

## DevNet Associate (DEVASC 200-901)

### 200-901 DEVASC

This exam tests your knowledge and skills related to implementing core enterprise network technologies, including:

- Understanding and using APIs
- Cisco platforms and development
- Application development and security
- Infrastructure and automation

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1. Which two statements describe the advantages of using a version control system? (Choose two.)
- a. It allows for branching and merging so that different tasks are worked on in isolation before they are merged into a feature or master branch.
  - b. It provides tooling to automate application builds and infrastructure provisioning.
  - c. It allows multiple engineers to work against the same code and configuration files and manage differences and conflicts.
  - d. It provides a system to track User Stories and allocate to backlogs.
  - e. It allows developers to write effective unit tests.

2. Which product provides network controller-level management features?

- a. Cisco ISE
- b. Cisco DNA Center
- c. Cisco UCS Manager
- d. Cisco NX-OS

3. Refer to the exhibit.

```
docker run -p 3000:5000 f877cbf2ff33
```

A process on the host wants to access the service running inside this Docker container. Which port is used to make a connection?

- a. only outbound connections between 3000 and 5000 are possible
  - b. port 3000
  - c. any port between 3000 and 5000
  - d. port 5000
4. Which description of a default gateway is true?
- a. It is a security feature that denies certain traffic.
  - b. It is a device that receives IP packets that have no explicit next-hop in the routing table.
  - c. It is a feature that translates between public and private addresses.
  - d. It is a device that receives Layer 2 frames with an unknown destination address.
5. Which two statements are true about Cisco UCS Manager, Cisco UCS Director, or Cisco Intersight APIs? (Choose two.)
- a. UCS Manager uses JSON to encode API interactions and utilizes Base64-encoded credentials in the HTTP header for authentication.
  - b. UCS Director API interactions can be XML- or JSON-encoded and require an API key in the HTTP header for authentication.
  - c. Cisco Intersight uses XML to encode API interactions and requires an API key pair for authentication.
  - d. UCS Manager API interactions are XML-encoded and require a cookie in the method for authentication.
  - e. Cisco Intersight API interactions can be encoded in XML or JSON and require an API key in the HTTP header for authentication.
6. On which port does NETCONF operate by default?
- a. 23
  - b. 443
  - c. 822
  - d. 830

7. Which device is a system that monitors and controls incoming and outgoing network traffic based on predetermined security roles?
- a. Router
  - b. Switch
  - c. load balancer
  - d. firewall

8. Refer to the exhibit.

```
json_string = """
{
    "researcher": {
        "name": "Ford Perfect",
        "species": "Betelgeusian",
        "relatives": [
            {
                "name": "Zaphod Beeblebrox",
                "species": "Betelgeusian"
            }
        ]
    }
}
"""

my_json = json.loads(json_string)
```

Which Python data structure does my\_json contain?

- a. Map
  - b. List
  - c. Json
  - d. Dict
9. When a Cisco IOS XE networking device is configured using RESTCONF, what is the default data-encoding method?
- a. YANG
  - b. YAML
  - c. XML
  - d. x-form-encoding
10. Which two elements are foundational of DevOps? (Choose two.)
- a. organizing cross-functional teams over organizational silos
  - b. designing applications as microservices
  - c. encouraging containers for the deployment of applications
  - d. automating over documenting
  - e. optimizing the cost of infrastructures

11. In DNS, which record specifies an alias that refers to another name that ultimately resolves to an IP address?

- a. CNAME
- b. NS
- c. AAA
- d. SOA

12. Drag and drop the Docker file instructions from the left onto the correct descriptions on the right. Not all options are used.

Select and Place:

FROM ubuntu:12.04	informs Docker that the container listens on the specified network port(s) at runtime
VOLUME["/var/www","/var/log/apache2","/etc/apache2"]	creates a mount point with the specified name
RUN apt-get update && apt-get install -y -force-yes apache2	configures a container that runs as an executable
ENTRYPOINT["/usr/sbin/apache2ctl","-D","FOREGROUND"]	must be the first instruction in the Docker file
EXPOSE 1521	

Correct Answer:

	EXPOSE 1521
	RUN apt-get update && apt-get install -y -force-yes apache2
	VOLUME["/var/www","/var/log/apache2","/etc/apache2"]
ENTRYPOINT["/usr/sbin/apache2ctl","-D","FOREGROUND"]	FROM ubuntu:12.04

13. Refer to the exhibit.

```
<books>
  <science>
    <biology>10.00</biology>
    <geology>9.00</geology>
    <chemistry>8.00</chemistry>
  </science>
  <math>
    <calculus>20.00</calculus>
    <algebra>12.00</algebra>
  </math>
</books>
```

Which JSON is equivalent to the XML-encoded data?

- a.

A.

```
[ {  
  "books": {  
    "science": {  
      "biology": "10.00",  
      "geology": "9.00",  
      "chemistry": "8.00"  
    },  
    "math": {  
      "calculus": "20.00",  
      "algebra": "12.00"  
    }  
  }  
}
```

```
{  
  "books": [  
    "science": {  
      "biology": "10.00",  
      "geology": "9.00",  
      "chemistry": "8.00"  
    },  
    "math": {  
      "calculus": "20.00",  
      "algebra": "12.00"  
    }  
  ]  
}
```

B.

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```

{
  "books": [
    "science", {
      "biology": "10.00",
      "geology": "9.00",
      "chemistry": "8.00"
    },
    "math", {
      "calculus": "20.00",
      "algebra": "12.00"
    }
  ]
}

```

c. }

D.

Correct Answer: C

14. Which statement describes the benefit of using functions in programming?

- a. Functions ensure that a developer understands the inner logic contained before using them as part of a script or application.
- b. Functions create the implementation of secret and encrypted algorithms.
- c. Functions allow problems to be split into simpler, smaller groups, and reduce code repetition, which makes the code easier to read.
- d. Functions store mutable values within a script or application.

15. FILL BLANK

Fill in the blanks to complete the Python script to request a service ticket using the APIC-EM REST API for the user "devnetuser".

```

import requests import json
controller = 'devnetapi.cisco.com/sandbox/apic_em'
url = "https://" + controller + "api/va/ticket"
payload = {'username': '_____', 'password': '370940885'} header = {'Content-type': 'application.json'}
response = _____.post(url, data=json.dumps(payload), \ headers= _____,
verify=False) r_json = response.json() print(r_json)
ticket = r_json["response"]["serviceTicket"] print(ticket)

```

Answer: devnetuser requests header

16. Which platform is run directly using a hypervisor?

- a. bare metal systems
- b. virtual machines
- c. containers
- d. applications

17. What are two advantages of version control software? (Choose two.)

- a. It supports tracking and comparison of changes in binary format files.
- b. It allows new team members to access the current code and history.
- c. It supports comparisons between revisions of source code files.
- d. It provides wiki collaboration software for documentation.
- e. It allows old versions of packaged applications to be hosted on the Internet.

18. Refer to the exhibit.

```
$ diff -u5 fish.py cat.py
--- fish.py      2020-01-02 09:41:02.840000000 +0100
+++ cat.py      2020-01-02 09:41:06.8859999800 +0100
@@ -160,11 +160,12 @@

    @single_request_timeout.setter
    def single_request_timeout(self, value):
        """The timeout (seconds) for a single HTTP REST API request."""
        check_type(value, int, optional=True)
-       assert value is None or value > 0
+       if value is not None and value <= 0:
+           raise ValueError("single_request_timeout must be positive integer")
        self._single_request_timeout = value

    @property
    def wait_on_rate_limit(self)
        """Automatic rate-limit handling.
```

The output of a unified diff when comparing two versions of a Python script is shown. Which two "single\_request\_timeout()" functions are defined in fish.py and cat.py? (Choose two.)

A.

file: cat.py

```
@single_request_timeout.setter
def single_request_timeout(self, value):
    """The timeout (seconds) for a single HTTP REST API request."""
    check_type(value, int, optional=True)
    assert value is None or value > 0
    if value is not None and Value <= 0:
        raise ValueError("single_request_timeout must be positive")
    self._single_request_timeout = value
```

file: fish.py

```
@single_request_timeout.setter
def single_request_timeout(self, value):
    """The timeout (seconds) for a single HTTP REST API request."""
    check_type(value, int, optional=True)
    assert value is None or value > 0
    self._single_request_timeout = value
```

B.

file: cat.py

```
@single_request_timeout.setter
def single_request_timeout(self, value):
    """The timeout (seconds) for a single HTTP REST API request."""
    check_type(value, int, optional=True)
    if value is not None and Value <= 0:
        raise ValueError("single_request_timeout must be positive")
    self._single_request_timeout = value
```

file: fish.py

```
@single_request_timeout.setter
def single_request_timeout(self, value):
    """The timeout (seconds) for a single HTTP REST API request."""
    check_type(value, int, optional=True)
    self._single_request_timeout = value
```

C.

D.

Correct Answer: AB

19. What are two benefits of managing network configuration via APIs? (Choose two.)

- a. more security due to locking out manual device configuration
- b. configuration on devices becomes less complex
- c. eliminates the need of legacy management protocols like SNMP
- d. reduction in network changes performed manually
- e. increased scalability and consistency of network changes

20. Refer to the exhibit.

```
def process_devices(dnac, token):  
    url = "https://{}/api/v1/network-device".format(dnac['host'])  
    headers["x-auth-token"] = token  
    response = requests.get(url, headers=headers, verify=False)  
    data = response.json()  
    for item in data['response']:  
        print(item["hostname"], " ", item["managementIpAddress"])
```

What is the function of the Python script?

- a. Loop through the returned of network devices and, for each device, print the device name and management IP address.
- b. Count and print the total number of available devices.
- c. For each device that is returned, display the device type and associated management IP address.
- d. Iterate over a list of network devices and write all device names and management IP addresses to an output file.

21. DRAG DROP

Drag and drop the network component names from the left onto the correct descriptions on the right. Not all options are used.

Select and Place:

DNS server	contains a database of public IP addresses and their associated hostnames and often resolves or translates those names to IP addresses, as requested
firewall	enforces a set of rules about which data packets are allowed to enter or leave a network
reverse proxy	distributes network and application traffic across different servers
load balancer	retrieves resources on behalf of a client from one or more servers, then returns resources to the client, thus appearing as if they originated from the service itself
NAT gateway	

Correct Answer:

DNS server	DNS server
firewall	firewall
reverse proxy	load balancer
load balancer	reverse proxy
NAT gateway	

22. FILL BLANK

Fill in the blanks to complete the cURL command that invokes a RESTful API to retrieve a resource in JSON format using OAuth.

```
curl -X _____ -H " _____: application/json" \ -H " _____: Bearer AbCdEf123456" https://localhost/api/myresource
```

Answer

GET

Accept

Authorization

23. Which model-driven programmability protocol does Cisco IOS XE Software support?

- a. gNMI
- b. SOAP
- c. SSH
- d. CORBA

24. Which two types of NAT are used in a network? (Choose two.)

- a. routed NAT
- b. static NAT
- c. multicast NAT
- d. normal NAT
- e. dynamic NAT

25. Refer to the exhibit.

```
module ex-ethernet {
  namespace "http://example.com/Ethernet";
  prefix "eth";
  import ietf-interfaces {
    prefix if;
  }
  augment "/if:interfaces/if:interface" {
    when "if:type = 'ethernetCsmacd'";
    container ethernet {
      must "../if:location" {
        description
          "An Ethernet interface must specify the physical location of the ethernet hardware.";
      }
      choice transmission-params {
        case auto {
          leaf auto-negotiate {
            type empty;
          }
        }
        case manual {
          leaf duplex {
            type enumeration {
              enum "half";
              enum "full";
            }
          }
          leaf speed {
            type enumeration {
              enum "10Mb";
              enum "100Mb";
              enum "1Gb";
              enum "10Gb";
            }
          }
        }
      }
    }
  } // other ethernet specific params...
}
```

What is represented in this YANG module?

- a. Interface
- b. BGP
- c. OpenFlow
- d. Topology

26. A developer is reviewing a code that was written by a colleague. It runs fine, but there are many lines of code to do a seemingly simple task repeatedly. Which action organizes the code?

- a. Refactor the code by removing any unnecessary tests.
- b. Reverse engineer and rewrite the code logic.
- c. Using functions, rewrite any pieces of code that are repeated.
- d. Modify the code to use loops.

27. Which CI/CD tool is an automation tool used to build, test, and deploy software?

- a. Git
- b. Gradle
- c. Nagios
- d. Jenkins

28. Refer to the exhibit.

```
$ pyang -f tree Cisco-IOS-XE-native.yang
module: Cisco-IOS-XE-native
  +--rw native
    +--rw logging
      +--rw monitor|
        +--rw severity? logging-level-type

$ curl --insecure -v -X PATCH \
  "https://ios-xe-mgmt-latest.cisco.com:9443/restconf/data/Cisco-IOS-XE-native:native" \
  -H 'Authorization: Basic ZGV2ZWxvcGVyOkMxc2NvMTIzNDU=' -H 'Accept: application/yang-data+json' \
  -H 'Content-Type: application/yang-data+json' \
  -d '{ "Cisco-IOS-XE-native:native" : { "logging" : { "monitor" : { "severity" : "alerts" } } } }'
> ...
< ...
< HTTP/1.1 204 No Content
```

The definition of the YANG module and a RESTCONF query sent to a Cisco IOS XE device is shown.

Which statement is correct if the RESTCONF interface responds with a 204 status code?

- a. The query retrieved the logging severity level.
- b. The query updated the logging severity level or created it if not present on the device.
- c. The query failed at retrieving the logging severity level.
- d. The query failed to set the logging severity level due to an invalid path.

29. What are the purpose of the Cisco VIRL software tool?

- a. to verify configurations against compliance standards
- b. to automate API workflows
- c. to simulate and model networks
- d. to test performance of an application

30. What is the purpose of a MAC address?

- a. to uniquely identify a switch in a LAN
- b. to uniquely identify a router in a LAN
- c. to uniquely identify a network interface in a LAN
- d. to uniquely identify a device on the Internet

31. Which two NETCONF operations cover the RESTCONF GET operation? (Choose two.)

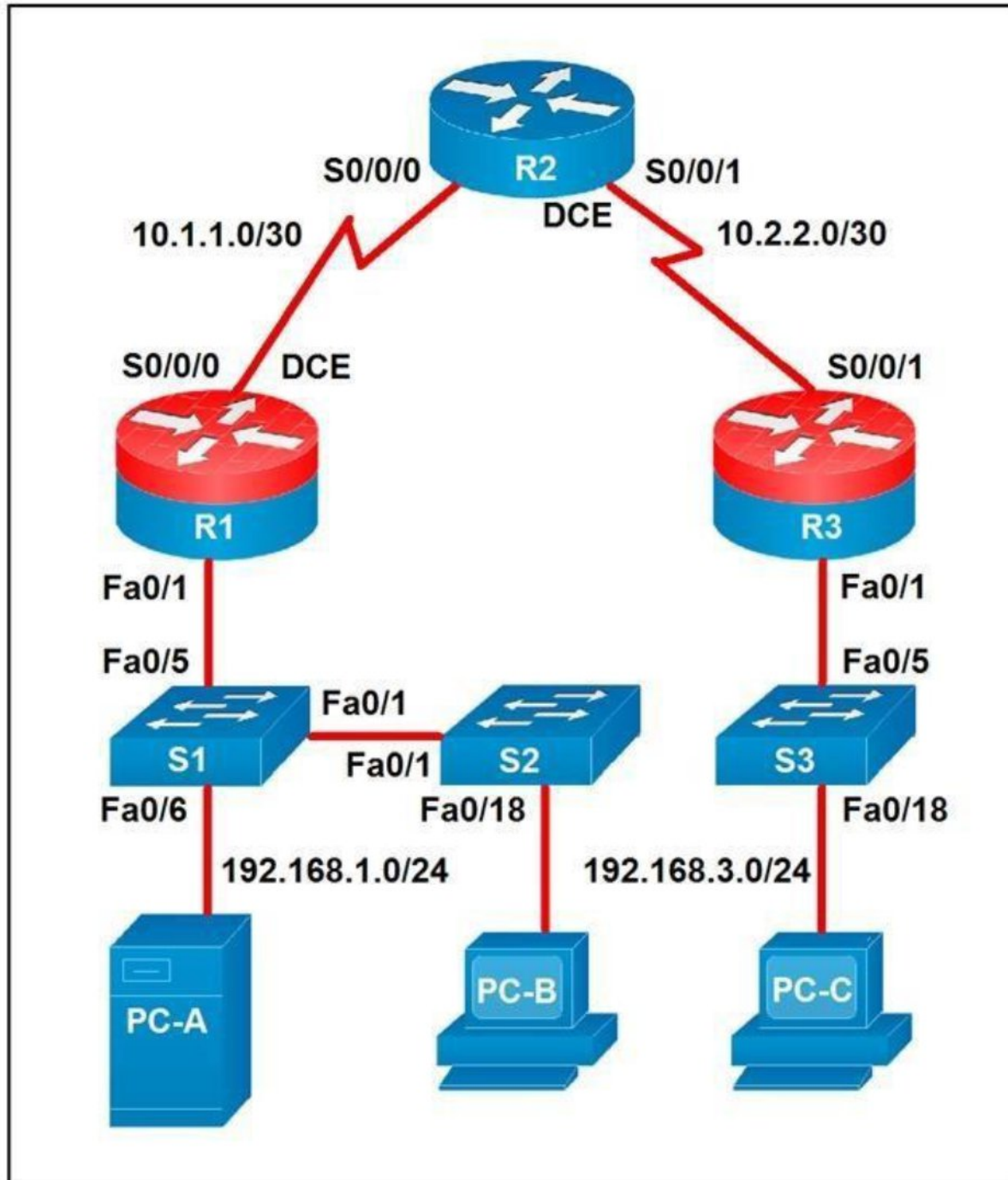
- a. <get>
- b. <get-config>
- c. <get-update>
- d. <modify>
- e. <edit>

32. Which two statements about JSON and XML are true? (Choose two.)

- a. The syntax of JSON contains tags, elements, and attributes.
- b. XML objects are collections of key-value pairs.
- c. JSON objects are collections of key-value pairs.
- d. JSON arrays are an unordered set of key-value pairs.
- e. The syntax of XML contains tags, elements, and attributes.

33. Refer to the exhibit.

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Which two statements about the network diagram are true? (Choose two.)

- a. The subnet address of PC-B has 18 bits dedicated to the network portion.
- b. One of the routers has two connected serial interfaces.
- c. R1 and R3 are in the same subnet.
- d. PC-A and PC-B are in the same subnet.
- e. The subnet of PC-C can contain 256 hosts.

34. Package updates from a local server fail to download. However, the same updates work when a much slower external repository is used. Why are local updates failing?

- a. The server is running out of disk space.
- b. The internet connection is too slow.
- c. The Internet is down at the moment, which causes the local server to not be able to respond.
- d. The update utility is trying to use a proxy to access the internal resource.

35. Which line is an example of the start of a chunk from a unified diff?

- a. @@ -20191007T1200 +88,90 @@
- b. @@ -88,10 +88,6 @@
- c. @@ -90,88 +20191008T1349 @@
- d. @@ -20191007T1200 +20191008T1349 @@

36. What is the benefit of edge computing?

- a. It reduces network latency by moving processing closer to the data source.
- b. It reduces data velocity from devices or other data sources.
- c. It simplifies security as devices and processing are brought closer together.
- d. It removes the need for centralized data processing.

37. FILL BLANK

Fill in the blanks to complete the statement.

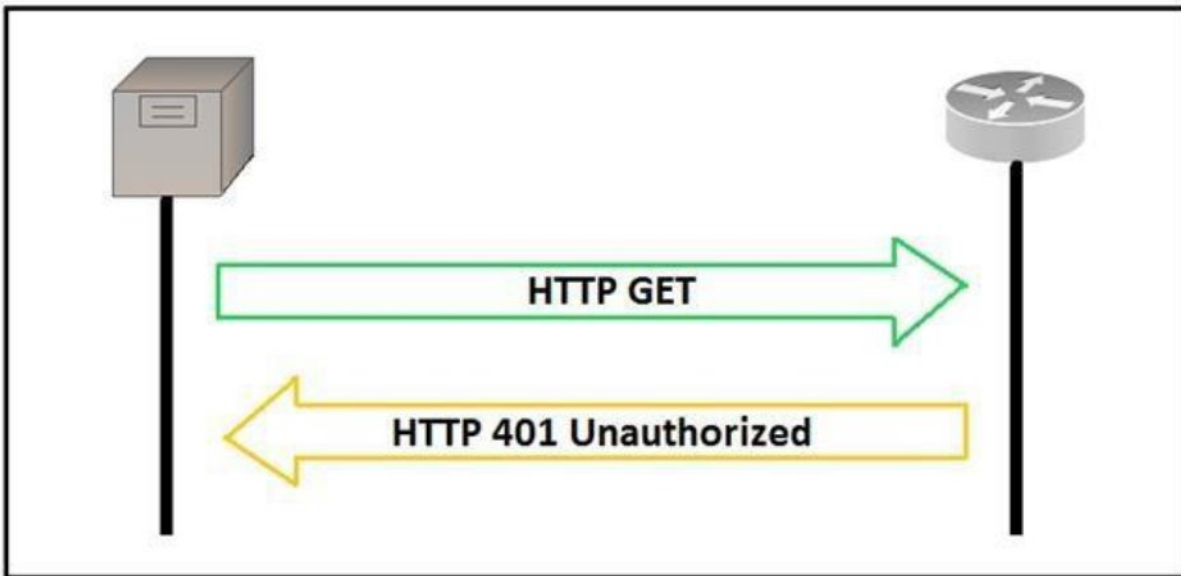
Given a username of "devnet" and a password of "cisco123", applications must create a base64 encoding of the string "\_\_\_\_\_ " when sending HTTP requests to an API that uses \_\_\_\_\_ authentication.

Answer

YWRtaW46Y2lzY28xMjM

Basic

38. Refer to the exhibit.



An administrator attempts to perform a GET using the Cisco IOS XE RESTCONF API to return the hostname of a device. The sequence diagram illustrates the HTTP messages observed. Which change to the API request resolves the issue?

- a. Remove the `-H 'Accept: application/yang-data+json'` HTTP header because it is not required.
- b. Use `-u cisco:cisco` instead of `-u 'cisco:cisco'`
- c. Change the request method from `-X "GET"` to `-X "POST"`
- d. Add Content-Type HTTP header with 'application/yang-data+json' using `-H 'Content-Type: application/yang-data+json'`

39. DRAG DROP  
Refer to the exhibit.

```
#!/bin/bash
<item 1>='date +%b-%d-%y'

<item 2>=/home/usr/path/backup-$BACKUPTIME.tar.gz

<item 3>=/home/usr/path/data_folder

tar -cpzf $DESTINATION $SOURCEFOLDER
```

Drag and drop the variables from the left onto the item numbers on the right that match the missing assignments in the exhibit.

40. Which Cisco DevNet resource allows access to products in a development lab to explore, learn, and build applications that use Cisco APIs?

- a. DevNet Code Exchange
- b. DevNet Sandbox
- c. DevNet Communities
- d. DevNet Automation Exchange

41. Which way should be used to safely store the API keys?

- a. in an environment variable unique to the system database
- b. encrypted in a configuration file that is separate from the code
- c. plain text in the code as a constant
- d. encrypted in the code in a function

42. Refer to the exhibit.

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```
---
- hosts: switch2960cx
  gather_facts: no

  tasks:
    - ios_l2_interface:
      name: GigabitEthernet0/1
      state: unconfigured

    - ios_l2_interface:
      name: GigabitEthernet0/1
      mode: trunk
      native_vlan: 1
      trunk_allowed_vlans: 6-8
      state: present

    - ios_vlan:
      vlan_id: 6
      name: guest-vlan
      interfaces:
        - GigabitEthernet0/2
        - GigabitEthernet0/3

    - ios_vlan:
      vlan_id: 7
      name: corporate-vlan
      interfaces:
        - GigabitEthernet0/4

    - ios_vlan:
      vlan_id: 8
      name: iot-vlan
      interfaces:
        - GigabitEthernet0/5
```

Which two statements describe the configuration of the switch after the Ansible script is run? (Choose two.)

- a. Traffic from ports 0/2 to 0/5 can flow on port 0/1 due to the trunk.
- b. GigabitEthernet0/1 is left unconfigured.
- c. GigabitEthernet0/2 and GigabitEthernet0/3 are access ports for VLAN 6
- d. Traffic can flow between ports 0/2 to 0/5 due to the trunk on port 0/1
- e. Traffic on ports 0/2 and 0/3 is connected to port 0/6

43. Which principle is a value from the manifesto for Agile software development?

- a. processes and tools over teams and interactions
- b. detailed documentation over working software
- c. adhering to a plan over responding to requirements
- d. customer collaboration over contract negotiation

44. Which statement about authenticating a RESTCONF API session with a router that runs Cisco IOS XE Software is true?

- a. No authentication is required
- b. OAuth must be used
- c. A token must be retrieved and the associated string must be embedded in the X-Auth- Token header
- d. Basic authentication must be used

45. What are two advantages of the Model-View-Controller software design pattern? (Choose two.)

- a. allows for multiple views of the same model
- b. separates responsibilities of the code, which makes future modifications easier
- c. simplifies network automation
- d. makes code easier to deploy using CI/CD pipelines
- e. reduces need for error handling

46. Refer to the exhibit.

```
def get_result()

    url = "https://sandboxdnac.cisco.com/dna/system/api/v1/auth/token"

    resp = requests.post(url, auth=HTTPBasicAuth(DNAC_USER, DNAC_PASSWORD))

    result = resp.json()['Token']

    return result
```

What does the Python function do?

- a. It returns HTTP Basic Authentication
- b. It returns DNAC user and password
- c. It reads a token from a local JSON file and posts the token to the DNAC URL
- d. It returns an authorization token

47. Which two statements describe the role of an artifact repository in a CI/CD pipeline? (Choose two.)
- a. An artifact repository stores files needed and generated during the build process.
  - b. An artifact repository provides traceability, search, and management of binary files.
  - c. An artifact repository is needed only for CI/CD pipelines executed on a public cloud infrastructure.
  - d. An artifact repository allows to compare and merge changes in the source code of files involved in a build process.
  - e. An artifact repository is needed only for managing open source software.

48. Which detail is included in a routing table?
- a. broadcast address
  - b. TCP or UDP port number
  - c. IP protocol
  - d. destination next hop or outgoing interface

49. DRAG DROP

Refer to the exhibit.

```

A - bash-3.2$ curl -H "Content-Type: application/json" -H "Authorization: Bearer
    Fj2zzykEa09lic9GK2j8LtE1HklH6oRHPQdwlPat60i7ndtHHnWzL2b5PQmG14Kk_B9ei5ISACly7-
    NarA-2n9H-tGgt-SxQ39iDejgcs" -i -d "{ \"roomId\":
B - \"Y2geK53sjELknosrC7SwQ5ZGL99pHgiuScB7DfNvUsr8Xx4wDKLiPORcEkryAnM3QmK9LQZsPOG4\"
    , \"text\": \"test2\" }" -X POST https://api.ciscopark.com/v1/messages C
D - HTTP/1.1 200 OK
    Via: 1.1 linkerD
    Transfer-Encoding: chunked
    TrackingID: ROUTER_5E0FE283-63EB-01BB-00ED-806BF1BD00ED
E - Date: Sat, 01 Jan 2020 00:55:31 GMT
    Server: Redacted
    Content-Type: application/json;charset=UTF-8
    Vary: Accept-Encoding
    Strict-Transport-Security: max-age=63072000; includedSybDomains; preload

    {\"id\":
    YCpJf3aVovyBYcbn7lSdesNkKcgN5tlExdc6dcnPtl4Va05NfCh9MG17j0tWXQLoIPuoJ73uu7JdoX
    q9 \", \"roomId\":
F - Y2geK53sjELknosrC7SwQ5ZGL99pHgiuScB7DfNvUsr8Xx4wDKLiPORcEkryAnM3QmK99LQZsPOG4
    \", \"roomType\": \"group\", \"text\": \"test2\", \"personId\":
    YcgYzL6XgtyfW81XXwqfKf7whfj23KuqWt4kLWkbb3JwEJb1VMZOkIvyDdFoppb0einNj111FcMyy5
    wD\", \"personEmail\": \"user@webex.com\", \"created\": \"2020-01-01T00:55:32.492Z\"}
bash-3.2$
  
```

Drag and drop the descriptions from the left on to the correct parts of the API request and response on the right.

50. FILL BLANK

Cisco DNA Center provides the capability to send an HTTP \_\_\_\_\_ request to the API endpoint `https://DNA-C_API_ADDRESS/api/v1/network-device/` and receive the network \_\_\_\_\_ list in \_\_\_\_\_ format.

Correct Answer:

authentication

parameter

json

51. Which status code is used by a REST API to indicate that the submitted payload is incorrect?

- a. 400
- b. 403
- c. 405
- d. 429

52. Before which process is code review performed when version control is used?

- a. checkout of code
- b. merge of code
- c. committing of code
- d. branching code

53. Which two concepts describe test-driven development? (Choose two.)

- a. User acceptance testers develop the test requirements.
- b. It enables code refactoring.
- c. Tests are created when code is ready for release.
- d. Implementation is driven by incremental testing of release candidates.
- e. Write a test before writing code.

54. Refer to the exhibit.

**List Messages**

Lists all messages in a room. Each message will include content attachments if present.

The list sorts the messages in descending order by creation date.

Long result sets will be split into [pages](#).

**GET** /v1/messages

**Query Parameters**

- roomId**  
string **Required**  
List messages in a room, by ID.
- mentionedPeople**  
array  
List messages with these people mentioned, by ID. Use me as a shorthand for the current API user.
- before**  
string  
List messages sent before a date and time.
- beforeMessage**  
string  
List messages sent before a message, by ID.
- max**  
number  
Limit the maximum number of messages in the response.  
Default: **50**

**Try it** **Example**

**Header**

Authorization  Use personal access token

**Bearer** .....

*This limited-duration personal access token is hidden for your security.*

**Query Parameters**

- roomId** **Required** e.g. Y2lzY29zcGFyazovL3VzL1JPT00vYmJj
- mentionedPeople** e.g. Y2lzY29zcGFyazovL3VzL1BF1BMR56
- before** e.g. 2016-04-2Tfj:9:01:55:966Z
- beforeMessage** e.g. Y2lzY29zcGFyazovL3VzL1FU1NBROL
- max** e.g. 100

**Run**

```

bash-3.2$ curl -H "Content-Type: application/json" -H "Authorization:
Fj2zzzykEa091ic9GK2j8LtE1HklHk1H6oRHPQdw1Pat60i7ndtHHnWzL2b5pqMg14Kk_B9EI59isacLy7-
NarA02n9H-tGgt-SxQ39iDejgcs" -i -X POST -d "{ \"roomId\":
\"Y2geK53sjEknosrC7SwQ5ZGL99pHgiuScB7DfNvUstr8Xx4wDKLiPORcEkryAnM3QmK9LQZsP0G4\"
, \"text\": \"test2\" }" https://api.ciscospark.com/v1/messages

HTTP/1.1 401 Unauthorized
Via: 1.1 linker
TrackingID: ROUTER_5E0FDC8C-EB6F-01BB-00EF-806BF1BD00EF
Date: Sat, 04 Jan 2020 00:30:04 GMT
Server: Redacted
Content-Length: 267
Content-Type: application/json
Strict-Transport-Security: max-age=63072000; includeSubDomains; preload

{"message": "The request requires a valid access token set in the Authorization request
header.", "errors": [{"description": "The request requires a valid access token set in the
Authorization request
header."}], "trackingId": "ROUTER_5E0FDC8C-EB6F-01BB-00EF-806BF1BD00EF"}

bash-3.2$

```

A developer is troubleshooting an API with the given API documentation and cURL command. What is the cause of this problem?

- a. The authorization header is missing or incomplete.
  - b. The request body is missing or incomplete.
  - c. The API token specified is expired.
  - d. The user is not allowed to post messages from their account.
55. An application calls a REST API and expects a result set of more than 550 records, but each time the call is made, only 25 are returned. Which feature limits the amount of data that is returned by the API?
- a. Pagination
  - b. payload limit
  - c. service timeouts
  - d. rate limiting
56. What is the Git command to delete a local branch named "experiment" without a warning?
- a. git branch -rm experiment
  - b. git branch -n experiment
  - c. git branch -f experiment
  - d. git branch -D experiment
57. Which two descriptions can be given to an application that is interacting with a webhook? (Choose two.)
- a. Receiver
  - b. transaction monitor
  - c. codec
  - d. processor
  - e. listener

58. What is an advantage of using network programmability?
- Manual configuration is faster.
  - No cloud abstraction occurs.
  - It removes CLI access for devices.
  - It provides for more scalable and replicable network provisioning.
59. FILL BLANK  
Refer to the exhibit.

### List Rooms

List rooms.  
The `title` of the room for 1:1 rooms will be the display name of the other person.  
By default, lists rooms to which the authenticated user belongs.  
Long result sets will be split into [pages](#).

**GET** `/v1/rooms`

#### Query Parameters

Name	Description
<code>teamId</code> string	List rooms associated with a team, by ID.
<code>type</code> string	List rooms by type. <i>Possible values: direct, group</i>
<code>sortBy</code> string	Sort results. <i>Possible values: id, lastactivity, created</i>
<code>max</code> number	Limit the maximum number of rooms in the response.  Default: <code>100</code>

Fill in the blank to complete the query parameter and value so that the result set is returned in reverse chronological order (most recent first) based on when messages were entered. HTTP GET `/v1/rooms` \_\_\_\_\_

Correct Answer: `GET/v1/rooms{?teamId,type,sortBy,max}`

60. In Python, which expression checks whether the script returns a success status code when the Requests library is used?

- a. `response.status_code == requests.codes.ok`
- b. `response.code == requests.codes.ok`
- c. `response.status_code == requests.ok`
- d. `response.status_code != requests.codes.ok`

61. What is an example of a network interface hardware address?

- a. workstation name
- b. IP address
- c. domain name
- d. MAC address

62. Refer to the exhibit.

```
#!/bin/bash
read ndir
while [ -d "$ndir" ]
do
cd $ndir
done
mkdir $ndir
```

What is the action of the Bash script that is shown?

- a. For all directories in the current folder, the script goes into the directory and makes a new directory.
- b. The script waits until input is entered. If the directory exists, the script goes into it until there is no directory with the same name, then it creates a new directory.
- c. The script waits until input is entered, then it goes into the directory entered and creates a new directory with the same name.
- d. The script goes into the directory called "\$ndir" and makes a new directory called "\$ndir".

63. Which two items are Cisco DevNet resources? (Choose two.)

- a. TAC Support
- b. Software Research
- c. API Documentation
- d. Bitbucket
- e. Sandbox

64. Which platform has an API that can be used to obtain a list of vulnerable software on user devices?

- a. Cisco Umbrella
- b. Cisco Firepower
- c. Cisco Identity Services Engine
- d. Cisco Advanced Malware Protection

65. Which type of HTTP method is used by the Meraki and Webex Teams APIs to send webhook notifications?

- a. HTTP POST
- b. HTTP GET
- c. HTTP HEAD
- d. HTTP PUT

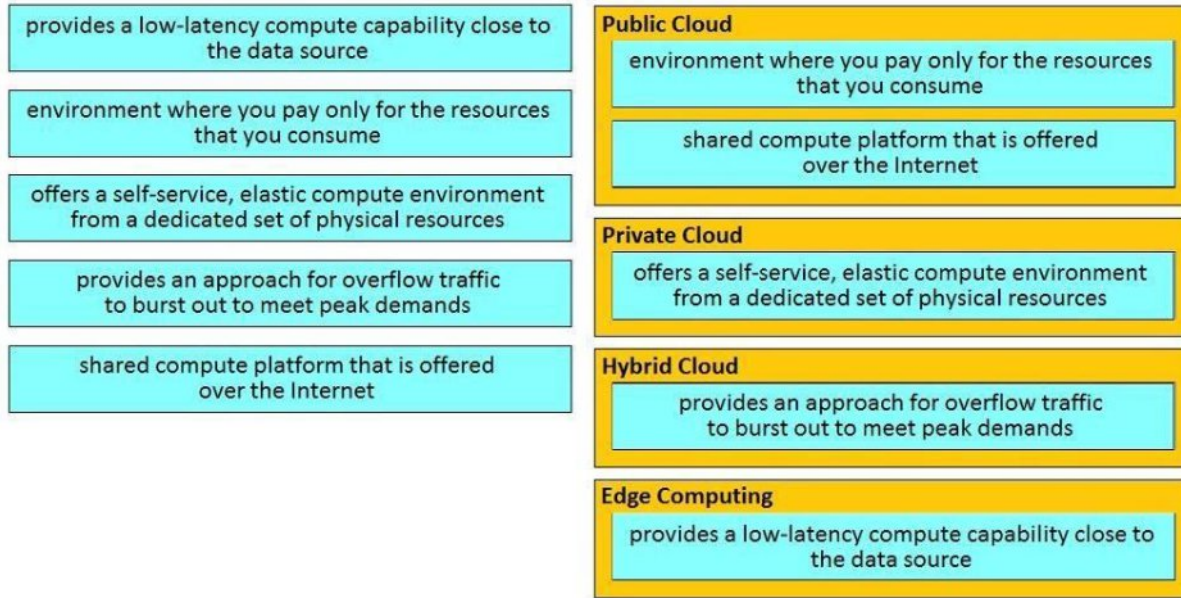
66. DRAG DROP

Drag and drop the descriptions from the left onto the correct application deployment models on the right.

Select and Place:

provides a low-latency compute capability close to the data source	<b>Public Cloud</b> <input type="text"/> <input type="text"/>
environment where you pay only for the resources that you consume	<b>Private Cloud</b> <input type="text"/>
offers a self-service, elastic compute environment from a dedicated set of physical resources	<b>Hybrid Cloud</b> <input type="text"/>
provides an approach for overflow traffic to burst out to meet peak demands	<b>Edge Computing</b> <input type="text"/>
shared compute platform that is offered over the Internet	

Correct Answer:



67. A developer is writing an application that uses a REST API and the application requires a valid response from the API. Which element of the response is used in the conditional check?

- a. Body
- b. Headers
- c. Link
- d. URL
- e. status code

68. An authentication script fails to connect to an internal server exactly 1 out of 2 times it is executed. This behavior is seen from different clients. Which networking device must be at fault?

- a. load balancer
- b. laptop on which the script is running
- c. switch
- d. router

69. Which task is performed because the test-driven development approach is being used?

- a. creating test scenarios based on continuous development
- b. writing code without committing any coding violations
- c. refactoring code that is covered by existing tests
- d. testing existing software before developing new code

70. Which two statements describe the traits of an asynchronous API call? (Choose two.)

- a. Code execution blocks or waits for the call to an API to return
- b. A callback function typically is used to process the response from an API call.
- c. A call to an API does not block the code, but rather it allows application processing to continue
- d. The end user can experience latency or performance lag while waiting for the API call to return
- e. The order in which API calls return can be guaranteed

71. When using the Bash shell, how is the output of the devnet command saved to a file named "output.txt"?

- a. `devnet > output.txt`
- b. `devnet | output.txt`
- c. `devnet < output.txt`
- d. `devnet & output.txt`

72. Which two encoding formats do YANG interfaces support? (Choose two.)

- a. XML
- b. JSON
- c. XHTML
- d. BER
- e. plain text

73. Which action resolves a 401 error in response to an HTTP GET that is issued to retrieve a configuration statement using RESTCONF on a CSR 1000V?

- a. Change the HTTP method to PUT
- b. Check the MIME types in the HTTP headers
- c. Change the transport protocol to HTTPS
- d. Check the authentication credentials

74. Refer to the exhibit.

```
class ucsm sdk . ucshandle . Uc sHandle(ip, username, password, port=None, secure=None, proxy=None)
Bases: ucsm sdk . uc ssession . Uc sSession [source]
Uc sHandle class is the user interface point for any Uc s related communication.
Parameters:
• ip (str) – The IP or Hostname of the UCS Server
• username (str) – The username as configured on the UCS Server
• password (str) – The password as configured on the UCS Server
• port (int or None) – The port number to be used during connection
• secure (bool or None) – True for secure connection, otherwise False
• proxy (str) – The proxy object to be used to connect
```

Given the API documentation for the UCS SDK Python class, Ucsl-handle, which code snippet creates a handle instance?

```
#!/usr/bin/env python3
from ucsm sdk . ucshandle import Uc sHandle
handle = Uc sHandle("10.1.2.254", "admin", "password",
    port="443", secure=True)
```

```
#!/usr/bin/env python3
from ucsm sdk.ucshandle import UcsHandle
handle = UcsHandle(ip="10.1.2.254". username="admin".
    password="password". port=443. secure=True)
```

```
#!/usr/bin/env python3
from ucsm sdk.ucshandle import UcsHandle
handle = UcsHandle("10.1.2.254"."admin"="password".
    port="443". secure=1)
```

```
#!/usr/bin/env python3
import ucsm sdk.ucshandle.UcsHandle
handle = UcsHandle("10.1.2.254". "admin"= "password".
    port=443. secure=1)
```

Correct Answer: A

75. A company has written a script that creates a log bundle from the Cisco DNA Center every day. The script runs without error and the log bundles are produced. However, when the script is run during business hours, people report poor voice quality of phone calls. What explains this behavior?
- The script is written in a low-level programming language where there is no memory safety. This causes a buffer overflow and disruption on the network.
  - The speed and duplex settings in Cisco DNA Center are set incorrectly, which causes the transfer to be too slow.
  - The application is running in the Voice VLAN and causes delays and jitter in the subnet.
  - Generating the logs causes the CPU on the network controller to spike, which causes delays in forwarding the voice IP packets.
76. Which mechanism is used to consume a RESTful API design when large amounts of data are returned?
- data sets
  - scrolling
  - pagination
  - blobs

77. DRAG DROP  
Refer to the exhibit.



**HTTP REQUEST**  
`POST /organizations/ {organizationId}/networks`

**PARAMETERS**

**name**  
The name of the new network.

---

**type**  
The type of the new network. Valid types are wireless, appliance, switch, systemsManager, camera, cellularGateway, or a space-separated list of those for a combined network.

---

**tags**  
A space-separated list of tags to be applied to the network.

---

**timeZone**  
The timezone of the network. For a list of allowed timezones, please see the 'TZ' column in the table in [this article](#).

---

**copyFromNetworkId**  
The ID of the network to copy configuration from. Other provided parameters will override the copied configuration, except type which must match this network's type exactly.

---

**disableMyMerakiCom**  
Disables the local device status pages ([my.meraki.com](#), [ap.meraki.com](#), [switch.meraki.com](#), [wired.meraki.com](#)). Optional (defaults to false).

---

**disableRemoteStatusPage**  
Disables access to the device status page ([http://\[device's LAN IP\]](#)). Optional. Can only be set if `disableMyMerakiCom` is set to false.

```
base_url = https://api.meraki.com/api/v0
org_id = 123456789
api_key = 1098hadpfsiapsf8ahf8ohp
network_name = "New Network"
requests.<item 1> (
    <item 2> + "/<item 3>/" + org_id + "/<item 4>",
    headers = {
        "X-Cisco-Meraki-API-Key": "<item 5>",
        "Content-Type": "<item 6>"
    },
    <item 7>=json.dumps ({ "name": <item 8>,
        "type": "wireless switch"
    })
)
```

Drag and drop the code from the left onto the item numbers on the right to complete the Meraki Python script shown in the exhibit.

78. Which type of threat occurs when an attacker can send hostile data to an interpreter within an application?

- a. sensitive data exposure
- b. broken authentication
- c. cross-site scripting
- d. injection

79. Refer to the exhibit.

```
1 ---
2 - hosts: {{ router }}
3   gather_facts: true
4   connection: local
5
6   tasks:
7     - ios_command
8       commands:
9         - show run
10        provider: "{{ router_credentials }}"
11        register: config
12
13    - copy:
14      content: "{{ config.stdout[0] }}"
15      dest: "etc/ansible/configs/command_{{ router_hostname }}.txt
16    ...
```

What is the effect of this Ansible playbook on an IOS router?

- a. A new running configuration is pushed to the IOS router.
- b. The start-up configuration of the IOS router is copied to a local folder.
- c. The current running configuration of the IOS router is backed up.
- d. A new start-up configuration is copied to the IOS router.

80. Refer to the exhibit.

**URL:** https://<ASA\_IP>/api/access/global/rules  
**Method:** POST  
**Payload:**

```
{
  "destinationAddress": {
    "kind": "IPv4Address",
    "value": "10.1.1.1"
  },
  "remarks": [ ],
  "active": true
  "permit": true,
  "sourceAddress": {
    "kind": "IPv4Address",
    "value": "192.168.1.1"
  }
}
```

**Response Status Code:** 400 Bad Request

```
{
  "messages": [{"level": "Error", "code": "JSON-PARSE-ERROR", "details": "Unexpected character (\\" (code 34)}
}
```

What caused the error in this API request?

- a. The API resource does not support the POST operation.
- b. The submitted JSON payload has a formatting issue
- c. The API resource does not support JSON format payloads
- d. The submitted JSON payload includes a field that is not supported by the API resource

81. Refer to the exhibit

For CLI commands that support XML, the `clid()` method returns JSON output. An exception is thrown when XML is not used. Executes CLI commands. Takes CLI command string and returns show command output in a JSON form.

“

Note: The “clid” API can be useful when searching the output of show commands using JSON tools as shown in the example.

#### PYTHON

```
Example:
>>> import json
>>> from cli import *
>>> jversion = json.loads(clid("show
version"))
>>> jversion['bios_ver_str']
'08.06'
```

#### Arguments:

- `cmd`: Single CLI command or a batch of CLI commands. Delimiter for multiple CLI commands is a space followed by a semicolon. Configuration commands must be in a fully qualified form.

#### Returns:

- `string`: JSON-formatted output of show commands.

```
>>> from cli import *
>>> import json

>>>
>>> cli('configure terminal ; interface loopback 5 ; no shut')
>>> intflist=json.loads(clid('show interface brief'))
>>> i=0
>>> while i < len (intflist['TABLE_interface']['ROW_interface']):
...     intf=intflist['TABLE_interface']['ROW_interface'][i]
...     i=i+1
...     if intf['state'] == 'up':
...         print intf['interface']
```

The Python interpreter and the Cisco Python SDK are available by default in the Cisco NX-OS Software. The SDK documentation shows how the `clid()` API can be used when working with JSON and XML. What are two effects of running the script? (Choose two.)

- configure interface loopback 5
- show details for the TABLE interface

- c. issue shutdown on interface loopback 5
- d. show only the interfaces in the up status
- e. show only the interfaces in admin shut status

82. A function my\_func() returns True when it executes normally. Which Python snippet tests my\_func()?

```
def test_func(self):  
    self.assertTrue(my_func())
```

```
def test_func(self):  
    self.assertFalse(my_func())
```

```
def test_func(self):  
    self.assertEqual(my_func, '{true}')
```

```
def test_func(self):  
    self.assertRaises(my_func())
```

Correct Answer: C

83. Which two use cases are supported by Meraki APIs? (Choose two.)

- a. Build location-aware apps from Wi-Fi and LoRaWAN devices
- b. Build a custom Captive Portal for Mobile Apps
- c. Configure network devices via the Dashboard API
- d. Deploy applications onto the devices
- e. Retrieve live streams from a Meraki Camera

84. Which API is used to obtain data about voicemail ports?

- a. Webex Teams
- b. Cisco Unified Communications Manager
- c. Finesse Gadgets
- d. Webex Devices

85. On which network plane is routing protocol traffic handled?

- a. management plane
- b. data plane
- c. authentication plane
- d. control plane

86. What should a CI/CD pipeline aim to achieve?

- a. to require minimal manual interaction
- b. to allow manual testing before deployment
- c. to support new deployments on a fixed monthly schedule
- d. to provide a documented process for feedback

87. What are two characteristics of Bare Metal environments that are related to application deployment? (Choose two.)

- a. specifically designed for container-based workloads
- b. suitable for legacy applications that do not support virtualization
- c. provides workloads with access to hardware features
- d. not compatible with other cloud services such as PaaS or SaaS offerings
- e. provides the hypervisor to host virtual servers

88. What is the outcome of executing this command?

```
git clone ssh://john@example.com/path/to/my-project.git
```

- a. creates a local copy of a repository called "my-project"
- b. initiates a new Git repository called "my-project"
- c. creates a copy of a branch called "my-project"
- d. creates a new branch called "my-project"

89. What are two security benefits of a Docker-based application? (Choose two.)

- a. natively secures access to secrets that are used by the running application
- b. guarantees container images are secured and free of vulnerabilities
- c. easier to patch because Docker containers include only dependencies that the application requires
- d. prevents information leakage that can occur when unhandled exceptions are returned in HTTP responsesE. allows for separation of applications that traditionally run on the same host

90. Which action does the Git command `git merge` allow the developer to perform?

- a. Combine multiple sequences of commits into one unified history
- b. Push changes to the remote repository
- c. Create, list, rename, and delete branches
- d. Switch between branches

91. DRAG DROP

Drag and drop the Bash commands from the left onto the correct actions on the right.

Select and Place:

cd~	list files in directory sorted by edited date descending
cd/	create directory
is -l	copy file
is -t	change directory to user \$HOME
cp	create environment variable
cp -r	change directory to file system root
mv	move file
touch	create file
mkdir	copy directory
export	list files in directory with details

Correct Answer:

	is -l
	mkdir
	cp
	cd~
	export
	cd/
	mv
	touch
	cp -r
	is -t

in

ccielab

## 92. DRAG DROP

Refer to the exhibit.

**List the clients that have used this network in the timespan**

**HTTP REQUEST**

`GET /networks/ {networkId}/clients`

**PARAMETERS**

**t0**  
The beginning of the timespan for the data. The maximum lookback period is 31 days from today.

---

**timespan**  
The timespan for which the information will be fetched. If specifying timespan, do not specify parameter t0. The value must be in seconds and be less than or equal to 31 days. The default is 1 day.

---

**perPage**  
The number of entries per page returned. Acceptable range is 3 – 1000. Default is 10.

---

**startingAfter**  
A token used by the server to indicate the start of the page. Often this is a timestamp or an ID but it is not limited to those. This parameter should not be defined by client applications. The link for the first, last, prev, or next page in the HTTP Link header should define it.

---

**endingBefore**  
A token used by the server to indicate the end of the page. Often this is a timestamp or an ID but it is not limited to those. This parameter should not be defined by client applications. The link for the first, last, prev, or next page in the HTTP Link header should define it.

```
base_url = https://api.meraki.com/api/v0"
network_id = "L_12345678910"
api_key = "1098hadpfsiapsf8ahf8ohp"
requests.<item 1> (
  <item 2> + "/<item 3>/" + /<item 4>, "/<item 5>",
  headers = {
    "X-Cisco-Meraki-API-Key": "<item 6>",
    "Content-Type": "<item 7>"
  },
  <item 8>={"<item 9>":"/<item 10>}}
```

Drag and drop the code from the left onto the item numbers on the right to complete the Meraki code to obtain a list of clients which have used this network.

Select and Place:

params	<item 1>
networks	<item 2>
timespan	<item 3>
get	<item 4>
432000	<item 5>
base_url	<item 6>
application/json	<item 7>
network_id	<item 8>
clients	<item 9>
api_key	<item 10>

Correct Answer:

	get
	base_url
	432000
	networks
	clients
	application/json
	api_key
	timespan
	params
	network_id

93. Which REST architectural constraint indicates that no client context should be stored on the server between requests?

- a. Cacheable
- b. Stateless
- c. uniform interface
- d. client-server



95. Refer to the exhibit.

```
[
  {
    "type": "fruit",
    "items": [
      {
        "color": "green",
        "items": [
          "kiwi",
          "grape"
        ]
      },
      {
        "color": "red",
        "items": [
          "strawberry",
          "apple"
        ]
      }
    ]
  },
  {
    "type": "vegs",
    "items": [
      {
        "color": "green",
        "items": [
          "lettuce"
        ]
      },
      {
        "color": "red",
        "items": [
          "pepper"
        ]
      }
    ]
  }
]
```

A REST API returns this JSON output for a GET HTTP request, which has been assigned to a variable called "vegetables". Using Python, which output is the result of this command? `print(filter(lambda i: i[ 'type' ] == 'fruit', vegetables) [0][ 'items' ][0][ 'items' ][0])`

- a. {'color': 'green', 'items': ['kiwi', 'grape']}
- b. ['kiwi', 'grape']
- c. Lettuce
- d. Kiwi

*"Change is the end result of all true learning."*

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