Azure Fundamentals

Template

Please read through the scenario, then write your answer in the space provided.

Scenario:

You are at a social event and someone finds out you work for Microsoft. They tell you that they have heard of ‘some cloud computing solution’ called Azure but don’t know what it is about. They ask you to describe it to them and what the benefits are. Research Microsoft Azure and provide a response outlining what you would tell this person about Azure.

Guidance for formulating your response:

Your response needs to describe the fundamentals of Azure in a way that is informative and interesting to the listener. You should also concisely outline the benefits of Azure.

We suggest you follow the guidelines for an ‘elevator pitch’ to help in being interesting, brief and memorable. This means that you can clearly articulate your response in the time it takes to ride an elevator from the bottom floor to the top floor of a high-rise building. To find out more about how to write an elevator pitch read this [article](https://www.themuse.com/advice/perfect-pitch-how-to-nail-your-elevator-speech).

Outline your response below.

Microsoft Azure, commonly referred to as Azure, is a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through Microsoft-managed data centers.

The Azure platform aims to [help businesses manage challenges](https://searchcloudcomputing.techtarget.com/feature/5-tips-that-can-lead-to-Azure-cloud-management-success) and meet their organizational goals. It offers tools that support all industries -- including e-commerce, finance and a variety of [Fortune 500](https://searchcio.techtarget.com/definition/Fortune-500) companies -- and is compatible with open source technologies. This provides users with the flexibility to use their preferred tools and technologies. In addition, Azure offers 4 different forms of cloud computing: infrastructure as a service ([IaaS](https://searchcloudcomputing.techtarget.com/definition/Infrastructure-as-a-Service-IaaS)), platform as a service ([PaaS](https://searchcloudcomputing.techtarget.com/definition/Platform-as-a-Service-PaaS)), software as a service ([SaaS](https://searchcloudcomputing.techtarget.com/definition/Software-as-a-Service)) and [serverless](https://searchitoperations.techtarget.com/definition/serverless-computing).

Microsoft charges for Azure on a [pay-as-you-go](https://searchstorage.techtarget.com/definition/pay-as-you-go-cloud-computing-PAYG-cloud-computing) basis, meaning subscribers receive a bill each month that only charges them for the specific resources they have used.

**How does Microsoft Azure work?**

* Once customers subscribe to Azure, they have access to all the services included in the Azure [portal](https://whatis.techtarget.com/definition/portal). Subscribers can use these services to create cloud-based resources, such as virtual machines ([VM](https://searchservervirtualization.techtarget.com/definition/virtual-machine)) and databases.
* In addition to the services that Microsoft offers through the Azure portal, a number of [third-party](https://whatis.techtarget.com/definition/third-party) vendors also make software directly available through Azure. The cost billed for third-party applications varies widely but may involve paying a subscription fee for the application, plus a usage fee for the [infrastructure](https://searchdatacenter.techtarget.com/definition/infrastructure) used to host the application.
* Microsoft provides five different customer support options for Azure:
  + Basic
  + Developer
  + Standard
  + Professional Direct
  + Premier

**What is Microsoft Azure used for?**

Because Microsoft Azure consists of numerous service offerings, its use cases are extremely diverse. Running virtual machines or [containers](https://searchitoperations.techtarget.com/definition/container-containerization-or-container-based-virtualization) in the cloud is one of the most popular uses for Microsoft Azure. These compute resources can host infrastructure components, such as domain name system ([DNS](https://searchnetworking.techtarget.com/definition/domain-name-system)) servers; Windows Server services -- such as Internet Information Services ([IIS](https://searchwindowsserver.techtarget.com/definition/IIS)); or third-party applications. Microsoft also supports the use of third-party operating systems, such as [Linux](https://searchdatacenter.techtarget.com/definition/Linux-operating-system).

Azure is also commonly used as a platform for hosting databases in the cloud. Microsoft offers serverless [relational databases](https://searchdatamanagement.techtarget.com/definition/relational-database) such as Azure SQL and non-relational databases such as [NoSQL](https://searchdatamanagement.techtarget.com/definition/NoSQL-Not-Only-SQL).

In addition, the platform is frequently used for [backup](https://searchdatabackup.techtarget.com/definition/backup) and [disaster recovery](https://searchdisasterrecovery.techtarget.com/definition/disaster-recovery). Many organizations use Azure storage as archive in order to meet their long-term Data retention requirements.

**Azure products and services**

Microsoft sorts Azure cloud services into nearly two dozen categories, including:

* **Compute.** These services enable a user to deploy and manage VMs, containers and [batch jobs](https://searchdatacenter.techtarget.com/definition/batch), as well as support remote application access. Compute resources created within the Azure cloud can be configured with either public [IP addresses](https://searchwindevelopment.techtarget.com/definition/IP-address) or private IP addresses, depending on whether the resource needs to be accessible to the outside world.
* **Mobile.** These products help developers build cloud applications for mobile devices, providing notification services, support for back-end tasks, tools for building application program interfaces ([APIs](https://searchapparchitecture.techtarget.com/definition/application-program-interface-API)) and the ability to couple [geospatial](https://whatis.techtarget.com/definition/geospatial-analysis) context with data.
* **Web.** These services support the development and deployment of web applications. They also offer features for search, content delivery, [API management](https://searchapparchitecture.techtarget.com/definition/API-management), notification and reporting.
* **Storage.** This category of services provides scalable cloud storage for structured and unstructured data. It also supports big data projects, [persistent storage](https://searchstorage.techtarget.com/definition/Persistent-storage) and archival storage.
* **Analytics.** These services provide distributed analytics and storage, as well as features for real-time analytics, big data analytics, data lakes, machine learning ([ML](https://searchenterpriseai.techtarget.com/definition/machine-learning-ML)), business intelligence ([BI](https://searchbusinessanalytics.techtarget.com/definition/business-intelligence-BI)), internet of things ([IoT](https://internetofthingsagenda.techtarget.com/definition/Internet-of-Things-IoT)) data streams and data warehousing.
* **Networking.** This group includes [virtual networks](https://searchservervirtualization.techtarget.com/definition/network-virtualization), dedicated connections and [gateways](https://internetofthingsagenda.techtarget.com/definition/gateway), as well as services for traffic management and diagnostics, load balancing, DNS hosting and network protection against distributed denial-of-service ([DDoS](https://searchsecurity.techtarget.com/definition/distributed-denial-of-service-attack)) attacks.
* **Media and content delivery network (CDN).** These [CDN](https://searchnetworking.techtarget.com/definition/CDN-content-delivery-network) services include on-demand streaming, digital rights protection, encoding and media playback and indexing.
* **Integration.** These are services for server backup, site recovery and connecting private and public clouds.
* **Identity.** These offerings ensure only authorized users can access Azure services and help protect encryption keys and other sensitive information in the cloud. Services include support for [Azure Active Directory](https://searchwindowsserver.techtarget.com/definition/Microsoft-Windows-Azure-Active-Directory-Windows-Azure-AD) and multifactor authentication ([MFA](https://searchsecurity.techtarget.com/definition/multifactor-authentication-MFA)).
* **Internet of things.** These services help users capture, monitor and analyze IoT data from [sensors](https://whatis.techtarget.com/definition/sensor) and other devices. Services include notifications, analytics, monitoring and support for coding and execution.
* **DevOps.** This group provides project and collaboration tools, such as [Azure DevOps](https://searchwindevelopment.techtarget.com/definition/Visual-Studio-Team-System) -- formerly Visual Studio Team Services -- that facilitate [DevOps](https://searchitoperations.techtarget.com/definition/DevOps) software development processes. It also offers features for application diagnostics, DevOps tool integrations and test labs for build tests and experimentation.
* **Development.** These services help application developers share code, test applications and track potential issues. Azure supports a range of application programming languages, including JavaScript, Python, .NET and Node.js. Tools in this category also include support for Azure DevOps, software development kits ([SDKs](https://whatis.techtarget.com/definition/software-developers-kit-SDK)) and [blockchain](https://searchcio.techtarget.com/definition/blockchain).
* **Security.** These products provide capabilities to identify and respond to cloud security threats, as well as manage encryption keys and other sensitive assets.
* **Artificial intelligence (AI) and machine learning.** This is a wide range of services that a developer can use to infuse [artificial intelligence](https://searchenterpriseai.techtarget.com/definition/AI-Artificial-Intelligence), machine learning and [cognitive computing](https://searchenterpriseai.techtarget.com/definition/cognitive-computing) capabilities into applications and data sets.
* **Containers.** These services help an enterprise create, register, orchestrate and manage huge volumes of containers in the Azure cloud, using common platforms such as [Docker](https://searchitoperations.techtarget.com/definition/Docker) and [Kubernetes](https://searchitoperations.techtarget.com/definition/Google-Kubernetes).
* **Databases.** This category includes Database as a Service ([DBaaS](https://searchdatamanagement.techtarget.com/definition/database-as-a-service-DBaaS)) offerings for SQL and NoSQL, as well as other database instances -- such as Azure Cosmos DB and Azure Database for PostgreSQL. It also includes [Azure SQL Data Warehouse](https://searchsqlserver.techtarget.com/definition/Azure-SQL-Data-Warehouse) support, [caching](https://whatis.techtarget.com/definition/caching) and hybrid database integration and migration features. Azure SQL is the platform's flagship database service. It is a relational database that provides SQL functionality without the need for deploying a SQL server.
* **Migration.** This suite of tools helps an organization estimate workload [migration](https://searchcio.techtarget.com/definition/migration) costs and perform the actual migration of workloads from local data centers to the Azure cloud.
* **Management and governance.** These services provide a range of backup, recovery, [compliance](https://searchdatamanagement.techtarget.com/definition/compliance), automation, scheduling and monitoring tools that can help a cloud administrator manage an Azure deployment.
* **Mixed reality.** These services are designed to help developers create content for the [Windows Mixed Reality](https://whatis.techtarget.com/definition/Windows-Mixed-Reality) environment.
* **Blockchain.** The Azure Blockchain Service allows you to join a blockchain consortium or to create your own.
* **Intune.** [Microsoft Intune](https://searchitchannel.techtarget.com/definition/Microsoft-Intune) can be used to enroll user devices, thereby making it possible to push security policies and mobile apps to those devices. Mobile apps can be deployed either to groups of users or to a collection of devices. Intune also provides tools for tracking which apps are being used.