp:yang-push</stream>
    <yp:xpath-filter>/mdt-oper:mdt-oper-data/mdt-subscriptions</yp:xpath-filter>
    <yp: >
  </establish-subscription>
</rpc>
```

Refer to the exhibit. Which XML tag completes this NETCONF telemetry subscription with a Cisco IOS XE device?

A. crontab

- B. cadence
- C. frequency
- D. period

Correct Answer: D

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/1610/b_1610_programmability_cg/model_driven_telemetry.html

QUESTION 23 Which two statements are benefits of YANG-push telemetry data over traditional data collection methods?
(Choose two.)

- A. The subscription requests use less bandwidth than SNMP polls.
- B. It uses UDP rather than TCP.
- C. You can precisely define data subscriptions.
- D. It scales better than SNMP.
- E. It is supported on more devices than SNMP.

Correct Answer: BC

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: <https://tools.ietf.org/id/draft-song-ntf-01.html>

QUESTION 24

FILL BLANK

Fill in the blank to complete the statement.



is a solution for automating the configuration of a device when it is first powered on, using DHCP and TFTP.

Correct Answer: Zero touch provisioning (ZTP)

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: <https://developer.cisco.com/docs/ios-xe/#!/day-zero-provisioning-quick-start-guide>

QUESTION 25 Which tag is required when establishing a YANG-push subscription with a Cisco IOS XE device?

- A. <yp:period>
- B. <yp:subscription-result>
- C. <yp:subscription-id>
- D. <yp:xpath-filter>

Correct Answer: D

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/1612/b_1612_programmability_cg/model_driven_telemetry.html

QUESTION 26

```
from device_info import ios_xel
from ncclient import manager
import xmltodict

netconf_filter = open('filter-ietf-interfaces.xml').read()

if __name__ == '__main__':
    with manager.connect(host=ios_xel["address"],
                        port=ios_xel["port"],
                        username=ios_xel["username"],
                        password=ios_xel["password"],
                        hostkey_verify=False) as m:

        netconf_reply = m.get(netconf_filter)

        intf_details = xmltodict.parse(netconf_reply.xml)["rpc-reply"]["data"]
        intf_config = intf_details["interfaces"]["interface"]
        intf_info = intf_details["interfaces-state"]["interface"]

        print("")
        print("Interface Details:")
        print(" Name: {}".format(   ["name"]))
        print(" Description: {}".format(intf_config["description"]))
        print(" Type: {}".format(intf_config["type"]["#text"]))
        print(" MAC Address: {}".format(intf_info["phys-address"]))
        print(" Packet Input: {}".format(intf_info["statistics"]["in-unicast-pkts"]))
        print(" Packet Output: {}".format(intf_info["statistics"]["out-unicast-pkts"]))
```

```
<filter>
  <interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    <interface>
      <name>GigabitEthernet2</name>
    </interface>
  </interfaces>
  <interfaces-state xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    <interface>
      <name>GigabitEthernet2</name>
    </interface>
  </interfaces-state>
</filter>
```

Refer to the exhibits. An engineer creates a Python scripts using ncclient to display interface information. The code must be completed so that it can be tested. Which expression completes the highlighted section in the format call?

- A. intf_info
- B. intf_config
- C. intf_get
- D. intf_config[0]

Correct Answer: A

Section: Network Device Programmability

Explanation

Explanation/Reference:

Explanation:

The highlighted format cell for print is for the host.

Reference: https://github.com/CiscoDevNet/dnac-python-path-trace/blob/master/path_trace.py

QUESTION 27

```
from ncclient import manager
with manager.connect(
    host='10.0.0.1',
    port=12022,
    username='cisco',
    password='cisco',
    hostkey_verify=False,
    allow_agent=False,
    look_for_keys=False,
    device_params={'name': 'iosxe'},
) as m:
```



Refer to the exhibit. What is the correct ncclient method to use to collect the running configuration of a Cisco IOS XE device that uses NETCONF?

- A. config=m.copy_config(source='running')
- B. config=m.get(source='running')
- C. config=m.collect_config(source='running')
- D. config=m.get_config(source='running')

Correct Answer: A

Section: Network Device Programmability

Explanation

Explanation/Reference:

Reference: <https://ncclient.readthedocs.io/en/latest/>

QUESTION 28

FILL BLANK

Fill in the blanks to complete this API request against the Cisco SD_WAN vManage Statistics API, which specified a deviceId of 260faff9-2d31-4312-cf96-143b46db0211, a local-color of biz-internet, and a remote-color of gold.

`https://vmanage-ip-address:8443/dataservice/device/app-route/statistics?` `260faff9-2d31-4312-`
`cf96-143b46db0211` `biz-internet` `gold`

Correct Answer: deviceId=, local-color, remote-color

Section: Network Device Programmability

Explanation**Explanation/Reference:**

Reference:

https://sdwan-docs.cisco.com/Product_Documentation/Command_Reference/Command_Reference/vManage_REST_APIs/Real-Time_Monitoring_APIs/Application-Aware_Routing#Statistics**QUESTION 29**

What does the command **boot ipxe forever switch 1** perform when executed on a Cisco IOS XE device?

- A. It continuously sends DHCP requests for iPXE until the device boots with an image.
- B. It continuously sends DNS requests for iPXE until the device restarts.
- C. It continuously sends DNS requests for iPXE until the device boots with an image.
- D. It continuously sends DHCP requests for iPXE until the device restarts.

Correct Answer: A**Section:** Network Device Programmability**Explanation****Explanation/Reference:**Reference: https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3850/software/release/16-5/configuration_guide/prog/b_165_prog_3850_cg/ipxe.html

QUESTION 30 The Cisco DNA Center Sites API must be used to add a device to a site, but only the site name is available. Which API call must be used to retrieve the site identifier so that the device can be properly added to the network?

- A. **/dna/intent/api/site/siteld**
- B. **/dna/intent/api/site**
- C. **/dna/intent/api/v1/site**
- D. **/dna/intent/api/v1/site/siteName**

Correct Answer: C**Section:** Cisco DNA Center**Explanation****Explanation/Reference:**Reference: <https://community.cisco.com/t5/networking-blogs/welcome-to-the-dna-center-api-support-community/ba-p/3663632>**QUESTION 31**

When a Grafana dashboard is built to receive network events from Cisco DNA Center, which integration bundle is enabled to send notifications?

- A. Basic ITSM CMDB Synchronization
- B. DNA Center Rest API
- C. Network Events for REST API Endpoint
- D. Network Issue Monitor and Enrichment for ITSM

Correct Answer: B**Section:** Cisco DNA Center**Explanation****Explanation/Reference:**Reference: https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-and-management/dna-center/1-3/admin_guide/b_cisco_dna_center_admin_guide_1_3/b_dnac_admin_guide_1_2_10_chapter_010.html

QUESTION 32 Which field must be completed in Cisco DNA Center when a network discovery is initiated?

- A. SNMP read community string
- B. Enable password
- C. NETCONF port
- D. Discovery type

Correct Answer: D

Section: Cisco DNA Center

Explanation

Explanation/Reference:

Reference: https://www.cisco.com/c/dam/en_us/training-events/product-training/dnac-13/DNAC13_AddingDevicesByUsingDiscovery.pdf (p.26)

QUESTION 33 Webhook 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

Section: Cisco DNA Center

Explanation

Explanation/Reference:

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

QUESTION 34

Which two API calls are used to trigger a device configuration sync in Cisco DNA Center? (Choose two.)

- A. **PUT /dna/intent/api/v1/network-device**
- B. **PUT /dna/intent/api/v1/network-device/sync-all**
- C. **PUT /dna/intent/api/v1/network-device/{networkDeviceId}/sync**
- D. **PUT /dna/intent/api/v1/network-device/sync**
- E. **POST /dna/intent/api/v1/network-device/{networkDeviceId}/sync**



Correct Answer: CE

Section: Cisco DNA Center

Explanation

Explanation/Reference:

Reference: <https://github.com/CiscoDevNet/DNAC-JAVA-SDK/tree/master/DnacAppApi>

QUESTION 35

DRAG DROP

A Cisco DNA Center script must be written to retrieve a list of interfaces on a switch. Drag and drop the API calls that are needed to return the list of interfaces using the Command Running APIs from the left into the correct sequence on the right.

Select and Place:

Answer Area

Get task by ID.	run 1
Get file by ID.	run 2
Run read-only commands on devices.	run 3
Get device list.	run 4

Correct Answer:

Answer Area

Get task by ID.	Run read-only commands on devices.
Get file by ID.	Get device list.
Run read-only commands on devices.	Get file by ID.
Get device list.	Get task by ID.

Section: Cisco DNA Center
Explanation

Explanation/Reference:

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

QUESTION 36

A network administrator must troubleshoot a network issue using Cisco DNA Center. Which API request helps to determine issue details, impacted hosts, or suggested actions for the resolution?

- A. `/dna/intent/v1/issues`
- B. `/dna/intent/api/v1/issues`
- C. `/dna/intent/v1/issue-enrichment-details`

D. /dna/api/v1/client-health/issues

Correct Answer: B

Section: Cisco DNA Center

Explanation

Explanation/Reference:

Explanation

The *intent/api/v1/issues* request determine issue details, hosts impacted and suggests actions for resolution.

QUESTION 37 Which two network assurance features are provided by the Cisco DNA Center API? (Choose two.)

- A. site health
- B. license compliance health
- C. client health
- D. Cisco APIC appliance health
- E. Cisco DNA Center appliance health

Correct Answer: AC

Section: Cisco DNA Center

Explanation

Explanation/Reference:

Reference: https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-and-management/dna-center/1-2/user_guide/b_dnac_ug_1_2/b_dnac_ug_1_2_chapter_010011.html

QUESTION 38 In which direction does the Cisco DNA Center Intent API communicate?

- A. westbound
- B. eastbound
- C. northbound
- D. southbound



Correct Answer: C

Section: Cisco DNA Center

Explanation

Explanation/Reference:

Explanation:

The Intent API is a Northbound REST API that exposes specific capabilities of the Cisco DNA Center platform. The Intent API provides policy-based abstraction of business intent, allowing focus on an outcome rather than struggling with individual mechanisms steps. The RESTful Cisco DNA Center Intent API uses HTTPS verbs (GET, POST, PUT, and DELETE) with JSON structures to discover and control the network.

Reference: <https://developer.cisco.com/docs/dna-center/#!/cisco-dna-center-platform-overview/intent-api-northbound>

QUESTION 39

Which two features are characteristics of software-defined networks when compared to traditional infrastructure? (Choose two.)

- A. configured box-by-box
- B. changed manually
- C. use overlay networks
- D. designed to change
- E. require software development experience to manage

Correct Answer: CD

Section: Cisco DNA Center

Explanation

Explanation/Reference:

Reference: https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data_Center/VMDC/SDN/SDN.html

QUESTION 40

```

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

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Explanation:

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

QUESTION 41

FILL BLANK

Information about a rebooted device needs to be displayed with an ID of 260faff9-2d31-4312-cf96-143b46db0211 using the Cisco SD-WAN vManage Administration APIs. The API documentation states that deviceId is a required request parameter. Fill in the blank to create the REST call.

<https://vmanage-ip-address:8443/dataservice/device/action/reboot> 260faff9-2d31-4312-cf96-143b46db0211

Correct Answer: “deviceId”:

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Reference: https://sdwan-docs.cisco.com/Product_Documentation/Command_Reference/Command_Reference/vManage_REST_APIs/Software_Maintenance_APIs/Reboot_Device

QUESTION 42 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

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

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

QUESTION 43 Which action allows for creating a Python script to pull inventory for Cisco SD-WAN Viptela devices using the Viptela library in the code?

- A. from urllib.request import Viptela
- B. from viptela.devices import Viptela
- C. from viptela.viptela import Viptela
- D. from viptela.library import Viptela

Correct Answer: B

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Explanation:

The viptela.devices import viptela can be used to put inventory from Cisco SD WAN viptela devices.



QUESTION 44 What is primary purpose of using the Cisco SD-WAN vManage Certificate Management API?

- A. to securely deploy vManage
- B. to report an issue to Cisco TAC
- C. to install signed certificates
- D. to contact Enterprise Certificate Authority

Correct Answer: A

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Reference: https://sdwan-docs.cisco.com/Product_Documentation/vManage_Help/Release_17.1/Configuration/Certificates

QUESTION 45

FILL BLANK

Fill in the blank to complete the URL for the Cisco SD-WAN API that retrieves a list of users that are logged into a device.

http://<vmanage-ip-address>/dataservice/device/ deviceid=<deviceid>>

Correct Answer: interface?

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Explanation: <https://vmanage-ip-address/dataservice/device/interface?deviceId=deviceId>

Reference: https://sdwan-docs.cisco.com/Product_Documentation/Command_Reference/Command_Reference/vManage_REST_APIs/Real-Time_Monitoring_APIs/Interface

QUESTION 46 Which two API calls must be issued to attach a device template in Cisco SD-WAN?

(Choose two.)

- A. “monitor device action status” GET API request with the device ID to display the status of the attach action
- B. “monitor device action status” GET API request with the process ID to display the status of the attach action
- C. PUT call to initiate the attach action
- D. POST call to initiate the attach action
- E. GET call to initiate the attach action

Correct Answer: BD

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Reference: https://sdwan-docs.cisco.com/Product_Documentation/Command_Reference/Command_Reference/vManage_REST_APIs/Device_Configuration_APIs/Device_Templates

QUESTION 47 During a network outage, a network administrator used the Cisco SD-WAN vManage Troubleshooting Dashboard APIs to troubleshoot the cause of the issue. Which detail is captured during troubleshooting with these APIs?

- A. VPN health
- B. public cloud resources
- C. connections summary
- D. OMP connection health

Correct Answer: C

Section: Cisco SD-WAN

Explanation

**Explanation/Reference:**

Reference: https://sdwan-docs.cisco.com/Product_Documentation/Command_Reference/Command_Reference/vManage_REST_APIs/Troubleshooting_APIs/Dashboard

QUESTION 48

```
{
  'data':
  [
    {
      'availableVersions': []
      'chassisNumber': '4af9e049-0052-47e9-83af-81a5825f7ffe',
      'deviceIP': '4.4.4.60',
      'deviceModel': 'vedge-cloud',
      'deviceType': 'vedge',
      'host-name': 'vedge01',
      ...
    }
  ]
}
```

Refer to the exhibit. A Python script has been created that calls the Cisco SD-WAN vManage Device Inventory API to get the list of vEdges. The JSON data that returns to a Python dictionary has been converted and assigned to a variable named “d”. A portion of the JSON is shown in the exhibit. Which code will complete the expression **hostname=** to access the hostname?

- A. `d["data"][0]["host-name"]`
- B. `d[data][0][host-name]`
- C. `d("data")[0]("host-name")`
- D. `d["host-name"]["data"]{ "0" }`

Correct Answer: A

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Explanation:

The double-quotations are a necessary syntax of Python. And for the json portion doesn't use parentheses. It always uses brackets. `d["data"][0]["host-name"]` is the only logical answer.

QUESTION 49

FILL BLANK

Fill in the blank to complete the URL for an API call to Cisco SD-WAN to display the history of the Bidirectional Forwarding Detection sessions that run on a vEdge router.

`https://<vmanage-ip-address>/dataservice/device/ deviceid=<deviceid>`

Correct Answer: `bfd/synced/sessions?`

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

Explanation: `https://vmanage-ip-`

`address/dataservice/device/bfd/synced/sessions?deviceId=deviceId`

Reference: https://sdwan-docs.cisco.com/Product_Documentation/Command_Reference/Command_Reference/vManage_REST_APIs/Real-Time_Monitoring_APIs/BFD

QUESTION 50

`"https://vmanage-ip-address:8443/dataservice/template/policy/vsmart/activate/{policyId}"`

Refer to the exhibit. A Python script must be created to deactivate vSmart Policy Cisco SD-WAN vManage Configuration APIs. The documentation states the URL is as shown in the exhibit for this REST call using POST, and that **"policyId"** is a required request parameter. Which line of Python code makes this call, assuming the variable **"s"** is a valid Requests session object and the variable **"policy-id"** is the policyId?

- A. `s.port('https://vmanage:8443/dataservice/template/policy/vsmart/activate?policyId=%s' % policy_id)`
- B. `s.port('https://vmanage:8443/dataservice/template/policy/vsmart/activate/%s' % policy_id)`
- C. `s.port('https://vmanage:8443/dataservice/template/policy/vsmart/activate&policyId=%s' % policy_id)`
- D. `s.port('https://vmanage:8443/dataservice/template/policy/vsmart/activate/', data = {'policyId': policy_id})`

Correct Answer: A

Section: Cisco SD-WAN

Explanation

Explanation/Reference:

QUESTION 51

A configuration has been made to add to every switch port a new port description. The script worked initially, but after a few seconds, an HTTP 429 status code was received. What causes this error message from the Meraki cloud?

- A. The wrong API key is used to query the data.
- B. The rate limit of the Cisco Meraki API is exceeded.
- C. The API key has expired.

D. The device goes offline while you poll the API dashboard.

Correct Answer: B

Section: Cisco Meraki

Explanation

Explanation/Reference:

Reference: <https://community.meraki.com/t5/Developers-APIs/my-API-Limit-exceed-and-key-is-not-working/td-p/64034>

QUESTION 52 Which Python snippet receives a Meraki

webhook request? A.

```
@app.route('/mynet/webhook', methods=['PUT'])
@app.accept_body(WebhookSchema)
def receive_webhook(**kwargs):
    send_sms_alert(kwargs['alertType'])

@app.route('/mynet/webhook', methods=['GET'])
@app.accept_body(WebhookSchema)
def receive_webhook(**kwargs):
    send_sms_alert(kwargs['alertType'])

@app.route('/mynet/webhook', methods=['PATCH'])
@app.accept_body(WebhookSchema)
def receive_webhook(**kwargs):
    send_sms_alert(kwargs['alertType'])

@app.route('/mynet/webhook', methods=['POST'])
@app.accept_body(WebhookSchema)
def receive_webhook(**kwargs):
    send_sms_alert(kwargs['alertType'])
```



B. C.

D.

Correct Answer: D

Section: Cisco Meraki

Explanation

Explanation/Reference:

Reference: <https://github.com/CiscoDevNet/dnav3-code/blob/master/intro-meraki/meraki-07-webhooks/webhookreceiver.py>

QUESTION 53 Which two types of solution are built with the Meraki Location Scanning API? (Choose two.)

A. networking automation

B. mapping

- C. guest Wi-Fi
- D. Sense
- E. wayfinder

Correct Answer: BE

Section: Cisco Meraki

Explanation

Explanation/Reference:

Reference: <https://developer.cisco.com/meraki/build/wayfinding-mapwize/>

QUESTION 54

Which URI with the request body of **Request body: {"name":"Test","organizationId":<org_id>,"type":"appliance"}** creates a new Meraki network called "Test", when using APIs?

- A. **PUT** https://api.meraki.com/api/v0/organizations/<org_id>/networks
- B. **POST** <https://api.meraki.com/api/v0/networks>
- C. **POST** https://api.meraki.com/api/v0/organizations/<org_id>/networks/<net_id>
- D. **POST** https://api.meraki.com/api/v0/organizations/<org_id>/networks

Correct Answer: D

Section: Cisco Meraki

Explanation

Explanation/Reference:

Reference: https://documentation.meraki.com/zGeneral_Administration/Other_Topics/The_Cisco_Meraki_Dashboard_API

QUESTION 55 With the MV Sense API, which REST endpoint provides LUX level?

- A. [/merakimv/XXXX-XXXX-XXXX/light](#)
- B. [/merakimv/XXXX-XXXX-XXXX/raw_detections](#)
- C. [/merakimv/XXXX-XXXX-XXXX/0](#)
- D. [/merakimv/XXXX-XXXX-XXXX/zones](#)

Correct Answer: A

Section: Cisco Meraki

Explanation

Explanation/Reference:

Reference: <https://developer.cisco.com/meraki/mv-sense/#!mqtt/lux-light-levels>

QUESTION 56 Which REST endpoint is used to create a Cisco Meraki network?

- A. **POST** [/organizations/{organizationId}/networks](#)
- B. **PATCH** [/networks{networkId}](#)
- C. **PUT** [/organizations/{organizationId}/networks](#)
- D. **POST** [/networks{networkId}](#)

Correct Answer: A

Section: Cisco Meraki

Explanation

Explanation/Reference:

Reference: https://documentation.meraki.com/zGeneral_Administration/Other_Topics/The_Cisco_Meraki_Dashboard_API



QUESTION 57 Which URI removes an administrator from a Meraki network using an API call?

- A. **DELETE** https://api.meraki.com/api/v0/organizations/<org_id>/admins/<admin_id>
- B. **DELETE** https://api.meraki.com/api/v0/admins/<admin_id>
- C. **PUT** https://api.meraki.com/api/v0/organizations/<org_id>/admins/?delete=<admin_id>
- D. **DELETE** https://api.meraki.com/api/v0/organizations/<org_id>/admins/<user>

Correct Answer: A

Section: Cisco Meraki

Explanation

Explanation/Reference:

Explanation:

NOTE: The options are fundamentally wrong. The answer is correct. It should be api.meraki.com/api/v0/organizations/

Reference: https://documentation.meraki.com/zGeneral_Administration/Other_Topics/The_Cisco_Meraki_Dashboard_API (see delete an administrator)

QUESTION 58

```
{
  "id": "L_123456",
  "organizationId": 1357924,
  "name": "Long Island Office",
  "timeZone": "America/Los_Angeles",
  "tags": "tag1 tag2",
  "type": "combined",
  "disableMyMerakiCom": false
}
```



Refer to the exhibit. Which two parameters are mandatory when the Cisco Meraki API is used to create a network? (Choose two.)

- A. timezone
- B. disableMyMerakiCom
- C. type
- D. tags
- E. organizationId

Correct Answer: AE

Section: Cisco Meraki

Explanation

Explanation/Reference:

Explanation:

Without organizationID and timezone, you will not be able to create a network. Organizationid is necessary for the connection. Timezone is necessary for the network id.

QUESTION 59 Which HTTP request is valid to create a new wireless network called "Demo Wireless Network" in the organization "QASD-

```
POST /organizations/QASD-EROA-MKAW/networks
Host: https://api.meraki.com/api/v0
```

```
{
  "name": "Demo Wireless Network",
  "organizationId": "QASD-EROA-MKAW",
  "type": "wireless"
}
```

EROA-MKAW"? A.

```
POST /organizations/networks
Host: https://api.meraki.com/api/v0
```

```
{
  "name": "Demo Wireless Network",
  "organizationId": "QASD-EROA-MKAW",
  "type": "combined"
}
```

```
POST /organizations/networks
Host: https://api.meraki.com/api/v0
```

```
{
  "name": "Demo Wireless Network",
  "organizationId": "QASD-EROA-MKAW",
  "type": "wireless"
}
```

```
POST /organizations/QASD-EROA-MKAW/networks
Host: https://api.meraki.com/api/v0
```

```
{
  "name": "Demo Wireless Network",
  "type": "combined"
}
```

B. C.

D.



Correct Answer: A
Section: Cisco Meraki
Explanation

Explanation/Reference:

Reference: https://documentation.meraki.com/zGeneral_Administration/Other_Topics/The_Cisco_Meraki_Dashboard_API

