Exam	**300-910**
Title	**Implementing DevOps Solutions and Practices using Cisco Platforms (300-910 DEVOPS) Exam**
Version	**6.0**
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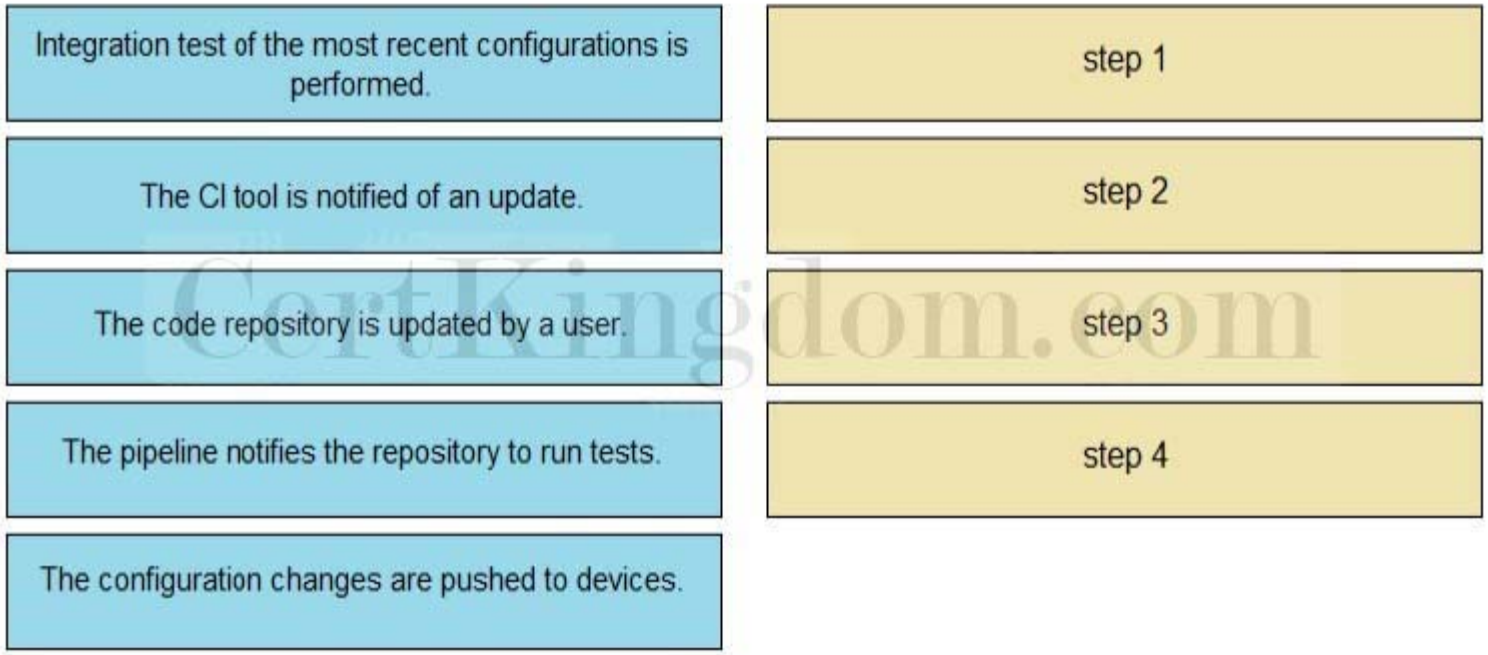
QUESTION 1
DRAG DROP
The IaC configuration for an application is being deployed using a CI/CD pipeline. Drag and drop the steps for this pipeline from the left into the correct order that they would be executed on the right.
Not all options are used.



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Answer:

Explanation:
- The code repository is updated by a user.
- The CI tool is notified of an update.
- Integration test of the most recent configurations is performed
- The configuration changes are pushed to devices.

QUESTION 2
A DevOps engineer must validate the working state of the network before implementing a CI/CD pipeline model. Which configuration management tool is designed to accomplish this?

A. Jenkins
B. Genie CLI
C. Travis CI
D. Python YAML data libraries

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Answer: B

Explanation:
Genie CLI is a configuration management tool that is designed to validate the working state of the network before implementing a CI/CD pipeline model. Genie CLI provides a set of commands that can be used to check the state of the network, view logs, and make changes to network configurations. It is a powerful tool for validating the state of the network before making changes, and can help avoid costly mistakes or unexpected issues.

QUESTION 3
Which two practices help make the security of an application a more integral part of the software development lifecycle? (Choose two.)

A. Add a step to the CI/CD pipeline that runs a dynamic code analysis tool during the pipeline execution.
B. Add a step to the CI/CD pipeline that runs a static code analysis tool during the pipeline execution.
C. Use only software modules that are written by the internal team.
D. Add a step to the CI/CD pipeline to modify the release plan so that updated versions of the software are made available more often.
E. Ensure that the code repository server has enabled drive encryption and stores the keys on a Trusted Platform Module or Hardware Security Module.

Answer: AB

Explanation:
Adding a step to the CI/CD pipeline that runs a dynamic code analysis tool and a static code analysis tool during the pipeline execution helps make the security of an application a more integral part of the software development lifecycle. Dynamic code analysis tools search for coding errors and vulnerabilities while the application is running, while static code analysis tools scan the source code for potential errors and vulnerabilities. This ensures that any security issues are identified and addressed before the application is deployed. Additionally, using automated tools helps to reduce the amount of manual effort required for security testing and can reduce the risk of security flaws being introduced.

QUESTION 4
A CI/CD pipeline that builds infrastructure components using Terraform must be designed. A step in the pipeline is needed that checks for errors in any of the .tf files in the working directory. It also checks the existing state of the defined infrastructure.
Which command does the pipeline run to accomplish this goal?

A. terraform plan
B. terraform check
C. terraform fmt
D. terraform validate

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Answer: A

Explanation:
https://www.terraform.io/docs/cli/commands/validate.html "use the terraform plan command instead, which includes an implied validation check."

QUESTION 5
Which type of testing should be integrated into a CI/CD pipeline to ensure the correct behavior of all of the modules in the source code that were developed using TDD?

A. soak testing
B. unit testing
C. load testing
D. volume testing

Answer: B

Explanation:

QUESTION 6
Refer to the exhibit.

Build Command

```
#!/bin/bash
# apt-get -y install python3-pip
# pip install --upgrade pip
rm -rf automationSandboxTest || true
git clone https://github.com/oborys/automationSanboxTest.git
export SEARCHPATH="$PWD/automationSanboxTest/"
for k in $(cat $SEARCHPATH/requriements.txt | cut -d '>' -f 1 | cut -d '<' -f 1
                                                              | cut -d '=' -f 1
do
     python -m pip install $k
done
echo
for k in $(find $SEARCHPATH -name *.py)
do
     echo > msg.txt
     python $k > /dev/null 2> msg.txt || true
     export CODE=$(grep -c ^ msg.txt)
     if [ $CODE != 0 ]
     then
          echo "File: $k" >> error.message.txt
          cat msg.txt >> error_message.txt
          echo >> error.message.txt
     fi
done
rm -rf msg.txt || true
cat error_message.txt
if [ $(cat error_message.txt| wc -1) != 0 ]
then
     exit 1
fi
```

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Part of Console Output

```
++find /data/bms/webapps/jenkins/workspace/team_team_devnet-learning-labs-
automatiom/Always_On_Sandbox_testing/automationSandboxTest/ -name '*.py'
+ for k in '$(find $SEARCHPATH -name *.py)'
+ echo
+ python /data/bms/webapps/jenkins/workspace/team_team_devnet-learning-labs-
automatiom/Always_On_Sandbox_testing/automationSandboxTest/alwaysOnSandboxCh
eck.py
++ grep -c '^' msg.txt
+ export CODE=0
+ CODE=0
+ '[' 0 != 0 ']'
+ rm -rf msg.txt
+ cat error_message.txt
cat: error_message.txt: No such file or directory
Build step 'Virtualenv Builder' marked build as failure
Notifying upstream projects of job completion
Finished: FAILURE
```

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How should the Jenkins job be troubleshooted based on the error provided?

A. Verify what the responding file created.
B. Update pip.
C. Install dependencies.
D. Place the code in a container and run the job again.

Answer: A

Explanation:

QUESTION 7
Configuration changes to the production network devices are performed by a CI/CD pipeline. The code repository and the CI tool are running on separate servers. Some configuration changes are pushed to the code repository, but the pipeline did not start.
Why did the pipeline fail to start?

A. The CI server was not configured as a Git remote for the repository.
B. The webhook call from the code repository did not reach the CI server.
C. Configuration changes must be sent to the pipeline, which then updates the repository.
D. The pipeline must be started manually after the code repository is updated.

Answer: B

Explanation:
A webhook is basically a callback URL that is triggered when certain events occur, such as a code commit. If the webhook call from the code repository does not reach the CI server, then the pipeline will not start. According to the Cisco Implementing DevOps Solutions and Practices using Cisco Platforms (DEVOPS) Study Manual, "A webhook is a web-based feature that enables a remote service to communicate with a local service, usually through a web server. Webhooks are used to trigger an action when a specific event occurs, usually in a remote service or application."

QUESTION 8
A new version of an application is being released by creating a separate instance of the application that is running the new code. Only a small portion of the user base will be directed to the new instance until that version has been proven stable. Which deployment strategy is this example of?

A. recreate
B. blue/green
C. rolling
D. canary

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Answer: D

Explanation:

QUESTION 9
Which description of a canary deployment is true?

A. deployment by accident
B. deployment that is rolled back automatically after a configurable amount of minutes
C. deployment relating to data mining development
D. deployment to a limited set of servers or users

Answer: D

Explanation:

QUESTION 10
Refer to the exhibit.

```
1 ...
2 >>> response = requests.get(
3 ...    f'http://mydnacenter.local/dna/intent/api/v1/network-device/ip-address/{device_ip}',
4 ...    headers = {
5 ...       'Content-type' = 'application/json'
6 ...    }
7 ... )
8
9 Traceback (most recent call last):
10   File "<stdin>", line 1, in <module>
11 NameError: name 'requests' is not defined
```

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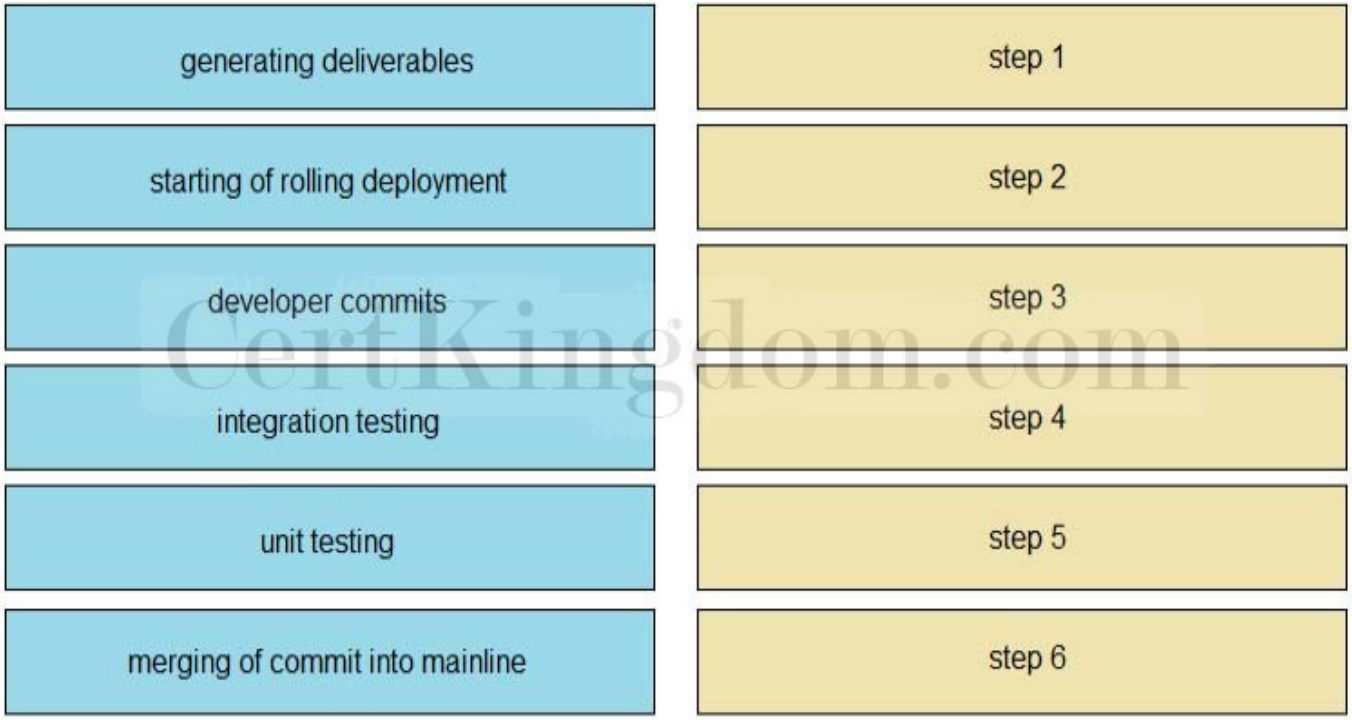
What is causing the requests code to fail?

A. Rython3 is not compatible with requests.
B. The requests library is not imported.
C. The requests library is not installed.
D. The requests coming into stdin fail because device_ip cannot be parsed.

Answer: B

Explanation:

QUESTION 11
DRAG DROP
Drag and drop the operations from the left into the correct order on the right when using CI/CD, assuming that there are no failures or conflicts.



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Answer:

Explanation:
developer commits
unit testing
integration testing
merging of commit into mainline
generating deliverables
starting of rolling deployment

QUESTION 12
A DevOps engineering wants to build an application implementation based on the CI/CD pipeline model. Which service should be used to provide hosted continuous service for open and private projects?

A. Ansible
B. pyATS
C. Genie CLI
D. Travis CI

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Answer: D

Explanation:

QUESTION 13
A DevOps engineer has built a new container and must open port 8080 for intercontainer communication. Which command must be added in a Dockerfile to accomplish this goal?

A. EXPOSE 8080
B. FIREWALL ADD-PORT 8080
C. PORT 8080
D. OPEN PORT 8080

Answer: A

Explanation:

QUESTION 14
Which two actions help limit the attack surface of your Docker container? (Choose two.)

A. Run only a single service in each container.
B. Run all services in a single image.
C. Use version tags for base images and dependencies.
D. Use Kali Linux as a base image.
E. Download images over HTTPS supporting sites.

Answer: AC

Explanation:
Running only a single service in each container and using version tags for base images and dependencies helps limit the attack surface of your Docker container. This ensures that only the necessary services are running and that you always have the latest versions of the base images and their dependencies, reducing the risk of malicious code being included in the container image.
Reference: Docker Documentation, Security Best Practices.

QUESTION 15
A DevOps engineer has built a container to host a web-server and it must run as an executable. Which command must be configured in a Dockerfile to accomplish this goal?

A. ENTRYPOINT <usr/sbin/apache2ctl>
B. ENTRYPOINT [?/usr/sbin/apache2ctl?, ?-D?, ?FOREGROUND?]
C. ENTRYPOINT [?BACKGROUND?, ?-D?, ?/usr/sbin/apache2ctl?]

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D. ENTRYPOINT {usr/sbin/apache2ctl}

Answer: B

Explanation:

QUESTION 16
Which Docker command is used to start an interactive Bash shell in a running container named ?test??

A. docker attach -it test /bin/bash
B. docker run -it test /bin/bash
C. docker exec -it test /bin/bash
D. docker run test /bin/bash

Answer: C

Explanation:

QUESTION 17
What are two reasons a Docker golden image should be updated? (Choose two.)

A. when there is a change to a username or password in the Docker secrets
B. when the application has a new release
C. when a fix for a security vulnerability is released
D. when a change is needed to an environment variable in the Dockerfile
E. when the base image is nearing the end of life

Answer: B, C

Explanation:

QUESTION 18
A company has experienced serious growth and the hosted applications are getting more and more hits. Based on the increased work load, applications have started to show signs of reduced performance, which is affecting the user experience.
Which two server metrics should be tracked to ensure that the customer experience remains within acceptable limits? (Choose two.)

A. application feature sprawl
B. CPU peak usage
C. CPU average usage
D. microservices count

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E. CPU frequency

Answer: BC

Explanation:

QUESTION 19
Microservices architecture pattern has been applied and the system has been architected as a set of services. Each service is deployed as a set of instances for throughput and availability. In which two ways are these services packaged and deployed? (Choose two.)

A. Service instances must be isolated from one another.
B. Service must be independently deployable and scalable.
C. Service are written using the same languages, frameworks, and framework versions.
D. Service must be dependent, deployable, and scalable.
E. Service instances do not need to be isolated from one another.

Answer: AB

Explanation:

QUESTION 20
What is the purpose of using a build tool in software development?

A. It complies source code into binaries and executables.
B. It provides a way to edit source code using a graphical interface.
C. It is a manual process that is followed to build software.
D. It tracks bugs and incidents in a built application.

Answer: A

Explanation:

QUESTION 21
Fill in the blanks to complete the line of Python code that sends a message to a Webex Teams room or person.

```
response = requests.[          ]("https://api.ciscopark.com/v1/[          ]", headers=message_header,
data=message_data)
```

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Answer: post,
messages

Explanation:

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