Microsoft Azure Fundamentals

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1 Understanding Cloud Service Models

1.1 What is cloud computing

Definition: Cloud computing is the delivery of any computing resources from the IT stack as a service by a Cloud Service Provider (CSP).
Characteristics: Cloud computing allows for the seamless blending and fragmentation of computing resources, providing an almost infinite amount of resources for provisioning.
Benefits: It eliminates the need for businesses to build and maintain their own IT stack, offering computing resources as a service, similar to ordering a cake from a confectionary store instead of baking it yourself.

1.2 Virtualization is the foundation for cloud

Virtualization Technology: Virtualization is the core foundation of cloud computing, enabling the creation of software copies of physical components like processors, memory, and hard disks.
Mobility and Provisioning: These virtual components can be provisioned over the internet or any network, allowing them to function like real physical components but with greater flexibility and mobility.
Isolation: Virtualization provides isolation between instances of virtualized resources, ensuring they operate independently and are unaware of other virtualized resources on the system.

1.3 Key characteristics of cloud computing

Resource Pooling: Combining multiple physical computing resources into a large pool of virtualized resources that can be provisioned as needed.
Elasticity: The ability to provision and deprovision resources as demand fluctuates, thanks to the vast capacity of cloud service providers.
Pay Per Use: Only paying for the resources you use and the time you use them for, eliminating the need for large upfront investments in hardware.
Automation: Automated processes for resource pooling, elasticity, and pay-per-use billing, enabling on-demand provisioning and self-service without relying on technical support.

1.4 Understand infrastructure as a service (IaaS)

Definition: IaaS provides customers with access to virtualized hardware resources, such as servers, storage, and networking.
Control and Customization: Customers have control over the operating system, patches, applications, and data, allowing for high customization.
Provider Responsibilities: The cloud service provider handles the physical hardware, including power, cooling, and internet connections, while customers manage everything above the hardware level.

1.5 Understand platform as a service (PaaS)

Definition: PaaS provides customers with access to application dependencies like frameworks and runtime, managed by the cloud service provider.
Benefits: Customers can quickly get their applications up and running without dealing with underlying configurations, as the provider handles the operating system, patches, and hotfixes.
Considerations: While PaaS offers ease of use and quick setup, it provides less control over the environment compared to IaaS. Most applications run well on PaaS, making it a popular choice among businesses.

1.6 Chapter Quiz

Q1. What's an example of a bad work experience that can stay with you?
a) You gave a bad presentation
b) Everyone stayed silent after you shared your idea
c) You felt people looked at you funny when you spoke up
d) All the above
Ans: D
Q2. What's an example of a childhood experience that can affect your working behavior?
a) When you went on your favorite childhood vacation.
b) When your parents said it's better to stay quiet than to share your thoughts.
c) when you got hurt on the playground in elementary school.
d) when you had a disagreement with your childhood best friend.
Ans: B
Q3. Where do mental barriers come from?

a) Cultural experiences
b) Childhood experiences
c) Work experiences
d) All the above
Ans: D