Exam Code: 200-901
Exam Name: DevNet Associate (DEVASC)

Exam A

QUESTION 1

A developer is creating a script to interact with a REST API service which requires basic authentication. The credentials are "devnet:391665405" and the Base64 encoding of the credentials is "GV2bmV0dXNlcjpDaXNj=".
Which payload and header combination must be used for authentication?

```
A.  payload = {
        'Authorization' : 'Basic GV2bmV0dXNlcjpDaXNj=',
        'Content-Type' : 'application/json'
    }
    headers= {}

B.  payload = {}
    headers= {
        'Authorization' : 'Basic GV2bmV0dXNlcjpDaXNj=',
        'Content-Type' : 'application/json'
    }

C.  payload = {
        'Authorization' : 'Bearer GV2bmV0dXNlcjpDaXNj=',
        'Content-Type' : 'application/json'
    }
    headers= {}

D.  payload = {}
    headers= {
        'Authorization' : 'Bearer GV2bmV0dXNlcjpDaXNj=',
        'Content-Type' : 'application/json'
    }
```

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

Correct Answer: B
Section:

QUESTION 2
A developer needs a list of clients connected to a specific device in a Meraki network. After making a REST API call, the developer receives an unfamiliar response code. Which Cisco DevNet resource should be used to identify the meaning of the response code?

A. API documentation
B. Code Exchange
C. Learning Labs
D. Sandbox

Correct Answer: A
Section:

QUESTION 3
A developer is trying to retrieve data over a REST API. The API server responds with an HTTP client error response code. After investigating the response the developer realizes the response has a RetryAfter header. What is the root cause of this error?

A. An appliance limited the rate of requests to the transport layer.
B. The REST service is unreachable at the time of the REST request.
C. Too many requests were sent to the REST service in a given amount of time.
D. An appliance limited the rate of requests to the application layer.

Correct Answer: C
Section:

QUESTION 4
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.

Correct Answer: A, B
Section:

QUESTION 5
Before which process is code review performed when version control is used?

A. checkout of code
B. merge of code
C. committing code
D. branching code

Correct Answer: B
Section:

QUESTION 6
What is an advantage of a version control system?

A. facilitates resolving conflicts when merging code

B. ensures that unit tests are written

C. prevents over-writing code or configuration files

D. forces the practice of trunk-based development

Correct Answer: A
Section:

QUESTION 7
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

Correct Answer: D
Section:
Explanation:
Reference: https://stackoverflow.com/questions/34764979/loading-python-string-with-u-as-json?noredirect=1&lq=1

QUESTION 8
When a Cisco IOS XE networking device is configured using RESTCONF, what is the default data-encoding method?

A. JSON
B. YAML
C. XML
D. x-form-encoding

Correct Answer: C
Section:

QUESTION 9

```
Code:
import requests

url = 'https://en.wikipedia.org/api/rest_v1/page/title/Cisco_Systems'
s = requests.Session()

def get_json(session=None, url="https://example.com"):
    try:
        if not session or type(session) is not requests.sessions.Session:
            raise Exception("Invalid session type")

        r = session.get(url)

        if r.status_code < 200 or r.status_code > 307:
            raise Exception("Status Code not within 2xx and 3xx")

        return r.json()

    except requests.exceptions.RequestException as e:
        raise e("Request failed")
    finally:
        session.close()

if __name__ == "__main__":
    items = get_json(session=s,url=url)
    ┌─────────────────────────────────────────────────────┐
    │                                                     │
    └─────────────────────────────────────────────────────┘

payload:
```

{ 'items': [{ 'title': 'Cisco_Systems', 'page_id': 51746, 'rev': 930604297,
'tid': '58b40b30-20e7-11ea-a7a9-f1850c7cfe85', 'namespace': 0, 'user_id':
19450869, 'user_text': 'Dhruvh
', 'timestamp':'2019-12-13T16:47:52Z', 'comment': '/* 1984-1995: Origins
and initial growth */', 'tags': [], 'restrictions': [], 'page_language':
'en', 'redirect': False}]}

Refer to the exhibit. Which command needs to be placed on the box where the code is missing to output the value of page_id in the Python 3.7 script?

A. print(items.get('items')[0].get('page_id'))
B. print(items.get('items').get('page_id'))
C. print(items['items']['page_id'].keys())
D. print(items['items']['page_id'])

Correct Answer: B
Section:

QUESTION 10
Refer to the exhibit.

Generating Client ID and API Key:

- Log in to your AMP for Endpoints Console.
- Go to Accounts > Business Settings.
- Click Configure API Credentials under Features to generate the Client ID and secure API Key.

Once you have the API client ID and API key, you can make the API calls as follows:

```
https://<your_client_id>:<your_api_key>@<api_endpoint>
```

Alternatively you can use Basic HTTP Authentication. Base 64 encode the string ":", and send that prefixed with the string "Basic" as the authorization header. For instance, if your client_id was 1234, and your api_key was "atest", then it would be base64 encoded to "MTIzNDphdGVzdA==", and your header would be:

```
Authorization: Basic MTIzNDphdGVzdA==
```

The documentation outlines how to use credentials for the AMP API. Which script successfully performs an API call using basic authentication?

A.
```
import requests
amp_auth_token = 'a1b2c3d4e5f6g7h8i9j0 k1l2m3n4o5p6'
url = 'https://api.amp.cisco.com/v1/version'
request = requests.get(url,
    auth=(amp_auth_token))
print(request.json())
```

B.
```
import requests
amp_client_id = 'a1b2c3d4e5f6g7h8i9j0'
amp_api_key = 'a1b2c3d4-e5f6-g7h8-i9j0-k1l2m3n4o5p6'
url = 'https://api.amp.cisco.com/v1/version'
request = requests.get(url,
    auth=(amp_client_id, amp_api_key))
print(request.json())
```

C.
```
import requests
amp_client_id = 'a1b2c3d4e5f6g7h8i9j0'
amp_api_key = 'a1b2c3d4-e5f6-g7h8-i9j0-k1l2m3n4o5p6'
url = 'https://api.amp.cisco.com/v1/version'
request = requests.get(url)),
    print(request.json())
```

D.
```
import requests
amp_client_id = 'a1b2c3d4e5f6g7h8i9j0'
amp_login_password = '10g1n_p@ssw0rd'
url = 'https://api.amp.cisco.com/v1/version'
request = requests.get(url,
    auth=(amp_client_id, amp_login_password))
print(request.json())
```

A. Option A

B. Option B

C. Option C

D. Option D

Correct Answer: B
Section:

QUESTION 11

API Documentation:

Integrations are how you request permission to invoke the Webex REST API on behalf of another Webex Teams user. To do this in a secure way the API supports the OAuth 2 standard which allows third-party integrations to get a temporary access token for authenticating API calls instead of asking users for their password.

Script:

```
01    import requests
02
03    base_url = "https://webexapis.com/v1"
04    header = {"Key": "Value"}
05
06    url = "{}/{}".format(base_url, "/teams")
07    print(requests.get(url, headers=header).status_code)
```

Refer to the exhibit. A developer creates a Python script that queries Cisco Webex. When the script is executed, a 401 code is returned. After troubleshooting, the developer discovers that the service is missing privileges. Which change to the header in line 4 of the script results in the code 200?

A. header = {"Authentication": "Bearer YOUR_TOKEN"}

B. header = {"Authentication Bearer" : "YOUR_TOKEN"}

C. header = {"Authorization Bearer" : "YOUR_TOKEN"}

D. header = {"Authorization": "Bearer YOUR_TOKEN"}

Correct Answer: D
Section:

QUESTION 12
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

Correct Answer: A
Section:
Explanation:

Reference: https://realpython.com/python-requests/

QUESTION 13

```
import requests
from requests.auth import HTTPBasicAuth
from config import url, username, password
response = requests.login(url, auth=HTTPBasicAuth (username, password), verify=False)
print response.status_code
```

Refer to the exhibit. The script returns an output of 401. To use the supplied URL, an HTTP GET request must be sent with an Authorization header. The header value is a base64 encoded concatenation of the username and password. Which action must be taken to return an output of 200?

A. Change the verify=False setting in the request to verify=True to enable HTTP Basic authentication.

B. Verify that the username and password values imported from the configuration file are still valid.

C. Insert an Authorization header with the values username:password from the supplied configuration file.

D. Modify the method from LOGIN to GET and supply the username:password value as JSON payload.

Correct Answer: B
Section:

QUESTION 14

```
>>> response_data = requests.get(base_url + request_url, cookies=cookies)
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
NameError: name 'requests' is not defined
>>>
```

Refer to the exhibit. A Python code has been written to query a device. The executed code results in the error shown. Which action resolves the problem?

A. import json

B. requests("GET", base_url + request_url, cookies=cookies)

C. pip install requests

D. import requests

Correct Answer: D
Section:

QUESTION 15
Refer to the exhibit.

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

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

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

A. Option A

B. Option B

C. Option C

D. Option D

Correct Answer: C
Section:
Explanation:

Reference: https://www.guru99.com/json-vs-xml-difference.html

QUESTION 16
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)

A.

Correct Answer: A
Section:
Explanation:
Answer: A
Explanation:
devnetuser requests header
Reference: https://developer.cisco.com/docs/apic-em/#!hello-world

QUESTION 17
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.

Correct Answer: C, E
Section:
Explanation:

devnetuser requests header
Reference: https://developer.cisco.com/docs/apic-em/Whello-world

QUESTION 18
Which two statements about JSON and XML are true? (Choose two.)

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.

Correct Answer: C
Section:

QUESTION 19
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

160
161     @single_request_timeout.setter
162     def single_request_timeout(self, value):
163         """The timeout (seconds) for a single HTTP REST API request."""
164         check_type(value, int, optional=True)
165         assert value is None or value > 0
166         if value is not None and value <= 0:
167             raise ValueError("single_request_timeout must be positive integer")
168         self._single_request_timeout = value
169
```

B.

```
file: fish.py

160
161     @single_request_timeout.setter
162     def single_request_timeout(self, value):
163         """The timeout (seconds) for a single HTTP REST API request."""
164         check_type(value, int, optional=True)
165         assert value is None or value > 0
166         self._single_request_timeout = value
167
```

C.

```
file: cat.py

160
161     @single_request_timeout.setter
162     def single_request_timeout(self, value):
163         """The timeout (seconds) for a single HTTP REST API request."""
164         check_type(value, int, optional=True)
165         if value is not None and value <= 0:
166             raise ValueError("single_request_timeout must be positive integer")
167         self._single_request_timeout = value
168
169
```

D.

```
file: fish.py

160
161     @single_request_timeout.setter
162     def single_request_timeout(self, value):
163         """The timeout (seconds) for a single HTTP REST API request."""
164         check_type(value, int, optional=True)
165         self._single_request_timeout = value
```

E.

```
file: cat.py
172
173    @single_request_timeout.setter
174    def single_request_timeout(self, value):
175        """"The timeout (seconds) for a single HTTP REST API request.""""
176        check_type(value, int, optional=True)
177        if value is not None and value <= 0:
178            raise ValueError("single_request_timeout must be positive integer")
179        self._single_request_timeout = value
180
```

Correct Answer: A, B
Section:

QUESTION 20
What is a benefit of organizing code into modules?

A. reduces the length of code

B. enables code to be multifunctional

C. enables the reuse of code

D. improves overall performance

Correct Answer: C
Section:

QUESTION 21
What is a benefit of organizing code into modules?

A. enables the code to be broken down into layers

B. improves collaboration of the development team

C. makes it easier to deal with large and complex systems

D. enables the inclusion of more programming languages in the code

Correct Answer: B
Section:

QUESTION 22
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

Correct Answer: D

Section:
Explanation:

Reference: https://www.atlassian.com/git/tutorials/using-branches

QUESTION 23
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"

Correct Answer: A
Section:
Explanation:

Reference: https://www.atlassian.com/git/tutorials/setting-up-a-repository/git-clone

QUESTION 24
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

Correct Answer: A
Section:
Explanation:

Reference: https://www.atlassian.com/git/tutorials/using-branches/git-merge

QUESTION 25
How does a developer create and switch to a new branch called "my-bug-fix" to develop a product fix?

A. git checkout -b my-bug-fix
B. git branch -b my-bug-fix
C. git branch my-bug-fix
D. git checkout my-bug-fix

Correct Answer: A
Section:

QUESTION 26
A developer needs to prepare the file README.md in the working tree for the next commit operation using Git. Which command needs to be used to accomplish this?

A. git -a README.md

B. git add README.md

C. git add README.md staging

D. git commit README.md

Correct Answer: B
Section:
Explanation:

Reference: https://teamtreehouse.com/community/committing-the-readmemd-file-to-repository

QUESTION 27
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.

Correct Answer: C
Section:

QUESTION 28
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

Correct Answer: D
Section:
Explanation:

Reference: https://www.cisco.com/c/dam/global/en_hk/solutions/collaboration/files/agile_product_development.pdf

QUESTION 29
Which advantage does the agile process offer compared to waterfall software development?

A. to add or update features with incremental delivery

B. to view the full scope of end-to-end work

C. to have each phase end before the next begins

D. to fix any issues at the end of the development cycle

Correct Answer: A
Section:

QUESTION 30

How do XML and JSON compare regarding functionality?

A. XML provides more support for mapping data structures into host languages than JSON.
B. XML provides more human readability than JSON.
C. JSON provides less support for data types than XML.
D. JSON natively supports arrays and XML does not natively support arrays.

Correct Answer: D
Section:

QUESTION 31
What are two principles of an infrastructure as code environment? (Choose two.)

A. Components are coupled, and definitions must be deployed for the environment to function.
B. Redeployments cause varying environment definitions.
C. Environments must be provisioned consistently using the same inputs.
D. Service overlap is encouraged to cater for unique environment needs.
E. Complete complex systems must be able to be built from reusable infrastructure definitions.

Correct Answer:
Section:

QUESTION 32
Which two encoding formats do YANG interfaces support? (Choose two.)

A. XML
B. JSON
C. XHTML
D. BER
E. plain text

Correct Answer: A, B
Section:
Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios- xml/ios/prog/configuration/171/b_171_programmability_cg/model_driven_telemetry.html

QUESTION 33
Refer to the exhibit.

```
{
  "items": [{
    "kind": "object#NetworkObj",
    "selfLink": "https://10.201.230.5/api/objects/networkobjects/db01",
    "name": "db01",
    "host": {
      "kind": "IPv4address",
      "value": "172.16.0.11"
    },
    "objectId": "db01"
  }]
}
```

The JSON data in the exhibit has been parsed and stored into a variable "data". What returns the value "172.16.0.11"?

A. data['items']['host']['value']
B. data['items'][1]['host']['value']
C. data['items'][0]['host']['value']
D. data['items']['host'][1]

Correct Answer: C
Section:

QUESTION 34
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.

Correct Answer: A
Section:
Explanation:

Reference: https://community.cisco.com/t5/cisco-digital-network/how-can-i-make-this-script-to-run/td-p/3882782

QUESTION 35

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.

Correct Answer: D
Section:
Explanation:
Topic 2, Understanding and Using APIs

QUESTION 36

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

Correct Answer: A
Section:
Explanation:

Reference: https://community.cisco.com/t5/application-centric/apic-rest-api-produces-inconsistent-response/td-p/2758230

QUESTION 37

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

Correct Answer: A
Section:

QUESTION 38

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

Correct Answer: E
Section:

QUESTION 39
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"
```

```
          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 1: 1['type'] == 'fruit', vegetables) [0]['items'][0]['items'][0])

A. {'color': 'green', 'items': ['kiwi', 'grape']}

B. ['kiwi', 'grape']

C. lettuce

D. kiwi

Correct Answer: D
Section:

QUESTION 40
A 401 HTTP response code is returned when calling a REST API. What is the error state identified by this response code?

A. The server cannot process the request as it has detected an issue in the request syntax or body.

B. The request has not been accepted because it requires authentication.

C. The sever accepted the request but the client is not authorized for this content.

D. The server cannot find the requested resource because the path specified is incorrect.

Correct Answer: B
Section:
Explanation:

Reference: https://blog.restcase.com/rest-api-error-codes- 101/#:~:text=A%20401%20error%20response%20indicates,credentials%20or%20none%20at%20alL

QUESTION 41
Refer to the exhibit.

Local File Attachments

To send local file attachments, simply post a message by including your access token in the Authorization header and the path to your local file with the files parameter. Optionally, you can also include a plain-text message with the attachment by using the text parameter. When uploading files directly from your local filesystem, your request will need to be a multipart/form-data request rather than JSON

```
curl --request POST \
    --form "files=@/home/desktop/example.png;type=image/png" \
    --form "roomId=Y21zY2....." \
    --form "text=example attached" \
https://webexapis.com/v1/messages
```

A developer needs to upload a local file by using the REST API. The developer gathers information according to the documentation and sends the request by using the cURL command in the exhibit but gets an error code. Which action should be followed to get a valid response?

A. change content-type as JSON
B. add the authorization header with the access token
C. and a username-password combination to request command
D. change request method as GET

Correct Answer: B
Section:
Explanation:

Reference: https://developer.webex.com/docs/api/basics

QUESTION 42
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.

Correct Answer: D
Section:

QUESTION 43
Refer to the exhibit.

API v1 documentation:

Authentication and authorization: Bearer Token

Inventory endpoint: /api/v1/inventory

Method: GET

Response formats: text/html, application/json,

application/html

Token:

dXNlcm5hbWU6cGFzc3dvcmQ=

Api call:

GET /api/v1/inventory HTTP/1.1

Host: example.com

Response:

HTTP/1.1 401 Unauthorized

An API call is constructed to retrieve the inventory in XML formal by using the API. The response to the call is 401 Unauthorized. Which two headers must he added to the API call? (Choose two.)

A. Bearer-Token: dXNlcm5hbWU6cGFzc3dvemQ=

B. Content-Type: application/xml

C. Authentication: Bearer dXNlcm5hbWU6cGFzc3dvemQ=

D. Accept: application/xml

E. Authorization: Bearer dXNlcm5hbWU6cGFzc3dvemQ=

Correct Answer: B, E
Section:

QUESTION 44
Which HTTP response status code means "Forbidden"?

A. 500

B. 401

C. 403

D. 502

Correct Answer: C
Section:
Explanation:

Reference: https://developer.mozilla.org/en-US/docs/Web/HTTP/Status/403

QUESTION 45
Which HTTP response code should be returned when the request is completed but there is no content to send for the request?

A. 100

B. 204

C. 302

D. 402

Correct Answer: B
Section:
Explanation:

Reference: https://developer.mozilla.org/en-US/docs/Web/HTTP/Status#successful_responses

QUESTION 46

```
HTTP/1.1 200 OK
Date: Mon, 27 Jul 2009 12:28:53 GMT
Server: nginx
Last-Modified: Wed, 22 Jan 2020 19:15:56 GMT
Content-Length: 88
Content-Type: application/json
Connection: keep-alive

{
    "id": "a123456bcde",
    "status": "online",
    "type": "switch"
}
```

Refer to the exhibit. Which data is specified in the response header?

A. Content-Type
B. HTTP/1.1 200 OK
C. "type": "switch"
D. {
    "id": "a123456bcde", HTTP/1.1 200 OK
    "status": "online",
    "type": "switch"
    }

Correct Answer: B
Section:

QUESTION 47
What are two use cases where webhooks are effective? (Choose two.)

A. Filter out information from a response to an API call.
B. Close a session with a web server after a specific amount of time.
C. Inform a previously defined chat channel after a deployment fails.

D. Send an email to a customer of an online store after payment is complete.

E. Change the response formal or content type of an API call.

Correct Answer: B, D
Section:

QUESTION 48
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

Correct Answer: A, E
Section:

QUESTION 49
How does requesting a synchronous API operation differ from requesting an asynchronous API operation?

A. clients receive responses with a task id for further processing

B. clients subscribe to a webhook for operation results

C. clients poll for the status of the execution of operations

D. clients can access the results immediately

Correct Answer: B
Section:

QUESTION 50
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

Correct Answer: A
Section:

QUESTION 51
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.

A.

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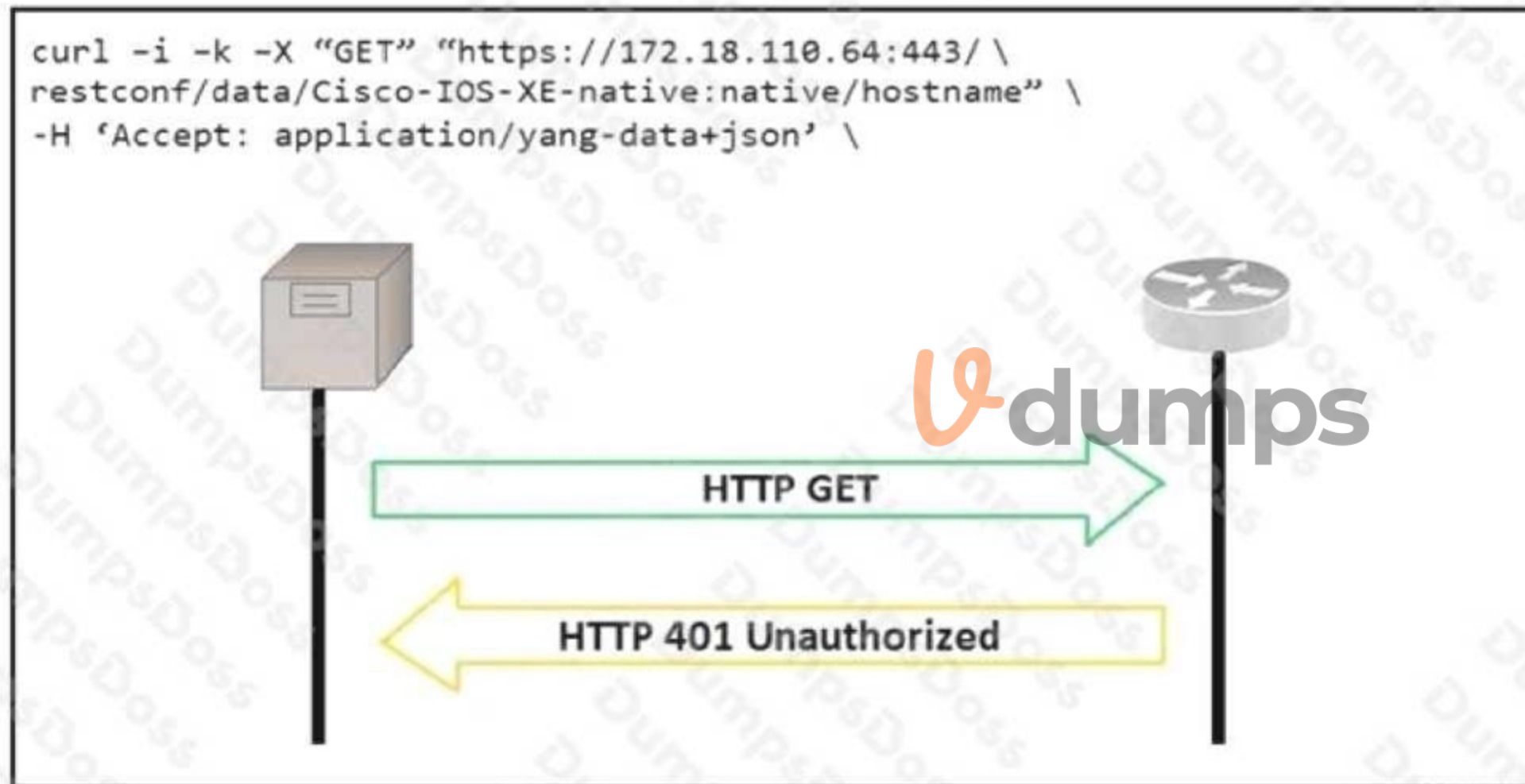**Section:**
Explanation:
Answer: A
Explanation:

YWRtaW46Y2lzY2 8xMjM Basic
Reference: https://www.cisco.com/c/en/us/td/docs/net_mgmt/elastic_services_controller/4-1/install/guide/Cisco-Elastic- Services-Controller-Install-Upgrade-Guide-4-1/Cisco-Elastic-Services-Controller- Install-Upgrade-Guide-3-0_chapter_01011 .html

QUESTION 52
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. Add -'u cisco:cisco' in the end of the cURL command
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'

Correct Answer: B
Section:

QUESTION 53

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

Correct Answer: D, E
Section:

QUESTION 54
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

A.

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

GET Accept Authorization
Reference:
https://webcache.googleusercontent.com/search?q=cache:Se6d2trvMsEJ:https://blogs.cisco.com/developer/security-api- best-practices+&cd=4&hl=en&ct=clnk&gl=pk&client=firefox-b-d

QUESTION 55
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

Correct Answer: B
Section:
Explanation:

Reference: https://developer.cisco.com/site/sandbox/

QUESTION 56
Refer to the exhibit.

```
 1 #import dnac sdk
 2 from dnacentersdk import DNACenterAPI
 3 #connection to dnac
 4
 5 username = 'user1'
 6 password = 'secret'
 7 base_url = 'https://192.168.1.1'
 8
 9 dnac = DNACenterAPI(username=username, password=password, base_url=base_url,
   version='1.3.3', verify=False)
10
11 # Get list of ports on device using get all interfaces API call
12 port_list_1 = [item['portName'] for item in
   dnac.devices.get_all_interfaces()['response']
13                                   if 'da4606c3-63ad-4ed4-8f35-6bfec7c2df04' in
                                      item['deviceId']]
14
15 # Sort list items
16 port_list_1.sort()
17 # Check the number of ports on the device
18 print(f'The list of interfaces contains {len(port_list_1)} items.')
19
20 # Output
21 # The list of interfaces contains 38 items.
22
23
24 # Get list of interfaces using the get interface info by device id api call
25 port_list_2 = [item['portName'] for item in
26     dnac.devices.get_interface_info_by_id('da4606c3-63ad-4ed4-8f35-
       6bfec7c2df04')['response']]
27
28 # Sort list items
29 port_list_2.sort()
30 # Check the number of ports on the device
31 print(f'The list of interfaces contains {len(port_list_2)} items.')
32
33 # Output
34 # The list of interfaces contains 54 items.
```

An engineer writes a Python script that uses two different API calls to query Cisco DNA Center for the number of interfaces on a device. The engineer notices that the two API calls produce different results. Why are fewer interfaces returned for the same device when the 'get_all_interfaces' API call is used?

A. times out

B. rate limit

C. pagination

D. invalid password

Correct Answer: C
Section:

QUESTION 57
Why is refactoring done during test-driven development?

A. to enable larger objects and longer methods

B. to improve maintainability and readability

C. to ensure that the previous uses of the objects are explained

D. to ensure the duplication of essential code

Correct Answer: B
Section:

QUESTION 58
Refer to the exhibit.

```
1   from requests import request
2   from requests.auth import HTTPBasicAuth
3   from sys import argv
4   url = "https://"+ argv[1] +":443/restconf/data/native/ip/route"
5   auth = HTTPBasicAuth('developer', 'Cisco12345')
6   payload = {
7       "Cisco-IOS-XE-native:route": {
8           "ip-route-interface-forwarding-list": [
9               {
10                  "prefix": argv[2],
11                  "mask": argv[3],
12                  "fwd-list": [
13                      {
14                          "fwd": "GigabitEthernet2",
15                          "interface-next-hop": [
16                              {
17                                  "ip-address": argv[4]
18                              }
19                          ]
20                      }
21                  ]
22              }
23          ]
24      }
25  }
26  headers = {
27      'Content-Type': 'application/yang-data+json',
28      'Accept': 'application/yang-data+json',
29  }
30  response = request("PATCH", url, auth=auth, headers=headers, json = payload,
.   verify=False)
```

A network engineer must change the configuration on devices daily. The Python script must collect CLI arguments from the user, organize data according to the Cisco-IOS-XE-native YANG model, and utilize Cisco REST APIs to make the configuration. Which workflow is being automated by the Python script?

A. updating an existing route on the device
B. adding a new route to a device
C. including a route on the device and overwriting the current routes
D. deleting the route that is passed through the command-line variables

Correct Answer: A
Section:

QUESTION 59
Which platform is used to programmatically create a space and invite users for collaboration?

A. Cisco Intersight
B. Cisco Finesse
C. Cisco Webex
D. Cisco UCM

Correct Answer: C
Section:

QUESTION 60
Refer to the exhibit.

A developer wants to create a room named cisco through Webex API. The developer prepares the request by putting an API token inside the authorization header; however, the given HTTP call returns error code 400. How must the call parameters be changed to ensure a valid response?

A. Replace the team body parameter with the name body parameter.
B. Replace cisco with a valid name for a team.
C. Change the token in the header with the authorization token.
D. Change the HTTP method of the call to PUT.

Correct Answer: A
Section:

QUESTION 61
Refer to the exhibits.

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

`GET /v1/messages{?roomId,mentionedPeople,before,beforeMessage` ⎘

Header

Authorization   ⬤▢ Use personal access token

Bearer .... ⎘

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

Query Parameters

roomId
Required

e.g. Y2lzY29zcGFyazovL3VzL 1JPT00vYmJj

mentionedPeople

e.g. Y2lzY29zcGFyazovL3VzL 1BFT1BMRS6

before

e.g. 2016-04-2fTf:9:01:55:966Z

beforeMessage

e.g. Y2lzY29zcGFyazovL3VzL 1FU1NBROL

max

e.g. 100

Run

```
bash-3.2$ curl -H "Content-Type: application/json" -H "Authorization:
Fj2zzzykEa091ic9GK2j8LtE1HklHklH6oRHPQdw1Pat60i7ndtHHnWzL2b5pqMg14Kk_B9EI59isacLy7-
NarA02n9H-tGgt-SxQ39iDejgcs" -i -X POST -d "{ \"roomId\":
\"Y2geK53sjEknosrC7SwQ5ZGL99pHgiuScB7DfNvUsr8Xx4wDKLiPORcEkryAnM3QmK9LQZsP0G4\"
, \"text\": \"test2\" }" https://api.ciscospark.com/v1/messages

HTTP/1.1 401 Unauthorized
Via: 1.1 linkerd
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.

Correct Answer: C
Section:

QUESTION 62
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.

Correct Answer: B, C
Section:
Explanation:

Reference: https://medium.com/codebuddies/getting-to-know-asynchronous-javascript-callbacks-promises-and-async-await- 17e0673281ee

QUESTION 63

Which mechanism is used to consume a RESTful API design when large amounts of data are returned?

A. data sets
B. scrolling
C. pagination
D. blobs

Correct Answer: C
Section:
Explanation:

Reference: https://nordicapis.com/everything-you-need-to-know-about-api-pagination/

QUESTION 64
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.

Correct Answer: B
Section:

QUESTION 65
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.

Correct Answer: B, C
Section:

QUESTION 66
Which API is used to obtain data about voicemail ports?

A. Webex Teams
B. Cisco Unified Communications Manager
C. Finesse Gadgets
D. Webex Devices

Correct Answer: A
Section:

QUESTION 67
What is a difference between a synchronous API and an asynchronous API?

A. Synchronous API calls require an authentication header to be sent while asynchronous calls do not require authentication.
B. Synchronous API calls are returned immediately while asynchronous calls do not guarantee an immediate response.
C. An asynchronous API can make offline calls while synchronous APIs do not have this capability.
D. An asynchronous API can make a larger number of calls in a specified time period than a synchronous API.

Correct Answer: B
Section:
Explanation:

Reference: https://stackoverflow.com/questions/36213948/what-is-the-difference-between-asynchronous-calls-and-callbacks

QUESTION 68

```
import requests
from requests.auth import HTTPBasicAuth
headers = {'Content-Type': 'application/json'}
base_url = 'https://10.1.2.3'
auth_url = '/dna/system/api/v1/auth/token'
devices_url = '/dna/intent/api/v1/network-device'

token = requests.post(
    base_url + auth_url, headers=headers,
    auch=HTTPBasicAuth (username="admin", password="DevNet123"))
data = token.json()

query_string_params = {'platformId": "A1234-12B'}
response = requests.get(
    base_url + devices_url, headers=headers,
    params=query_string_params)
print (f'{response.code}')
```

Refer to the exhibit. A network engineer must manage the network devices. The engineer prepares a Python script to authenticate to the Cisco DNA Center API and request a device list. The device request, fails and returns error code 401. Which action solves the problem?

A. Update the credentials that are already supplied and retry the request.
B. Send the request to another network in case there are reachability issues.
C. Send the Authentication header in the request with a valid configuration.
D. Update the API URL, which matched the API endpoint for device list.

Correct Answer: A
Section:

QUESTION 69
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

Correct Answer: B
Section:
Explanation:

QUESTION 70
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

Correct Answer: D
Section:

QUESTION 71
Which two items are Cisco DevNet resources? (Choose two.)

A. TAC Support

B. Software Research

C. API Documentation

D. Bitbucket

E. Sandbox

Correct Answer: C, E
Section:
Explanation:

QUESTION 72
FILL BLANK Fill in the blanks to complete the Python script to update the Webex Teams membership of a room using the Python requests library.
import requests
url = "https://api.ciscospark.com/v1/memberships/
Y2lzY29zcGFyazov379971079INISVAvOTJiM2RkOWEtNjc1ZC00YTQxLThjNDEtMmFiZGY4OWY0NGY0OjExNzJkNmYwL TJIYzMtMTFIOS1iOWI3LWNmMjg3MTJhYTkzNw" my_token = "AbCdEf123456"
payload = "{\n \"isModerator\": true\n}" headers = {
'Authorization': 'Bearer' + my_token,
'Content-Type': 'application/json'
}
response = requests._____ ("PATCH", url, headers=_____, data =_____)
print(response.text.encode('utf8'))

A.

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

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

QUESTION 73
While developing a real-time VoIP application on a Cisco Webex Teams platform, users report that their voice gets chopped or parts of the conversation drops out. Which network constraint is impacting the application?

A. jitter
B. capacity
C. delay
D. latency

Correct Answer: A
Section:

QUESTION 74
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
teamId string	List rooms associated with a team, by ID.
type string	List rooms by tape. Possible values: direct, group
sortBy string	Sort results. Possible values: id, lastactivity, created
max number	Limit the maximum number of rooms in the response. Default: 100

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 posted to those rooms. HTTP GET /v1/rooms

A.

Correct Answer: A
Section:

Explanation:
Answer: A
Explanation:

GET/v1/rooms{?teamId,type,sortBy,max}
Reference: https://developer.webex.com/docs/api/v1/rooms/list-rooms

QUESTION 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?

A. 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.

B. The speed and duplex settings in Cisco DNA Center are set incorrectly, which causes the transfer to be too slow.

C. The script is running in the Voice VLAN and causes delays and jitter in the subnet.

D. Generating the logs causes the CPU on the network controller to spike, which causes delays in forwarding the voice IP packets.

Correct Answer: B
Section:

QUESTION 76
FILL BLANK
Fill in the blanks to complete the statement.
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.

A.

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

authentication parameter json

QUESTION 77
FILL BLANK
Fill in the blanks to complete the Python script to retrieve a list of network devices using the Cisco DNA Center API.
my_token=
'eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.ey.JzdWIiOiI1ZDE0OWZkMjhlZTY2
MmQ3NGM5YzE5ZTliLmYzMClslmV4cCI6MTU3MjM3ODE5MCwidXNlcm5hbWUiOiJraX
N370940885.zhK5LPQd501ZUpZI0IH_qrgOXttlNbxSFFF7JOEtRls'
import requests
url = "https://myDNAserver/dna/intent/api/v1/network-device" payload = {}
headers = {'x-auth-token': my_token}
response = requests.request(_____ , url,
headers =_____ , data =_____) print(response.text.encode('utf8'))

A.

Correct Answer: A

Section:
Explanation:
Answer: A
Explanation:

response = requests.request(method , url, headers = headers, data = request.get_data) print(response.text.encode('utf8'))
Reference: https://www.programcreek.com/python/example/64946/flask.request.get_data

QUESTION 78
Refer to the exhibit.
Given the API documentation for the UCS SDK Python class, UcsHandle, which code snippet creates a handle instance?

class ucsmsdk.ucshandle.**UcsHandle**(*ip, username, password, port=None, secure=None, proxy=None*)

    Bases: **ucsmsdk.ucssession.UcsSession**   [source]

    UcsHandle class is the user interface point for any Ucs 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

A.

```
#!/usr/bin/env python3

from ucsmsdk.ucshandle import UcsHandle

handle = UcsHandle("10.1.2.254", "admin", "password",
    port="443", secure=True)
```

B.

```
#!/usr/bin/env python3

from ucsmsdk.ucshandle import UcsHandle

handle = UcsHandle(ip="10.1.2.254", username="admin",
    password="password", port=443, secure=True)
```

C.

```
#!/usr/bin/env python3

from ucsmsdk.ucshandle import UcsHandle

handle = UcsHandle("10.1.2.254", "admin", "password",
    port="443", secure=1)
```

D.

```
#!/usr/bin/env python3

import ucsmsdk.ucshandle.UcsHandle

handle = UcsHandle("10.1.2.254", "admin", "password",
    port="443", secure=1)
```

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

D. Option D

Correct Answer: A
Section:
Explanation:

Reference: https://www.ciscolive.Com/c/dam/r/ciscolive/us/docs/2016/pdf/LTRINI%202020-LG.pdf

QUESTION 79
Refer to the exhibits.

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. Delimeter 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.)

A. configure interface loopback 5

B. 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

Correct Answer: A, D
Section:
Explanation:

Reference:
https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus9000/sw/7- x/programmability/guide/b_Cisco_Nexus_9000_Series_NX-OS_Programmability_Guide_7x/Python_API.html

QUESTION 80
What are two key capabilities of Cisco Finesse? (Choose two.)

A. Agents access Finesse from a browser without needing to install or configure anything on the client machine.

B. An OpenDNS utility is preconfigured and ready to use on Finesse.

C. Gadget containers provide a seamless experience in a single user interface.

D. Finesse automatically collects telemetry data.

E. Finesse includes an RPC API that enables the development of custom gadgets.

Correct Answer: A, C
Section:

QUESTION 81
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.

Correct Answer: B, D
Section:
Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/ucs-director/rest-api-getting-started-guide/6- 5/cisco-ucs-director-REST-API-getting-started-65.htmlhttps://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/sw/api/b_ucs_api_book.pdf

QUESTION 82
Which model-driven programmability protocol does Cisco IOS XE Software support?

A. gNMI
B. SOAP
C. SSH
D. CORBA

Correct Answer: A
Section:
Explanation:

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

QUESTION 83
What operation is performed with YANG model-driven programmability in NX-OS?

A. configure a device with native and OpenConfig-based models
B. bootstrap a device that has a factory-default configuration
C. send CLI commands to a device and retrieve output in JSON format
D. run Linux commands natively on the device

Correct Answer: A
Section:
Explanation:

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

QUESTION 84
What are two benefits of model-driven programmability? (Choose two.)

A. easier to design, deploy, and manage APIs
B. single choice of transport, protocol, and encoding

C. models decoupled from transport, protocol, and encoding

D. model-based, structured, and human friendly

E. model-driven APIs for abstraction and simplification

Correct Answer: C, E
Section:
Explanation:

Reference: https://www.ciscolive.com/c/dam/r/ciscolive/emea/docs/2018/pdf/BRKSPG-2303.pdfS

QUESTION 85
What is a benefit of model-driven programmability?

A. It provides a programmatic and standards-based way of writing configurations to any network device.

B. By modeling data, it ensures that vast quantities of data are usable for monitoring.

C. It simplifies management and operations by decoupling the networking hardware from its control mechanism.

D. It addresses the static architecture of traditional networks being decentralized and complex.

Correct Answer: A
Section:
Explanation:

Reference: https://developer.cisco.com/site/ios-xe/

QUESTION 86
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

Correct Answer: A
Section:
Explanation:

Reference: https://meraki.cisco.com/blog/tag/alerts/
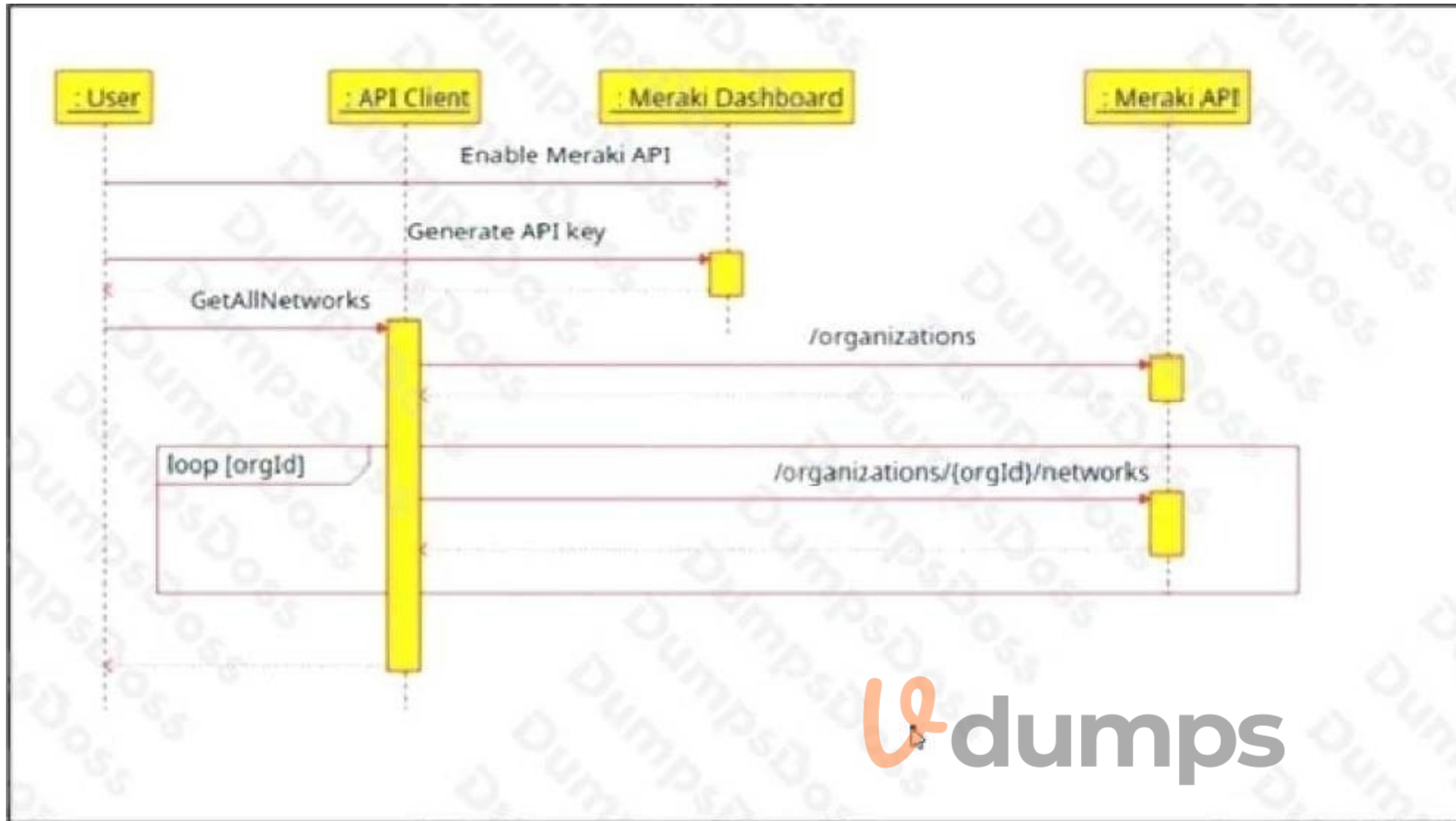
QUESTION 87

Refer to the exhibit. The Cisco Meraki API manages two organizations. In each organization, two independent networks are defined. How many calls to the /organizations/{orgId}/networks endpoint will be run parallel by the GetAllNetworks function of the API client?

A. 0
B. 1
C. 2
D. 4

Correct Answer: C
Section:

QUESTION 88
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. Why does the RESTCONF interface respond 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.

Correct Answer: B
Section:
Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios- xml/ios/prog/configuration/1611/b_1611_programmability_cg/restconf_programmable_interface.html

QUESTION 89
What is a requirement when authenticating a RESTCONF API session with a router that runs Cisco IOS XE Software?

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.

Correct Answer: D
Section:

QUESTION 90
Which API must an engineer use to change a netmask on a Cisco IOS XE device?

A. Meraki

B. SD-WAN

C. RESTCONF/YANG

D. DNAC

Correct Answer: C
Section:

QUESTION 91
A developer creates a script that configured multiple Cisco IOS XE devices in a corporate infrastructure. The internal test environment is unavailable, and no maintenance window is available to test on a low-priority production environment.
Which resource is used to test the code before it is applied to the production environment?

A. Code Exchange
B. Cisco Support
C. Cisco DevNet Learning Labs
D. Cisco DevNet Sandbox

Correct Answer: D
Section:
Explanation:

Reference: https://developer.cisco.com/site/sandbox/

QUESTION 92
Which tool is used to block all traffic to the domain by using a single API call?

A. Cisco Firepower
B. Cisco AMP
C. Cisco Umbrella
D. Cisco ISE

Correct Answer: A
Section:
Explanation:
Topic 4, Application Deployment and Security

QUESTION 93
Refer to the exhibit.

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

A process running on the host wants to access the service running inside this Docker container. Which port or ports are 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

Correct Answer: B
Section:

QUESTION 94

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 occurring when unhandled exceptions are returned in HTTP responses
E. allows for separation of applications that traditionally run on the same host

Correct Answer: A, B
Section:

QUESTION 95

A local Docker alpine image has been created with an image ID of a391665405fe and tagged as "latest". Which command creates a running container based on the tagged image, with the container port 8080 bound to port 80 on the host?

A. docker build -p 8080:80 alpine:latest
B. docker exec -p 8080:80 alpine:latest
C. docker start -p 8080:80 alpine:latest
D. docker run -p 8080:80 alpine:latest

Correct Answer: D
Section:

QUESTION 96
Refer to the exhibit.

```
# base image
FROM alpine

# Install python and pip
RUN apk add --update py2-pip

# Install python modules needed by the python app
COPY requirements.txt /usr/src/app/
RUN pip install --no-cache-dir -r /usr/src/app/requirements.txt

#copy local files for the app to run
COPY app.py /usr/src/app/
COPY templates/index.html /usr/src/app/templates/

EXPOSE 8080

#run the application
CMD ["python", "/usr/src/app/app.py"]
```

Which function does the EXPOSE line perform when building an image from this Dockerfile?

A. Local port 8080 of the container that launched with this docker image is accessible from co-hosted containers and external clients.
B. Local port 8080 is not reachable at all because no IP address is specified along with the EXPOSE command of the Dockerfile.
C. Local port 8080 is accessible from other containers running on the same docker host as the container that launched with this docker image.
D. Local port 8080 of the container that launched with this docker image is accessible to external clients.

Correct Answer: C
Section:

QUESTION 97
Which two elements are foundational principles 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

Correct Answer: A, D
Section:

QUESTION 98
Which platform is run directly on top of a hypervisor?

A. bare metal systems
B. virtual machines
C. containers
D. applications

Correct Answer: B
Section:

QUESTION 99
DRAG DROP
Refer to the exhibits.

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
	networks
	network_id
	clients
	api_key
	application/json
	params
	timespan
	432000

Section:
Explanation:

QUESTION 100
DRAG DROP
Drag and drop the requests from the left into the correct order on the right to create and check the path trace between two devices using Cisco DNA center API.

Select and Place:

GET /api/v1/flow-analysis/{flowAnalysisId}	Step 1
POST /api/v1/flow-analysis	Step 2
POST /api/system/v1/auth/token	Step 3
GET /api/v1/network-device/ and choose IP of source and destination devices	Step 4

Correct Answer:

	POST /api/system/v1/auth/token
	GET /api/v1/network-device/ and choose IP of source and destination devices
	POST /api/v1/flow-analysis
	GET /api/v1/flow-analysis/{flowAnalysisId}

Section:

Explanation:

QUESTION 101
DRAG DROP

```
SDK Documentation:

Class: Devices

Device List: get_device_list()
Get device: get_device_by_id(id)
Delete device: delete_device_by_id(id)
Device status: inventoryStatusDetail
Device Parameters:
    id
    uptime
    type
```

Refer to the exhibit. A Python script must delete all Cisco Catalyst 9300 Series switches that have an uptime that is greater than 90 days. The script must also query for the status of all the other devices. Drag and drop the code from the bottom onto the box where the code is missing to complete the script. Not all options are used.

Select and Place:

Answer Area

```
from dnacentersdk import DNACenterAPI

device_type = "Cisco Catalyst 9300 Switch"
api_session = DNACenterAPI(
    base_url="https://sandboxdnac.cisco.com",
    username="user",password="password"
    )

devices = [_____]

for device in devices:
    if int(device.upTime.split()[0]) > 90:
        if device.type == device_type:
            output = [_____]
            print(output)

    else:
        selected_device = [_____]
        output = [_____]
        print(output)
```

```
selected_device.response.inventoryStatusDetail(device)
```

```
api_session.devices.delete_device_by_id(device.id)
```

```
api_session.devices.get_device_by_id(device.id)
```

```
selected_device.response.inventoryStatusDetail
```

```
api_session.devices.get_device_list().response
```

Correct Answer:

```
Answer Area

from dnacentersdk import DNACenterAPI

device_type = "Cisco Catalyst 9300 Switch"
api_session = DNACenterAPI(
    base_url="https://sandboxdnac.cisco.com",
    username="user",password="password"
    )

devices = api_session.devices.get_device_list().response

for device in devices:
    if int(device.upTime.split()[0]) > 90:
        if device.type == device_type:
            output = api_session.devices.delete_device_by_id(device.id)
            print(output)

        else:
            selected_device = api_session.devices.get_device_by_id(device.id)
            output = selected_device.response.inventoryStatusDetail
            print (output)
```

```
selected_device.response.inventoryStatusDetail(device)
```

Section:
Explanation:

QUESTION 102
DRAG DROP
Drag and drop the element of the Finesse API on the left onto the description of its functionality on the right.

Select and Place:

Left column	Right column
User	Represents a skill group in Unified CCE.
Dialog	Represents the current state of the system.
Media	Represents an agent, supervisor or administrator.
Queue	Represents a group of users.
Team	Represents a call and the participants if the media type is voice.
SystemInfo	Sends client-side logging to the Finesse Server.
ClientLogs	Represents a user's state in a non-voice Media Routing Domain.

Correct Answer:

Left column	Right column
	Queue
	SystemInfo
	User
	Team
	Dialog
	ClientLogs
	Media

Section:
Explanation:
Reference: https://developer.cisco.com/docs/finesse/#!cisco-finesse-desktop-apis

QUESTION 103
DRAG DROP
Drag and drop the capability on the left onto the Cisco compute management platform that supports the capability on the right.

Select and Place:

Multi-Cloud automation and orchestration platform for Cisco and third-party servers, networks, storage, and converged infrastructure.	UCS Manager
Software as a Service Platform that enables Cisco infrastructure management, automation and orchestration from anywhere.	UCS Director
Embedded software that enables Cisco server, fabric, and storage provisioning.	Intersight

Correct Answer:

	Embedded software that enables Cisco server, fabric, and storage provisioning.
	Multi-Cloud automation and orchestration platform for Cisco and third-party servers, networks, storage, and converged infrastructure.
	Software as a Service Platform that enables Cisco infrastructure management, automation and orchestration from anywhere.

Section:
Explanation:

QUESTION 104
DRAG DROP
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
	VOLUME["/var/www","/var/log/apache2","/etc/apache2"]
RUN apt-get update && apt-get install –y –force-yes apache2	ENTRYPOINT["/usr/sbin/apache2ctl","-D","FOREGROUND"]
	FROM ubuntu:12.04

Section:
Explanation:

QUESTION 105
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing in the Bash script to complete the missing assignments.

Select and Place:

```
#!/bin/bash

[            ]    =`date +%b-%d-%y'

[            ]    =/home/usr/path/backup-$BACKUPTIME.tar.gz

[            ]    =/home/usr/path/data_folder


tar -cpzf $DESTINATION $SOURCEFOLDER
```

| BACKUPTIME | SOURCEFOLDER | DESTINATION |

Correct Answer:

```
#!/bin/bash

[ BACKUPTIME ]    =`date +%b-%d-%y'

[ DESTINATION ]   =/home/usr/path/backup-$BACKUPTIME.tar.gz

[ SOURCEFOLDER ]  =/home/usr/path/data_folder


tar -cpzf $DESTINATION $SOURCEFOLDER
```

| | | |

Section:
Explanation:

QUESTION 106
DRAG DROP
Drag and drop the Bash commands from the left onto the correct actions on the right.

Select and Place:

Command	Description
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:

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

Section:
Explanation:

QUESTION 107
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.

Select and Place:

BACKUPTIME	<item 1>
SOURCEFOLDER	<item 2>
DESTINATION	<item 3>

Correct Answer:

	BACKUPTIME
	DESTINATION
	SOURCEFOLDER

Section:
Explanation:
Reference: https://medium.com/@fotios.floros/linux-backup-script-1722cc9c2bf6 (use tar in order to create your backup file)

QUESTION 108
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

environment where you pay only for the resources that you consume

offers a self-service, elastic compute environment from a dedicated set of physical resources

provides an approach for overflow traffic to burst out to meet peak demands

shared compute platform that is offered over the Internet

Public Cloud

Private Cloud

Hybrid Cloud

Edge Computing

Correct Answer:

Public Cloud

environment where you pay only for the resources that you consume

shared compute platform that is offered over the Internet

Private Cloud

offers a self-service, elastic compute environment from a dedicated set of physical resources

Hybrid Cloud

provides an approach for overflow traffic to burst out to meet peak demands

Edge Computing

provides a low-latency compute capability close to the data source

Section:
Explanation:

QUESTION 109
DRAG DROP
Drag and drop elements of the RESTCONF Protocol stack from the left onto the correct descriptors on the right. Not all elements on the left are used.

Select and Place:

Left	Right
<data>	content
XML or JSON	operations
SSH	transport
<rpc>, <rpc-reply>	
GET, POST, PUT, PATCH, DELETE	
HTTPS	

Correct Answer:

Left	Right
<data>	XML or JSON
	GET, POST, PUT, PATCH, DELETE
SSH	HTTPS
<rpc>, <rpc-reply>	

Section:
Explanation:
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 110
DRAG DROP
Drag and drop the types of management from the left onto the levels at which they are performed on the right.

Select and Place:

user and programmability interaction through the use of lower level APIs	Controller level
user and programmability interaction through the use of Northbound APIs	
iterate over a list of devices	
configure features with YANG models	Device level

Correct Answer:

Controller level
- user and programmability interaction through the use of Northbound APIs
- configure features with YANG models

Device level
- user and programmability interaction through the use of lower level APIs
- iterate over a list of devices

Section:
Explanation:

QUESTION 111
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
	firewall
	load balancer
	reverse proxy
NAT gateway	

Section:
Explanation:

QUESTION 112
DRAG DROP
Drag and drop the network automation interfaces from the left onto the transport protocols that they support on the right.

Select and Place:

SSH		gRPC	
HTTP			
HTTP/2		NETCONF	
HTTPS			
		RESTCONF	

Correct Answer:

	gRPC	
	HTTP/2	
	NETCONF	
	SSH	
	RESTCONF	
	HTTP	
	HTTPS	

Section:
Explanation:

QUESTION 113
DRAG DROP

Drag and drop the functionalities from the left onto the correct networking devices on the right.

Select and Place:

ports are different broadcast domain by default	Firewall
ports can be in the same broadcast domain	Load Balancer
uses traffic inspection to make routing decisions	Router
blocks networks traffic by default	Switch

Correct Answer:

	blocks networks traffic by default
	uses traffic inspection to make routing decisions
	ports are different broadcast domain by default
	ports can be in the same broadcast domain

Section:
Explanation:
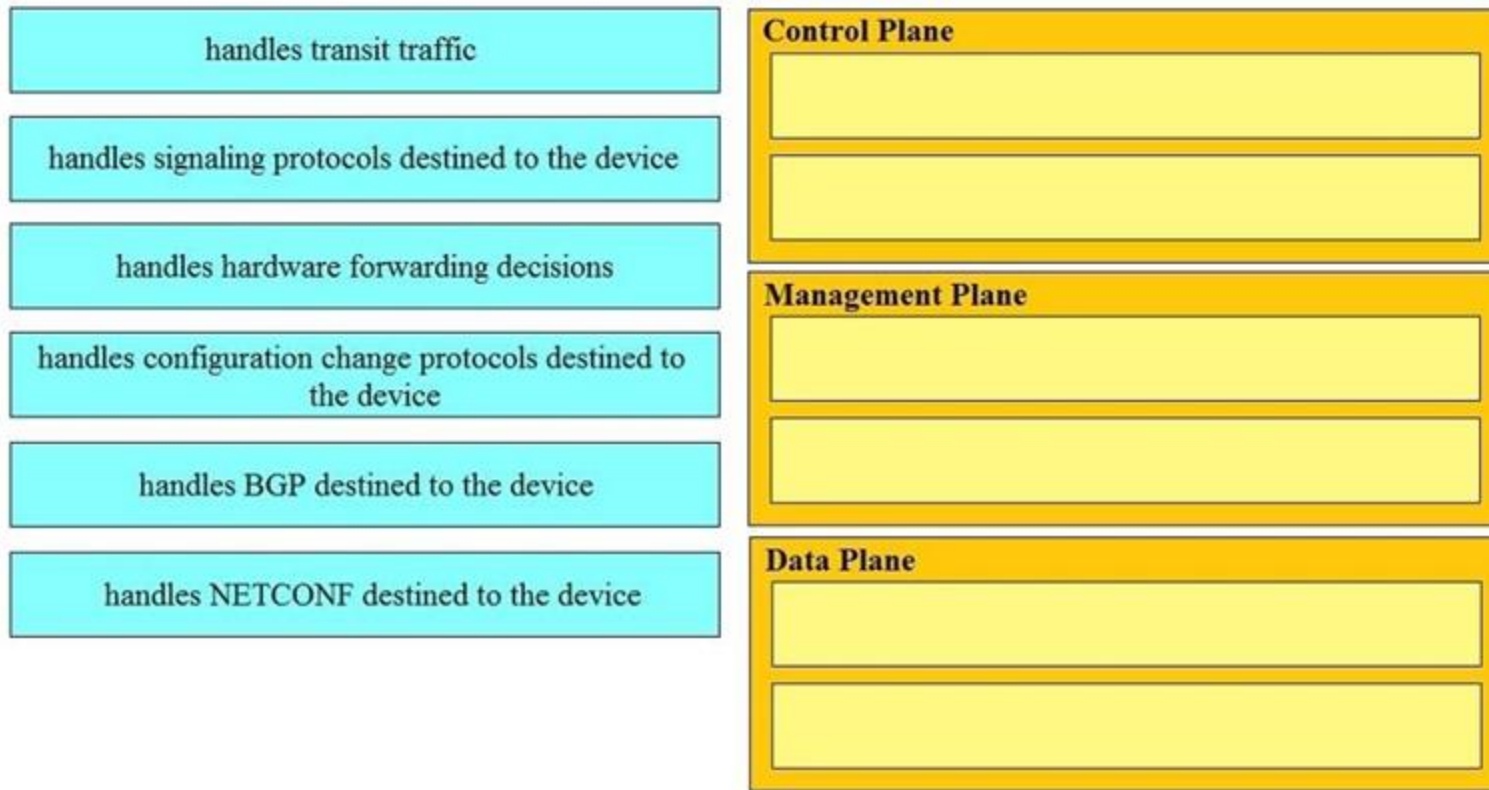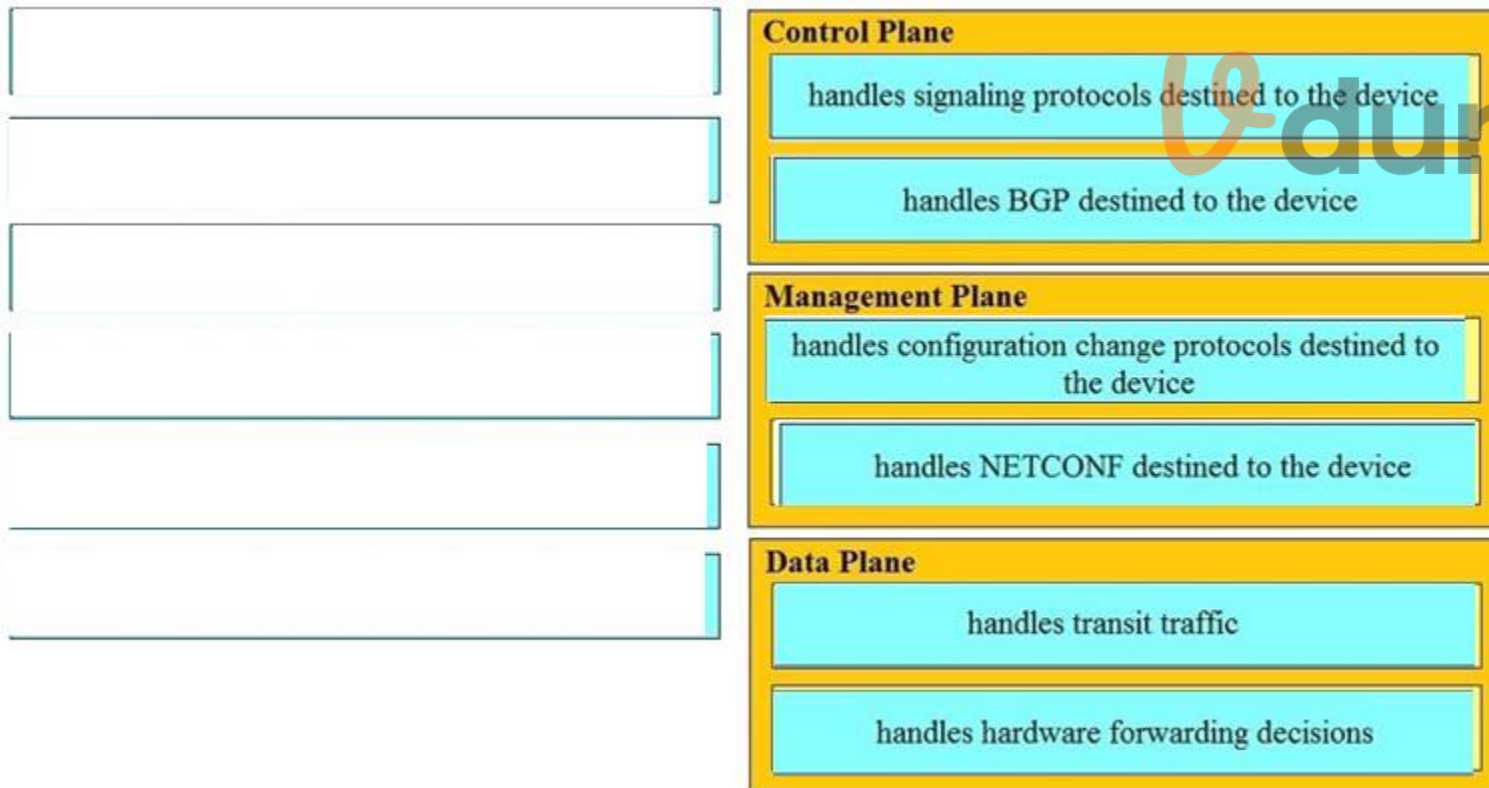Reference: https://geek-university.com/ccna/broadcast-domain-explained/

QUESTION 114
DRAG DROP
Drag and drop the function on the left onto the type of plane that handles the function on the right.

Select and Place:

	Control Plane
handles transit traffic	
handles signaling protocols destined to the device	
handles hardware forwarding decisions	**Management Plane**
handles configuration change protocols destined to the device	
handles BGP destined to the device	
handles NETCONF destined to the device	**Data Plane**

Correct Answer:

Control Plane
- handles signaling protocols destined to the device
- handles BGP destined to the device

Management Plane
- handles configuration change protocols destined to the device
- handles NETCONF destined to the device

Data Plane
- handles transit traffic
- handles hardware forwarding decisions

Section:
Explanation:

QUESTION 115
Refer to the exhibit.

```
url = 'https://api.amp.cisco.com/v1/computers'
response = session.get (url)
response_json = response.json ()

for item in response_json ['data'] :
    print (item['connector_guid'], item['hostname'])

while 'next' in response_json['metadata'] ['links']:
    ┌──────────────────────────────────────────────────────┐
    │                                                      │
    └──────────────────────────────────────────────────────┘
    response = session.get (next_url)
    response_json = response.json()
    for item in response_json['data']:
        print(item['connector_guid'], item['hostname'])
```

An engineer sends the request to collect data over Cisco AMP for Endpoints API. The Engineer must list guide and hostname data for all computers, but the first request returns only 500 items out of 2,000. Then, the engineer adds the loop to collect all the dat a. What must be added to the script where the code is missing to complete the requests?

A. `next_url = response_json ['metadata'] ['links'] ['next']`

B. `next_url = response_json ['metadata'] ['next']`

C. `next_url = response_json ['next']`

D. `next_url = response_json ['metadata'] ['links']`

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

Correct Answer: A
Section:
Explanation:

https://github.com/CiscoSecurity/amp-03-pagination/blob/master/01_paginate.py while 'next' in response_json['metadata']['links']:
next_url = response_json['metadata']['links']['next'] response = session.get(next_url) response_json = response.json() for computer in response_json['data']:
print(computer['connector_guid'], computer['hostname'])

QUESTION 116
Which protocol is used for clock synchronization between network devices?

A. FTP
B. NNTP
C. BGP
D. NTP

Correct Answer: D
Section:
Explanation:

Network Time Protocol (NTP) is an internet protocol used to synchronize with computer clock time sources in a network. It belongs to and is one of the oldest parts of the TCP/IP suite. The term NTP applies to both the protocol and the client- server programs that run on computers.

QUESTION 117
What is the meaning of the HTTP status code 204?

A. request completed; new resource created
B. server successfully processed request; no content returned
C. standard response for successful requests
D. invalid query parameters

Correct Answer: B
Section:
Explanation:

QUESTION 118
Which two commands download and execute an Apache web server container in Docker with a port binding 8080 in the container to 80 on the host? (Choose two.)

A. docker pull apache
B. docker run -p 8080:80 httpd
C. docker run -p 80:8080 httpd
D. docker pull httpd
E. docker pull https

Correct Answer: C, D
Section:
Explanation:

QUESTION 119
What is a functionality of the Waterfall method as compared to the Agile method for software development?

A. Waterfall increases agility to implement faster while Agile promotes reliability.
B. A phase begins after the previous phase has ended in Waterfall while Agile phases run in parallel.
C. Customers get feedback during the process in Waterfall while they can see the result at the end in Agile.
D. Requirements can be updated in Waterfall while in Agile it should be gathered in the beginning.

Correct Answer: B
Section:

QUESTION 120
What is a benefit of using functions in the code for the development process?

A. better user experience in the end product
B. improves code performance

C. easier to compile the code

D. faster code development

Correct Answer: D
Section:

QUESTION 121
What is the difference between YAML and JSON data structure?

A. YAML uses spaces; JSON uses parentheses

B. YAML uses indentation; JSON uses brackets and braces

C. YAML uses brackets and braces; JSON uses indentation

D. YAML uses parentheses; JSON uses spaces

Correct Answer: A
Section:

QUESTION 122
A developer is working on a feature for a new application. The changes in the existing branch named 'feat00304' must be integrated into a single commit with the current working primary branch named 'prodapp411926287'. Which git command must be used?

A. git rebase --merge feat00304

B. git merge --squash feat00304

C. git push --rebase feat00304

D. git checkout --squash feat00304

Correct Answer: B
Section:

QUESTION 123
A file that already exists in a local repository is updated. Which command must be executed to ensure that the changes in the file are included in the next Git commit?

A. git update

B. git merge

C. git add

D. git rebase

Correct Answer: A
Section:

QUESTION 124
Into which type of Python data structure should common data formats be parsed?

A. sequence

B. set

C. dictionary

D. list

Correct Answer: C
Section:

QUESTION 125
Several teams at a company are developing a new CRM solution to track customer interactions with a goal of improving customer satisfaction and driving higher revenue. The proposed solution contains these components:
• MySQL database that stores data about customers
• HTML5 and JavaScript UI that runs on Apache
• REST API written in Python
What are two advantages of applying the MVC design pattern to the development of the solution? (Choose two.)

A. to enable multiple views of the same data to be presented to different groups of users
B. to provide separation between the view and the model by ensuring that all logic is separated out into the controller
C. to ensure data consistency, which requires that changes to the view are also made to the model
D. to ensure that only one instance of the data model can be created
E. to provide only a single view of the data to ensure consistency

Correct Answer: B, D
Section:

QUESTION 126
Which HTTP code group is issued when a request is received successfully, understood, and processed?

A. 2xx
B. 3xx
C. 4xx
D. 5xx

Correct Answer: A
Section:

QUESTION 127
A developer creates a web application that receives a username and password and uses them to sync the credentials to other services through HTTPS. API keys to services are part of the configuration files of the application, but the credentials to the database that stores the synchronization logs are obtained through an external vault service. What is the security issue in this scenario?

A. Communication between the application and the services is not encrypted.
B. The database credentials should be stored in the configuration files so that they are secured on the same server.
C. The API keys are stored in the configuration files but should be stored in the vault service.
D. The synchronization logs should be encrypted and not stored in a relational database.

Correct Answer: A
Section:

QUESTION 128
Refer to the exhibit.

```
$ sh script.sh
Traceback (most recent call last):
  File "script.py", line 2, in <module>
    api = WebexTeamsAPI()
  File "/opt/.venv/pyvenv35/lib/python3.5/site-packages/webexteamssdk/api/__init__.py", line 112,
in __init__
    "You must provide a Webex Teams access token to interact with "
webexteamssdk.exceptions.AccessTokenError: You must provide a Webex Teams access token to interact
with the Webex Teams APIs, either via a WEBEX_TEAMS_ACCESS_TOKEN environment variable or via the
access_token argument.
$
$
$ cat script.sh
#!/bin/bash

python script.py
$
```

Which line must be included in the Bash script for the Python code to succeed?

A. define WEBEX_TEAMS_ACCESS_TOKEN=your_access_token_here

B. export WEBEX_TEAMS_ACCESS_TOKEN=your_access_token_here

C. set WEBEX_TEAMS_ACCESS_TOKEN=your_access_token_here

D. WEBEX_TEAMS_ACCESS_TOKEN=your_access_token_here

Correct Answer: B
Section:

QUESTION 129
What is a capability of the NETCONF protocol?

A. allows Python scripts to be executed externally from a network device

B. uses JSON to encode data in its content layer

C. allows XML messages to be exchanged via the SSH protocol

D. exposes a web-based interface

Correct Answer: C
Section:

QUESTION 130
Refer to the exhibit.

```
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:Netconf:base:1.0">
  <get-conflg>
    <source>
      <running/>
    </source>
    <filter>
      <interfaces xmlns=" urn:ietf:params:xml:ns:yang:ietf-interfaces">
        <interface>
          <name/>
        </interface>
      </interfaces>
    </filter>
  </get-config>
</rpc>
```

A network engineer uses model-driven programmability to monitor and perform changes on the network.
The network engineer decides to use the NETCONF RPC message to complete one of their tasks. What is accomplished by sending the RPC message?

A. The running-config of the device is returned.

B. The name of each interface is reset to a default name.

C. All the YANG capabilities supported by the device are returned.

D. A list of interface names is returned.

Correct Answer: A
Section:

QUESTION 131
Refer to the exhibit.

```
import requests
from requests.auth import HTTPBasicAuth
from dnac_config import DNAC, DNAC_PORT, DNAC_USER, DNAC_PASSWORD

def get_auth_token():
    url = 'https://sandboxdnac.cisco.com/dna/system/api/v1/auth/token'
    # API Endpoint: requires POST method


def get_device_list():
    """ """
    Building out function to retrieve list of devices. Using requests.get to make a call
    to the network de-vice Endpoint
    """ """
    token = get_auth_token() # Get Token
    url = 'https://sandboxdnac.cisco.com/api/v1/network-device'
    hdr = {'x-auth-token': token, 'content-type' : 'application/json'}
    resp = requests.get(url, headers=hdr)
    device_list = resp.json()
    print_device_list(device_list)

if __name__ == "__main__":
    get_device_list()
```

A developer creates a script to obtain a list of devices by using the Cisco DNA Center API. The remote server authorizes the request only if an authentication token is supplied in the headers. A function named get_auth_token() must retrieve a valid token by using HTTP Basic Authentication. Which code must be added to complete the get_auth_token() function?

A. resp = requests.post(url, auth=HTTPBasicAuth(DNAC_USER, DNAC_PASSWORD)) token = resp.json()['Token'] return token

B. resp = requests.post(url, auth=(DNAC_USER, DNAC_PASSWORD)) token = resp.json ()['Token'] return token

C. resp = http.post(url, auth=HTTPBasicAuth(DNAC_USER, DNAC_PASSWORD)) token = resp.json()['Token'] return token

D. resp = http.post(url, auth=(DNAC_USER, DNAC_PASSWORD)) token = resp.json()['Token'] return token

Correct Answer: A
Section:

QUESTION 132
Refer to the exhibit.

```
import requests, sys
from config import user, password

url = "http://restconf.devnet.com:9443/api/running/interfaces"

headers = [                                                    ]

response = requests.put(url, auth=(user, password), headers=headers,
verify=False)
print(response.text)
```

A network engineer wants to use an API to update information about device interfaces. The network devices are deployed in a Cisco DevNet Sandbox and have running interfaces. Which line of code needs to be placed in the snippet where the code is missing?

A. {'Content-Type': 'application/yang.data+xml', 'Accept': 'application/yang.data+xml'}
B. {'Content-Type': 'application/yang.data+yaml', 'Accept': 'application/yang.data+yaml'}
C. {'Content-Type': 'application/restconf.data+json', 'Accept': 'application/restconf.data+json'}
D. {'Content-Type': 'application/yang.data+utf8', 'Accept': 'application/restconf.data+utf8'}

Correct Answer: C
Section:

QUESTION 133
Refer to the exhibit.

```
 1 #/bin/bash
 2
 3 curl https://ciscodevnet.com/devnet-0.13.tar.gz -o /tmp/devnet.tar.gz
 4 tar -zxf /tmp/devnet.tar.gz
 5 mkdir /tmp/devnet && pushd /tmp/devnet
 6
 7 ./configure && make && make install
 8
 9 systemctl enable devnet
10 systemctl start devnet
```

A network engineer works on a Cisco DevNet application that is available for download on the Cisco DevNet website. The engineer prepares a bash script to automate operations that relate to the application. Which workflow is being automated in the bash script?

A. compilation and configuration of the Cisco DevNet application so that it must be started manually
B. compilation, installation, and configuration of the Cisco DevNet application so that it starts automatically
C. compilation and installation of the Cisco DevNet application for an autonomous deployment model
D. installation and configuration of the Cisco DevNet application so that it starts manually

Correct Answer: B
Section:

QUESTION 134
A company wants to accelerate the adoption of technologies that will simplify its operations. Staff have different skill levels and are looking for a single site to find easy-to-consume beginner, intermediate, and advanced multidomain use cases.
Which site should be used?

A. DevNet Ecosystem Exchange
B. DevNet Automation Exchange
C. DevNet Creations
D. DevNet Support Forum

Correct Answer: D
Section:

QUESTION 135
Which Cisco product provides malware and content filtering through DNS?

A. Cisco ASA Firepower module
B. Cisco AMP
C. Cisco ISE
D. Cisco Umbrella

Correct Answer: D
Section:

QUESTION 136
A company is adopting DevOps as part of an internal transformation, and is reviewing the success of the first deployments.
Developers and engineers are working together to resolve any resulting issues.
However, this new way of working has increased overhead, and the team is finding it difficult to complete releases in time.
Which area of the CALMS framework must the company target for improvement?

A. Collaboration
B. Lean
C. Sharing
D. Measurement

Correct Answer: B
Section:
Explanation:

Reference: https://blog.sonatype.com/principle-based-devops-frameworks-calms

QUESTION 137
Refer to the exhibit.

```
FROM nginx

ARG DELAY="30"
ENV INITIAL_DELAY=${DELAY}

ENTRYPOINT ["/bin/sh"]

CMD ["-c", "/bin/sleep ${INITIAL_DELAY} && nginx -g
'daemon off;'"]
```

Which command, including arguments, is executed when the container starts?

A. /bin/sh -c "/bin/sleep 30 && nginx -g 'daemon off;'"
B. /bin/sh -c "/bin/sleep 10 && nginx -g 'daemon off;'"
C. /bin/bash -c "/bin/sleep 30 && nginx -g 'daemon off;'"
D. /bin/sh -c "/bin/sleep 30" && nginx -g 'daemon off;'

Correct Answer: A
Section:

QUESTION 138
A developer created a new secure API and is testing the functionality locally. The API was added to a container for further testing, and other team members and applications need to connect to the API. Which command exposes the API in the container as port 8443 and allows connections external to the host?

A. docker run -p 127.0.0.1:80:8443/tcp myapiservice
B. docker run -p 0.0.0.0:443:8443/tcp myapiservice
C. docker run -p 0.0.0.0:8443:443/tcp myapiservice
D. docker run -p 127.0.0.1:443:8443/tcp myapiservice

Correct Answer: C
Section:

QUESTION 139
A developer has created a new image to use in a Docker build and has added a tag for the image by using the command:
$ docker tag 84fe411926287 local/app:0.4
Which command must be executed next to build the Docker image using the tag?

A. $ docker build -p local/app:0.4
B. $ docker run -t local/app:0.4
C. $ docker run -p local/app:0.4
D. $ docker build -t local/app:0.4

Correct Answer: D
Section:

QUESTION 140
What is a benefit of using a code review process in application development?

A. accelerates the deployment of new features in an existing application
B. provides version control during code development
C. enables the quick deployment of new code
D. eliminates common mistakes during development

Correct Answer: D
Section:

QUESTION 141
Which OWASP threat takes advantage of a web application that the user has already authenticated to execute an attack?

A. phishing
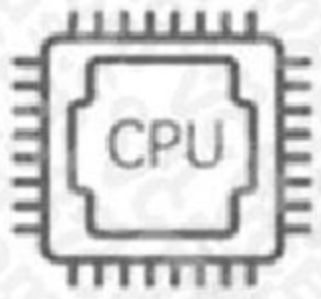B. DoS
C. brute force attack
D. CSRF

Correct Answer: D
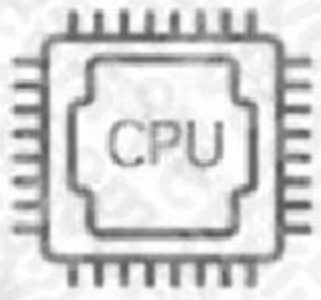**Section:**

QUESTION 142

Refer to the exhibit. An application must be deployed on a server that has other applications installed. The server resources are to be allocated based on the deployment requirements. The OS for each application must be independent. Which type of deployment is used?

A. hybrid
B. virtual machines
C. containers
D. bare metal

Correct Answer: B
Section:

QUESTION 143
What is a benefit of a CI/CD pipeline for infrastructure?

A. removes manual errors
B. enables manual steps
C. removes the need for operations
D. provides variety for deployments

Correct Answer: A
Section:

QUESTION 144
During which step of the CI/CD pipeline for infrastructure automation is code from multiple developers combined to compile and test different components?

A. integration
B. deployment
C. development
D. testing

Correct Answer: A
Section:
Explanation:

Reference: https://www.opsmx.com/blog/what-is-a-ci-cd-pipeline/

QUESTION 145

```
1   import requests
2
3   url = "https://api.meraki.com/api/v0/organizations/{{organizationId}}/insight/
4   monitoredMediaServers"
5   payload = {
6       "name": "Sample VoIP Provider",
7       "address": "123.123.123.1"
8   }
9   headers = {
10    'Accept': '*/*',
11    'Content-Type': 'application/json'
12  }
13
14  response = requests.request("POST", url, headers=headers, data=payload)
15
16  print(response.text.encode('utf8'))
```

Refer to the exhibit. Which workflow does the script automate?

A. retrieves a media server that is being monitored

B. updates a media server that is being monitored

C. adds a media server to be monitored

D. deletes a media server that is being monitored

Correct Answer: B
Section:

QUESTION 146
Which two details are captured from the subnet mask? (Choose two.)
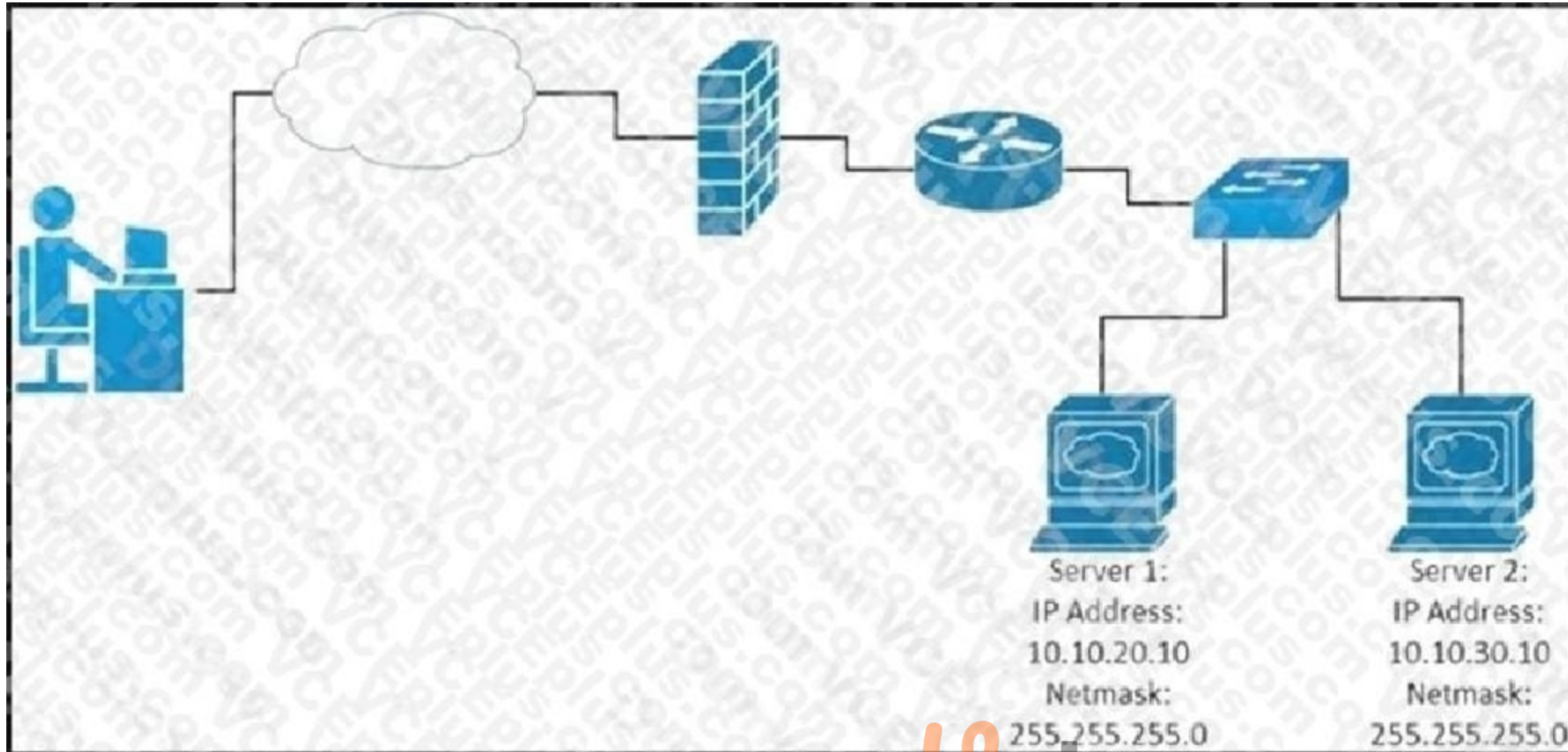
A. portion of an IP address that refers to the subnet

B. default gateway of the host

C. unique number ID assigned to the host

D. part of an IP address that refers to the host

E. network connection of a host or interface

Correct Answer: A, D
Section:

QUESTION 147

Refer to the exhibit. While developing a Cisco Webex bot, an application reaches the public IP address of the firewall, but traffic is forwarded to the IP address of server 1 instead of the IP address of server 2. What causes this issue?

A. The proxy server that rewrites traffic is misconfigured.
B. The router is sending the traffic to server 1 instead of server 2.
C. The switch is forwarding IP traffic to the wrong VLAN.
D. NAT is misconfigured on the firewall.

Correct Answer: D
Section:

QUESTION 148
DRAG DROP

/api/access/global/rules	API operations on global access rules.	GET PUT PATCH POST DELETE

Implementation Notes

Add a new global access rule.

Parameters

Parameter	Required	Description	Type	Data Type
body	true	Definition of the global access rule to be added.	body	ExtendedACE

Response

Response Content Type [application/json]

Response Object   ExtendedACE

ExtendedACE Model

Field	Value	Description	Constraints
sourceAddress*	object	source address in the ace	None
destinationAddress*	object	destination address in the ace	None
kind*	string	The kind of this resource object.	None
dstSecurity	object	destination security group in the ace	None
dstSecurity. Value	string		None
active*	boolean	shows if the rule is active or inactive, default is active	None
destinationService*	object	destination service in the ace	None
permit*	boolean	shows if the action is permit or deny	None

Refer to the exhibit. Drag and drop the code from the bottom onto the box where the code is missing to complete the function that adds a new global access rule that denies traffic using the Cisco ASA REST API. Not all options are used.
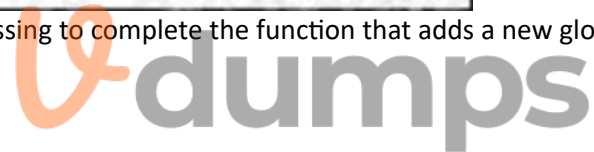
Select and Place:

```
import requests as req
def add rule(token, asa IP, dest v4Address):
    data = {
        "destinationAddress": {
            "kind": "IPv4Address",
            "value": dest v4Address
        },
        "destinationService": {
            "kind": "NetworkProtocol",
            "value": "ip"
        },
        [                                    ]
        "active": True,
        "sourceAddress": {
            "kind": "AnyIPAddress",
            "value": "any4"
        }
    }
    objectRequestUrl='https://' [                    ]
    res = req.request( [                          ]
                json=data,verify=False)
    [                                    ]
    print("Success.")
else:
    print("Failed")
```

if res.status_code == 201:
if res.status_code == 203:
+ asa_IP + "/api/access/global/rules"
'POST', objectRequestUrl,
"permit": False,
+ asa_IP = "/access/global/rules"

Correct Answer:

```
import requests as req
def add rule(token, asa IP, dest v4Address):
    data = {
        "destinationAddress": {
            "kind": "IPv4Address",
            "value": dest v4Address
        },
        "destinationService": {
            "kind": "NetworkProtocol",
            "value": "ip"
        },
        "permit": False,
        "active": True,
        "sourceAddress": {
            "kind": "AnyIPAddress",
            "value": "any4"
        }
    }
    objectRequestUrl='https://'+ asa_IP + "/api/access/global/rules"
    res = req.request('POST', objectRequestUrl,
                json=data,verify=False)
if res.status_code == 201:
    print("Success.")
else:
    print("Failed")
```

```
if res.status_code == 203:
```

```
+ asa_IP = "/access/global/rules"
```

Section:
Explanation:

QUESTION 149
DRAG DROP
Drag and drop the API characteristics from the left onto the categories on the right.

Select and Place:

The API is seen as a function call.	REST
There is communication between server and client.	
It follows a resource-oriented model.	
The API can be stateless.	RPC

Correct Answer:

	REST
	There is communication between server and client.
	The API is seen as a function call.

	RPC
	The API can be stateless.
	It follows a resource-oriented model.
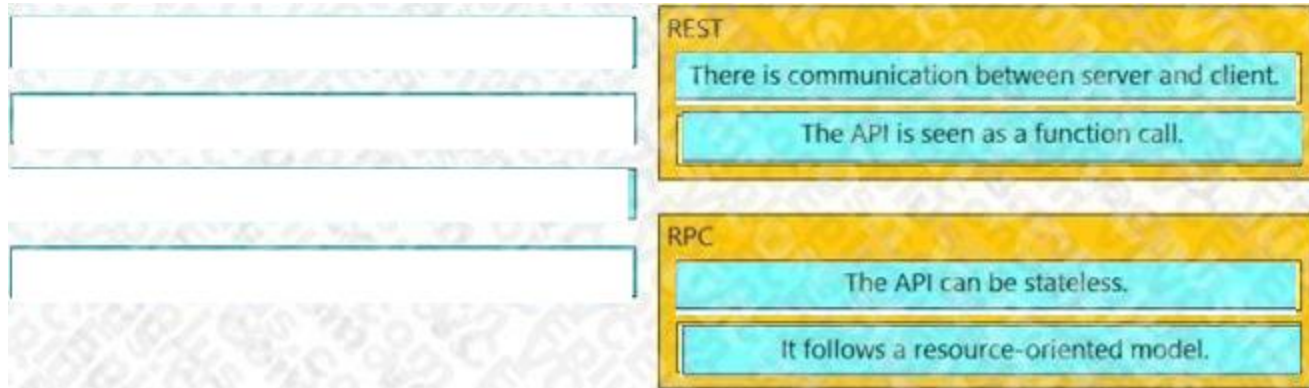
Section:
Explanation:

QUESTION 150
Refer to the exhibit.

```
module ietf-interface {
  namespace "urn:ietf:params:xml:ns:yang:ietf-interfaces";
  prefix if;
  import ietf-yang-types {
    prefix yang;
  }
  container interfaces-state {
    list interface {
      key "name";
      leaf name {
        type string;
      }
      leaf admin-status {
        type enumeration {
          enum up {
            value 1;
          }
          enum down {
            value 2;
          }
          enum testing {
            value 3;
          }
        }
      }
      leaf if-index {
        type int32 {
          range "1..2147483647"
        }
      }
      container statistics {
        leaf in-octets {
          type yang:counter64;
        }
        leaf in-unicast-pkts {
          type yang:counter64;
        }
      }
    }
  }
}
```

Which XML snippet has interface information that conforms to the YANG model?

A.

```xml
<interfaces-state
xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"
xmlns:if="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    <interface name="GigabitEthernet1">
        <admin-status>1</admin-status>
        <if-index>1</if-index>
        <statistics>
            <in-octets>408164820</in-octets>
            <in-unicast-pkts>728061</in-unicast-pkts>
        </statistics>
    </interface>
</interfaces-state>
```

B.

```xml
<interfaces-state
xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"
xmlns:if="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    <interface>
        <name>GigabitEthernet1</name>
        <admin-status>up</admin-status>
        <if-index>1</if-index>
        <in-octets>408164820</in-octets>
        <in-unicast-pkts>728061</in-unicast-pkts>
    </interface>
</interfaces-state>
```

C.

```xml
<interfaces-state
xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"
xmlns:if="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    <interface>
        <name>GigabitEthernet1</name>
        <admin-status>up</admin-status>
        <if-index>1</if-index>
        <statistics>
            <in-octets>408164820</in-octets>
            <in-unicast-pkts>728061</in-unicast-pkts>
        </statistics>
    </interface>
</interfaces-state>
```

D.

```
<interfaces-state
xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"
xmlns:if="urn:ietf:params:xml:ns:yang:ietf-interfaces">
    <interface>
        <name>GigabitEthernet1</name>
        <admin-status>1</admin-status>>
        <if-index>1</if-index>
        <statistics>
            <in-octets>408164820</in-octets>
            <in-unicast-pkts>728061</in-unicast-pkts>
        </statistics>
    </interface>
</interfaces-state>
```

Correct Answer: C
Section:
Explanation:

https://datatracker.ietf.org/doc/id/draft-ietf-netmod-interfaces-cfg-01.txt <adminstatus>up</admin-status>

QUESTION 151
What is a benefit of version control?

A. prevents two users from working on the same file
B. keeps track of all changes to the files
C. prevents the sharing of files
D. keeps the list of data types used in the files

Correct Answer: B
Section:
Explanation:

QUESTION 152
Refer to the exhibit.

```
git clone git://git.kernel.org/.../git.git my.git
cd my.git
git branch -d -r origin/todo origin/html origin/man    (1)
git branch -D test                                     (2)
```

What does the command marked (2) do when it is run?

A. It duplicates the test" branch.
B. It deletes the "test" branch only if a new branch is created.
C. It deletes the "test" branch.
D. It does not delete the branch until it is merged.

Correct Answer: C
Section:

Explanation:

QUESTION 153
What is a comparison of YAML and JSON?

A. YAML has a more consistent approach to representing data compared to JSON.
B. JSON does not support comments and YAML does.
C. YAML is a more verbose data structure compared to JSON.
D. JSON has more common usage in configuration management tools compared to YAML.

Correct Answer: B
Section:
Explanation:

Reference: https://stackoverflow.com/questions/244777/can-comments-be-used-in-jsonCan I use comments in JSON? No, JSON is a data-only format. Comments in the form //, #, or /* */,which are used in popular programming languages, are not allowed in JSON. You can add commentsto JSON as custom JSON elements that will hold your comments, but these elements will still bedata.

QUESTION 154
Refer to the exhibit.

```
import requests

base url = f"https://webexapis.com/v1/people"

headers = {
        "Accept": "application/json"
}

person email = 'customer@company.com'
url = f"{base url}?email={person email}"

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

if response.status code == 200 :
        print(f"OK - Added {person email}")
else:
        print(f"ERROR CODE {response.status code}")
```

A collaboration engineer has developed a script to automate the gathering of information by providing the email address of the individual. When the engineer tests the script, a 401 error is received. Which command fixes the script?

A. Add "Authorization": "Bearer <WEBEX_TOKEN>" to the headers
B. Add "Authentication": "Basic <WEBEX_TOKEN>" in the base_url after "https://".
C. Add "<Authorization>:<password>@" in the base_url after "https://".
D. Add "Authentication": "Bearer <WEBEX TOKEN>" to the headers

Correct Answer: A
Section:
Explanation:

QUESTION 155
A developer is attempting to retrieve all the messages from a Cisco Webex space. The server responds by sending the first 1,000 messages. The developer must make additional requests to retrieve the rest of the messages.

Which API constraint is described in this scenario?

A. payload limiting
B. throttling
C. pagination
D. rate limiting

Correct Answer: C
Section:
Explanation:

https://developer.atlassian.com/server/confluence/pagination-in-the-rest-api/

QUESTION 156
Refer to the exhibit.

```
cd ~/development/project01
mkdir info
cd info
[                    ]
cp ./requirements.txt ~/Documents/backup/requirements.txt
```

A developer just finished testing a Python script and wants to save the list of packages and versions installed on the current machine. The developer must make sure that it will not cause any issues if tested on another device due to different library versions. Which line of code needs to be placed on the snippet where the code is missing?

A. pip freeze 2> requirements.txt
B. pip freeze > requirements.txt
C. pip freeze => requirements.txt
D. pip freeze | requirements.txt

Correct Answer: B
Section:
Explanation:
pip freeze requirements.txt ile ilgili görsel sonucu The most common command is pip freeze > requirements. txt , which records an environment's current package list into requirements. txt. If you want to install the dependencies in a virtual environment, create and activate that environment first, then use the Install from requirements.

QUESTION 157
A developer pushes an application to production. The application receives a webhook over HTTPSwithout a secret. The webhook information contains credentials to service in cleartext. When theinformation is received, it is stored in the database with an SHA-256 hash. Credentials to thedatabase are accessed at runtime through the use of a vault service. While troubleshooting, thedeveloper sets the logging to debug to view the message from the webhook. What is the securityissue in this scenario?

A. Database credentials should be accessed by using environment variables defined at runtime.
B. During the transport of webhook messages, the credentials could be unencrypted and leaked.
C. During logging, debugging should be disabled for the webhook message.
D. Hashing the credentials in the database is not secure enough; the credentials should be encrypted.

Correct Answer: B
Section:
Explanation:

QUESTION 158
Refer to the exhibit.

```
HTTP Request

curl http://hello-api.info -v

HTTP Response

*    Trying hello-app.info...
* TCP_NODELAY set
* Connected to hello-app.info (hello-app.info) port 80 (#0)
> GET / HTTP/1.1
> Host:hello-app.info
> User-Agent: curl/7.64.1
> Accept: */*
>
< HTTP/1.1 502 Bad Gateway
< Server: nginx/1.14.0 (Ubuntu)
< Date: Sat, 21 Nov 2020 11:09:54 GMT
< Content-Type: text/html
< Content-Length: 182
< Connection: keep-alive
```

A developer cannot reach the web application behind an NGINX load balancer. The developer sends a request to an application FQDN with cURL but gets an HTTP 502 response. Which action solves the problem?

A. Fix errors in the server configuration, which is behind the load balancer.
B. Bring up the load balancer to the active state.
C. Fix errors in the cURL request sent by the client.
D. Change the default gateway on the load balancer to an active one.

Correct Answer: A
Section:
Explanation:

The HyperText Transfer Protocol (HTTP) 502 Bad Gateway server error response code indicates thatthe server, while acting as a gateway or proxy, received an invalid response from the upstream server.
https://developer.mozilla.org/en-US/docs/Web/HTTP/Status/502#:~:text=The%20HyperText%20Transfer%20Protocol%20(HTTP,response%20from%20the%20upstream%20server

QUESTION 159
Which action do webhooks enable an application to perform?

A. Increase the request rate limit.
B. Populate the application with restricted data.
C. Receive real-time data.
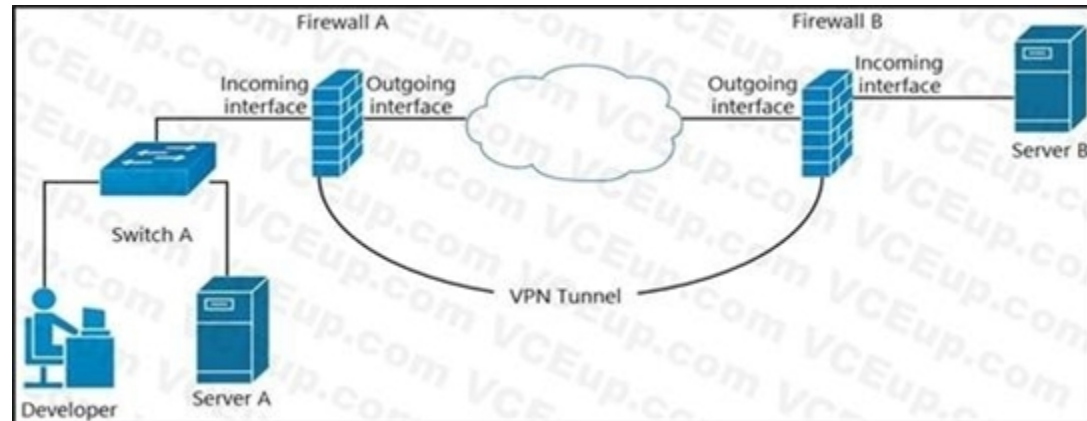D. Implement a push model.

Correct Answer: D
Section:
Explanation:

Simplifying the wording: Webhook enables the app to (push or receive real time) . The clients should receive real time but the app pushes.

QUESTION 160
Refer to the exhibit.

A developer can access the TLS REST API on server A, but cannot access the API on server B. The developer can ping server B. When the developer performs a packet capture on the TLS REST API port on server B, the capture shows that the packet arrived and the server responded. What causes the issue?

A. Port 80 is blocked on the outgoing interface of firewall B.
B. Port 443 is blocked on the outgoing interface of firewall A.
C. Port 443 is blocked on the incoming interface of firewall B.
D. Port 80 is blocked on the incoming interface of firewall A.

Correct Answer: C
Section:
Explanation:

QUESTION 161
How are operations on REST APIs performed as compared to RPC APIs?

A. In a REST API, operations are performed on an object (node) that is identified by a URL, but RPC APIs are operation-oriented.
B. In a REST API, operations are performed on an external resource that is defined on the API, but the RCP APIs are resource-oriented.
C. In a REST API, operations are performed on a platform that is identified by the URL, but RPC APIs are platform-oriented.
D. In a REST API, operations are performed on an internal resource that is defined on the API, but RPC APIs are resource-oriented.

Correct Answer: D
Section:
Explanation:

In a REST API, operations are performed on resources, which are accessed and manipulated using HTTP verbs such as GET, POST, PUT, and DELETE. These resources are identified by a URL and are defined within the API. For example, an API may define a resource called "customers", which can be accessed using the URL "http://api.example.com/customers". To retrieve a list of customers, the client could make a GET request to this URL. To create a new customer, the client could make a POST request to the same URL with the necessary data in the request body. In contrast, in an RPC API, operations are performed by making function calls. The client makes a request to the server, specifying the function to be called and any necessary parameters. The server then executes the function and returns the result to the client. RPC APIs are operation-oriented, meaning that the focus is on the function being called rather than the resource being accessed.

QUESTION 162
Which HTTP error code series relates to redirection?

A. 400

B. 500

C. 200

D. 300

Correct Answer: D
Section:
Explanation:

1xx - Informational: The server has received the request and is continuing the process 2xx - Successful: The request was successful and the browser has received the expected information 3xx (Redirection): You have been redirected and the completion of the request requires further action 4xx (Client Error): The website or the page could not be reached, either the page is unavailable or the request contains bad syntax 5xx (Server Error): While the request appears to be valid, the server could not complete the request

QUESTION 163
What is a characteristic of the Cisco Finesse platform?

A. Applications allow services to be invoked on a network triggered event.

B. The platform provides a ready-to-go platform for HD video and audio conferencing.

C. Applications are added to the platform from the desktop remotely.

D. The platform includes an enterprise-class IM engine.

Correct Answer: A
Section:
Explanation:

A characteristic of the Cisco Finesse platform is that applications allow services to be invoked on a network triggered event. Cisco Finesse is a next-generation agent and supervisor desktop designed to provide a rich, browser-based experience for contact center agents and supervisors. It offers a flexible, open development platform that allows developers to build custom applications and integrations to meet the specific needs of their contact center. One of the key features of Cisco Finesse is the ability to trigger actions based on events within the contact center network, such as an incoming call or a change in the status of a customer's account. This allows developers to build applications that can react to real-time events and provide relevant information or services to agents as they handle customer interactions.

QUESTION 164
An engineer needs to retrieve a list of locally available Firepower Threat Defense upgrade packages by using the Firepower Management Center REST API. The engineer uses a GET request with the URL: /api/fmc_platform/v1/updates/upgradepackages/f413afeb-e6f6-75f4-9169-6d9bd49s625e What does "f413afeb-e6f6-75f4-9169-6d9bd49s625e" represent?

A. container UUID

B. package UUID

C. domain UUID

D. object UUID

Correct Answer: B
Section:
Explanation:

"GET upgradepackages Request Type: GET Description: Retrieves a list of locally available Firepower Threat Defense upgrade packages, including major upgrades, maintenances release upgrades, and hotfixes.
URL: /api/fmc_platform/v1/updates/upgradepackages URL for GET by ID: /api/fmc_platform/v1/updates/upgradepackages/{package_UUID}" Source:
https://www.cisco.com/c/en/us/td/docs/security/firepower/640/api/REST/Firepower_Management_Center_REST_API_Quick_Start_Guide_640/Objects_In_The_REST_API.html

QUESTION 165
What is a benefit of using a code review process in application development?

A. accelerates the deployment of new features in an existing application
B. provides version control during code development
C. enables the quick deployment of new code
D. eliminates common mistakes during development

Correct Answer: D
Section:
Explanation:

QUESTION 166
Which OWASP threat takes advantage of a web application that the user has already authenticated to execute an attack?

A. phishing
B. DoS
C. brute force attack

Correct Answer: D
Section:
Explanation:

Cross-Site Request Forgery (CSRF) is an attack that forces an end user to execute unwanted actions on a web application in which they're currently authenticated.
https://owasp.org/www-community/attacks/csrf

QUESTION 167
Refer to the exhibit.
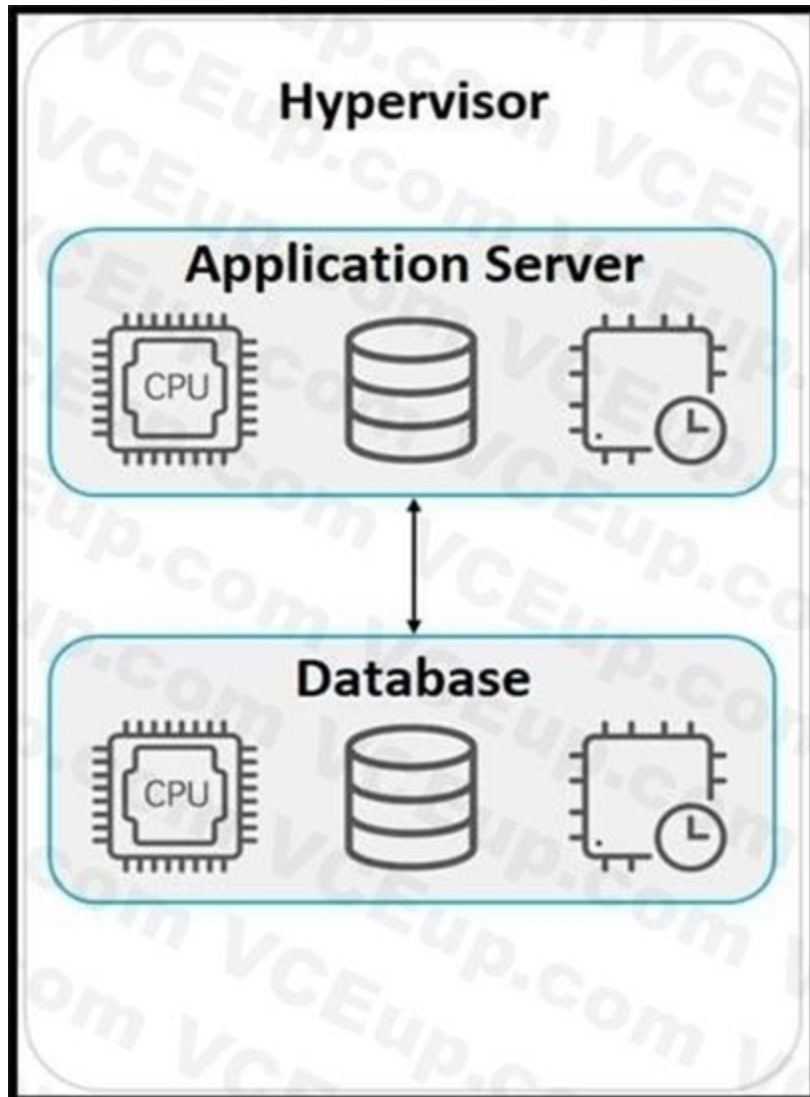
An application must be deployed on a server that has other applications installed. The server resources are to be allocated based on the deployment requirements. The OS for each application must be independent. Which type of deployment is used?

A. hybrid
B. virtual machines
C. containers
D. bare metal

Correct Answer: B
Section:
Explanation:

QUESTION 168
What is a benefit of a distributed version control system?

A. encourages users to commit small places of work to the system more frequently
B. ensures that all code meets minimum standards before being committed to the system
C. allows users to work on the codebase even when not connected to the Internet
D. ensures that all code is tested before being committed to the system

Correct Answer: C
Section:
Explanation:

Reference: https://about.gitlab.com/topics/version-control/benefits-distributed-version-controlsystem/

QUESTION 169
A company requires a new platform to store large volumes of log data that is generated in their assembly plant. The platform must be scalable, so the underlying technology must provide a path for fast deployment of new nodes for data and indexing? The data contains sensitive information, so specialist encryption tools must be used to secure the dat a. Which application deployment model meets the requirements?

A. edge
B. private cloud
C. public cloud
D. hybrid cloud

Correct Answer: D
Section:
Explanation:

A hybrid cloud combines the benefits of both a private cloud, which offers the ability to store sensitive data in a secure, dedicated environment, and a public cloud, which offers the ability to scale quickly and easily by deploying new nodes as needed. With a hybrid cloud deployment, you could use specialist encryption tools to secure the sensitive data in the private cloud, and then take advantage of the scalability and flexibility of the public cloud to handle the large volumes of log data.

QUESTION 170
What is a procedural component of CI/CD pipelines?

A. Bundled artifacts must be generated.
B. Every test must pass for the pipeline to continue its execution.
C. Some tests fall without stopping the pipeline execution.
D. The release label that identifies the build is optional.

Correct Answer: B
Section:
Explanation:

In a CI/CD (Continuous Integration/Continuous Deployment) pipeline, a procedural component is a specific step or action that is carried out in a specific order as part of the pipeline process. One of the procedural components of a CI/CD pipeline is that every test must pass in order for the pipeline to continue its execution. If any test fails, the pipeline will stop and the issue must be addressed before the pipeline can continue. This is an important procedural component of a CI/CD pipeline because it ensures that the code being deployed is of high quality and meets the necessary standards before it is released.

QUESTION 171
Which OWASP threat occurs when untrusted data is supplied as input to an interpreter as part of a command or query?

A. broken authentication
B. data exposure
C. injection
D. cross-site scripting

Correct Answer: C

QUESTION 172
Refer to the exhibit.

```
1   <routing xmlns="urn:ietf:params:xml:ns:yang:ietf-routing">
2       <routing-instance>
3           <name>default</name>
4           <description>default-vrf [read-only]</description>
5           <routing-protocols>
6               <routing-protocol>
7                   <type xmlns:ospf="urn:ietf:params:xml:ns:yang:ietf-
*                   ospf">ospf:ospfv2</type>
8                   <name>100</name>
9                   <ospf xmlns="urn:ietf:params:xml:ns:yang:ietf-ospf">
10                      <instance>
11                          <af xmlns:rt="urn:ietf:params:xml:ns:yang:ietf-
*                          routing">rt:ipv4</af>
12                          <router-id>1.1.1.1</router-id>
13                          <nsr>
14                              <enable>false</enable>
15                          </nsr>
16                          <auto-cost>
17                              <enable>false</enable>
18                          </auto-cost>
19                          <redistribution
*                          xmlns="urn:ietf:params:xml:ns:yang:cisco-ospf">
20                              <rip/>
21                          </redistribution>
22                      </instance>
23                  </ospf>
24              </routing-protocol>
25          </routing-protocols>
26      </routing-instance>
27  </routing>
```

What are two characteristics of the NETCONF response? (Choose two.)

A. ospf is defined by the ietf-ospf module.

B. ietf-ospf imports ietf-routing.

C. redistribution is a module of type cisco-ospf.

D. routing protocols is a list.

E. The main module is routing.

Correct Answer: B, C
Section:
Explanation:

QUESTION 173
A business needs to create a simulated environment that mimics a production infrastructure to make changes to the OSPF process and analyze the impact. What should be used?

A. Cisco VIRL / Cisco CML

B. Cisco DevNet Sandbox labs

C. pyATS

D. Puppet

Correct Answer: A
Section:

Explanation:

https://www.cisco.com/c/en/us/products/cloud-systems-management/modeling-labs/index.html

QUESTION 174
DRAG DROP
Drag and drop the steps from the left into order on the right to create a common CI/CD pipeline process. Not all options are used.

Select and Place:

Build	step 1
Commit	step 2
Deploy	step 3
Evaluate	step 4
Test	
Regress	

Correct Answer:

	Commit
	Build
	Test
Evaluate	Deploy
Regress	

Section:
Explanation:

QUESTION 175
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to obtain a list of network devices by using the Cisco Meraki API. Not all options are used.

Select and Place:

```
import requests

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

payload = {}
headers = {
    'Accept': '*/*'
}

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

print(response.text. [          ] ('utf8'))
```

| teams | networks | devices | GET | POST | encrypt | encode |

Correct Answer:

```
import requests

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

payload = {}
headers = {
    'Accept': '*/*'
}

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

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

| teams | | | | POST | encrypt |

Section:
Explanation:

QUESTION 176
DRAG DROP
Refer to the exhibit.

CISCO SECURITY APIS

Introduction

📁 API Workflow

GET 1.) Find all events where Malwar...

GET 2.) Find Endpoint Details for Rem...

PUT 3.) Nuke the Endpoint to Prevent...

GET 4.) Find samples in Threat Grid

GET 5.) Get all sample domains to an...

POST 6.) Check all domains against Inv...

GET 7.) For suspect domains get mor...

POST 8.) Enforce on bad Domains in U...

GET 9.) Research other Ransomware ...

POST Generate Authentication Token ...

POST 10.) Add custom intelligence Fee...

📁 NGFW

POST Generate Authentication Token

GET Access Policies

GET Access Rules

GET Access Rule Details

POST New Access Rule in Policy

POST New Bulk Access Rule in Policy

Cisco Security APIs

The main goal of this collection to help the developer understand the various API capabilities of Cisco NG Malware Protection, Threat Grid, , ISE and Umbrella. It will cover useful API features for each of the prod properly use them. Simple workflow is also included in the collection to *Collect* all the characteristics/sig the possible attack using AMP. *Validate* the collected intelligence with Threat Grid and Umbrella. *Deploy* to the NGFW, Umbrella and ISE to protect and contain the threat.

API Workflow

GET 1.) Find all events where Malware Executed

https://:@amp.dcloud.cisco.com/v1/events?connector_guid[]=&event_type[]=1107296272

Get a listing of all the events for a specific computer when the quarantine failed

PARAMS

Refer to the exhibit. Drag and drop the code from the bottom onto the box where the code is missing to construct a Python script that calls a REST API request. Not all options are used.

Select and Place:

```
import requests

[base_url] = "https://fmc-hostname/api/fmc_tid/v1/domain//tid/source"
payload = {
    "name": "Threat Grid Ransomware DNS",
    "delivery": "url",
    "uri": "https://panacea.threatgrid.com/api/v3/feeds"+
    "/ransomware-dns 2017-12-08.stix?api_key=",
    "refresh": 1440,
    "version": "1.0.0",
    "params": {
        "selfSignedServerCertificate": "true",
        "hostnameVerifier": "allow_all"
    },
    "property": {
        "ttl": 90,
        "publish": true,
        "action": "monitor"
    }
}
headers = {
    'X-auth-access-token': 'access_token', '[Content-Type]': 'application/json'
}

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

url	Encoding	base_url	Content-Type	post
request	payload			

Correct Answer:

```
import requests

  [ url ]     = "https://fmc-hostname/api/fmc_tid/v1/domain//tid/source"
payload = {
    "name": "Threat Grid Ransomware DNS",
    "delivery": "url",
    "uri": "https://panacea.threatgrid.com/api/v3/feeds"+
    "/ransomware-dns 2017-12-08.stix?api_key=",
    "refresh": 1440,
    "version": "1.0.0",
    "params": {
        "selfSignedServerCertificate": "true",
        "hostnameVerifier": "allow_all"
    },
    "property": {
        "ttl": 90,
        "publish": true,
        "action": "monitor"
    }
}
headers = {
    'X-auth-access-token': 'access_token', ' [ Content-Type ] ': 'application/json'
}

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

| | | Encoding | | | | post |
| | | payload | | | | |

Section:
Explanation:

QUESTION 177
What is a benefit of a distributed version control system?

A. encourages users to commit small places of work to the system more frequently
B. ensures that all code meets minimum standards before being committed to the system
C. allows users to work on the codebase even when not connected to the Internet
D. ensures that all code is tested before being committed to the system

Correct Answer: C
Section:
Explanation:

Reference: https://about.gitlab.com/topics/version-control/benefits-distributed-version-control-system/

QUESTION 178
What is a benefit of a CI/CD pipeline for infrastructure?

A. removes manual errors
B. enables manual steps

C. removes the need for operations

D. provides variety for deployments

Correct Answer: A
Section:
Explanation:

QUESTION 179
During which step of the CI/CD pipeline for infrastructure automation is code from multiple developers combined to compile and test different components?

A. integration

B. deployment

C. development

D. testing

Correct Answer: A
Section:
Explanation:

QUESTION 180
Refer to the exhibit.

```
1   import requests
2
3   url = "https://api.meraki.com/api/v0/organizations/{{organizationId}}/insight/
4   monitoredMediaServers"
5   payload = {
6       "name": "Sample VoIP Provider",
7       "address": "123.123.123.1"
8   }
9   headers = {
10      'Accept': '*/*',
11      'Content-Type': 'application/json'
12  }
13
14  response = requests.request("POST", url, headers=headers, data=payload)
15
16  print(response.text.encode('utf8'))
```

Which workflow does the script automate?

A. retrieves a media server that is being monitored

B. updates a media server that is being monitored

C. adds a media server to be monitored

D. deletes a media server that is being monitored

Correct Answer: C
Section:
Explanation:

QUESTION 181
Which two details are captured from the subnet mask? (Choose two.)

A. portion of an IP address that refers to the subnet

B. default gateway of the host

C. unique number ID assigned to the host

D. part of an IP address that refers to the host

E. network connection of a host or interface

Correct Answer: A, D
Section:
Explanation:

QUESTION 182
Refer to the exhibit.
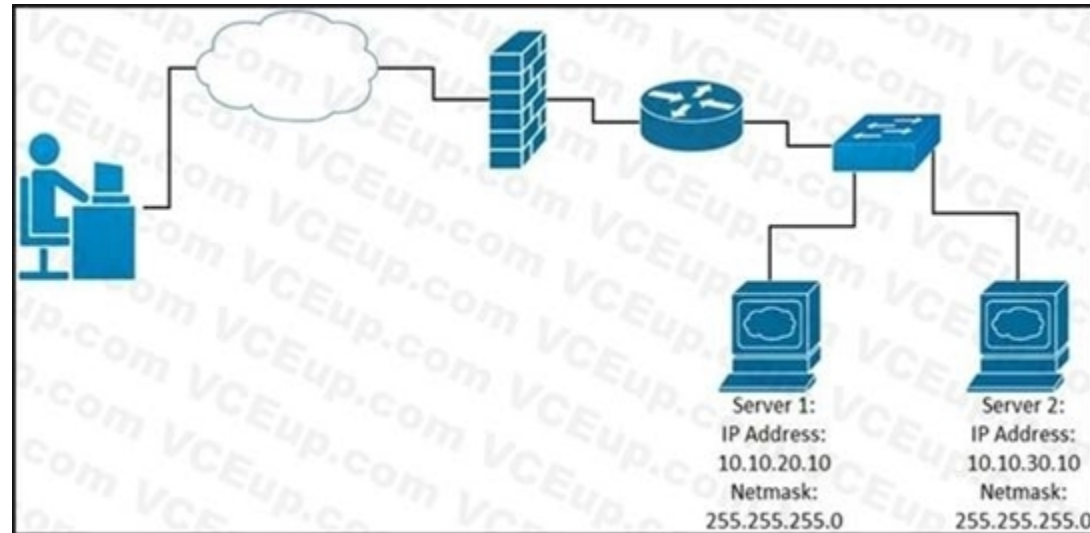
While developing a Cisco Webex bot, an application reaches the public IP address of the firewall, but traffic is forwarded to the IP address of server 1 instead of the IP address of server 2. What causes this issue?

A. The proxy server that rewrites traffic is misconfigured.

B. The router is sending the traffic to server 1 instead of server 2.

C. The switch is forwarding IP traffic to the wrong VLAN.

D. NAT is misconfigured on the firewall.

Correct Answer: D
Section:
Explanation:

QUESTION 183
Developer is working on a new feature and made changes on a branch named 'branch-413667549anew'.
When merging the branch to production, conflicts occurred. Which Git command must the developer use to recreate the pre-merge state?

A. git merge -no-edit

B. git merge -commit

C. git merge -revert

D. git merge -abort

Correct Answer: D
Section:
Explanation:

https://www.git-tower.com/learn/git/ebook/en/command-line/advanced-topics/merge-conflicts

QUESTION 184
A company wants to automate the orders processed on its website using API. The network device that supports the solution must: support XML encoding support distributed transactions support YANG data models be support software
redundancy Which requirement prevents the use of RESTCONF for the solution?

A. software redundancy
B. YANG data models
C. distributed transactions
D. XML encoding

Correct Answer: C
Section:
Explanation:

QUESTION 185
Which technology is responsible for resolving a host name to an IP address?

A. DNS
B. SNMP
C. DHCP
D. NTP

Correct Answer: A
Section:
Explanation:

QUESTION 186
Refer to the exhibit.
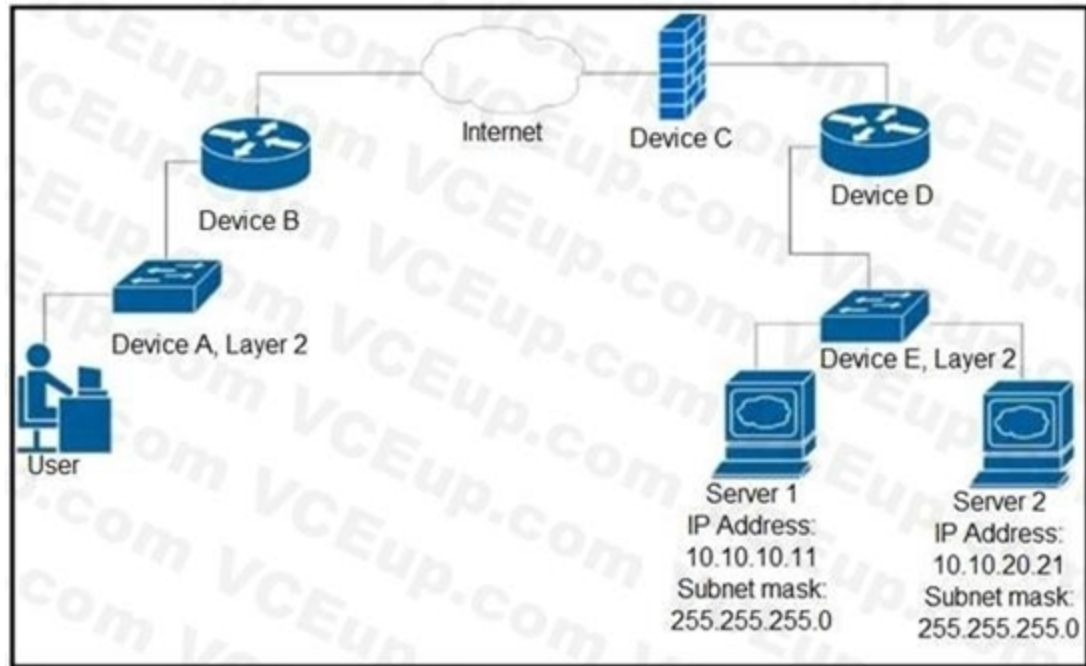
Up to which device does the communication server 1 and server 2 go?

A. device B

B. device C

C. device D

D. device E

Correct Answer: C
Section:
Explanation:

QUESTION 187
An engineer prepares a set of Python scripts to interact with network devices. To avoid network performance issues, the engineer wants to run them in a test environment. Which resource must be used to monitor the live execution of code in an always-available environment?

A. packet tracer

B. learning labs

C. sandbox

D. code exchange

Correct Answer: C
Section:
Explanation:

QUESTION 188
When a Cisco IOS XE networking device is configured by using RESTCONF, what is the default data encoding method?

A. application/yaml-data+json

B. application/yang-data+json

C. application/xml-data+json

D. application/json-data+xml

Correct Answer: D
Section:
Explanation:

QUESTION 189
Refer to the exhibit.

```
api_endpoint = f"https://veryusefulapi/v2/authenticate"

headers = {
    "Authorization": "Basic YWRtaW46c3VwZXJzZWNyZXQ="
    "Accept": "application/json"
}

req = requests.get(api_endpoint, headers=headers)
```

Refer to the exhibit. A developer is part of a team that is working on an open-source project in which source code is hosted in a public GitHub repository. While the application was built, security concerns were addressed by encrypting the credentials on the server. After a few months, the developer realized that a hacker managed to gain access to the account. The exhibit contains part of the source code for the login process. Why was the attacker able to access the developer's account?

A. The encoded credentials were available in the source code.

B. The application was not encrypting the communication with the server.

C. The credentials were encrypted in the source code.

D. An SSL certificate was used instead of the TLS protocol to authenticate.

Correct Answer: A
Section:
Explanation:

QUESTION 190
Which technology is responsible for matching a name to an IP address of an application running on a host?

A. firewall

B. proxy

C. load balancer

D. DNS

Correct Answer: D
Section:
Explanation:

QUESTION 191
Which network constraint causes the performance of the application to decrease as the number of users accessing the application increases?

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

Correct Answer: C
Section:
Explanation:

QUESTION 192
What is a characteristic of Waterfall compared to Agile software development method?

A. Waterfall focuses on continuous improvement, and Agile focuses on the design phase.
B. Waterfall separates the project development lifecycle into sprints, and Agile does not use cycles.
C. Waterfall specifies requirements before development begins, and Agile responds flexibly to changes in requirements.
D. Waterfall uses reviews with step by step approach, and Agile uses a serially phased approach.

Correct Answer: C
Section:
Explanation:

QUESTION 193
Users cannot access a webserver and after the traffic is captured, the capture tool snows an ICMP packet that reports "time exceeded in-transit". What is the cause of this webserver access issue?

A. The large distance between the server and the users means that the packets require too much time to reach the destination.
B. A router along the path is misrouting the packets in a wrong direction.
C. A router along the path has the wrong time.
D. The server is overloaded and the connection was not able to be processed in time.

Correct Answer: B
Section:
Explanation:

QUESTION 194

```
--- functions.py   2020-09-26 14:26:25.000000000 -0600
--- new.py 2020-09-26 14:26:10.000000000 -0600
@@ -21,7 -21,7 @@
 def print_devices_info(devices):
     # Print id, hostname and management IP
     for item in devices:
-        print(item['id'], item['hostname'], item['managementIpAddress'])
+        print(item['id'], item['hostname'])

 # Get Authentication token
 def get_dnac_jwt_token():
@@ -66,9 -66,15 @@
     response = get_devices_list(headers, {})
     print_devices_info(response)

-    # print devices list filtered by hostname
-    print('\nPrinting device list filtered by hostname ...')
-    query_string_params = {'hostname': 'CSR1Kv-01.devnet.local'}
-    response = get_devices_list(headers, query_string_params)
-    print_devices_info(response)
-
     # print devices list filtered by platform Id
     print('\nPrinting device list filtered by platform id...')
-    query_string_params = {'platformId': 'C9500-40X'}
-    query_string_params = {'platformId': 'AIR-AP1141N-A-K9'}
     response = get_devices_list(headers, query_string_params)
     print_devices_info(response)
```

Refer to the exhibit. An engineer is comparing two files by using the unified diff format. Which cade snippet belongs to the new.py file?

A.

```
77 query_string_params = {'platformId':
'AIR-AP1141N-A-K9'}
```

B.

```
21 print(item['id'], item['hostname'])
```

C.

```
24 print(item['id'], item['hostname'],
item['managementIpAddress'])
```

D.

```
66 # print devices list filtered by
hostname
67 print('\nPrinting device list
filtered by hostname ...')
68 query_string_params = {'hostname':
'CSR1Kv-01.devnet.local'}
69 response = get_devices_list
(headers, query_string_params)
70 print_devices_info(response)
```

Correct Answer: A
Section:
Explanation:

QUESTION 195

Refer to the exhibit.

```
#! /bin/bash
apt-get update
apt-get -y install git
cd Code/Network_Config
mkdir PRODUCTION
cd PRODUCTION
touch state.yml
vi state.yml
```

Refer to the exhibit. A network engineer executes the bash script shown. Which two things are achieved by running the script? (Choose two.)

A. A directory called PRODUCTION is created.
B. The engineer changes to the parent directory.
C. A YAML file is created.
D. A YAML file is removed.
E. A directory called state.yml is created.

Correct Answer: A, C
Section:
Explanation:

QUESTION 196
Refer to the exhibit.
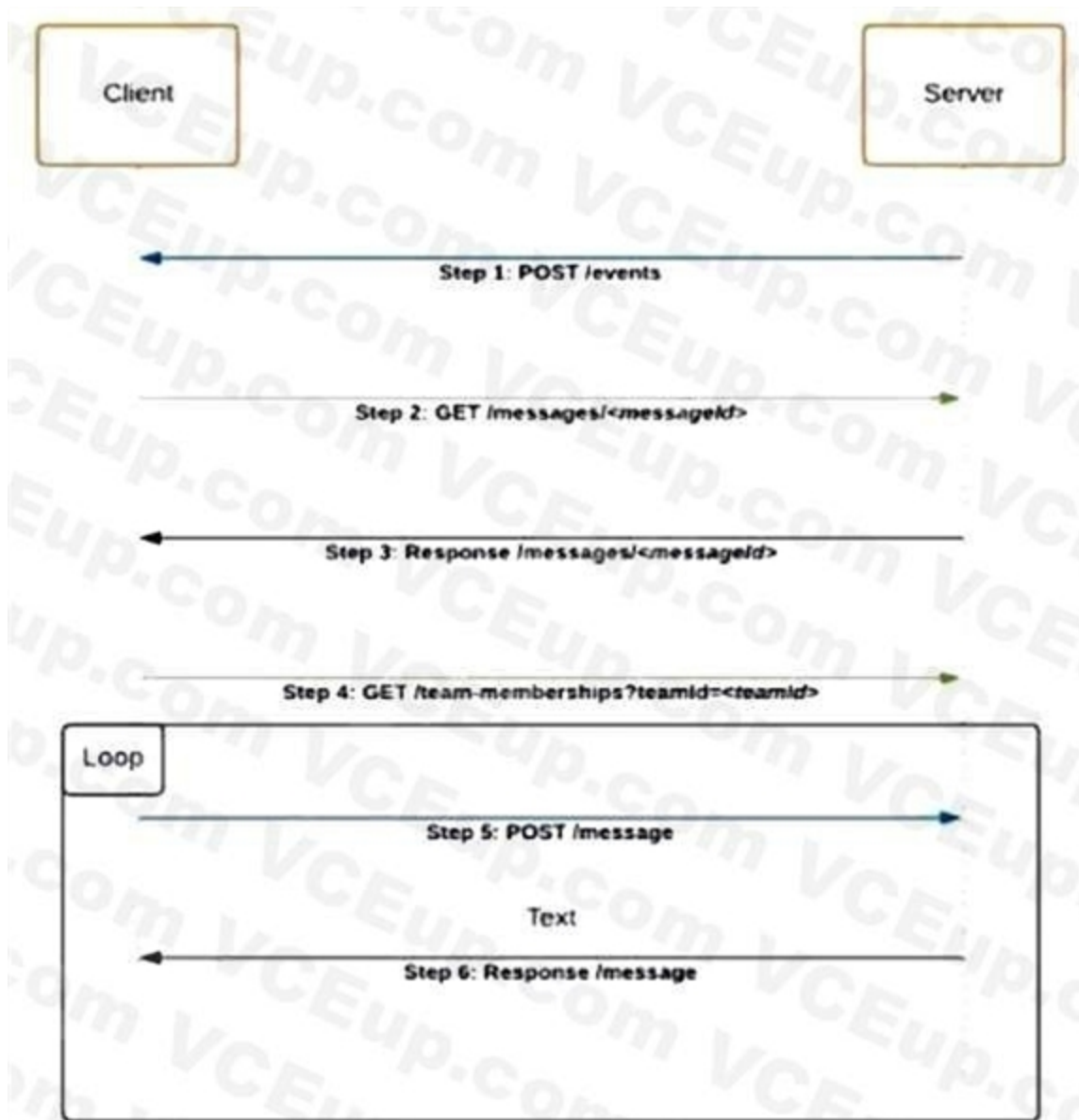
Refer to the exhibit. Which code snippet represents the sequence.

A.

```
@flask_app.route('/events', methods=['POST'])
def webex_teams_webhook_events():
  json_data = request.json['data']
  response = requests.get(MESSAGE_URL +
json_data['id'], headers=headers)
  if response.json()['text'] == 'Alert':
    response = requests.get(TEAM_MEMBERSHIPS_URL,
headers=headers, params=params)
    for info in response.json()['items']:
      data = {'personId': info['personId'], 'text':
'Alert'}
              response = requests.post(MESSAGES_URL,
headers=headers, params=params)
```

B.

```
@flask_app.route('/events', methods=['POST'])
def webex_teams_webhook_events():
    json_data = request.json['data']
    if response.json()['text'] == 'Alert':
        response = requests.get(MESSAGE_URL +
json_data['id'], headers=headers)
        response = requests.get(TEAM_MEMBERSHIPS_URL,
headers=headers, params=params)
        for info in response.json()['items']:
            data = ('personId': info['personId'],
'text': 'Alert')
            response = requests.post(MESSAGES_URL,
headers=headers, params=params)
```

C.

```
@flask_app.route('/events', methods=['POST'])
def webex_teams_webhook_events():
 json_data = request.json['data']
 response = requests.post(MESSAGE_URL +
json_data['id'], headers=headers)
 if response.json()['text'] == 'Alert':
    for info in response.json()['items']:
       response = requests.get(TEAM_MEMBERSHIPS_URL,
headers=headers, params=params)
       data = ('personId': info['personId'], 'text':
'Alert')
             response = requests.get(MESSAGES_URL,
headers=headers, params=params)
```

D.

```
@flask_app.route('/events', methods=['POST'])
def webex_teams_webhook_events():
  json_data = request.json['data']
  response = requests.get(TEAM_MEMBERSHIPS_URL,
headers=headers, params=params)
  if response.json()['text'] == 'Alert':
    response = requests.get(MESSAGE_URL +
json_data['id'], headers=headers)
    for info in response.json()['items']:
      data = ('personId': info['personId'], 'text':
'Alert')
      response = requests.post(MESSAGES_URL,
headers=headers, params=params)
```

Correct Answer: C
Section:
Explanation:

QUESTION 197
A developer attempts to refactor and improve the application code. It is noticed that the code contains several pieces of key information that could be a security threat if this code is accessible by those who are not authorized to this dat a.
Which approach addresses the security concerns noticed by the developer?

A. Host the application code on a machine located in a secure data center.
B. Utilize environment variables for username and password details.
C. Rely on the security teams' goodwill to not give access to those who do not need it.
D. Move the hardware that the application is deployed on to a secure location.

Correct Answer: B
Section:
Explanation:

QUESTION 198
Which tool provides a testing environment to run tests on network devices and perform network automation scenarios?

A. Visual Studio Code
B. Cisco VIRL
C. pyATS
D. Cisco Packet Tracer

Correct Answer: B
Section:
Explanation:

QUESTION 199

A developer writes an application that refines data in temporary secure file storage hosted on the public cloud. Data will be deleted after processing and does not contain any private information. What is the advantage that a public cloud deployment provides to the developer?

A. high security with encryption

B. ease in infrastructure management

C. flexible development

D. bespoke services

Correct Answer: B
Section:
Explanation:

QUESTION 200

Refer to the exhibit.

```
workstation:Network admin$ ls
PROD TEST
workstation:Network admin$ ls ./TEST
config.txt
workstation:Network admin$
```

Refer to the exhibit. A network engineer must copy the "config.txt" file from directory TEST to directory PROD. The copied file must also be renamed into "current.txt". Which command must be used to accomplish these tasks?

A. cp ./PROD/current.txt ./TEST/config.txt

B. cp ./TESTi/current.txt ./PROD/config.txt

C. cp ./PROD/config.txt ./TEST/current.txt

D. cp ./TEST/config.txt ./PROD/current.txt

Correct Answer: D
Section:
Explanation:

QUESTION 201

What is a benefit of using model-driven programmability for infrastructure automation?

A. connected user tracking

B. infrastructure resource optimization

C. multiple device control protocols

D. device performance monitoring

Correct Answer: C
Section:
Explanation:

QUESTION 202

What is the function of an Ethernet switch in a networking environment?

A. to switch a frame from one port to another port based on IP address
B. to switch a frame from one port to another port based on MAC address
C. to provide IP addressing to connected hosts
D. to block unwanted traffic

Correct Answer: B
Section:
Explanation:

QUESTION 203
Which command reverses the last commit without changing the index file or the working tree position?

A. git revert HEAD
B. git reset --hard HEAD~3
C. git reset --soft HEAD^
D. git revert

Correct Answer: C
Section:
Explanation:

QUESTION 204
Refer to the exhibit.

```
 1    - hosts: nxos_rtr
 2      gather_facts: false
 3      tasks:
 4      - nxos_hsrp:
 5          group: "{{ item.group }}"
 6          vip: "{{ item.vip }}"
 7          priority: 115
 8          interface: "{{ item.interface }}"
 9          preempt: enabled
10          auth_type: md5
11          auth_string: "s3cuR3"
12          version: 2
13          host: "{{ hostvars['rtr-1a']['ansible_ssh_host'] }}"
14        with_items:
15          - "{{ hsrp_groups }}"
16          delegate_to: "{{ hostvars['srv-1a']['ansible_ssh_host'] }}"
```

Refer to the exhibit. An engineer runs a network that consists of Cisco Nexus devices. The network is distributed between data centers in different locations. The switches are configured using standalone connections and a single point of failure.
Which process is being automated by the Ansible playbook?

A. enabling HSRP on the nxos_rtr inventory host
B. enabling HSRP on the rtr-1a inventory host

C. executing HSRP configuration from the Ansible controller node

D. executing HSRP configuration from the srv-1a inventory host

Correct Answer: B
Section:
Explanation:

QUESTION 205
Refer to the exhibit.

```
import requests
from requests.auth import HTTPBasicAuth

user= "user"
password= "PASSWORD"

token=requests.post('https://<DNAC ADRESS>/dna/system/api/v1/auth/token',
```

Refer to the exhibit. A developer must use a token to collect data from Cisco DNA Center API and prepares a Python script to send requests. Which line of code needs to be placed on the snippet where the code is missing to obtain a token from the Cisco DNA Center API?

A. token=BasicAuth('user','password'))

B. auth=BasicAuth('user','password'))

C. auth=HTTPBasicAuth(user,password))

D. token=HTTPBasicAuth(user,password))

Correct Answer: C
Section:
Explanation:

QUESTION 206
To which stage of development do Infrastructure as Code principles relate?

A. manual configuration

B. service provisioning

C. physical deployment

D. requirement collection

Correct Answer: B
Section:
Explanation:

QUESTION 207
Refer to the exhibit.

```
import os
import requests

# username and password

API_USER_NAME = "devnetuser"
API_PASSWORD = os.environ['API_PASSWORD']

requests.get('https://api.cisco.com/end-service', auth=(API_USER_NAME, API_PASSWORD))
```

Refer to the exhibit. An engineer must authorize a REST API call. The API password is "Cisco123!".
Which Bash command must be placed in the code to authorize the call?

A. mkdir API_PASSWORD=Cisco123!

B. set API_PASSWORD=Cisco123!

C. cp API_PASSWORD=Cisco123!

D. export API_PASSWORD=Cisco123!

Correct Answer: D
Section:
Explanation:

QUESTION 208
Which function does a router provide to a network?

A. broadcast domain segmentation

B. unique host on a Layer 3 network

C. unique hardware address for every node on a LAN

D. broadcast domain extension

Correct Answer: B
Section:
Explanation:

QUESTION 209
Which IP service is used to monitor the performance of network devices?

A. SNMP

B. DHCP

C. DNS

D. NTP

Correct Answer: A
Section:
Explanation:

QUESTION 210
Which IP service synchronizes the time across devices?

A. DNS

B. NTP

C. SNMP

D. NAT

Correct Answer: B
Section:
Explanation:

QUESTION 211
An engineer must configure Cisco Nexus devices and wants to automate this workflow. The engineer will use an Ansible playbook to configure devices through Cisco NX REST API. Before the code is run, which resource must be used to verify that the REST API requests work as expected?

A. Cisco Open NX-OS

B. Cisco NX-OS SDK

C. Cisco Learning Labs

D. Cisco Code Exchange for Nexus

Correct Answer: C
Section:
Explanation:

QUESTION 212
What is a function of the default gateway in a network?

A. to drop traffic that is destined to the default gateway

B. to forward traffic to different subnets

C. to forward traffic to the same subnet

D. to drop traffic that is not destined to the default gateway

Correct Answer: B
Section:
Explanation:

QUESTION 213
What is a firehose webhook?

A. It collects data from third-party cloud APIs for custom applications.

B. It enables an application to receive real-time data from Cisco Webex.

C. It enables data to flow from the Cisco Webex API to a user's application.

D. It sends a notification of any event for commonly used resources.

Correct Answer: D
Section:
Explanation:

QUESTION 214
A file in a local Git repository has been updated and issued the git add . command. The git diff command has been run to compare the changes to the previous commit, but nothing shows. Which action identifies the problem?

A. Run the git add . command again in the correct subdirectory to ensure changes added to the staging area.

B. Run the git commit command before the differences are compared to receive the end state of the code.

C. Run the git status command to see the differences between current and previous code review stages.

D. Run the git diff --staged command to compare the code added to the staging area.

Correct Answer: D
Section:
Explanation:

QUESTION 215
Which protocol runs over TCP port 830?

A. NETCONF

B. Telnet

C. RESTCONF

D. HTTP

Correct Answer: A
Section:
Explanation:

QUESTION 216
Which solution reduces costs from MPLS, improves application performance, and simplifies operations?

A. Cisco NSO

B. Cisco SD-WAN

C. Cisco ACI

D. Cisco DNA Center

Correct Answer: B
Section:
Explanation:

QUESTION 217
A developer has experienced security issues with a previously developed application. The API offered by that application is open and without any constraints. During a recent attack, the application was overloaded with API requests. To address this issue, an API constraint is implemented to protect the application from future attacks or any sudden throttling. Which API constraint must the application developer implement in this situation?

A. pagination

B. rate limiting

C. filtering

D. payload limiting

Correct Answer: B
Section:
Explanation:

QUESTION 218
A developer must test the performance and reliability of an application. After functional and load tests are run, the application crashes due to traffic spikes from users. Which type of API constraint must be implemented to maintain reliability?

A. rate limiting

B. pagination

C. payload limits

D. filtering

Correct Answer: A
Section:
Explanation:

QUESTION 219
A developer is working on a new feature in a branch named 'newfeat123456789' and the current working primary branch is named 'prim987654321'. The developer requires a merge commit during a fast forward merge for record-keeping purposes. Which Git command must be used?

A. git merge --no-ff newfeat123456789

B. git commit --no-ff newfeat123456789

C. git add --commit-ff newfeat123456789

D. git reset --commit-ff newfeat123456789

Correct Answer: A
Section:
Explanation:

QUESTION 220
A customer's cloud services must:
Migrate services to another data center on demand.
Save the operational state of the machine on demand.
Support Windows and Linux GUIs.
Maximize hardware utilization.

Which type of deployment meets these requirements?

A. bare metal

B. container

C. virtual machine

D. Kubernetes

Correct Answer: C
Section:
Explanation:

QUESTION 221
How does edge computing analyze sensitive data in the context of privacy control?

A. locally instead of sending the data to the cloud for analysis

B. locally or on the cloud depending on the configuration

C. all at once by sending the data to the cloud

D. locally on each node, and then sends the data to the cloud

Correct Answer: A
Section:
Explanation:

QUESTION 222
Which Python function is used to parse a string that contains JSON data into a Python dictionary?

A. json.dumps()

B. json.to_json()

C. json.parse()

D. json.loads()

Correct Answer: D
Section:
Explanation:
loads() function is present in python built-in 'json' module. This function is used to parse the JSON string.

QUESTION 223
Refer to the exhibit.

```
 1    import requests
 2    from requests.auth import HTTPBasicAuth
 3    BASE_URL = 'https://<IP ADDRESS or FQDN>'
 4    AUTH_URL = '/dna/system/api/v1/auth/token'
 5    TOKEN = '<TOKEN>'
 6
 7    headers = {'X-Auth-Token': TOKEN, 'Content-Type': 'application/json'}
 8
 9    DEVICES_COUNT_URL = '/dna/intent/api/v1/network-device/count'
10    DEVICES_URL = '/dna/intent/api/v1/network-device'
11    DEVICES_BY_ID_URL = '/dna/intent/api/v1/network-device/'
12
13    def devices_func(headers):
14        response = requests.get(BASE_URL + DEVICES_COUNT_URL,
15                                headers = headers, verify=False)
16        return response.json()['response']
17
18    def devices_test(headers, query_string_params):
19        response = requests.get(BASE_URL + DEVICES_URL, headers = headers,
20                                params = query_string_params, verify=False)
21        return response.json()['response']
22
23    def devices_info(headers, device_id):
24        response = requests.get(BASE_URL + DEVICES_BY_ID_URL + device_id,
25                                headers =  headers, verify=False)
26        return response.json()['response']
27
28    print(devices_func(headers))
29    print(devices_test(headers, {}))
30    print(devices_test(headers, {'hostname': 'CSR1Kv-01.devnet.local'}))
31    response = devices_test(headers, {'platformId': 'C9500-40X'})
32    print(devices_info(headers, response[0]['id']))
```

Refer to the exhibit. An engineer prepares a script to automate workflow by using Cisco DNA Center APIs to display: total count of devices list of the network devices information of one device with a hostname filter What is displayed in the final step after the Python script is executed?

A. information about a device of type C9500-40x.

B. filtered results by the hostname and the platformId C9500-40X

C. information about the test devices

D. list of devices with platformId C9500-40x

Correct Answer: B
Section:
Explanation:

QUESTION 224
A team of developers is responsible for a network orchestration application in the company. The responsibilities also include: developing and improving the application in a continuous manner deployment of the application and management of CI/CD frameworks monitoring the usage and problems and managing the performance improvements Which principle best describes this DevOps practice?

A. responsible for IT operations
B. automation of processes
C. end-to-end responsibility
D. quality assurance checks

Correct Answer: C
Section:
Explanation:

QUESTION 225
Refer to the exhibit.


```
curl -i -k -X "GET" "https"://172.18.110.64:443/ restconf/data/Cisco-IOS-
XE-native:native/hostname" \
-H 'Accept: application/yang-data+json' \
-u 'cisco:cisco'
```
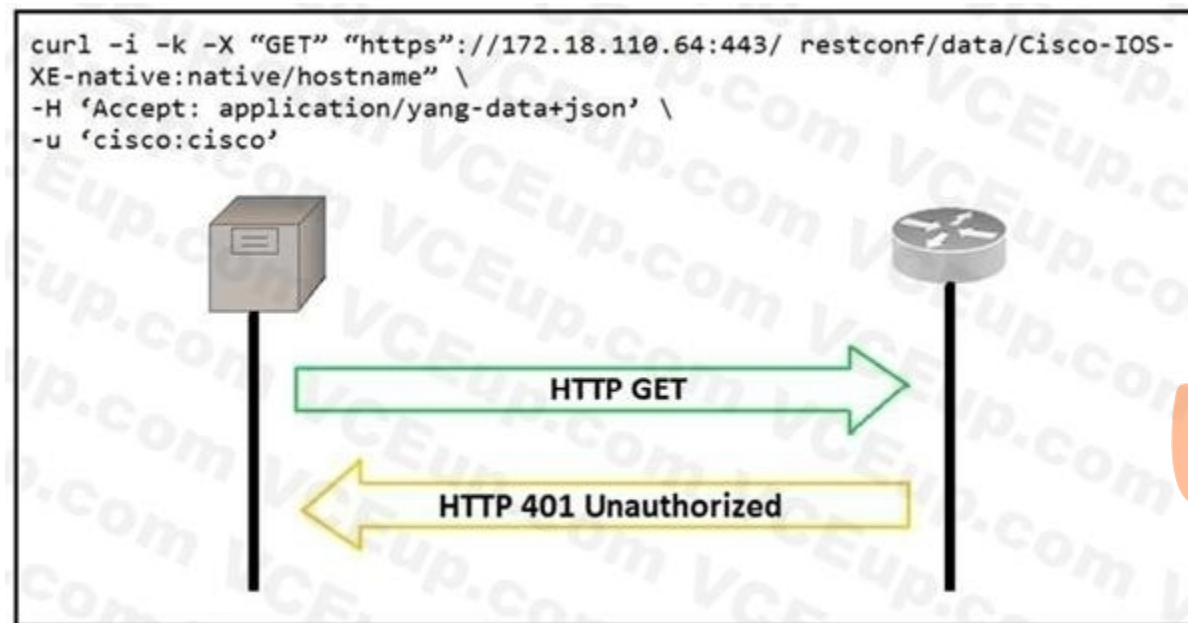
An administrator attempts to perform a GET operation by using the Cisco IOS XE RESTCONF API to return the hostname of a device. The sequence diagram in the exhibit illustrates the HTTP messages observed. Which change to the API request resolves the issue?

A. Remove the -H 'Accept: application/yang-data+json' header.
B. Replace -u cisco:cisco parameter with -u 'cisco:cisco'.
C. Change the request method from -X 'GET' to -X 'POST'.
D. Add the -H 'Content-Type: application/yang-data+json' header.

Correct Answer: B
Section:
Explanation:

QUESTION 226
DRAG DROP
Refer to the exhibit.

Create Server Profile and Resources

Create Server Profile and Re...	**POST** Create Server VMedia Policy
Create Server VMedia Policy	
Retrieve Server VMedia Policy...	https://www.intersight.com/api/v1/vmedia/Policies
Create Server Boot Policy	
Retrieve Server Boot Policy by...	
Create Server NTP Policy	HEADERS
Retrieve NTP Policy by Moid	
Create 'server-01' Server Profi...	**Accept** application/json
Retrieve 'server-01' Server Pr...	
Create 'server-02' Server Profi...	**Authorization** Signature ((httpsig))
Retrieve 'server-02' Server Pr...	
Update vmedia/Profiles Profil...	**Digest** ((computed-digest))
Update Boot/PrecisionPolicie...	
Update NTP/Policies Profiles ...	**Date** ((current-date))
Retrieve Server RackUnit Res...	
	Content-Type application/json

Refer to the exhibit. Drag and drop the code from the bottom onto the box where the code is missing to construct a Python script by using the Cisco SDK. Not all options are used.

Select and Place:

```
import sys, json, argparse
from intersight.intersight_api_client import IntersightApiClient
from intersight.apis import asset_device_registration_api, asset_device_claim_api

result = dict(changed=False)

parser = argparse.ArgumentParser()
parser.add_argument('-a', '--api_params', default='intersight_api_params.json')
parser.add_argument('-t', '--target_host', dest='hostname', required=True)
args = parser.parse_args()
with open(args.api_params, 'r') as api_file:
    intersight_api_params = json.load(          )
api_instance = IntersightApiClient(
    host=intersight_api_params['          '],
    private_key=intersight_api_params['api_private_key_file'],
    api_key_id=intersight_api_params['api_key_id'],
)
api_handle = asset_device_registration_api.AssetDeviceRegistrationApi(api_instance)

kwargs = dict(filter="ConnectionStatus eq 'Connected'")
          = api_handle.asset_device_registrations_get(**          )
for device in api_result.results:
    if device.device_ip_address[0] == args.hostname:
        api_handle = asset_device_claim_api.AssetDeviceClaimApi(api_instance)
        api_handle.asset_device_claims_moid_delete(moid=device.device_claim.moid)
        result['changed'] = True
        break
```

kwargs	args	api_file	api_key	api_base_uri	result

api_result

Correct Answer:

```
import sys, json, argparse
from intersight.intersight_api_client import IntersightApiClient
from intersight.apis import asset_device_registration_api, asset_device_claim_api

result = dict(changed=False)

parser = argparse.ArgumentParser()
parser.add_argument('-a', '--api_params', default='intersight_api_params.json')
parser.add_argument('-t', '--target_host', dest='hostname', required=True)
args = parser.parse_args()
with open(args.api_params, 'r') as api_file:
    intersight_api_params = json.load(   api_file      )
api_instance = IntersightApiClient(
    host=intersight_api_params['   api_base_uri   '],
    private_key=intersight_api_params['api_private_key_file'],
    api_key_id=intersight_api_params['api_key_id'],
)
api_handle = asset_device_registration_api.AssetDeviceRegistrationApi(api_instance)

kwargs = dict(filter="ConnectionStatus eq 'Connected'")
  result       = api_handle.asset_device_registrations_get(**   kwargs   )
for device in api_result.results:
    if device.device_ip_address[0] == args.hostname:
        api_handle = asset_device_claim_api.AssetDeviceClaimApi(api instance)
        api_handle.asset_device_claims_moid_delete(moid=device.device_claim.moid)
        result['changed'] = True
        break
```

| args | api_key | |

| api_result |

Section:
Explanation:

QUESTION 227
DRAG DROP
Drag and drop the functions from the left onto the networking devices on the right.

Select and Place:

forwards by default	load balancer
distributes unicast traffic over devices	switch
uses traffic inspection to make forwarding decisions	firewall
distributes multicast traffic over devices	router

Correct Answer:

	forwards by default
	distributes unicast traffic over devices
	uses traffic inspection to make forwarding decisions
	distributes multicast traffic over devices

Section:
Explanation:

QUESTION 228
DRAG DROP
Refer to the exhibit.

SDK Documentation:

OrganizationController:
  get_organizations()
  get_network_device(dict)
DevicesController:
  get_network_devices(id)
NetworksController:
  get_organization_networks(dict)

Refer to the exhibit. A script must output details of all the Cisco Meraki MS220-BP switches across all organizations and networks. Drag and drop the code snippets from the bottom onto the boxes in the code to complete the script. Not all options are used.

Select and Place:

```
from meraki_sdk.meraki_sdk_client import MerakiSdkClient
from meraki_sdk.exceptions.api_exception import APIException

api_key = "API_KEY"
client = MerakiSdkClient(api_key)

for org in [                                                    ]
    try:
        options = {"organization id": org["id"]}
        networks = [                                            ]

        for network in networks:
            devices = [                                         ]

            for device in devices:
                if device["model"] == "MS220-8P":
                    options = {"network id": network["id"], "serial": device["serial"]}
                    output = [                                  ]

                    print(output)
    except APIException as e:
        pass
```

```
            client.organizations.get_organizations():
```

```
    client.networks.get_organization_networks(api_key)
```

```
    client.networks.get_organization_networks(options)
```

```
    client.devices.get_network_devices(network ["id"])
```

```
    client.devices.get_network_device(options=options)
```

```
    client_devices.get_network_device(device ["model"])
```

Correct Answer:

```
from meraki_sdk.meraki_sdk_client import MerakiSdkClient
from meraki_sdk.exceptions.api_exception import APIException

api_key = "API_KEY"
client = MerakiSdkClient(api_key)

for org in [  client.organizations.get_organizations():  ]
    try:
        options = {"organization id": org["id"]}
        networks = [  client.networks.get_organization_networks(options)  ]
        for network in networks:
            devices = [  client.devices.get_network_devices(network ["id"])  ]
            for device in devices:
                if device["model"] == "MS220-8P":
                    options = {"network id": network["id"], "serial": device["serial"]}
                    output = [  client.devices.get_network_device(options=options)  ]
                    print(output)
    except APIException as e:
        pass
```

```
[                                                            ]

[  client.networks.get_organization_networks(api_key)  ]

[                                                            ]

[                                                            ]

[  client_devices.get_network_device(device ["model"])  ]
```

Section:
Explanation:

QUESTION 229
DRAG DROP
Drag and drop the code snippets from the bottom onto the blanks in the code to complete the happy path scenario. Not all options are used.

Select and Place:

```
import member as m
import pytest
class Team:
    def __init__(self, name):
        self.name = name
        self.members = []
    def add_member(self, member):
        if member:
            if member not in self.members:
                [                              ]
                return True
            else:
                [                              ]
        else:
            [                              ]
@pytest.fixture
def team():
    team = Team('Reds')
    yield team
    del team
@pytest.fixture
def member():
    member = m.Member('Chris George')
    yield member
    del member
@pytest.mark.usefixtures('team', 'member')
class TestHappyPathAddMemberToTeam:
    def test_add_member_to_team(self, team, member):
        assert[                    ] is True
```

return True
team.add_member(member)
self.members.append(member)
yield member
return False
member.add_member()

Correct Answer:

```
import member as m
import pytest
class Team:
    def __init__(self, name):
        self.name = name
        self.members = []
    def add_member(self, member):
        if member:
            if member not in self.members:
                ┌─────────────────────────────┐
                │    member.add_member()      │
                └─────────────────────────────┘
                return True
            else:
                ┌─────────────────────────────┐
                │       return False          │
                └─────────────────────────────┘
        else:
            ┌─────────────────────────────┐
            │  team.add_member(member)    │
            └─────────────────────────────┘
@pytest.fixture
def team():
    team = Team('Reds')
    yield team
    del team
@pytest.fixture
def member():
    member = m.Member('Chris George')
    yield member
    del member
@pytest.mark.usefixtures('team', 'member')
class TestHappyPathAddMemberToTeam:
    def test_add_member_to_team(self, team, member):
        assert ┌─────────────────────────┐ is True
               │    yield member         │
               └─────────────────────────┘
```

┌─────────────────────────────┐
│   return True   │
└─────────────────────────────┘

┌─────────────────────────────┐
│   │
└─────────────────────────────┘

┌─────────────────────────────┐
│ self.members.append(member) │
└─────────────────────────────┘

┌─────────────────────────────┐
│   │
└─────────────────────────────┘

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Section:
Explanation:

QUESTION 230
DRAG DROP
Refer to the exhibit. Drag and drop the code snippets from the bottom onto the blanks in the Python script to retrieve a list of network devices from Cisco DNA Center. Not all options are used.

Select and Place:

```
import requests
import json
from urllib3.exceptions import InsecureRequestWarning

requests.packages.urllib3.disable_warnings()

dna_center_url = "My_DNA_Center_URL"
authentication = ("dnacenteruser", "dnacenter_password")

def get_token ():
    url = "https:// "dna_center_url+"/dna/system/api/v1/auth/token"
    response = requests.post(url, auth=authentication, verify=False)
    token = response.json()['Token']
    return token

def get_device_list():
    token = [          ]
    url = "https:// "+dna_center_url+ "dna/intent/api/v1/[          ]"

    header = {[          ] : token, 'content-type' : 'application/json'}

    response = requests.get(url, headers=header)

    device_list = [          ]

    print(json.dumps (device_list, indent=4))
if _name_ == "_main_":
    get_device_list()
```

get_token()	network-device	x-auth-token	response.json()

response.xml	Authorization

Correct Answer:

```
import requests
import json
from urllib3.exceptions import InsecureRequestWarning

requests.packages.urllib3.disable_warnings()

dna_center_url = "My_DNA_Center_URL"
authentication = ("dnacenteruser", "dnacenter_password")

def get_token ():
    url = "https:// "dna_center_url+"/dna/system/api/v1/auth/token"
    response = requests.post(url, auth=authentication, verify=False)
    token = response.json()['Token']
    return token

def get_device_list():
    token =  get_token()
    url = "https:// "+dna_center_url+ "dna/intent/api/v1/ network-device "
    header = { x-auth-token : token, 'content-type' : 'application/json'}
    response = requests.get(url, headers=header)
    device_list = response.json()
    print(json.dumps (device_list, indent=4))
if _name_ == "_main_":
    get_device_list()
```


response.xml   Authorization

Section:
Explanation:

QUESTION 231
A company requires a new platform to store large volumes of log data that is generated in their assembly plant. The platform must be scalable, so the underlying technology must provide a path for fast deployment of new nodes for data and indexing?
The data contains sensitive information, so specialist encryption tools must be used to secure the data. Which application deployment model meets the requirements?

A. edge
B. private cloud
C. public cloud
D. hybrid cloud

Correct Answer: B
Section:
Explanation:

Reference: https://www.simform.com/blog/cloud-deployment-models/

QUESTION 232
What is a procedural component of CI/CD pipelines?

A. Bundled artifacts must be generated.
B. Every test must pass for the pipeline to continue its execution.

C. Some tests fall without stopping the pipeline execution.

D. The release label that identifies the build is optional.

Correct Answer: A
Section:

QUESTION 233
Which OWASP threat occurs when untrusted data is supplied as input to an interpreter as part of a command or query?

A. broken authentication

B. data exposure

C. injection

D. cross-site scripting

Correct Answer: C
Section:
Explanation:

Reference: https://owasp.org/www-community/Injection_Theory

QUESTION 234

```
1    <routing xmlns="urn:ietf:params:xml:ns:yang:ietf-routing">
2        <routing-instance>
3            <name>default</name>
4            <description>default-vrf [read-only]</description>
5            <routing-protocols>
6                <routing-protocol>
7                    <type xmlns:ospf="urn:ietf:params:xml:ns:yang:ietf-
*                    ospf">ospf:ospfv2</type>
8                    <name>100</name>
9                    <ospf xmlns="urn:ietf:params:xml:ns:yang:ietf-ospf">
10                       <instance>
11                           <af xmlns:rt="urn:ietf:params:xml:ns:yang:ietf-
*                           routing">rt:ipv4</af>
12                           <router-id>1.1.1.1</router-id>
13                           <nsr>
14                               <enable>false</enable>
15                           </nsr>
16                           <auto-cost>
17                               <enable>false</enable>
18                           </auto-cost>
19                           <redistribution
*                           xmlns="urn:ietf:params:xml:ns:yang:cisco-ospf">
20                               <rip/>
21                           </redistribution>
22                       </instance>
23                   </ospf>
24               </routing-protocol>
25           </routing-protocols>
26       </routing-instance>
27   </routing>
```

Refer to the exhibit. What are two characteristics of the NETCONF response? (Choose two.)

A. ospf is defined by the ietf-ospf module.
B. ietf-ospf imports ietf-routing.
C. redistribution is a module of type cisco-ospf.
D. routing protocols is a list.
E. The main module is routing.

Correct Answer: B, C
Section:

QUESTION 235
A business needs to create a simulated environment that mimics a production infrastructure to make changes to the OSPF process and analyze the impact. What should be used?

A. Cisco VIRL / Cisco CML
B. Cisco DevNet Sandbox labs
C. pyATS
D. Puppet

Correct Answer: A
Section:

QUESTION 236
DRAG DROP
Refer to the exhibit.

Object Lookup

Use the **MoDirectory.lookupByDn** to look up an object within the MIT object tree by its distinguished name (DN). This example looks for an object called 'uni':

```
uniMo = moDir.lookupByDn('uni')
```

A successful lookup operation returns a reference to the object that has the specified DN.

You can also look up an object by class. This example returns a list of all objects of the class 'polUni':

```
uniMo = moDir.lookupByClass('polUni')
```

You can add a filter to a lookup to find specific objects. This example returns an object of class 'fvTenant' whose name is 'Tenant1':

```
tenant1Mo = moDir.lookupByClass("fvTenant", propFilter='and(eq(fvTenant.name, "Tenant1"))')
```

Refer to the exhibit. Drag and drop the code from the bottom onto the box where the code is missing to add a subnet to each bridge domain in the Ten1 tenant. Not all options are used.

Select and Place:

```
from cobra.model import fv
from cobra.mit.request import ClassQuery, DnQuery
import cobra.mit.access
import cobra.mit.session

tenname = "Ten1"
ls = cobra.mit.session.LoginSession(
    'https://10.100.1.200', "admin", "Lab123!3")

aci = cobra.mit.access.MoDirectory(ls)
aci.login()
c = cobra.mit.request.ConfigRequest()

qry1 = [            ]    (f'uni/tn-{tenname}')
fvTenant = aci.query(qry1)[0]

qry2 = [            ]    ("fvBD")
qry2.propFilter = f'and(wcard(fvBD.dn,"{fvTenant.dn}"))'
fvBDs = aci.query(qry2)

i=0
for fvBD in fvBDs:
    fvsubnet = cobra.model.fv.Subnet( [          ]  , ip=f'10.114.{i}.1/24')
    c.addMo(fvBD)
    aci. [         ]   (c)
    i+=
```

| fvBD | fvTenant | ClassQuery | bdname | DnQuery | ClassName | commit |

Correct Answer:

```
from cobra.model import fv
from cobra.mit.request import ClassQuery, DnQuery
import cobra.mit.access
import cobra.mit.session

tenname = "Ten1"
ls = cobra.mit.session.LoginSession(
    'https://10.100.1.200', "admin", "Lab123!3")

aci = cobra.mit.access.MoDirectory(ls)
aci.login()
c = cobra.mit.request.ConfigRequest()

qry1 = [ DnQuery ]    (f'uni/tn-{tenname}')
fvTenant = aci.query(qry1)[0]

qry2 = [ ClassQuery ]    ("fvBD")
qry2.propFilter = f'and(wcard(fvBD.dn,"{fvTenant.dn}"))'
fvBDs = aci.query(qry2)

i=0
for fvBD in fvBDs:
    fvsubnet = cobra.model.fv.Subnet( [ fvBD ]  , ip=f'10.114.{i}.1/24')
    c.addMo(fvBD)
    aci. [ commit ]   (c)
    i+=
```

| fvTenant | bdname | ClassName |

QUESTION 237
DRAG DROP
Drag and drop characteristics from the left onto the infrastructure management methodologies on the right.

Select and Place:

exposes RESTCONF as Northbound API		**Device Level**
uses REST as Northbound API		
supported by standards such as YANG models		**Controller Level**
integrates to ITSM tools using Westbound APIs		

Correct Answer:

	Device Level
	exposes RESTCONF as Northbound API
	supported by standards such as YANG models
	Controller Level
	uses REST as Northbound API
	integrates to ITSM tools using Westbound APIs

Section:
Explanation:

QUESTION 238
DRAG DROP
Refer to the exhibit.

```
user@host1:~/tmp$ cat Dockerfile
# Dockerfile to install traceroute
FROM ubuntu
MAINTAINER User One (userone@cisco.com)
RUN apt-get update && apt-get install traceroute
```

Refer to the exhibit. Drag and drop the Dockerfile contents from the left onto the functions on the right that create a container image to run traceroute to track network path to specific targets. Not all options are used.

Select and Place:

document author		FROM ubuntu
command to execute		MAINTAINER User One (userone@cisco.com)
initializes a new build stage		RUN apt-get update && apt-get install traceroute
copies new files or directories		
sets the userid		

Correct Answer:

		initializes a new build stage
		document author
		command to execute
copies new files or directories		
sets the userid		

Section:
Explanation:

QUESTION 239
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to enable ports on a switch by using RESTCONF. Not all options are used.

Select and Place:

```
def enable_function(if_name, if_status, if_type):
    headers = {'Accept': 'application/yang-data+json',
               'Content-Type': 'application/[          ]'}
    payload = {
        "[          ]": {
            "name": if_name,
            "enabled": if_status,
            "type": if_type,
        }
    }
    [          ] = 'https://192.168.1.1:8443'
    restconf_url = '/restconf/data/ietf-interfaces:interfaces/interface'

    res = requests.put(f'{base_url}{restconf}={if_name}',
                       headers=headers, json=payload,
                       auth=('cisco', 'secret'), verify=False)

enable_function('Loopback1, true, '[          ]')
```

yang-data+json	application/xml
ietf-interfaces:interface	iana-if-type:softwareLoopback
base_url	run_function
iana-if-type:ethernetCsmacd	

Correct Answer:

```
def enable_function(if_name, if_status, if_type):
    headers = {'Accept': 'application/yang-data+json',
               'Content-Type': 'application/[yang-data+json]'}
    payload = {
        "[ietf-interfaces:interface]": {
            "name": if_name,
            "enabled": if_status,
            "type": if_type,
        }
    }
    [base_url] = 'https://192.168.1.1:8443'
    restconf_url = '/restconf/data/ietf-interfaces:interfaces/interface'

    res = requests.put(f'{base_url}{restconf}={if_name}',
                       headers=headers, json=payload,
                       auth=('cisco', 'secret'), verify=False)

enable_function('Loopback1, true, '[iana-if-type:ethernetCsmacd]')
```

	application/xml
	iana-if-type:softwareLoopback
	run_function

Section:
Explanation:

QUESTION 240
DRAG DROP
Drag and drop the code from the bottom onto the box where the code is missing to complete the error path scenario. Not all options are used.

Select and Place:

```
import pytest
class Player:
    def __init__(self, name):
        self.name = name
        [                    ]

    def set_rating(self, rating):
        if rating or rating is int(0):
            [                    ]:
                raise ValueError('rating is invalid', rating)
            else:
                [                    ]
                return True
        else:
            return False
@pytest.fixture
def player():
    player = Player('User One')
    yield player
    del player
@pytest.mark.usefixtures('player')
class TestErrorPathSetRating:
    def test_add_higher_rating(self, player):
        with pytest.raises(ValueError):
            player.set_rating(101)
    def test_add_invalid_rating(self, player):
        with pytest.raises(ValueError):
            [                    ]

    def test_add_lower_rating(self, player):
        with pytest.raises(ValueError):
            player.set_rating(-1)
```

player.set_rating(0)	if rating != 0:
player.set_rating(85)	if rating or rating is int(0):
if rating < 1 or rating > 100:	self.rating = rating
self.rating = None	

Correct Answer:

```
import pytest
class Player:
    def __init__(self, name):
        self.name = name
            self.rating = None
    def set_rating(self, rating):
        if rating or rating is int(0):
            if rating < 1 or rating > 100:  :
                raise ValueError('rating is invalid', rating)
            else:
                    if rating != 0:
                return True
        else:
            return False
@pytest.fixture
def player():
    player = Player('User One')
    yield player
    del player
@pytest.mark.usefixtures('player')
class TestErrorPathSetRating:
    def test_add_higher_rating(self, player):
        with pytest.raises(ValueError):
            player.set_rating(101)
    def test_add_invalid_rating(self, player):
        with pytest.raises(ValueError):
            player.set_rating(0)
    def test_add_lower_rating(self, player):
        with pytest.raises(ValueError):
            player.set_rating(-1)
```

```
player.set_rating(85)         if rating or rating is int(0):
                                  self.rating = rating
```

Section:
Explanation:

QUESTION 241
DRAG DROP
Drag and drop the characteristics from the left onto the corresponding categories on the right to compare RESTful and RPC APIs.

Select and Place:

	RESTful
stateless	
session-based	
must use HTTP	RPC
sometimes uses HTTP	

Correct Answer:

RESTful
- stateless
- sometimes uses HTTP

RPC
- session-based
- must use HTTP

Section:
Explanation: