**Lesson 1 Summary: Cloud Infrastructure**

In this lesson, you have learned:

* Cloud infrastructure consists of data centers, storage, networking components, and computing resources.
* Virtualization is the process of creating a software-based version of physical resources, made possible by hypervisors.
* A few different types of Virtual Machines can be provisioned on the cloud. These include:
  + Shared or Public Cloud VMs that are provider-managed, multi-tenant deployments that can be provisioned on-demand with predefined sizes
  + Transient or Spot VMs that take advantage of unused capacity in a cloud data center
  + Reserved VMs that allow you to reserve capacity and guarantee resources for future deployments
  + Dedicated hosts that offer single-tenant isolation
* Bare metal servers are single-tenant physical servers that are dedicated to a single customer. Bare metal servers fulfill the demanding needs of high-performance computing (HPC) and data-intense applications. They are ideal for applications that have a high degree of security or compliance requirements.
* Networking capabilities in the cloud are delivered as a service rather than in the form of rack-mounted devices. Cloud resources such as VMs (or VSIs), storage, network connectivity, and load balancers are deployed into subnets within Virtual Private Clouds (VPCs). Using private and public subnets allows users to deploy multi-tier enterprise applications securely. Load balancers distribute the traffic and allow applications to be responsive.
* Containers are executable units of software in which application code, its libraries, and its dependences are packaged in a common way, so that it can be run anywhere, from desktops, traditional IT, to the cloud. Containers are more lightweight and consume fewer resources than Virtual Machines, helping streamline the development and deployment of cloud native applications.

**Lesson 2 Summary: Cloud Storage and Content Delivery Networks**

In this lesson, you have learned:

* Cloud storage is available in four main types–Direct Attached, File, Block, and Object Storage. These storage types differ in how they can be accessed, the capacity they offer, how much they cost, the types of data they are best suited to store, and their read-write speed.
* Direct Attached (or Local) Storage is storage that is presented directly to a cloud-based server and is effectively either within the host server chassis or within the same rack.
* File Storage is typically presented to compute nodes as a Network File System (NFS), which means that the storage is connected to compute nodes over a standard ethernet network.
* Block Storage is presented to compute nodes using high-speed fiber connections, typically provisioned in volumes, which are mounted onto a compute node.
* Object Storage is accessed via an API and doesn’t need an underlying compute node.
* Object Storage offers infinite capacity as you can keep adding files to it and just pay for what you use. Compared to the other storage types, object storage is slowest in terms of read and write speeds.
* A Content Delivery Network (CDN) is a distributed server network that accelerates internet content delivery by delivering temporarily stored or cached copies of website or media content to users based on their geographic location.