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350-901

Developing Applications using Cisco Core Platforms and APIs v1.0



Sections

1. Software Development and Design
2. Using APIs
3. Cisco Platforms
4. Application Deployment and Security
5. Infrastructure and Automation

Exam A

QUESTION 1

A developer has created an application based on customer requirements. The customer needs to run the application with the minimum downtime. Which design approach regarding high-availability applications, Recovery Time Objective, and Recovery Point Objective must be taken?

- A. Active/passive results in lower RTO and RPO. For RPO, data synchronization between the two data centers must be timely to allow seamless request flow.
- B. Active/passive results in lower RTO and RPO. For RPO, data synchronization between the two data centers does not need to be timely to allow seamless request flow.
- C. Active/active results in lower RTO and RPO. For RPO, data synchronization between the two data centers does not need to be timely to allow seamless request flow.
- D. Active/active results in lower RTO and RPO. For RPO, data synchronization between the two data centers must be timely to allow seamless request flow.

Correct Answer: A

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 2

DRAG DROP

An application is being built to collect and display telemetry streaming data. Drag and drop the elements of this stack from the left onto the correct element functions on the right.

Select and Place:

Correct Answer:

Section: Software Development and Design

Explanation

Explanation/Reference:



QUESTION 3 A cloud native project is being worked on in which all source code and dependencies are written in Python, Ruby, and/or JavaScript. A change in code triggers a notification to the CI/CD tool to run the CI/CD pipeline.

Which step should be omitted from the pipeline?

- A. Deploy the code to one or more environments, such as staging and/or production.
- B. Build one of more containers that package up code and all its dependencies.
- C. Compile code.
- D. Run automated tests to validate the correctness.

Correct Answer: A

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 4

Which two statements are considered best practices according to the 12-factor app methodology for application design? (Choose two.)

- A. Application code writes its event stream to stdout.
- B. Application log streams are archived in multiple replicated databases.
- C. Application log streams are sent to log indexing and analysis systems.
- D. Application code writes its event stream to specific log files.
- E. Log files are aggregated into a single file on individual nodes.

Correct Answer:

AD

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 5

An organization manages a large cloud-deployed application that employs a microservices architecture. No notable issues occur with downtime because the services of this application are redundantly deployed over three or more data center regions. However, several times a week reports are received about application slowness. The container orchestration logs show faults in a variety of containers that cause them to fail and then spin up brand new.

Which action must be taken to improve the resiliency design of the application while maintaining current scale?

- A. Update the base image of the containers.
- B. Test the execution of the application with another cloud services platform.
- C. Increase the number of containers running per service.
- D. Add consistent “try/catch(exception)” clauses to the code.

Correct Answer: D

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 6

How should a web application be designed to work on a platform where up to 1000 requests per second can be served?

- A. Use algorithms like random early detection to deny excessive requests.
- B. Set a per-user limit (for example, 5 requests/minute/user) and deny the requests from the users who have reached the limit.
- C. Only 1000 user connections are allowed; further connections are denied so that all connected users can be served.
- D. All requests are saved and processed one by one so that all users can be served eventually.

Correct Answer: D

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 7

An organization manages a large cloud-deployed application that employs a microservices architecture across multiple data centers. Reports have received about application slowness. The container orchestration logs show that faults have been raised in a variety of containers that caused them to fail and then spin up brand new instances.

Which two actions can improve the design of the application to identify the faults? (Choose two.)

- A. Automatically pull out the container that fails the most over a time period.
- B. Implement a tagging methodology that follows the application execution from service to service.
- C. Add logging on exception and provide immediate notification.
- D. Do a write to the datastore every time there is an application failure.
- E. Implement an SNMP logging system with alerts in case a network link is slow.

Correct Answer: BC

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 8

Which two situations are flagged by software tools designed for dependency checking in continuous integration environments, such as OWASP? (Choose two.)

- A. publicly disclosed vulnerabilities related to the included dependencies
- B. mismatches in coding styles and conventions in the included dependencies
- C. incompatible licenses in the included dependencies
- D. test case failures introduced by bugs in the included dependencies
- E. buffer overflows to occur as the result of a combination of the included dependencies

Correct Answer: AE

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 9

A network operations team is using the cloud to automate some of their managed customer and branch locations. They require that all of their tooling be ephemeral by design and that the entire automation environment can be recreated without manual commands. Automation code and configuration state will be stored in git for change control and versioning. The engineering high-level plan is to use VMs in a cloud-provider environment then configure open source tooling onto these VMs to poll, test, and configure the remote devices, as well as deploy the tooling itself.

Which configuration management and/or automation tooling is needed for this solution?

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

Correct Answer: B

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 10

DRAG DROP

Drag and drop the **git** commands from the left into the correct order on the right to create a feature branch from the master and then incorporate that feature branch into the master.

Select and Place:

Correct Answer:

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 11 An application is hosted on Google Kubernetes Engine. A new JavaScript module is created to work with the existing application. Which task is mandatory to make the code ready to deploy?

- A. Create a Dockerfile for the code base.
- B. Rewrite the code in Python.
- C. Build a wrapper for the code to “containerize” it.
- D. Rebase the code from the upstream git repo.

D



Correct Answer:

Section: Software Development and Design
Explanation

Explanation/Reference:

QUESTION 12
DRAG DROP

Drag and drop the steps from the left into the correct sequence on the right to describe how to use Git to maintain the current HEAD and revert back to a previous commit, while undoing all intermediate commits.

Select and Place:

Correct Answer:

Section: Software Development and Design
Explanation

Explanation/Reference:

QUESTION 13 Which database type should be used with highly structured data and provides support for ACID transactions?

- A. time series
- B. document
- C. graph
- D. relational

Correct Answer: D

Section: Software Development and Design
Explanation

Explanation/Reference:

QUESTION 14 Where should distributed load balancing occur in a horizontally scalable architecture?

- A. firewall-side/policy load balancing
- B. network-side/central load balancing
- C. service-side/remote load balancing
- D. client-side/local load balancing

Correct Answer: B

Section: Software Development and Design
Explanation

Explanation/Reference:

QUESTION 15 Which two statements about a stateless application are true? (Choose two.)

- A. Different requests can be processed by different servers.
- B. Requests are based only on information relayed with each request.
- C. Information about earlier requests must be kept and must be accessible.
- D. The same server must be used to process all requests that are linked to the same state.

E. No state information can be shared across servers.

Correct Answer: AB

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 16 Which statement about microservices architecture is true?

- A. Applications are written in a single unit.
- B. It is a complex application composed of multiple independent parts.
- C. It is often a challenge to scale individual parts.
- D. A single faulty service can bring the whole application down.

Correct Answer: B

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 17

DRAG DROP

Drag and drop the characteristics from the left onto the correct data processing techniques on the right, in the context of GDPR.

Select and Place:

Answer Area

processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without the use of additional information

data stripped of sufficient elements such that the data subject can no longer be identified

can be re-identified

cannot be re-identified

Data anonymization

Data pseudonymization

Answer Area

processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without the use of additional information

data stripped of sufficient elements such that the data subject can no longer be identified

can be re-identified

cannot be re-identified

Data anonymization

can be re-identified

data stripped of sufficient elements such that the data subject can no longer be identified

Data pseudonymization

cannot be re-identified

processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without the use of additional information



Section: Software Development and Design
Explanation

Explanation/Reference:

QUESTION 18 Which two data encoding techniques are supported by gRPC? (Choose two.)

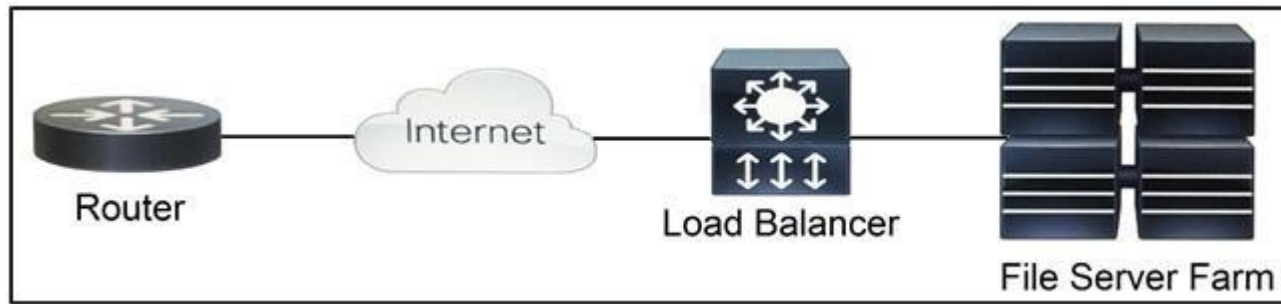
- A. XML
- B. JSON
- C. ASCII
- D. ProtoBuf
- E. YAML

Correct Answer: BE

Section: Software Development and Design
Explanation

Explanation/Reference:

QUESTION 19



Refer to the exhibit. Which two functions are performed by the load balancer when it handles traffic originating from the Internet destined to an application hosted on the file server farm? (Choose two.)

- A. Terminate the TLS over the UDP connection from the router and originate an HTTPS connection to the selected server.
- B. Terminate the TLS over the UDP connection from the router and originate an HTTP connection to the selected server.
- C. Terminate the TLS over the TCP connection from the router and originate an HTTP connection to the selected server.
- D. Terminate the TLS over the TCP connection from the router and originate an HTTPS connection to the selected server.
- E. Terminate the TLS over the SCTP connection from the router and originate an HTTPS connection to the selected server.

Correct Answer: DE

Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 20 Which transport protocol is used by gNMI?

- A. HTTP/2
- B. HTTP 1.1
- C. SSH
- D. MQTT



Correct Answer: A

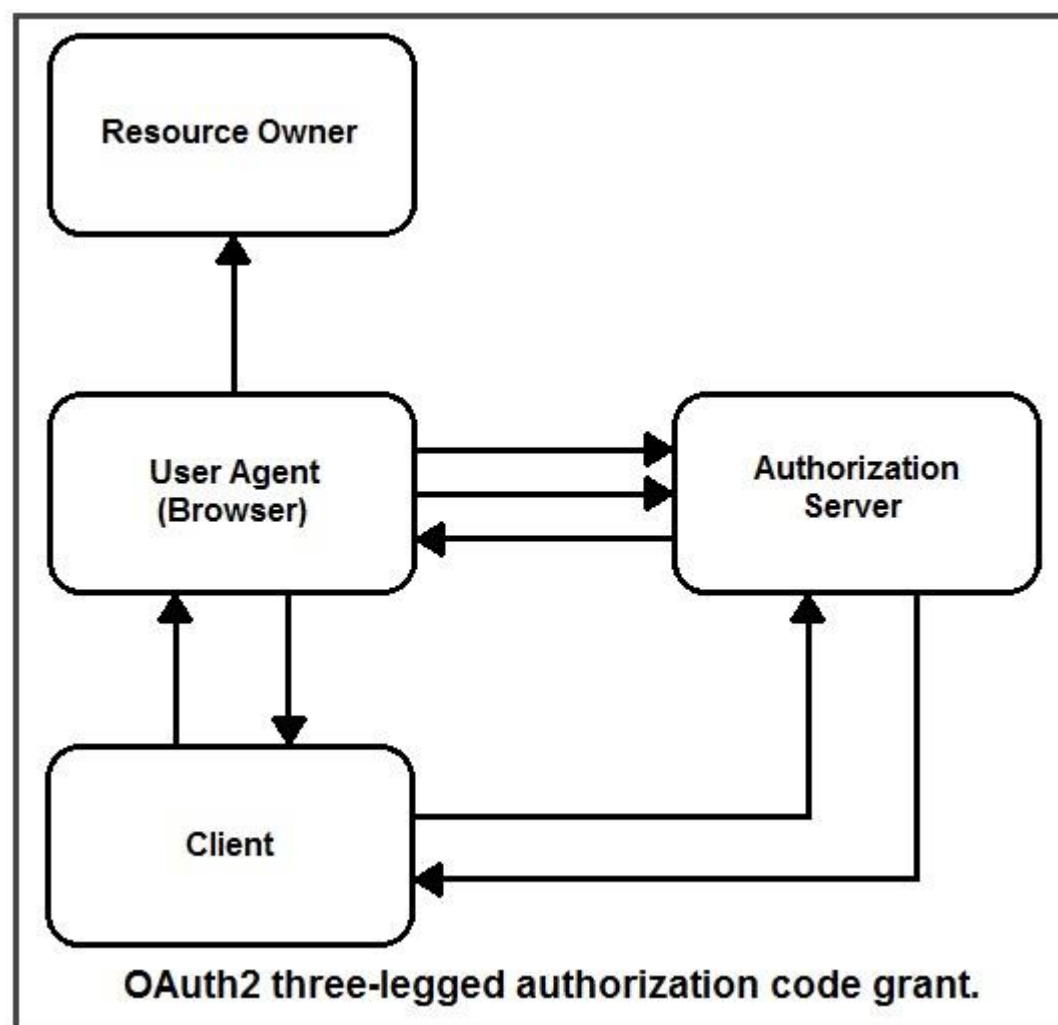
Section: Software Development and Design

Explanation

Explanation/Reference:

QUESTION 21

DRAG DROP



Refer to the exhibit. Drag and drop the steps from the left into the correct order of operation on the right for a successful OAuth2 three-legged authorization code grant flow.

Select and Place:

Answer Area

Client initiates the flow.	step 1
The authorization server authenticates the client, validates details sent, and responds with an access token.	step 2
The authorization server redirects the user-agent back to the client using the redirection URI provided.	step 3
The authorization server authenticates the resource owner.	step 4
The client requests an access token from the authorization server's token endpoint.	step 5

Correct Answer:

Answer Area

Client initiates the flow.	Client initiates the flow.
The authorization server authenticates the client, validates details sent, and responds with an access token.	The authorization server redirects the user-agent back to the client using the redirection URI provided.
The authorization server redirects the user-agent back to the client using the redirection URI provided.	The authorization server authenticates the resource owner.
The authorization server authenticates the resource owner.	The client requests an access token from the authorization server's token endpoint.
The client requests an access token from the authorization server's token endpoint.	The authorization server authenticates the client, validates details sent, and responds with an access token.



Section: Software Development and Design Explanation

Explanation/Reference:

QUESTION 22 Which two methods are API security best practices? (Choose two.)

- A. Use tokens after the identity of a client has been established.
- B. Use the same operating system throughout the infrastructure.
- C. Use encryption and signatures to secure data.
- D. Use basic auth credentials over all internal API interactions.
- E. Use cloud hosting services to manage security configuration.

Correct Answer: AC

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 23

DRAG DROP

GET /dna/intent/api/v1/wireless/profile Get Wireless Profile	
Gets either one or all the wireless network profiles if no name is provided for network-profile.	
Parameters	
Name	Description
profileName string (query)	<i>Default value:</i>
Responses	
Code	Description
200	<p>The request was successful. The result is contained in the response body.</p> <p>Example Value Model</p> <pre>[{ "profileDetails": { "name": "string", "sites": ["string"], "ssidDetails": [{ "name": "string", "type": "Guest", "enabledFabric": true, "flexConnect": { "enableFlexConnect": true, "localToVlan": 0 }, "InterfaceName": "string" }] } }]</pre>


```
import requests
import json

def get_dnac_wireless_profiles():
    try:
        url = "https://sandboxdnac2.cisco.com/dna/intent/api/v1" \
            + "/wireless/profile?<item1>=ChicagoCampus|"

        print(token)
        payload = {}
        headers = {
            'x-auth-token': token
        }

        response = requests.request("GET", url, headers=headers, data = payload)
        response.raise_for_status()
        return response.json()[0][ '<item 2>' ][ '<item 3>' ] \
            [ <item 4> ][ '<item 5>' ][ "<item 6>" ]

    except Exception as e:
        print(e)

def create_dnac_token():
    try:
        url = "https://sandboxdnac2.cisco.com/dna/system/api/v1/auth/token"

        payload = {}
        headers = {
            'Authorization': 'Basic ZGV2bmV0dXNlcjpwDaXNjbzEyMyE= ',
            'Content-Type': 'application/json'
        }

        response = requests.request("POST", url, headers=headers, data = payload)
        response.raise_for_status()
        return response.json()[ "Token" ]

    except Exception as e:
        print(e)

if __name__ == "__main__":
    token = create_dnac_token()
    print(get_dnac_wireless_profiles())
```



Refer to the exhibit. The Python script is supposed to make an API call to Cisco DNA Center querying a wireless profile for the "ChicagoCampus" and then parsing out its enable FlexConnect value. Drag and drop the parts of the Python code from the left onto the item numbers on the right that match the missing sections in the exhibit.

Select and Place:

Correct Answer:

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 24

A developer has completed the implementation of a REST API, but when it is executed, it returns a 401 error message. What must be done on the API to resolve the issue?

- A. Access permission to the resource must be granted, before the request.
- B. Configure new valid credentials.
- C. The requested API endpoint does not exist, and the request URL must be changed.
- D. Additional permission must be granted before the request can submitted.

Correct Answer: D

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 25

Paginating the Results

By adding the `page-size` operator to the query URI you can divide the query results into groups (pages) of objects using the following syntax. The operand specifies the number of objects in each group.

`page-size = number-of-objects-per-page`

By adding the `page` operator in the query URI, you can specify a single group to be returned using the following syntax. The pages start from number 0.

`page = page-number`

This example shows you how to specify 15 fault instances per page in descending order, returning only the first page:



Refer to the exhibit. Many faults have occurred in the ACI environment and a sample of them needs to be examined. Which API call retrieves faults 30 through 45?

- A. `GET https://apic-ip-address/api/class/faultInfo.json?order-by=faultinst.severity|desc&page=1&page-size=15`
- B. `GET https://apic-ip-address/api/class/faultInfo.json?order-by=faultinst.severity|desc&page=2&page-size=15`
- C. `GET https://apic-ip-address/api/class/faultInfo.json?order-by=faultinst.severity|desc&page=30`
- D. `GET https://apic-ip-address/api/class/faultInfo.json?order-by=faultinst.severity|desc&page=2&page-size=30`

Correct Answer: D

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 26

```
curl --insecure -H "Accept: application/json" -H "Content-Type: application/json" -d @token_data https://ast0072-pod.cisco.com:33333//api/fdm/latest/fdm/token
```

Refer to the exhibit. The cURL POST request creates an OAuth access token for authentication with FDM API requests. What is the purpose of the file "`@token_data`" that cURL is handling?

- A. This file is a container to log possible error responses in the request.
- B. This file is given as input to store the access token received from FDM.
- C. This file is used to send authentication related headers.
- D. This file contains raw data that is needed for token authentication.

Correct Answer: B

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 27

DRAG DROP

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

Select and Place:

Correct Answer:

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 28

User report that they can no longer process transactions with the online ordering application, and the logging dashboard is displaying these messages.

Fri Jan 10 19:37:31.123 EST 2020 [FRONTEND] INFO: Incoming request to add item to cart from user 45834534858

Fri Jan 10 19:37:31 247 EST 2020 [BACKEND] INFO: Attempting to add item to cart

Fri Jan 10 19:37:31 250 EST 2020 [BACKEND] ERROR: Failed to add item: MYSQLDB ERROR: Connection refused

What is causing the problem seen in these log messages?

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

Correct Answer: A

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 29

<code>\$filter { string }</code>	query
<p>Filter criteria for documents to return. A URI with a \$filter System Query Option identifies a subset of the Entries from the Collection of Entries identified by the Resource Path section of the URI. The subset is determined by selecting only the Entries that satisfy the predicate expression specified by the query option. The expression language that is used in \$filter operators supports references to properties and literals. The literal values can be strings enclosed in single quotes, numbers and boolean values (true or false) or any of the additional literal representations shown in the Abstract Type System section. Query examples: \$filter=Name eq 'Bob' \$filter=Tags/any(t: t/Key eq 'Site') \$filter=Tags/any(t: t/Key eq 'Site' and t/Value eq "London")</p>	
<pre>GET /api/v1/compute/RackUnits?\$filter=Tags/any (t:t/Key eq 'Site')</pre>	

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

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

Correct Answer: A
Section: Using APIs
Explanation



Explanation/Reference:

QUESTION 30 A user is receiving a 429 Too Many Requests error. Which scheme is the server employing that causes this error?

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

Correct Answer: A
Section: Using APIs
Explanation

Explanation/Reference:

QUESTION 31
DRAG DROP

```

import request
import json
import sys

token = ""

def get_dnac_devices():
    <item 1>:
        url = "https://sandboxdnac.cisco.com/dna/intent/api/v1/network-device"

        print(token)
        payload = {}
        headers = {
            'Content-Type': 'application/json',
            'Accept': 'application/json',
            'x-auth-token': token
        }

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

    <item 2>:
        print(e)
        if str(<item 3>) in str(e):
            create_dnac_token()

def create_dnac_token():
    try:
        url = "https://sandboxdnac.cisco.com/dna/system/api/v1/auth/token"

        payload = {}
        headers = {
            <item 4>: 'Basic ZGV2bmV0dXNlcjpwDaXNjbzEyMyE=',
            'Content-Type': 'application/json'
        }

        response = requests.request("POST", url, headers=headers, data = payload)
        response.raise_for_status()
        return response.json()["Token"]
    except Exception as e:
        print(e)
        if str(<item 5>) in str(e):
            sys.exit("DNAC Service is not reachable")

if __name__ == "__main__":
    token = create_dnac_token()
    print(get_dnac_devices())

```

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

Select and Place:

Correct Answer:
Section: Using APIs
Explanation

Explanation/Reference:

QUESTION 32



Meraki Dashboard API Response

```
-----
Response Status Code      : 200
Response Link Header      :
<https://n6.meraki.com/api/v0/organizations/681155/devices?perPage=3&startingAfter=
0000-0000-0000>; rel=first,
<https://n6.meraki.com/api/v0/organizations/681155/devices?perPage=3
&startingAfter=Q2EK-3UBE-RRUY>; rel=next,
<https://n6.meraki.com/api/v0/organizations/681155/devices?endingBefore=zzzz-zzzz-
zzzz&perPage=3>; rel=last
Response Body            : [
  {
    "name": "",
    "serial": "Q2CV-V49B-RCMZ",
    "mac": "0c:8d:db:95:aa:39",
    "networkId": "L_566327653141846927",
    "model": "MV71",
    "address": "430 E Cactus Ave.\nLas Vegas, NV 89183",
    "lat": 36.00017,
    "lng": -115.15302,
    "notes": "",
    "tags": "",
    "lanIp": "192.168.0.25",
    "configurationUpdatedAt": "2019-08-08T02:15:36Z",
    "firmware": "camera-3-30"
  },
  {
    "name": "Alex's MR84 - 1",
    "serial": "Q2EK-2LYB-PCZP",
    "mac": "e0:55:3d:10:56:8a",
    "networkId": "L_566327653141846927",
    "model": "MR84",
    "address": "",
    "lat": 39.9482993357826,
    "lng": -82.9895675461739,
    "notes": "",
    "tags": "",
    "lanIp": null,
    "configurationUpdatedAt": "2018-02-03T11:02:37Z",
    "firmware": "Not running configured version"
  },
  {
    "name": "Vegas Living Room MR84",
    "serial": "Q2EK-3UBE-RRUY",
    "mac": "e0:55:3d:10:5a:ca",
    "networkId": "L_566327653141846927",
    "model": "MR84",
    "address": "430 E Cactus Ave.\nLas Vegas, NV 89183",
    "lat": 36.00015,
    "lng": -115.15308,
    "notes": "",
    "tags": "",
    "lanIp": "192.168.0.20",
    "configurationUpdatedAt": "2018-09-29T12:23:21Z",
    "firmware": "Not running configured version"
  }
]
```




```
import request
import json

meraki_api_key = "<api key>"
url =
"https://api.meraki.com/api/v0/organizations/1234567890/devices"
headers = {
    "X-Cisco-Meraki-API-Key": meraki_api_key,
}
params = {
    "perPage": 3
}
res = requests.get(url, headers=headers, params=params)
formatted_message = """
Meraki Dashboard API Response
-----
Response Status Code : {}
Response Link Header : {}
Response Body : {}
-----
""".format(res.status_code, res.headers.get('Link'),
json.dumps(res.json(), indent=4))
print(formatted_message)
```

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

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

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

Correct Answer: C

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 33

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

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

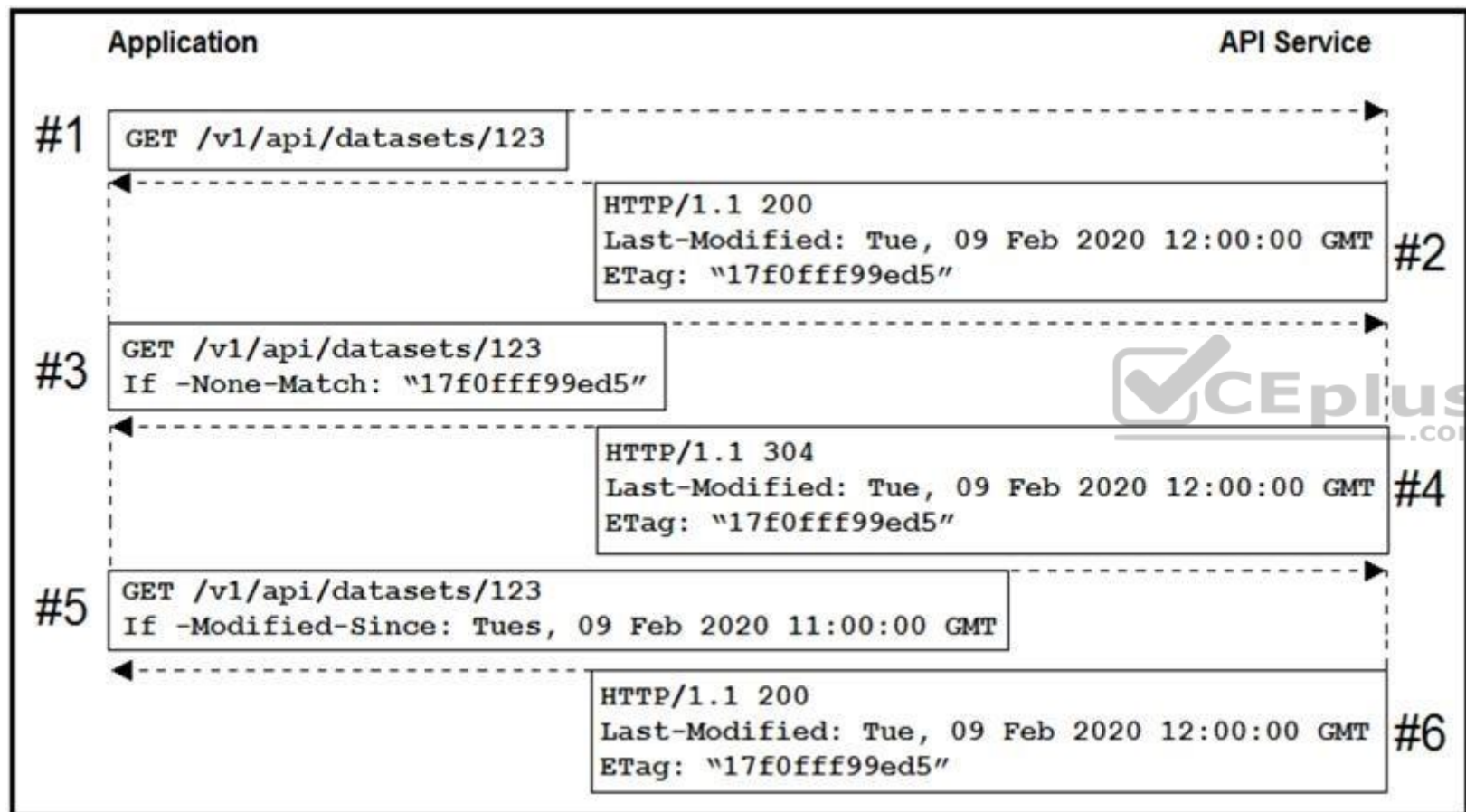
Correct Answer: AB

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 34



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

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

Correct Answer: AD

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 35
DRAG DROP



Description

The addNetworkObject operation handles configuration related to [NetworkObject](#) model.

This API call is not allowed on the standby unit in an HA pair.

HTTP request

URL

```
POST /api/fdm/v4/object/networks
```

Data Parameters

Parameter	Required	Type	Description
name	True	string	A string that is the name of the network object.
description	False	string	A string containing the description information. Field level constraints: length must be between 0 and 200 (inclusive). (Note: Additional constraints might exist)
subType	True	string	An enum value that specifies the network object type. HOST - A host type. NETWORK - A network type. FQDN - A FQDN type. RANGE - A range type. Field level constraints: cannot be null. (Note: Additional constraints might exist)
value	True	string	A string that defines the address content for the object. For HOST objects, this is a single IPv4 or IPv6 address without netmask or prefix. For NETWORK objects, this is an IPv4 or IPv6 network address with netmask (in CIDR notation) or prefix. For FQDN objects, this is a Fully qualified domain name. For RANGE objects, this is IPv4 or IPv6 addresses separated by '-'. Field level constraints: cannot be null, must match pattern ^((?!:).)*\$ (Note: Additional constraints might exist)
isSystemDefined	False	boolean	A Boolean value. TRUE or FALSE(the default). The TRUE value indicated that this Network object is a system defined object.
dnsResolution	False	string	DNS Resolution type can be IPV4_ONLY, IPV6_ONLY or IPV4_AND_IPV6.
type	True	string	A UTF8 string, all letters lower-case, that represents the class-type. This corresponds to the class name.

```
curl -X <item 1> -H "Authorization: Bearer exwsxads-sadads0as0d0-1w-1-1w-1w" --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{
  "name": "171.168.1.z",
  "value": "<item 2>",
  "subType": "<item 3>",
  "type": "<item 4>"
}' 'https://ast0072-pod.cisco.com:33333/api/fdm/v4/object/networks/<item 5>'
```

Refer to the exhibit. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the cURL exhibit to complete the cURL request to FirePower Device Manager API to create objects. Not all code snippets are used.

Select and Place:

Correct Answer:

Section: Using APIs
Explanation

Explanation/Reference:

QUESTION 36

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

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

Correct Answer: C

Section: Using APIs
Explanation

Explanation/Reference:

QUESTION 37 A client is written that uses a REST API to interact with a server. Using HTTPS as the transport, an HTTP request is sent and received an HTTP response. The response contains the HTTP response status code: 503 Service Unavailable.

Which action is the appropriate response?

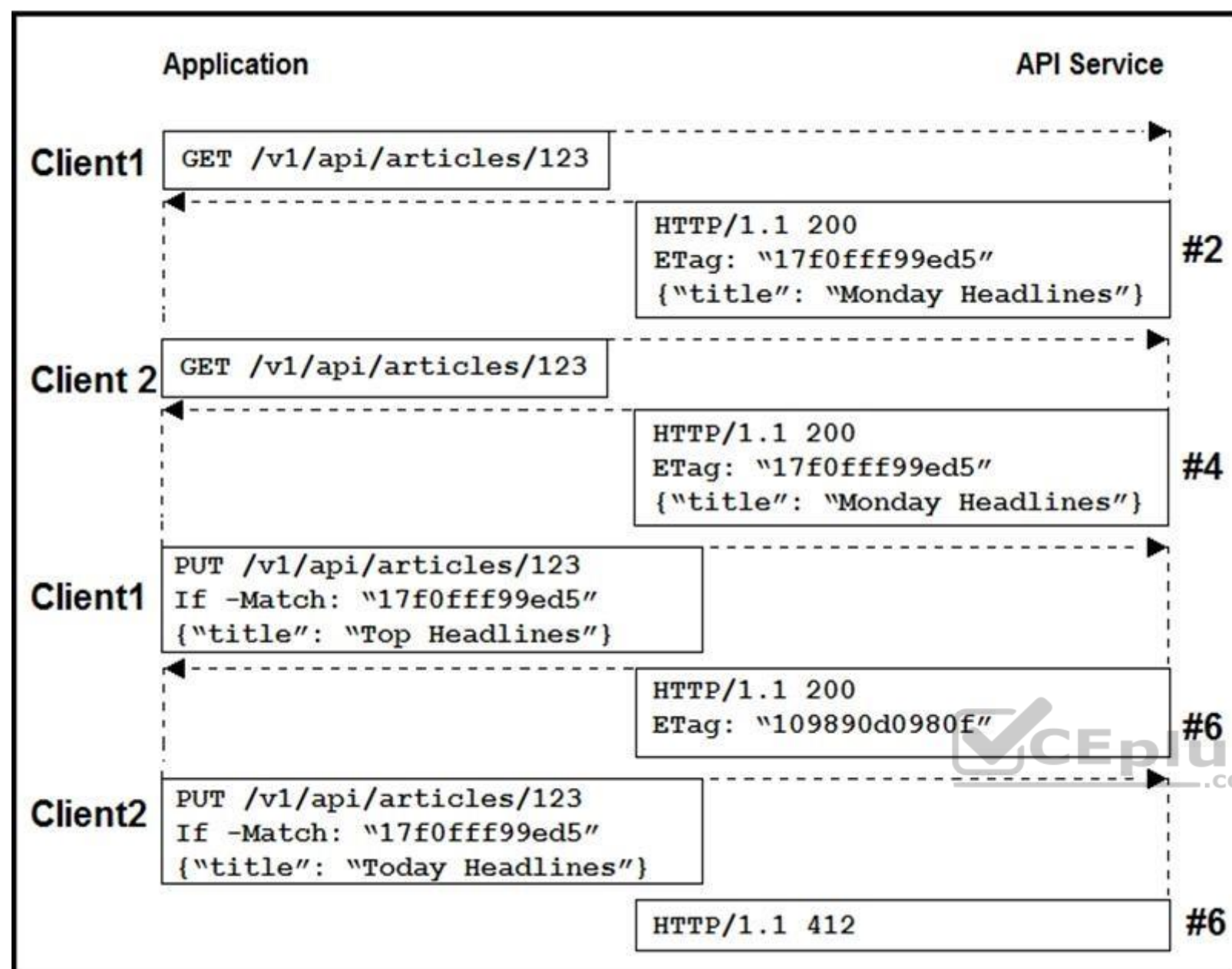
- A. Add an Authorization header that supplies appropriate credentials and sends the updated request.
- B. Resend the request using HTTP as the transport instead of HTTPS.
- C. Add an Accept header that indicates the content types that the client understands and send the updated request.
- D. Look for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

Correct Answer: A

Section: Using APIs
Explanation

Explanation/Reference:

QUESTION 38



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

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

Correct Answer: B

Section: Using APIs

Explanation

Explanation/Reference:

QUESTION 39


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

Refer to the exhibit. This snippet of a script has recently started exiting abnormally with an exception stating “Unexpected HTTP Response code: 429”.

Which solution handles rate limiting by the remote API? A.

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

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

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

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

B.

C.

D.

Correct Answer: D
Section: Using APIs
Explanation

Explanation/Reference:



QUESTION 40

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

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

Correct Answer: AC
Section: Using APIs
Explanation

Explanation/Reference:

QUESTION 41

DRAG DROP

```
import threading
import requests

def get_device_list(endpoint, apikey):
    url = "https://api.meraki.com/api/v0/networks/" + endpoint
    hdr = {'x-cisco-meraki-api-key': format(str(apikey)), 'Content-Type':
'application/json'}
    response = requests.get(url=url, headers=hdr)
    print(response.json())

if __name__ == "__main__":
    # creating thread
    thread = <item 1>(<item 2>=get_device_list,

    <item 3>=("NETWORK_ID/devices","API_TOKEN"))

    thread.<item 4>
    thread.<item 5>
```

Refer to the exhibit. Python threading allows a developer to have different parts of a program run concurrently and simplify a design. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to create a thread instance.



Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 42

DRAG DROP

```
import requests

url = "https://api.ciscospark.com/v1/rooms"
bearer = "BEARER_TOKEN_HERE"
headers = {"content-type": "application/json", "Authorization": "Bearer " + bearer}

<item 1>:
    response = requests.get(url, headers=headers, verify=False)
    response.<item 2>
<item 3> requests.exceptions.HTTPError as err:
    if response.status_code == <item 4>:
        print("Check Bearer Token")
    elif response.status_code == <item 5>:
        print("Check API Endpoint uri")
    elif response.status_code == 500:
        print("Server Error, Try again Later")
    else:
        print("HTTP Error") + str(err)
```

A developer is creating a Python script to use the Webex Teams REST API to list joined spaces, and gracefully handle and print the errors it receives. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to complete the script.

Select and Place:

Correct Answer:

Section: Cisco Platforms
Explanation

Explanation/Reference:

QUESTION 43
DRAG DROP


```
#!/usr/bin/python3
import requests, sys

head = { 'Content-Type': '<item 1>',
        'Authorization': 'Bearer NWU4NjQ0ODJkZTItM...4-ad72cae0e10f' }

res = requests.post(url = 'https://api.ciscopark.com/v1/<item 2>',
                    headers = head, json = { '<item 3>': sys.argv[1] })
spaceId = res.json()['id']

members = [ 'johndoe@example.com', 'janedoe@example.com' ]
for member in members:
    res = requests.post(url='https://api.ciscopark.com/v1/<item 4>',
                        headers = head,
                        json = { 'roomId' spaceId, '<item 5>': member })
```

Refer to the exhibit above and click on the resource tabs in the top left corner to view resources to help with this question.

Create a Room

Creates a room. The authenticated user is automatically added as a member of the room. See the [Memberships API](#) to learn how to add more people to the room. To create a 1:1 room, use the [Create Messages](#) endpoint to send a message directly to another person by using the `toPersonId` or `toPersonEmail` parameters.

POST /v1/rooms

Body Parameters

title

string **Required**

A user-friendly name for the room.

teamId

string

The ID for the team with which this room is associated.

Create a Membership

Add someone to a room by Person ID or email address; optionally making them a moderator.

POST /v1/memberships

Body Parameters

roomId

string Required

The room ID.

personId

string

The person ID.

personEmail

string

The email address of the person.

isModerator

boolean

Whether or not the participant is a room moderator.

A developer is creating a Python Script that will use the Webex Teams REST API to automatically create a new collaboration space with him and his team leads on-demand via a Linux terminal command. Drag and drop the code snippets from the left onto the numbers on the right that match the missing sections in the exhibit to complete the script. Not all code snippets are used.

Select and Place:

Correct Answer:

Section: Cisco Platforms
Explanation

Explanation/Reference:

QUESTION 44
 DRAG DROP

Create a Message

Post a plain text or **rich text** message, and optionally, a **file attachment** attachment, to a room.

The `files` parameter is an array, which accepts multiple values to allow for future expansion, but currently only one file may be included with the message.

POST /v1/messages

Body Parameters

`roomId`

string

The room ID of the message.

`toPersonId`

string

The person ID of the recipient when sending a private 1:1 message.

`toPersonEmail`

string

The email address of the recipient when sending a private 1:1 message.

`text`

string

The message, in plain text. If markdown is specified this parameter may be *optionally* used to provide alternate text for UI clients that do not support rich text. The maximum message length is 7439 bytes.

`markdown`

string

The message, in Markdown format. The maximum message length is 7439 bytes.

```
#!/bin/bash
curl <item 1> https://api.ciscopark.com/v1/messages \
  -H '<item 2>' \
  -H '<item 3> NMU4NjQ0YWUtNjy_P..._1eb6574-ad72cae0e10f' \
  -d '{ "<item 4>": "cisco@usa.net", "text": "Intruder Alert!" }'
```



Refer to the exhibit. A system administrator has installed a Linux-based alarm system in their home that can execute a Bash shell script when an intruder is detected. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to create a chat-ops script that will notify of alarms via the Webex Teams REST API. Not all code snippets are used.

Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 45

DRAG DROP

```

RETRIES = 6
i = 0
backoff = 1

while True:
    try:
        response = requests.request(*args, **kwargs)
        response.raise_for_status()
        return response
    except Exception as e:
        if (response.status_code != <item 1>) or i == <item 2>:
            return response

        time.sleep(<item 3>)
        <item 4> *= 2
        <item 5> += 1

```

Refer to the exhibit. The self-service Webex Teams bot is failing when many users attempt to interact with it at the same time. Drag and drop the code snippets from the left onto the correct item numbers on the right that match the missing sections in the exhibit to complete this code to handle this high-load situation.

Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:



QUESTION 46

DRAG DROP

```

import request, time
bearer = "BEARER_TOKEN_HERE"
url = 'https://api.ciscopark.com/v1/rooms'
headers = {'content-type': 'application/yang-data+json',
           'accept': 'application/yang-data+json',
           'Authorization': "Bearer "+bearer}

while True:
    response = requests.get(url, headers=headers, verify=False)
    status = <item 1>
    if(status == 200):
        print("Success")
        break
    elif(status == <item 2>):
        sleep_time = int(<item 3>)
        print('Too Many requests. Sleeping for ', sleep_time, '<item 4>')
        time.sleep(sleep_time)
    else:
        print("Error code" + str(status) + "detected.")
        break

```


Refer to the exhibit. A developer is creating a Python script to use the Webex Teams REST API to list joined spaces, retry after the server-specified amount of time if a “Too many requests” response is received, and print any other error that is received. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the exhibit to complete the script. Not all code snippets are used.

Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 47

Responding to Events

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

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

Differences Between Bots and People

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

Also, [listing messages](#) requires that you specify a special `?mentionedPeople=me` query parameter.

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

Bot Frameworks & Tools

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

[Flint](#) is an open source bot framework with support for regex pattern matching for messages and more.

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

GET /message&roomId=<ROOM_ID>

POST /messages

{ "roomId": "<ROOM_ID>", "text": "<MESSAGE>" }

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

PUT /messages

{ "roomId": "<ROOM_ID>", "text": "<MESSAGE>" }

GET /message&roomId=<ROOM_ID>

PUT /messages

{ "roomId": "<ROOM_ID>", "text": "<MESSAGE>" }

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

POST /messages

{ "roomId": "<ROOM_ID>", "text": "<MESSAGE>" }

B. C.



D.

Correct Answer: B

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 48 Which snippet presents the correct API call to configure, secure, and enable an SSID using the Meraki API? A.

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




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

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

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



B.

C.

D.

Correct Answer: B

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 49

FILL BLANK

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

```
import requests
url = "https://api.meraki.com/api/v0/11111111/ssids/"
payload = "{\r\n  \"name\": \"
```



Correct Answer: See explanation below

Section: Cisco Platforms

Explanation

Explanation/Reference:

Explanation:

1. 371767916
2. "{{HTTP_METHOD}}"
3. payload

QUESTION 50

DRAG DROP

Drag and drop the code onto the snippet to update a SSID in Meraki using the Dashboard API. Not all options are used.

Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 51

DRAG DROP

```
def process_all_pages(url):
    data = []
    try:
        response = requests.get(url)
        if <item 1> == 200:
            while <item 2>:
                response = requests.get(<item 3>)
                response.raise_for_status()
                data.append(response.json())
            return data
    except Exception as e:
        print("Server returned non-200 OK response during pagination")
```

Refer to the exhibit. Drag and drop the parts of the Python code from the left onto the item numbers on the right that match the missing sections in the exhibit that consumes REST API pagination.

Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 52

DRAG DROP

```
<item 1> python:3.6-alpine
<item 2> . .
<item 3> pip install -r requirements.txt
<item 4> 5001
<item 5> ["python", "app.py"]
```

Refer to the exhibit. Drag and drop the correct parts of the Dockerfile from the left onto the item numbers on the right that match the missing sections in the exhibit to complete the Dockerfile to successfully build and deploy a container running a Python application. Not all parts of the Dockerfile are used.

Select and Place:

Correct Answer:

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 53

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

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

Correct Answer: AB

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 54

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

What should be verified to resolve the issue?

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



Correct Answer: B

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 55

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

"Greater Than" Operator

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

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

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

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

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

"Less Than" Operator

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

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

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

"Greater Than Or Equal" Operator

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

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

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

"Less Than Or Equal" Operator

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

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

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


"And" Operator

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

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

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

"Or" Operator

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

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

"Not" Operator

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

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

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

"In" Operator

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

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

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

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

String Functions

"contains" Function

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

boolean contains(s string, subst string)

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

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

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

"startsWith" Function

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

boolean startswith(s string, subst string)

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

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

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

"endswith" Function

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

boolean endswith(string, suffix string)

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

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

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

"tolower" Function

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

string tolower(string)

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

Which REST API call accomplishes this task?

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

Correct Answer: D

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 56

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

- A. trunk interface
- B. bridged virtual interface
- C. SPAN port
- D. management interface
- E. subinterface

Correct Answer: AC

Section: Cisco Platforms

Explanation

Explanation/Reference:



QUESTION 57 Which two types of storage are supported for app hosting on a Cisco Catalyst 9000 Series Switch? (Choose two.)

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

Correct Answer: AB

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 58

```
import http.client

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

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

conn.request("GET", "/dna/intent/api/v1/network-health?timestamp=10000", headers=headers)

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

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

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

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

Correct Answer: C

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 59

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

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

Correct Answer: B

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 60

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

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

- A. headers = {'X-auth-token':'fa8426a0-8eaf-4d22-8e13-7c1b16a9370c'} B.
headers = {'Authorization':'Basic YWRtaW46R3JhcGV2aW5lMQ=='}
C. headers = {'Authorization':'Bearer ASDNFALKJER23412RKDALSNKF'}
D. headers = {'Content-type':'application/json'}

Correct Answer: A

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 61 Into which two areas are AppDynamics APIs categorized? (Choose two.)

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

Correct Answer: DE

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 62


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



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

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

Correct Answer: CD

Section: Cisco Platforms

Explanation

Explanation/Reference:

QUESTION 63

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

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

Correct Answer: A

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 64 While developing an application following the 12-factor app methodology, which approach should be used in the application for logging?

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

Correct Answer: D

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 65 An application has initiated an OAuth authorization code grant flow to get access to an API resource on behalf of an end user.

Which two parameters are specified in the HTTP request coming back to the application as the end user grants access? (Choose two.)

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



Correct Answer: AB

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 66 A web application is susceptible to cross-site scripting. Which two methods allow this issue to be mitigated? (Choose two.)

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

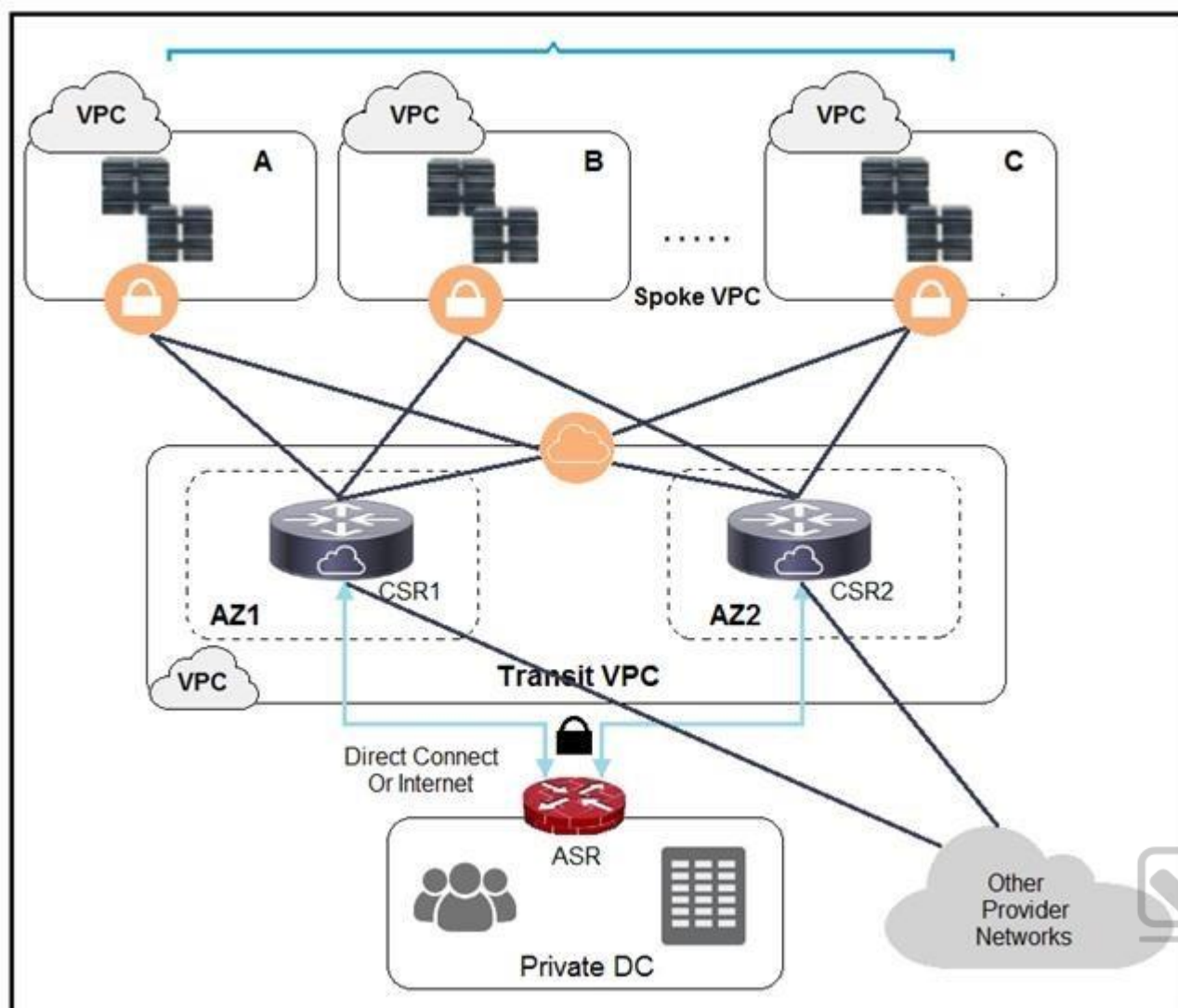
Correct Answer: BD

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 67



Refer to the exhibit. A company has extended networking from the data center to the cloud through Transit VPC.

Which two statements describe the benefits of this approach? (Choose two.)

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

Correct Answer: BD

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 68

A developer has just completed the configuration of an API that connects sensitive internal systems. Based on company policies, the security of the data is a high priority.

Which approach must be taken to secure API keys and passwords?

- A. Embed them directly in the code.

- B. Store them in a hidden file.
- C. Store them inside the source tree of the application.
- D. Change them periodically.

Correct Answer: D

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 69 Which two principles are included in the codebase tenet of the 12-factor app methodology? (Choose two.)

- A. An application is always tracked in a version control system.
- B. There are multiple codebases per application.
- C. The codebase is the same across all deploys.
- D. There can be a many-to-one correlation between codebase and application.
- E. It is only possible to have one application deployment per codebase.

Correct Answer: AE

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 70 What is submitted when an SSL certificate is requested?

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



Correct Answer: D

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 71 Which two actions must be taken when an observable microservice application is developed? (Choose two.)

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

Correct Answer: BC

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 72 Which two countermeasures help reduce the risk of playback attacks? (Choose two.)

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

Correct Answer: BE

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 73 Which type of file is created from issued intermediate, root, and primary certificates for SSL installation on a server?

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

Correct Answer: C

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 74

DRAG DROP



Description

The addURLObject operation handles configuration related to [URLObject](#) model.
This API call is not allowed on the standby unit in an HA pair.

HTTP request

URL

```
POST /api/fdm/v4/object/urls
```

Data Parameters

Parameter	Required	Type	Description
name	True	string	An string represents the name of URL object.
description	False	string	An string containing the description information of URL object. Field level constraints: length must be between 0 and 200 (inclusive). (Note: Additional constraints might exist)
url	True	string	An string value containing the URL address. Field level constraints: cannot be blank or empty, length must be between 0 and 400 (inclusive). (Note: Additional constraints might exist)
type	True	string	A UTF8 string, all letters lower-case, that represents the class-type. This corresponds to the class name.

```
curl -x <item 1> --header 'Content-Type: application/json' --header 'Accept: application/json' -H "<item 2>" -d '{ \
  "name": "Blocked URL", \
  "url": "<item 3>", \
  "type": "<item 4>" \
}' 'https://ast0072-pod.xyz.com:33333/api/fdm/v4/object/<item 5>'
```



Refer to the exhibit. Drag and drop the code snippets from the left onto the item numbers on the right that match the missing sections in the curl exhibit to complete the cURL request to FirePower Device Manager API to create objects. Not all code snippets are used.

Select and Place:

Correct Answer:

Section: Application Deployment and Security
Explanation

Explanation/Reference:

QUESTION 75 Which two statements describe advantages of static code analysis over unit tests? (Choose two.)

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

Correct Answer: BC

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 76

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

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

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

Correct Answer: A

Section: Application Deployment and Security

Explanation

Explanation/Reference:



QUESTION 77 Which two techniques protect against injection attacks? (Choose two.)

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

Correct Answer: AE

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 78

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



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

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

Correct Answer: C

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 79 Which two strategies are used to protect personally identifiable information? (Choose two.)

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

Correct Answer: AB

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 80

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

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

Correct Answer: B

Section: Application Deployment and Security

Explanation

Explanation/Reference:



QUESTION 81

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

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

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

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

B.

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

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

C.

D.



Correct Answer: C

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 82 Which HTTP status code indicates that a client application is experiencing intentional rate limiting by the server?

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

Correct Answer: C

Section: Application Deployment and Security

Explanation

Explanation/Reference:

QUESTION 83 Which database type should be used to store data received from model-driven telemetry?

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

Correct Answer: B

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 84

DRAG DROP

```
module: Cisco-IOS-XE-vlan
augment /ios:native/ios:vlan:
  +--rw access-map* [name]
  |   +--rw name      string
  |   +--rw value?    uint16
  |   +--rw action?   enumeration
  |   +--rw match
  |       +--rw ipv6
  |           | +--rw address*   string
  |           +--rw ip
  |               +--rw address*   string
  +--rw configuration* [vlan-id]
  |   +--rw vlan-id     union
  |   +--rw ip
  |       +--rw flow
  |           +--rw monitor* [flow-monitor]
  |               +--rw flow-monitor   string
  |               +--rw input?         empty
  |               +--rw output?        empty
  +--rw ipv6
  |   +--rw nd
  |       | +--rw suppress!
  |       |   +--rw attach-policy?    string
  |   +--rw dhcp
  |       +--rw guard!
  |           +--rw attach-policy?    string
  +--rw member
  |   +--rw evpn-instance
  |       | +--rw evpn-instance?    uint16
  |       | +--rw vni?              uint32
  |       +--rw vni?              uint32
  +--rw filter* [word]
```

<https://ios-xe-mgmt.cisco.com:9443/<item 1>/<item 2>/<item 3>/<item 4>/>

Refer to the exhibit. Drag and drop parts of the URL from the left onto the item numbers on the right that match the missing sections in the exhibit to create the appropriate RESTCONF URL to query the VLAN configuration given this YANG model. Not all URL parts are used.

Select and Place:

Correct Answer:

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 85

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

Which configuration management for automation tooling is needed for this solution?

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

Correct Answer: E

Section: Infrastructure and Automation

Explanation

Explanation/Reference:



QUESTION 86

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

Which configuration management and/or automation tooling is needed for this solution?

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

Correct Answer: E

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 87

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



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

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

Correct Answer: B

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 88

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

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

Refer to the exhibit. Which key value pair from the ios_ntp Ansible module creates an NTP server peer?

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

Correct Answer: A

Section: Infrastructure and Automation

Explanation

Explanation/Reference:



QUESTION 89

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

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

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

Correct Answer: D

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 90

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

Refer to the exhibit. As part of the Ansible playbook workflow, several new interfaces are being configured using the netconf_config module. The task references the interface variables that are unique per device.

In which directory is the YAML file with these variables found?

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

Correct Answer: A

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 91

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

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

Correct Answer: BE

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 92

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

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

Correct Answer: B

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

QUESTION 93

```
import sys, requests

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

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

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

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



Refer to the exhibit. What is the output of this IOS-XE configuration program?

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

Correct Answer: D

Section: Infrastructure and Automation

Explanation

Explanation/Reference:

