

701-100.exam.39q

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LPI 701-100

Linux Professional Institute DevOps Tools Engineer



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Exam A

QUESTION 1

Which of the following Ansible tasks copies the file `example.txt` to a manage system?

- A. - `rsync:`
 `src: example.txt`
 `dst: /tmp/example.txt`
- B. - `copy:`
 `src: example.txt`
 `dest: /tmp/example.txt`
- C. - `retrieve:`
 `src: example.txt`
 `dest: /tmp/example.txt`
- D. - `cp:`
 `source: example.txt`
 `dst: /tmp/example.txt`
- E. - `transfer:`
 `src: example.txt`
 `dest: /tmp/example.txt`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 2

Which of the following commands lists the cookbooks available on a Chef server?



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- A. `kitchen cookbook list`
- B. `chef-client cookbook list`
- C. `chef-server cookbook list`

- D. chef-solo cookbook list
- E. knife cookbook list

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 3

An Ansible variable file contains the following content:

```
myapp:  
option1: one
```

Which of the following strings can be used to reference the defined variable? (Choose two correct answers).

- A. myapp(option1);
- B. option1@myapp
- C. myapp['option1']
- D. myapp.option1
- E. myapp{{option1}}

Correct Answer: AE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 4

Which Ansible keyword is used in a playbook to store the result (i.e. return code) of a task in a variable?

- A. register
- B. return
- C. output
- D. result
- E. set_fact

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference https://docs.ansible.com/ansible/2.5/user_guide/playbooks_conditionals.html

QUESTION 5

Which of the following functions are provided by the Ansible apt module? (Choose two correct answers.)

- A. Update an installed package to the latest version.
- B. Update the list of available packages from configured repositories.
- C. Re-compile an installed package from the source code.
- D. Add the URL of a new repository to the package manager configuration.
- E. Install a dpkg based Linux distribution on an empty target system.

Correct Answer: BE

Section: (none)

Explanation

Explanation/Reference:

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

QUESTION 6

What statement is true regarding the Swarm service created by the following command?

```
docker service create --name myweb --network webnet --mode global nginx
```

- A. It runs exactly one time in the Swarm and cannot be scaled.
- B. It runs exactly once on each node in a Swarm.
- C. It runs on one node by default and can be scaled to an arbitrary number of replicas.
- D. It runs on all nodes which provide the network webnet.
- E. It runs only on those nodes which support the network type global.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 7

Which of the following mechanisms are used for service discovery in a container environment? (Choose two correct answers.)

- A. The container platform offers a command like `docker service discover` which should be run within a container.
- B. The container platform sets environment variables containing service information within the containers.
- C. The container platform lists localhost ports assigned to containers in each container's `/etc/services` file.
- D. The container platform mounts the sockets for all available services into the container's file systems.
- E. The container platforms maintains DNS records which point to containers offering a specific service.

Correct Answer: BE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 8

Which of the statements below are true about the volume created by the following command? (Choose two correct answers.)

```
docker run -v /data -ti debian
```

- A. The new `/data` volume contains a copy of the complete container's base image.
- B. The volume containing the container's rootfile system is retained until the `/data` volume is deleted.
- C. The `/data` volume is discarded when the container terminates.
- D. The `/data` volume can be attached to another Docker container.
- E. If the command is run a second time, another volume for `/data` is created.

Correct Answer: DE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 9

Which of the following commands lists the nodes in a Docker Swarm cluster?

- A. docker-swarm listnodes
- B. docker engine ls
- C. docker node ls
- D. docker machine ls
- E. docker swarm nodes

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference <https://docs.docker.com/engine/swarm/manage-nodes/>

QUESTION 10

Which of the following container names could have been assigned automatically by Docker?



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- A. docker-c000001
- B. 2.0.17.172
- C. container
- D. c0023817
- E. clever_ritchie

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

Reference https://docs.docker.com/v17.09/engine/userguide/networking/default_network/container-communication/

QUESTION 11

How is a Docker container image retrieved from a Docker registry?

- A. Docker retrieves a ZIP archive which is extracted into the container's root file system.
- B. Multiple stacked images are retrieved and layered on top of each other.
- C. A flat hard disk image is downloaded once per container and mounted as the root file system.
- D. The registry merger all components of the image into one file which is shipped to Docker.
- E. The container is built from an ISO file along with a configuration for an unattended installation.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference <https://www.ibm.com/developerworks/library/mw-1608-tost-trs/index.html>

QUESTION 12

Given the following excerpt of a Dockerfile:

```
Run apt-get -y update && apt-get install -y fortunes && apt-get clean
```

Why are the multiple apt-get commands combined in one RUN statement instead of using multiple RUN statements?

- A. To prevent the commands from running in parallel because Docker executes all RUN statements in their own container at the same time.
- B. To ensure the execution order of the commands because Docker might evaluate the statements of a Dockerfile in any order.
- C. To avoid the creation of unnecessary images because Docker creates a new image for each RUN statement.
- D. To execute both commands in the same container instance and void Docker to reset the container to the original base image.
- E. To execute the apt-get install command only if the apt-get update command was successful because Docker does not check the success of RUN statements.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 13

Which of the following tasks are completed by docker -compose down when it is used with additional parameters? (Choose two correct answers.)

- A. Delete all volumes defined in the composer file.

- B. Delete all containers defined in the composer file.
- C. Delete all networks defined in the composer file.
- D. Delete all images used in the composer file from the Docker nodes.
- E. Delete all images built from the composer file from their registry.

Correct Answer: AC

Section: (none)

Explanation

Explanation/Reference:

Reference <https://docs.docker.com/compose/reference/down/>

QUESTION 14

The following command is issued on two docker nodes:

```
docker network create --driver bridge isolated_nw
```

Afterwards, one container is started at each node with the parameter `--network=isolated_nw`. It turns out that the containers can not interact with each other. What must be done in order to allow the containers to interact with each other? (Choose two correct answers.)

- A. Use a host network instead of a bridged network.
- B. Add the option `--inter-container` to the docker network create command.
- C. Start the containers on the same node.
- D. Change the `--network` parameter of docker create to `--network=isolated_nw,nofence`.
- E. Use an overlay network instead of a bridged network.

Correct Answer: CD

Section: (none)

Explanation

Explanation/Reference:

Reference <https://docs.docker.com/v17.09/engine/userguide/networking/#bridge-networks>

QUESTION 15

If a Dockerfile references the container's base image without a specific version tag, which tag of that image is used to create the container?

- A. latest
- B. default

- C. current
- D. nightly
- E. lts

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference <https://docs.docker.com/engine/reference/commandline/build/>

QUESTION 16

Consider the following Kubernetes Deployment:

NAME	DESIRED	CURRENT	UP-TO-DATE	AVAILABLE	AGE
myapp	5	5	5	5	25m

With the ReplicaSet:

NAME	DESIRED	CURRENT	READY	AGE
myapp-2706294940	5	5	5	25m

And the Pods:

NAME	READY	STATUS	RESTARTS	AGE
myapp-2706294940-bzxmp	1/1	Running	0	20m
myapp-2706294940-c2kt1	1/1	Running	0	31s
myapp-2706294940-d556m	1/1	Running	0	20m
myapp-2706294940-1v1q2	1/1	Running	0	31s
myapp-2706294940-pwm8g	1/1	Running	0	31s

What happens if one of the Pods is terminated with the command `kubect1 pod delete?`

- A. The remaining Pods are stopped and the Deployment switches to the state Failed.
- B. The number of replicas in the ReplicaSet is changed to 4.
- C. The ReplicaSet immediately starts a new replacement Pod.
- D. The remaining Pods are stopped and a new ReplicaSet is started.
- E. The Deployment switches to the state Degraded.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 17

A Dockerfile contains the statements:

```
COPY data/ /data/  
VOLUME /data
```

What happens when the resulting container is started without any additional volume configuration? (Choose two correct answers.)

- A. Files existing in /data/ in the image are not available in the running container.
- B. Changes to files within /data/ affect the Docker image and all other containers derived from it.
- C. Existing files from /data/ in the image are copied to the new volume.
- D. An error is raised because /data/ already contains data when the volume is mounted.
- E. A new volume is created and mounted to /data/ within the new container.

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 18

Which section of the Prometheus configuration defines which nodes are monitored?

- A. scrape_config

- B. targets
- C. rules
- D. listener
- E. nodes

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference: https://prometheus.io/docs/prometheus/latest/getting_star

QUESTION 19

Which of the log messages below matches the following Logstash grok filter?

```
grok {  
  match => ["message", "%{SYSLOGBASE} new node %{IPORHOST:node}" ]  
}
```

- A. Jun 30 00:36:49 headnode:
new node 198.51.100.103 at clustermanager:12353
- B. Jun 30 00:36:49 headnode clustermanager[12353]: new node 198.51.100.103
- C. Jun 30 00:36:49 headnode clustermanager[198.51.100.103]: new node
- D. %{SYSLOG-FROM:headnode clustermanager[12353]} new node 198.51.100.103
- E. clustermanager[12353]: Jun 30 00:36:49 headnode new node 198.51.100.103

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 20

A recently installed application writes log data to `/opt/app/log/info.log`. If Filebeat is already installed and set up for communication with a remote Logstash, what has to be done in order to submit the log data of the new application to Logstash?



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- A. Add an additional input channel with the option source => `"/opt/app/log/info.log"` to the Logstash configuration.
- B. Configure logrotate to execute `filebeat -I /opt/app/log/info.log 0` after each rotation of `/opt/app/log/info.log`.
- C. Add the log file to the path option within the log prospector in the Filebeat configuration and restart Filebeat.
- D. Add a new cron job that invokes `filebeat -i /opt/app/log/info.log` periodically.
- E. Replace `/opt/app/log/info.log` by a symbolic link to `/dev/filebeat` and restart the new application.

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 21

Which sections can exist in a Logstash configuration file? (Choose three correct answers.)

- A. output
- B. filter
- C. input
- D. forward
- E. generate

Correct Answer: ABC

Section: (none)

Explanation

Explanation/Reference:

Reference <https://www.elastic.co/guide/en/logstash/current/configuration-file-structure.html>

QUESTION 22

How does Prometheus gather information about monitored hosts and services?

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- A. It implements the ICMP and SNMP protocols to ping and query remote services.
- B. It opens a webhook where monitored applications have to submit various metrics.
- C. It uses HTTP to retrieve JSON encoded metrics from the monitored objects.
- D. It queries a relational database for metrics written to the database by monitored applications.
- E. It runs scripts on the Prometheus server which perform tests and return various metrics.

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

Reference <https://dzone.com/articles/monitoring-with-prometheus>

QUESTION 23

A service should be provided to arbitrary clients on the Internet using HTTPS. Any standard client on the Internet should be able to consume the service without further configuration. Which of the following approaches can be used to implement these requirements? (Choose three correct answers.)

- A. Configure the web servers to not use a server certificate when serving HTTPS.
- B. Generate a self-signed certificates during the deployment of each backend server.
- C. Use a certificate issuing service to request certificates during each server deployment.
- D. Use a load balancer that decrypts incoming requests and passes them on in plain HTTP.
- E. Install a wildcard certificate and the respective private key on all the backend servers.

Correct Answer: BCD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 24

Which of the following statements is true about load balancers?

- A. Load balancers are a security risk because they obfuscate the origin of connections.
- B. Load balancer help to improve the availability and scalability of a service.
- C. Load balancers are a single point of failure because they cannot be deployed redundantly.
- D. Load balancer require access to private keys in order to be able to forward HTTPS traffic.

E. Load balancers cannot use connection content, such as HTTP cookies, to route traffic.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 25

What does the command `packer validate template.json` do?

- A. The command verifies that the latest build of the template can be run without downloading additional images or artifacts.
- B. The command verifies that the file `template.json` is a syntactically correct and complete Packer template.
- C. The command verifies that all existing artifacts generated by `template.json` have their original checksums.
- D. The command verifies that all source images referenced in `template.json` are available and have valid cryptographic signatures.
- E. The command verifies that images generated previously by `template.json` still use the most recent source images.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference <https://www.packer.io/docs/commands/validate.html>

QUESTION 26

Which security issues exist for most publicly available Vagrant boxes? (Choose three correct answers.)

- A. They accept SSH logins from the user `vagrant` with the password `vagrant`.
- B. They accept SSH logins from the user `vagrant` with a publicly available SSH key pair.
- C. The `vagrant` user can use `sudo` to obtain root privileges without additional authentication.
- D. Their whole file system, including configuration files, is writable by any user, including `vagrant`.
- E. They export their file system via NFS with full write permissions without any additional restrictions.

Correct Answer: ABC

Section: (none)

Explanation

Explanation/Reference:

Reference <https://www.vagrantup.com/docs/boxes/base.html>

QUESTION 27

How does Vagrant run virtual machines?

- A. Vagrant uses a vagrant-specific hypervisor called VagrantVM.
- B. Vagrant has to be run within a running virtual machine which is not controlled by Vagrant.
- C. Vagrant ships with an embedded version of VirtualBox.
- D. Vagrant uses so-called providers which control external hypervisors such as VirtualBox.
- E. Vagrant generates virtual machine images but does not provide a mechanism to run them.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 28

What must be the first line of a plain text user-data configuration containing YAML configuration for cloud-init?

- A. cloud-config:
- B. --- cloud-config
- C. #!/usr/bin/cloud-init
- D. [cloud-config]
- E. #cloud-config

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

Reference <https://cloudinit.readthedocs.io/en/latest/topics/examples.html>

QUESTION 29

Which of the following sections must exist in a Packer template?

- A. images

- B. provisioners
- C. builders
- D. variables
- E. post-processors

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 30

How is cloud-init integrated with a managed system image?

- A. cloud-init provides the `cloud-init-worker` command which has to be invoked periodically within the running instance.
- B. cloud-init provides systemd units which must be included in several stages of the booting process of the instance.
- C. cloud-init provides its own startup mechanism which replaces the instance's original init system, such as systemd.
- D. cloud-init provides a Linux kernel module that must be included and loaded in the instance's initramfs.
- E. cloud-init provides the `cloud-init-daemon` service which is launched during startup and keeps the instance in sync with the desired configuration.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 31

Which of the following elements are presents in a Vagrant box file? (Choose two correct answers.)

- A. A Vagrant guest configuration file that is used to create instances of the box.
- B. Configuration files for provisioners such as Ansible.
- C. The installer for the Vagrant version which is required to run the box.
- D. A metadata file describing the box and its requirements.
- E. A base file system image in a format supported by the provider of the box.

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 32

Which of the following statements describes the principal concept behind test driven development?

- A. Tests may not be written by the same development team that wrote the tested code.
- B. All tests are generated automatically from the tested source code.
- C. Tests are written before the function / method is implemented.
- D. The only acceptable reason to write a test is to prevent fixed bugs from occurring again.
- E. Instead of testing software automatically, manual tests are performed and logged daily.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference https://en.wikipedia.org/wiki/Test-driven_development

QUESTION 33

Which of the following goals are favored by agile software development methodologies? (Choose two correct answers.)

- A. Self-organization of teams.
- B. Central governance and control.
- C. Flexibility of processes.
- D. Absolute planning adherence.
- E. Long-term release and feature management.

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 34

Which of the following properties apply to a content delivery network? (Choose three correct answers.)

- A. CDNs require all elements of a web site to be served by the same CDN.
- B. CDNs can stream large media files such as movies or music to clients.
- C. CDNs are present in multiple locations to serve content close to clients.
- D. CDNs serve huge numbers of clients with high bandwidth and low latency.
- E. CDNs forward all requests to a backend server and never store content locally.

Correct Answer: CDE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 35

Which of the following kinds of data are suitable as artifacts in a continuous delivery pipeline? (Choose three correct answers.)

- A. Executable applications such as .exe files or .jar packages.
- B. Copies of the contents of source code repositories.
- C. Build configuration files such as Makefiles or Maven configurations.
- D. Compiled packages to be installed by a Linux package manager.
- E. Docker container images which contain an application.

Correct Answer: BCD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 36

Which of the following conditionals exist in an Ansible playbook? (Choose three correct answers.)

- A. with_nodes
- B. with_playbook
- C. with_sequence
- D. with_items

E. with_nested

Correct Answer: CDE

Section: (none)

Explanation

Explanation/Reference:

Reference https://docs.ansible.com/ansible/2.4/playbooks_loops.html

QUESTION 37

Which of the following tasks can Logstash fulfill without using other components of the Elastic Stack? (Choose three.)

- A. Receive log data from remote systems.
- B. Store log data persistently.
- C. Aggregate log data over a period of time.
- D. Process log data to extract information.
- E. Forward log data to other services.

Correct Answer: CDE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 38

What is tested by unit tests?

- A. The syntactical correctness of the source code of a software component.
- B. The formal validity of a service's external REST API.
- C. The integration of multiple component of the same software.
- D. The correctness of a specific function of a software component.
- E. The throughput, load capacity and latency of a service.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 39

An online shop needs to store information about clients and orders. A list of fixed properties for clients and orders exists. The data storage should enforce specific data types on these properties and ensure that each order is associated with an existing client. Which of the following cloud services is capable of fulfilling these requirements?

- A. An in-memory database like memcached.
- B. An object store like OpenStack Swift.
- C. A messaging service like OpenStack Zaqr.
- D. A NoSQL database like MongoDB.
- E. A relational database like MariaDB.

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:



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1. B
2. E
3. C,D
4. A
5. BE
6. B
7. B,E
8. D,E
9. C
10. E !!!
11. B
12. D
13. B,C
14. C,E
15. A
16. C
17. (à revoir)
18. A
19. B
20. C

21. A,B,C
22. E !
23. B,C,D
24. B
25. B
26. A,B,C
27. D
28. E
29. C
30. B
31. D,E
32. C
33. C,E
34. B,C,D
35. A,B,D
36. C,D,E
37. A,C,E
38. D
39. E