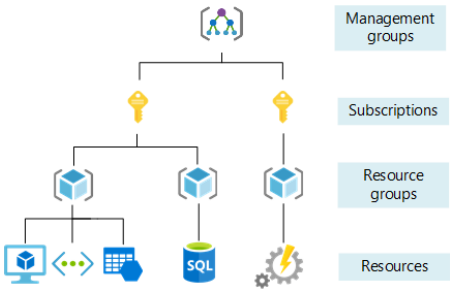
Azure Fundamental Assignment 2

(Durgesh Kumar Shukla)

1.What is serverless computing?
2.Explain Azure subscriptions, management groups and resources.
3.Explain Azure regions, availability zones, and region pairs.
4.Explain Azure Resource Manager, Azure subscription and management group.
5.Provide overview of Azure Compute Services.
6.What is an Azure virtual machine and when to opt for an Azure virtual machine?

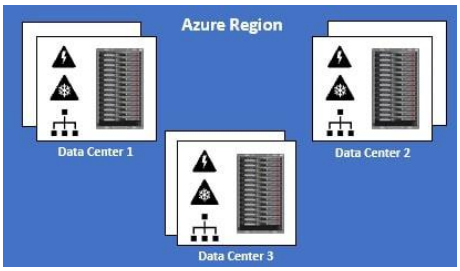
Question 1.What is serverless computing?
Answer:
Serverless computing
(or serverless for short), is an execution model where the cloud provider (AWS, Azure, or Google Cloud) is responsible for executing a piece of code by dynamically allocating the resources and only charging for the amount of resources used to run the code. The code is typically run inside stateless containers that can be triggered by a variety of events including http requests, database events, queuing services, monitoring alerts, file uploads, scheduled events etc. The code that is sent to the cloud provider for execution is usually in the form of a function. Hence serverless is sometimes referred to as “Functions as a Service” or “FaaS”.

Question 2.Explain Azure subscriptions, management groups and resources.
Answer:

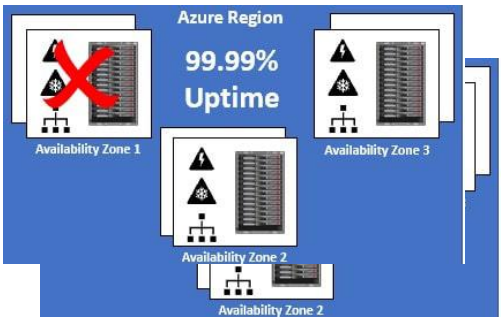


Management groups
A management group is like a container for all your subscriptions. Just like how there can be multiple subscriptions, there can also be multiple management groups in an organisation. Management settings like policies and role-based access control can be applied at any of the management levels.
Azure Subscriptions
A subscription sits under a management group. It associates user accounts and the resources that were created by those user accounts. Each subscription has limits or quotas on the amount of resources you can create and use. Organisations can use subscriptions to manage costs and the resources that are created by users, teams, or projects.
Resource groups
A resource group, as the name implies, is a group of related azure resources. It is basically a logical container into which Azure resources like web apps, databases, and storage accounts are deployed and managed.
Resources
An azure resource is any service instance that you create. For example, virtual machine, Azure sql database, storage account etc.

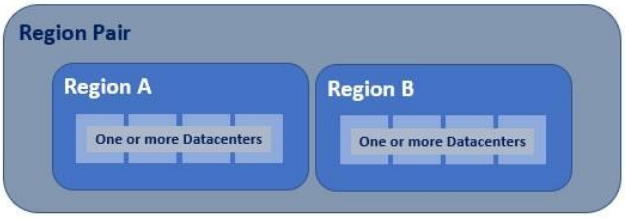
Question 3.Explain Azure regions, availability zones, and region pairs.
Answer:
Azure Regions
A set of data centres deployed within a latency-defined perimeter and connected through a dedicated regional low-latency network.Put simply, an Azure Region is a collection of several Azure data centres within a given geographic region.



Availability Zone
Availability Zone refers to unique data centres within a given region. Each zone is made up of one or more data centres equipped with independent power, cooling, and networking. These Availability Zone data centres operate independently from other Availability Zones within the same region. Multiple Availability Zones are offered within regions to allow redundancy for regional deployments.



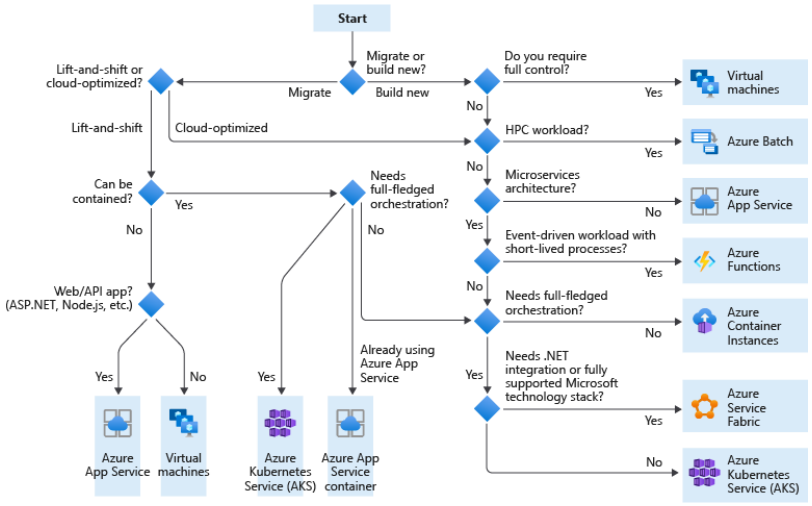
Region Pairs / Paired Regions
Region pairs are two separate regions in a single Geography, typically the same nation or population centre.Azure considers regional pairs when planning updates, maintenance and in the event of outages. In these cases, maintenance will be performed in one region first whilst the other remains fully operational and vice versa. Moreover, in the event of disaster, Microsoft will prioritise recovery in one of the two Regions first. This can be exploited to maintain uptime and resilience by creating resources in both Regions of a Paired Region.



Question 4.Explain Azure Resource Manager, Azure subscription and management group.
Answer:
Azure Resource Manager
Azure Resource Manager the service that manages and deploys Azure resources. It has a management layer that allows us to create, update, and delete Azure account resources. After deployment, we employ administration tools like access control, locks, and tags to secure and organise our resources.
Azure Subscriptions
A subscription sits under a management group. It associates user accounts and the resources that were created by those user accounts. Each subscription has limits or quotas on the amount of resources you can create and use. Organisations can use subscriptions to manage costs and the resources that are created by users, teams, or projects.
Management groups
A management group is like a container for all your subscriptions. Just like how there can be multiple subscriptions, there can also be multiple management groups in an organisation. Management settings like policies and role-based access control can be applied at any of the management levels.

Question 5.Provide overview of Azure Compute Services.
Answer:
Azure compute Services
Azure compute is an on-demand computing service for running cloud-based applications. It provides computing resources like multi-core processors and supercomputers via virtual machines and containers. It also provides serverless computing to run apps without requiring infrastructure setup or configuration. The resources are available on-demand and can typically be created in minutes or even seconds. You pay only for the resources you use and only for as long as you're using them.There are four common techniques for performing compute in Azure:

- Virtual machines
- Containers
- Azure App Service
- Server-less computing



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

Answer: A virtual machine is a program you run on a computer that acts like it is a separate computer. It is basically a way to create a computer within a computer.

Azure Virtual Machines

One of the on-demand computing resources or virtual machines developed by Microsoft Azure. Azure VM is based on the Infrastructure as a Service through which the users can obtain more control over the environment to customise the hosting or development environment.Azure Virtual machines are a vital part of hardware virtualisation. They are ready-made computer systems that are designed based on the virtualisation concept. Azure Virtual Machines provide you with an operating system, storage, and networking capabilities where we can run almost any type of applications. Quickly scale up and down with demand and pay only for what you use.

when to opt for an Azure virtual machine

Typically, you'll choose a virtual machine if you need more control over the computing environment than the choices such as App Service (PaaS). Virtual machines are often used for running software on operating systems that software wasn't originally intended for. For instance, if you are using a Mac computer you can run Windows programs inside a Windows virtual machine on the Mac computer. Virtual machines are also used when we quickly set up software with an image, access virus-infected data, and test other operating systems. Azure Virtual Machines provide you with an operating system, storage, and networking capabilities where we can run almost any type of applications.

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