



Préparation à l'examen de certification DevOps Tools Engineer Version 701.100

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1. What command would you run to list cookbooks on the Chef Server ?

knife cookbook list

2. What is a kubernetes POD?

A Pod is a group of containers that are deployed together on the same host.

3. When executing a vagrant init, what flag would you use to overwrite a Vagrantfile if one has already been created ?

-f

4. which commands returns low-level information on docker objects ?

docker inspect

5. What is REST ?

REpresentational State Transfer (REST) is an architectural style that defines a set of constraints and properties based on HTTP.

Makes it easier for systems to communicate with each other.

6. which beat is used for pings in your infrastructure ?

Heartbeat

7. What are artifact repository ?

Tools designed to optimize the download and storage of binary files.

8. What are some of benefits of using a REST FULL API ?

Multiple clients can consume the API.

They are modular.

9. What command show a list of nodes run in kubernetes cluster ?

kubectll get nodes -w

10. In Test Drive Development, what is the first thing a developer should do when starting a new project or a new piece of functionality ?

Write tests for the new functionality.

11. which steps should you follow in order to perform a blue-green deployment ?

1. Deploy out the green version of your application.

2. Verify that the green deploy works by checking the route in a browser.
 3. Map the route of the blue app to the green app.
 4. Verify that things are working properly by checking the route of the blue app in a browser.
 5. Once verified that the green app is accessible using the route from the blue app, unmap the route to the blue app.
 6. Verify that traffic solely routes to the green deploy.
 7. Deprovision the blue app if you are using cloud servers.
- At this point, the green deploy becomes the blue deploy.

12. what happens when a metadata.json file is not present in a Vagrant box?

The Box can not be upgraded.

13. How does prometheus collect metrics ?

It scrapes metrics from HTTP form endpoints on these targets.

14. What is blue-green deployment ?

A blue-green deployment is a technique that reduces downtime and risk by running two identical production environments called Blue and Green.

15. which steps should you follow in order to perform a canary Deployment?

1. All traffic is routed to the old version of the application.
2. Most traffic is routed to the old version of the application, and a segment of the user base is routed to the new version of the application.
3. Once vetted, all traffic is routed to the new version of the application.

16. In REST what are 4 basic HTTP verbs ?

POST - creates resources and queries for data using conditions

PUT - updates resources

DELETE - removes resources from the database

17. What is the directive that allows you to specify, in a Docker Compose file, the ports you wish to expose from the container(s) to the underlying host(s)?

ports

18. What is ACID?

Atomicity: The entire transaction takes place at once or doesn't happen at all.

Consistency: The integrity constraints must be maintained so that the database is consistent before and after the transaction. Ensures the correctness of the database.

Isolation: This ensures that multiple transactions can occur concurrently without leading to inconsistency of the database state.

Durability: Ensures that the transaction has completed execution.

18. Reset all states.

Run on a master: the master stops participating in the cluster.

Run on a node: the node stops participating in the cluster and can be joined to others.

kubeadm reset

19. What command will pause or suspend (without ending/killing/stopping) the existing environment, which can be unpaused?

docker-compose pause

20. What does the `ansible-config` command do?

When using Platform as a Service, what do you manage and what does the provider manage?

21. When using Platform as a Service, what do you manage and what does the provider manage?

You manage:

- Applications
- Data

The provider manages:

- Runtime
- Middleware
- O/S
- Virtualization
- Servers
- Storage
- Network

22. What is the syntax in Grok?

The identifier you give to the piece of text being matched.

23. How can you stop a JavaScript from getting access to browser cookies?

HttpOnly flag

24. What is CAP Theorem?

It is impossible for a distributed data store to simultaneously provide more than two out of the three guarantees.

25. What are the three different components of a Box?

A Box File

A Box Catalog Metadata File

A Box Information File

26. Which tool can be used to create images for Immutable Servers?

Packer

27. Shows the 'active' machine running in your environment (Windows or MacOS).

docker-machine active

28. What command will pause or suspend (without ending/killing/stopping) the existing environment, which can be unpaused?

docker-compose pause

29. How does the chef-client authenticate with the Chef server?

RSA public key-pairs are used to authenticate chef-client with the Chef server.

30. How do CSRF tokens work?

- 1. Tokens are randomly generated per request.**
- 2. One token is sent as a hidden field in the form.**
- 3. The other is sent in the Set-Cookie header of the response.**
- 4. The two tokens are sent back to the server.**
- 5. The server compares these two tokens for forgery/malformation.**

31. How are Ansible playbooks expressed?

Using YAML

32. In Jenkins, what is an Artifact?

An immutable file generated during a Build or Pipeline.

33. What is Continuous Delivery?

Always maintaining code in a deployable state.

34. What command displays the logs from the indicated service name, if they exist?

kubectl logs -f <name>

35. What is Docker?

A tool designed to make it easier to create, deploy, and run applications by using containers.

36. What Vagrant command would you use to validate a Vagrantfile?

Execute `vagrant validate`. This command validates your Vagrantfile.

37. When using CORs headers, which of the following HTTP request methods do not need a Pre-flight request?

PUT and GET

38. Which Packer command is used to check the syntax and configuration of a template?

packer validate

39. What makes Logstash so extensible?

The Plugin Ecosystem.

40. Which OpenStack components manages Database as a Service?

Trove

41. What are some of the benefits of using a RESTful API?

Multiple clients can consume the API.

They are modular.

42. Which post-processor takes an OVA artifact from various builders and imports it to an AMI available to Amazon Web Services EC2?

Amazon Import

43. What is Injection Theory?

When an attacker attempts to send data to an application in a way that will change the meaning of commands being sent to an interpreter.

44. What is the general command to create a service across the swarm when run on a valid manager node?

docker swarm service create

45. What is the command and token provided by your Kubernetes master server to join the cluster?

kubeadm join --token <token> <masterIP>:<masterPort>

46. Which of these is true about Docker Base Boxes?

The Docker provider does not require a Vagrant box.

47. In Prometheus, all time series data has a _____ and a _____.

Metric name

Label

48. What is the language (or more accurately, format) that Docker Compose files are written in?

YAML

49. Which of the following are default Vagrant providers?

VirtualBox *

Docker

Hyper-V

50. What is the basic build blocks for Puppet?

Resource types are used to manage system resources.

51. How would you make a volume read only when using the `mount` flag?

--mount source=nginx-vol,destination=/usr/share/nginx/html,readonly

52. Which OpenStack component is responsible for managing object storage?

Swift

53. What is ACID?

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Durability: Ensures that the transaction has completed execution.

54. What is InSpec used for?

Locally or Remotely testing Linux or Windows nodes.

55. Initializes the master in your cluster and provides the join token and command for your nodes to use to join?

kubeadm init

56. When executing a vagrant init, what flag would you use to overwrite a Vagrantfile if one has already been created?

-f

57. In Git, once a repository is created on the command line, the user can begin creating files. Which of the following commands will allow you to check-in all new files created in a directory that ends with the extension .java?

git add *.java

58. What is the command that displays the security tokens and encryption types of the machines in your environment?

docker-machine config 'machinename'

59. What are builders?

One or more objects that define the builders that are used to create machine images for this template, and configures each of those builders.

60. What does `docker service create --name 'testhttpd' --replicas=3 httpd` do?

Creates a Swarm service called 'testhttpd' from the 'httpd' base image (local or remote) on the cluster, running 3 replicas (or copies) across the cluster the command is run on

61. What command will start the compose environment as listed in the default location?

docker-compose start

62. When creating a base box, what are the default settings that should be configured?

- Configure the SSH user to have passwordless sudo configured.
- Create a vagrant user for SSH access to the machine.
- Set the root password to vagrant.

63. In REST, what are 4 basic HTTP verbs?

GET - reads data and doesn't change application state

POST - creates resources and queries for data using conditions

PUT - updates resources

DELETE - removes resources from the database

64. What is BASE?

Basically Available: The database appears to work most of the time.

Soft state: Stores don't have to be write-consistent, nor do different replicas have to be mutually consistent all the time.

65. Based off of the contents of the Dockerfile below, how many layers are created?

```
FROM ubuntu:15.04
RUN apt-get update -y && apt-get install git -y
COPY . /app
RUN make /app
CMD python /app/app.py
```

Five layers are created.

66. What are the three ways that Vagrant will try and detect a provider?

- Vagrant will go through all of the `config.vm.provider`` calls in the Vagrantfile and try each in order.
- Execute vagrant up with the `--provider flag``.
- Use the `VAGRANT_DEFAULT_PROVIDER` environmental variable in your Vagrantfile.

67. At the end of a sprint, what should be delivered?

A working piece of functionality.

68. Which of the following commands will create a new Box file from a Box imported into Vagrant.

`vagrant box repackage`

69. You created a tag v2.3.1 for your next release, you need to push it to the remote repository. How do you push the tag to the remote repository?

`git push origin v2.3.1`

70. What best describes servers managed by Configuration Management?

Data can be stored locally.

Servers are persistence.

71. What happens when a metadata.json file is not present in a Vagrant Box?

The Box can not be upgraded.

72. When using Ansible, what would you use to store sensitive data such as passwords or keys in encrypted files?

Ansible Vault

73. How would you describe the Host network in Docker?

The network that runs on the Docker host.

74. Which status code lets you know that a resource has been created?

201: Created

75. Which command returns all installed boxes?

`vagrant box list`

76. Name some IaaS platforms?

AWS

Google Cloud Platform

VMware vSphere

78. What does cloud-init init do?

Initializes cloud-init and performs initial modules.

79. What command lists all the nodes running in your cluster? If you want to 'watch' them constantly, add -w to the command.

kubectl get nodes -w

80. What is Kubernetes?

It is an open source container orchestration tool for containers.

81. What is a Content Delivery Network?

A geographically distributed network of proxy servers.

82. What are the three event processing pipeline stages of Logstash?

The three stages of the Logstash pipeline include Inputs, Filters, and Outputs.

83. What directive, when used in a Dockerfile or Docker Compose file, is used to indicate the base image that a container or service is instantiated from?

image

84. You need to merge a feature branch called my-feature into your master branch. You are currently on the my-feature branch. How would you perform the merge?

git checkout master

git merge my-feature

85. What languages are supported in Cloud Foundry?

Python

Ruby

Node.js

Java

86. Your application is dependent on a set of APIs that is external to your project. These APIs live in their own Git repo. Rather than including the API code in your repo you decide that using a submodule would be a better option. How would you add them as a submodule to your project?

git submodule add <API_REPO_URL>

87. What is a Blue-Green Deployment?

A blue-green deployment is a technique that reduces downtime and risk by running two identical production environments called Blue and Green.

88. Which Jenkins plugin allows you to output an XML report of your build?

JUnit

89. When creating a Vagrant Box for VirtualBox, what must be installed.

[VirtualBox Guest Additions](#)

90. Which Git command will initialize a local, empty repository in the current directory?

[git init](#)

91. Which deployment stage is Canary Deployment similar to?

[Blue-Green Deployment](#)

92. You have been moved to a new development team. The lead developer sends you a link to the GitHub repo. What command would you use to clone the repository to your local system?

[git clone <REPO_URL>](#)

93. Which OpenStack components is a multi-tenant cloud messaging and notification service?

[Zaqar](#)

94. What will the following commands let you do?

```
`ssh vagrant@localhost -p <HOST_PORT> -i `~/vagrant.d/insecure_private_key`  
`vagrant ssh default`
```

[They will allow you to access the default Vagrant machine.](#)

95. What is the job of the post-processors?

[Defines the various post-processing steps to take with the built images.](#)

96. When executing vagrant destroy, what flag would you use so that you are not prompted to confirm that you want to destroy the resources?

[-f` Do not ask for confirmation before destroying.](#)

97. Reset all states.

Run on a master: the master stops participating in the cluster.

Run on a node: the node stops participating in the cluster and can be joined to others.

[kubeadm reset](#)

98. What command would you run to list cookbooks on the Chef server?

[knife cookbook list](#)

99. You are using User-Data to configure a cloud instances. How would you being your script?

[#!](#)

100. How does Prometheus store its data?

[Prometheus store its data as times series data.](#)

101. Which status code is the standard response for successful HTTP requests, where nothing is being returned in the response body?

204: No Content

102. Which OpenStack component manages and automates pools of computer resources?

Nova

103. What command will remove logs and artifacts so cloud-init can re-run?

cloud-init clean

104. What command will display a JSON formatted stream of information that indicates the full configuration of the running service?

docker service inspect myservice

105. What is the microservice architecture a variant of?

Service Oriented Architecture

106. What command would you use to show the status of your working tree?

git status

107. What format does the syslog input parse messages?

RFC 3164

108. What is the provisioner responsible for?

Installing and configuring software for the machines created by each of the builders.