**AZURE FUNDAMENTALS ASSIGNMENT-2**

1. What is serverless computing?

Serverless computing enables developers to build applications faster by eliminating the need for them to manage infrastructure. With serverless applications, the cloud service provider automatically provisions, scales and manages the infrastructure required to run the code.

2. Explain Azure subscriptions, management groups and resources

**Azure subscriptions** is used to organize Azure resources and helps to analyze the billing, payment used for the resources used, etc., Each subscription can have a different billing and payment setup, so you can have different subscription.

**Azure management groups** help you manage your Azure subscriptions by grouping them together.

**Resource** - A manageable item that is available through Azure. Virtual machines, storage accounts, web apps, databases, and virtual networks are examples of resources. Resource groups, subscriptions, management groups, and tags are also examples of resources.

3. Explain Azure regions, availability zones, and region pairs

**Azure Region** consists of multiple datacenters in the region. you need to choose a specific Azure Region to host your services within. Specific Azure regions are paired together for disaster recovery purposes.

An **Azure Availability** Zone is a unique physical location within an Azure region. Availability Zones have a minimum of three separate zones. If one of the Availability Zones has gone down for some reason, we still recover the data and applications from the two Availability Zones. There is a physical separation between each Availability Zone, that protects our applications and data from Datacenter failures.

An **Azure Region Pair** is a relationship between 2 Azure Regions within the same geographic region for disaster recovery purposes. If one of the regions were to experience a disaster or failure, then the services in that region will automatically failover to that region’s secondary region in the pair. For example, North Central US region’s pair is South Central US.

4. Explain Azure Resource Manager, Azure subscription and management group

Azure Resource Manager is used to deploy and manage services in Azure and to create, update, and delete resources in Azure account. You can use features like tags to secure and organize your resources after deployment.

Management groups help you manage access, policy for multiple subscriptions. All subscriptions in a management group automatically inherit the conditions applied to the management group.

Subscriptions logically associate user accounts with the resources they create. Each subscription has limits or quotas on the number of resources it can create and use.

5. Provide overview of Azure Compute Services.

Azure supports a wide range of computing solutions for development and testing, running applications, and extending your datacentre. The service supports Linux, Windows Server, SQL Server, Oracle, IBM, and SAP. Azure also has many services that can run virtual machines (VMs). Each service provides different options depending on your requirements. Some of the most prominent services are:

Azure Virtual Machines

Azure Container Instances

Azure App Service

Azure Functions (or *serverless computing*)

6. What is an Azure virtual machine and when to opt for an Azure virtual machine?

Azure virtual machines are one of several types of [on-demand, scalable computing resources](https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/compute-decision-tree) that Azure offers.

The following are the aspects when you should opt for an azure virtual machine:

The names of your application resources

The location where the resources are stored

The size of the virtual machine

The maximum number of virtual machines that can be created

The operating system that the virtual machine runs

The configuration of the virtual machine after it starts

The related resources that the virtual machine needs