

GIN204 - Systèmes cloudfiés

Contrôle de connaissances

(# Questions : 9)

Les documents et les appareils électroniques sont interdits.

Durée : 1h30

Indiquez vos nom et prénom ci-dessous puis répondez aux questions suivantes.

Nom :

Prénom :

Groupe :

Select all answers that apply.

1. The technique used to provide several instances of a machine on top of a given infrastructure is called :

- Serverless
- Virtualization
- Resource sharing
- Big data
- Software-defined networking
- Full-metal alchemist

2. What are the services that a cloud system can provide to a customer ?

- Storage
- TCP and UDP protocols
- Processing
- Networking
- Connection-less access
- Hardware components

3. In the function-as-a-service model, a newly spawned container may experience a delay in execution for the first function call. This is called :

- Scale-down
- Ghost in the shell
- Hard provisioning
- Cold start
- Warm start

4. Choose the correct(s) statement(s) about cloud deployments.

- Internet connection is required to access a cloud management console
- Cloud systems replace native hardware and software
- Cloud services are delivered locally
- IaaS provides virtual servers for application hosting
- A SaaS product requires to install the software before using it
- With FaaS, the virtual instance is running during the idle-time, incurring additional costs
- None of the above

5. Choose the correct(s) statement(s) about cloud services

- Computing services are only charged by-the-hour
- Computing services can be charged by the hour or on a subscription-basis
- Cloud computing transforms the upfront cost into variable cost
- Cloud computing transforms variable costs into upfront costs
- Services can be added or reduced as needed
- Cloud does not offer cost management
- None of the above

6. Choose which feature of Cloud services makes it possible to manage computing infrastructure better and more efficiently.

- Network abstraction
- Software switching/routing
- Scalability
- Cloud-native applications
- None of the above
- Not enough data to answer

7. Choose the correct(s) statement(s) about Docker and containers :

- Docker is a hypervisor
- The Docker engine is used to spawn and manage containers
- Two different Docker containers can run different operating systems
- A Dockerfile is used to describe the steps to create a novel container
- Docker uses a declarative paradigm
- None of the above

8. Choose the correct(s) statement(s) about OpenStack :

- OpenStack is used to provide SaaS applications
- OpenStack manages the internal connections via a softwarized programmable network
- Thanks to its flexibility, all OpenStack components are optional
- It is possible to create VMs with the command `openstack domain create --description "VM" instance`
- "Floating IPs" can be assigned to any created VM to create external connectivity
- None of the above

9. You have been hired by the Airbender® company to design their cloud system. After a preliminary analysis, you have the following elements :

- 4 different micro-services, accessed by 4 different user-bases
- one management service, that can access any of the previously-mentioned microservices
- the users' requests are uniformly distributed over a day, without any noticeable pattern
- the requested data are not privacy-sensitive
- the user-base is not growing

Design a cloud system that is suitable for their experience. Provide the important design choices that you take into account (E.g., on-premises vs public cloud, XaaS model, VMs or containers, ...) and briefly justify your choices.

Fin du CC