C Spencer  
HW 12  
12/8/2020

1. What are 3 common job roles that combine security and cloud skills?

Cloud Security Architect  
Cloud Security Analyst  
Cloud Security Engineer

1. What are the 3 biggest cloud provider platforms?  
     
   AWS (Amazon Web Services)  
   Microsoft Azure  
   Google Cloud
2. What are the 6 most common cloud services (and their acronyms)?  
     
   Software as a Service (SaaS)  
   Infrastructure as a Service (IaaS)  
   Platform as a Service (PaaS)  
   Data as a Service/Database as a Service (DaaS/DBaaS)  
   Communication as a Service (CaaS)  
   Anything as a Service (XaaS)
3. What is the difference between a virtual network and a physical network?  
     
   A physical network connects hardware with network cables and a virtual network uses software to create a network over the internet. Virtual networks are easier to setup, reconfigure, and segment. Virtual networks are also easier to replicate.
4. What is the point of setting your first firewall rule to block *all* traffic?  
     
   Having the first firewall rule set to block all traffic allows all traffic to be blocked by default while allowing rules to be set to allow only specific traffic to enter the network.
5. What is the difference between physical computing components (CPU, RAM, HDD/SSD) and virtual computing components?  
     
   Virtual computing components are emulations of physical components. These virtual components can easily be scaled up, down, and reallocated with commands or mouse clicks where as physical components require removal of old equipment and installation of new which is time consuming.
6. What is the purpose of using an encrypted ssh key to connect to a machine?  
     
   To ensure a secure remote connection to other computers.
7. What is the difference between a container and a virtual machine?  
     
   Containers provide the ability to virtualize multiple operating systems on a single OS instance while a virtual machine is virtualized hardware that runs multiple OS instances. Containers require fewer CPU resources than VMs.
8. What is a provisioner? Provide 3 examples of common provisioning software.  
     
   Provisioners are software that perform VM and container configuration. Common examples are Ansible, Vagrant, VM ware.
9. What is meant by Infrastructure as Code?  
     
   Using text files to define configuration for virtual machines, containers, and networks.
10. What is Continuous Integration/Continuous Deployment?  
      
    Continuous Integration/Continuous Deployment (CI/CD) is the automatic updating of machines in a network when configuration files are changed.
11. What is a VPN and when should us use one?  
      
    A VPN is an encrypted direct connection between a local network and a remote network. VPNs should be used when a secure connection is needed to a server or network.
12. What is the purpose of a load balancer?

A load balancer is used to distribute inbound network traffic across a group of servers and to prevent one resource from being overwhelmed.

1. What is a resource group in Azure?  
     
   An Azure resource group is a collection of virtual machines, virtual networks, applications, and servers and other related resources for an Azure instance.
2. What is Region in Azure?  
     
   An Azure region is a set of data centers connected within an dedicated region to form a network.