Microsoft Azure

Fundamentals

IntelliPaat

Agenda

01 Why **Azure?**

02 What is **Azure?**

03 Azure **Services**

04 Azure **Certification**

05 Azure **Architecture**

Why **Azure**?

Why Azure?

Number's Don't lie!

1 Billion US$ is invested every year in security R&D with 3500 security experts

100+ Services to build, deploy and manage apps on the cloud

FORTUNE 500 2019

95% of Fortune 500 companies use Azure for their Business needs

Why Azure?

What do I get?

With your Azure free account, you get all of this—and you will not be charged until you choose to upgrade.

12 months	+	₹13,300 credit	FREE	+	Always free
of popular free services		to explore any Azure service for 30 days			25+ services

Why Azure?

What can I do with my Azure free account?

Here are some ideas of what can be done

Test and deploy enterprise apps

Use Azure Virtual Machines, Managed Disks and SQL databases while providing high availability and network performance with Load Balancer.

Create custom mobile experiences

Build based on your customers' interests and behavior using App Service and Azure Cosmos DB, Xamarin, HockeyApp and Traffic Manager.

Gain insights from your data

Make better decisions and create finer experiences using Machine Learning, Data Lake Analytics and HDInsight.

Why Azure?

12 AI services
now free for 12 months

Build apps that recognise people's needs with Azure Cognitive Services

Create intelligent apps, websites and bots that read, understand and interpret natural human communication. With Cognitive Services—and a single API call—use decades of ground-breaking AI research to better serve your customers.
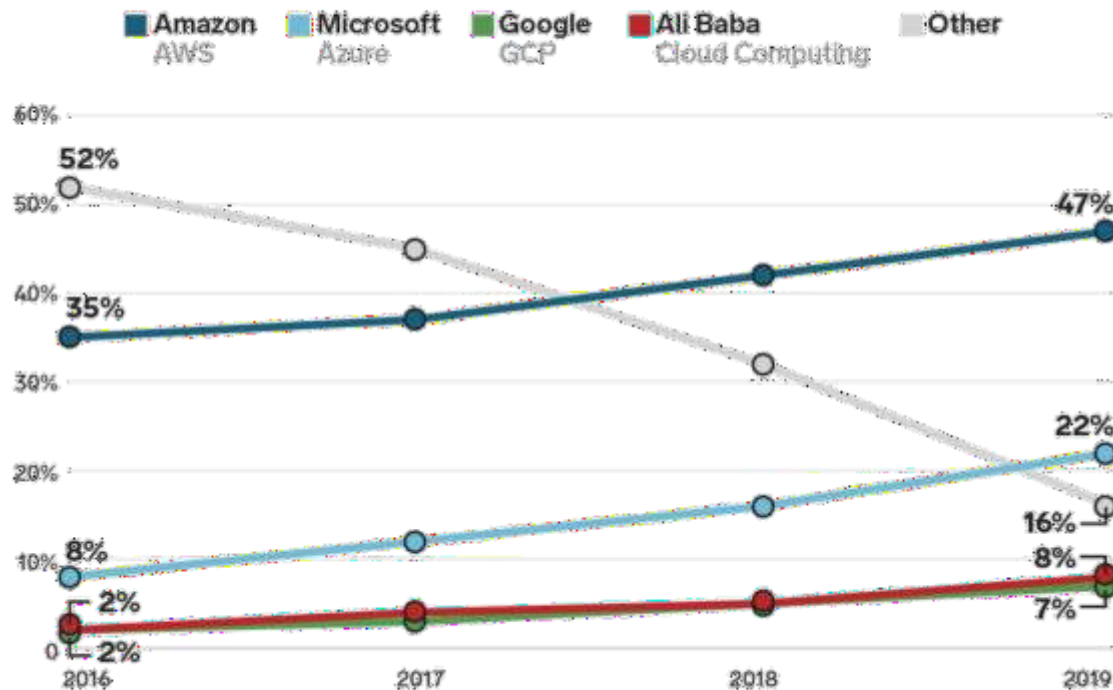
↓ See services

Why Azure?

Public cloud market share

Why Azure?

Average Salary of an Azure Solutions Architect

Source: Glassdoor.com

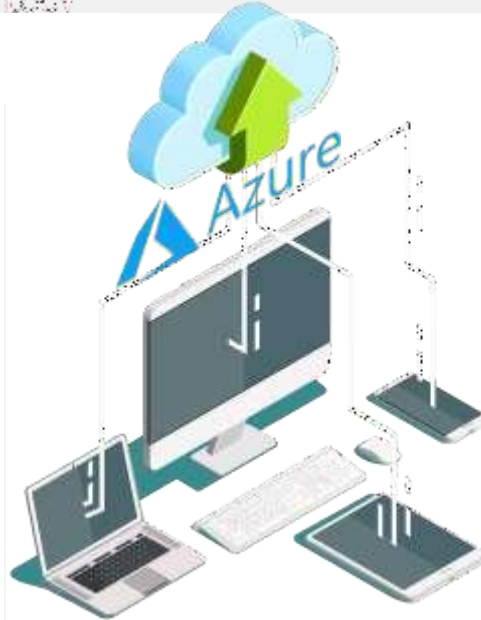**$100,000/annum**   **£67,000/annum**   **17 LPA/annum**

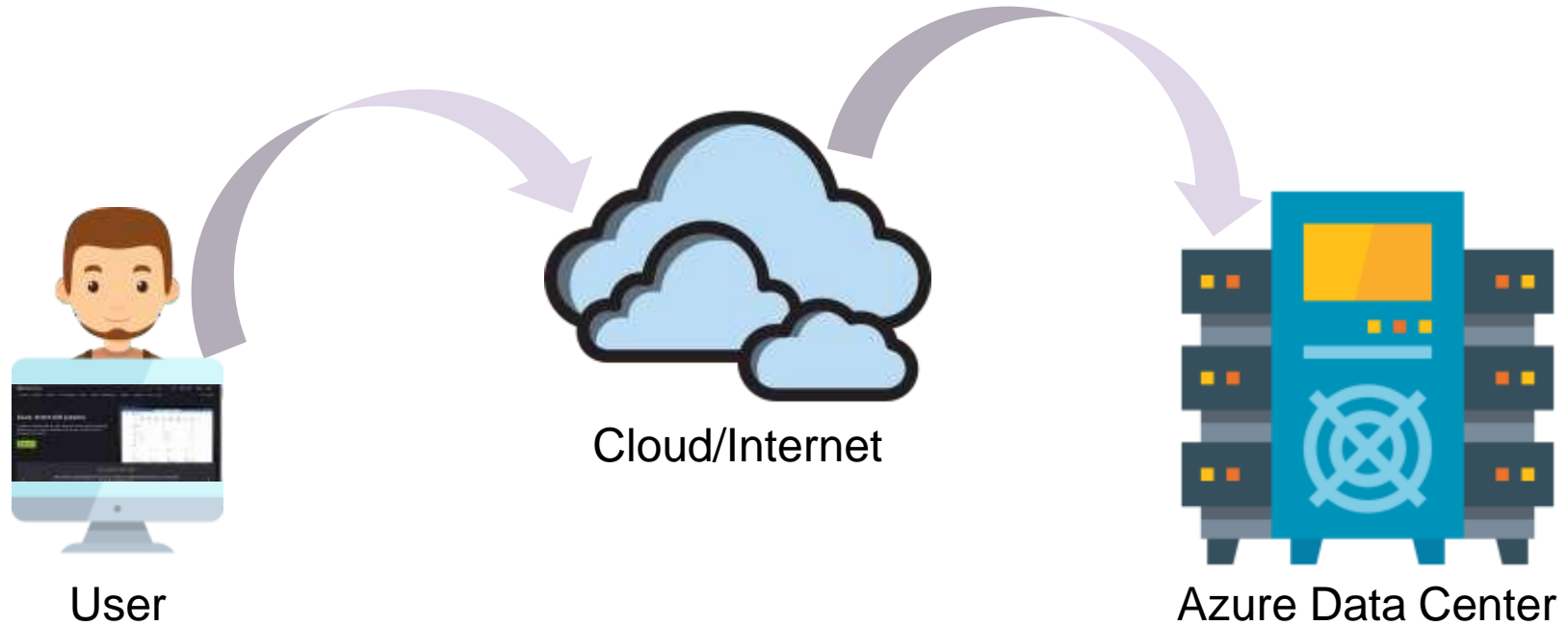# What is **Azure**?

What is Azure?

Azure is a cloud provider owned by Microsoft which provides its users a wide range of services via internet

What is Azure?

User   Cloud/Internet   Azure Data Center

What is Azure?

Azure **Services**

Azure Services

Azure Services / Free

IntelliPaat

Linux Virtual Machines
COMPUTE

750 hours

B1S VM

Create Linux virtual machines with on-demand capacity in seconds.

Windows Virtual Machines
COMPUTE

750 hours

B1S VM

Create Windows virtual machines with on-demand capacity in seconds.

Managed Disks
STORAGE

64 GB x 2

2 P6 SDDs

Get premium, secured disk storage for Azure Virtual Machines with simplified management.

Blob Storage
STORAGE

5 GB

LRS hot block

Use massively scalable object storage for any type of unstructured data.

File Storage
STORAGE

5 GB

LRS File Storage

Migrate to simple, distributed, cross-platform file storage without changing code.
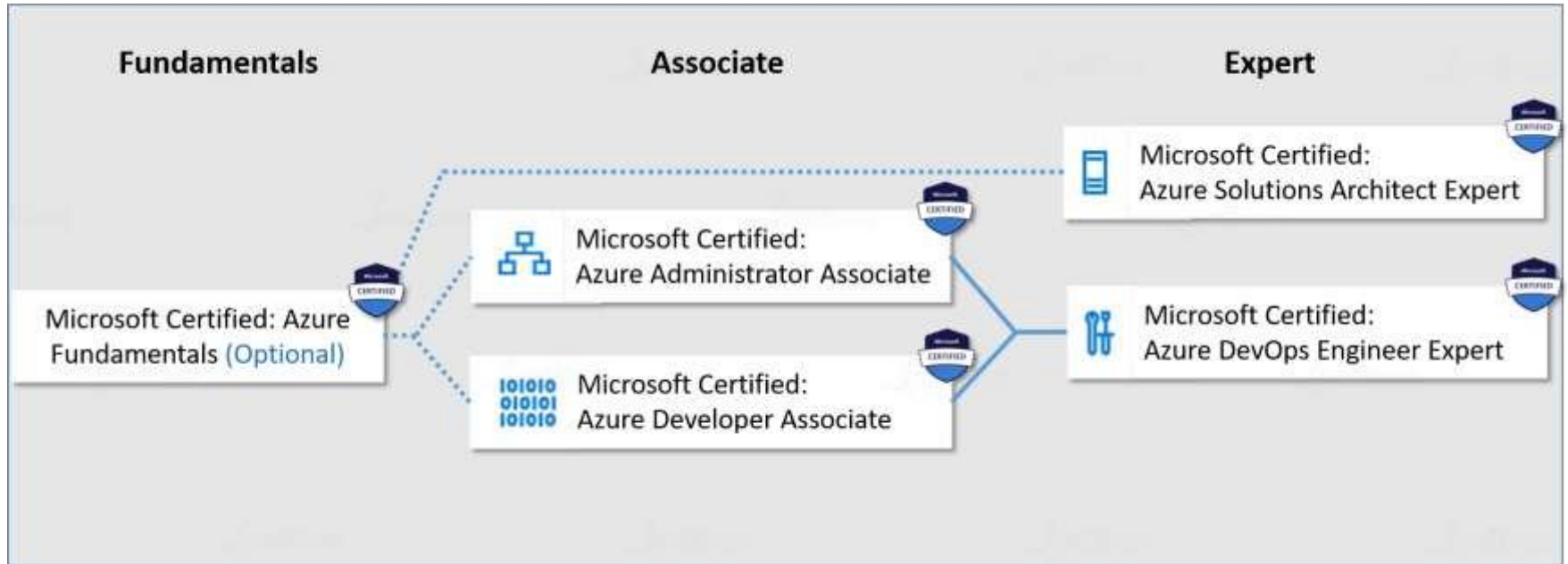

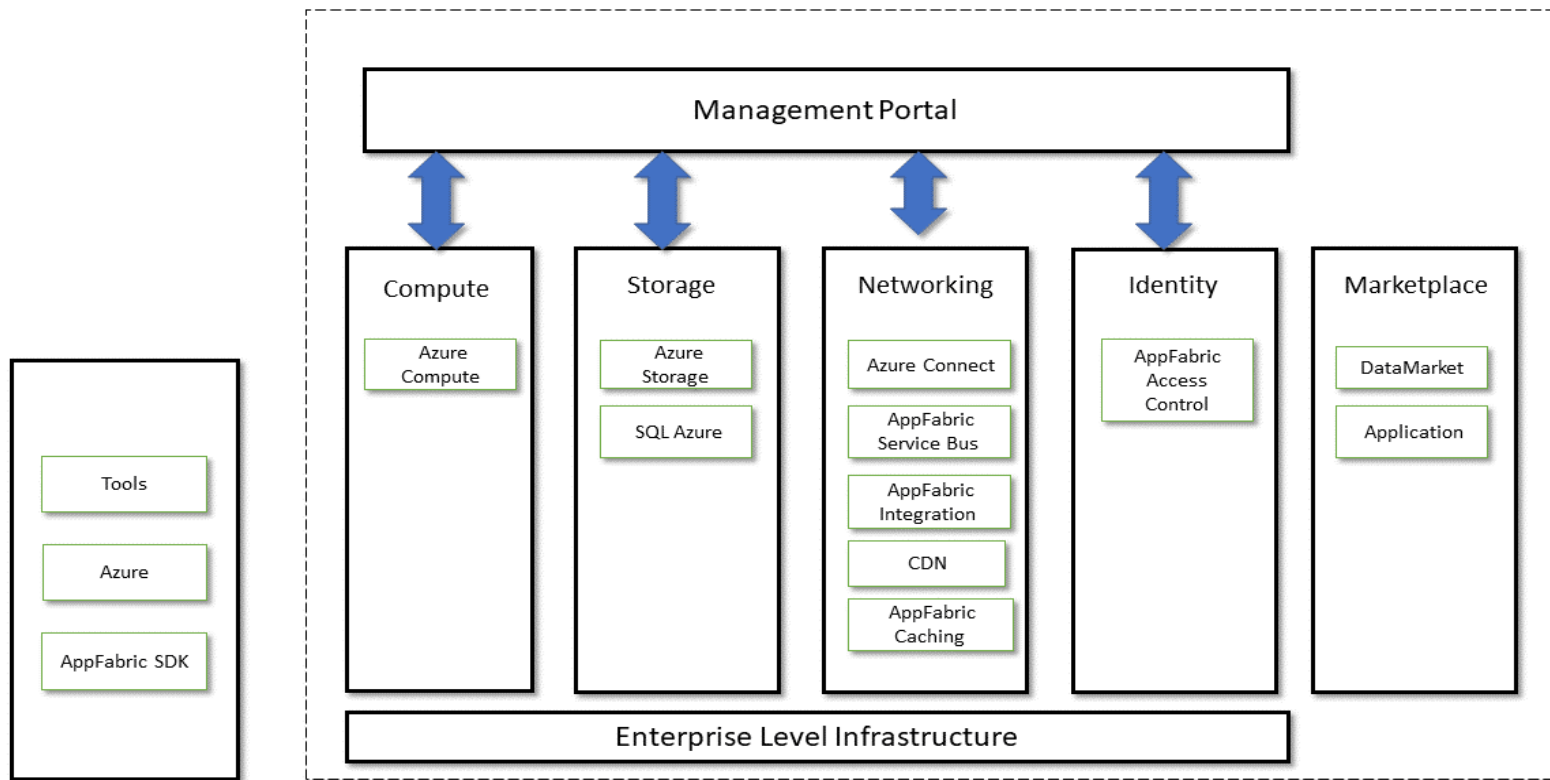
SQL Database
DATABASES

250 GB

Create a SQL Database that delivers intelligence built-in.

Azure **Certification**

Azure Certification

Fundamentals

Microsoft Certified: Azure Fundamentals (Optional)

Associate

Microsoft Certified: Azure Administrator Associate

Microsoft Certified: Azure Developer Associate

Expert

Microsoft Certified: Azure Solutions Architect Expert

Microsoft Certified: Azure DevOps Engineer Expert

Azure Architecture

AppFabric

It is the **middleware** which comprises of services such as **compute, storage, networking, and identity management.**

Azure is hosted within Microsoft data centers and is accessible from Microsoft Azure Management Portal.

Let us now explore some of the services that are provided by this cloud computing service in the segment below.

Microsoft Azure Services
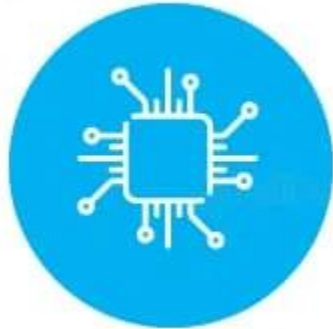
Compute

Storage

Database

Networking

Azure Compute

Azure Virtual machine: it is an environment that allows the user to have a similar experience as that of while using dedicated hardware.

Azure Virtual Machine Set: They are used to create thousands of **identical** virtual machines.

Azure Container Service: Containers are packages that do not need virtual machines and instead depend on virtual isolation to run applications that have shared OS kernel. And Azure container service creates a container hosting solution.

Azure Container Registry: It is used to store and manage container images.

Azure Functions: It doesn't have a server and lets you run code-on-demand without infrastructure.

Azure Batch: It is used to scale N number of virtual machines at a time.

Azure Service Fabric: It is a distributed platform that simplifies the deployment and lifecycle management of a small service-based application.

Azure Cloud Services: They focus on apps and support Java, Node.js, PHP, Python, .Net, and Ruby.

Azure Web Apps: They create and deploy web apps at scale very quickly.

Azure Mobile App: It is used in building and hosting backend for any application on mobile.

API Apps: It is used to build cloud APIs easily.

Azure Search: It provides search-as-a-service which is fully managed.

Notification Hubs: They are used to send push notifications to any platform from any backend easily.

Azure Logic Apps: It is a cloud service that will help you in automating workflows, business processes, etc.

Azure Event Hub: It is a collection of events that can be stored.

Azure Networking

These networks allow enterprises to safely connect to their cloud resources through Azure ExpressRoute. It is also used to manage private virtual networks and, further, create multiple virtual networks.

Azure Virtual Network: It performs network isolation and segmentation with filters which routes the traffic. It comprises of Azure Connect which allows easy setup of IP-based and Azure Traffic Manager.

Azure Load Balancer: It balances a load of traffic going to virtual machines and isolates the external traffic to another virtual machine.

Azure Traffic Manager: It provides load balancing features.

Azure Express Route: It is a network that lets you extend the current network into Microsoft cloud over a private connection.

Azure DNS: It translates a website to the IP address.

Content Delivery Network (CDN): It helps in improving delivering the content and allows the streaming of content by using the location of 24 different locations that are distributed throughout the world.

Azure VPN Gateway: It sends encrypted traffic across a public connection.

Azure Storage

Azure storage provides storage solutions that are more durable and You can build large-scale applications, and still scale higher if needed, and it automatically balances the data based on traffic.

Azure Blob Storage: Azure follows storage in terms of **binary large objects (BLOBs)** with blob service. It gives users the ability to describe their data by adding metadata.

Azure Queue Storage: It allows applications to communicate via the exchange of messages on a queue hence it avoids lost or unprocessed messages.

Azure File Storage: It offers file sharing in the cloud using standard protocol.

Azure Table Storage: It stores semi-structured NoSQL data in the cloud.

Azure Database

Azure SQL Database: It is a relational database hosted in Azure and built on SQL server technologies. It provides a **scalable, highly available, and fault-tolerant** database.

Azure DocumentDB: It is a NoSQL database-as-a-service whose features are a transactional process over no schema data, rich querying and query processing and transaction semantics that are similar to the relational databases.

Azure Redis Cache: It is a data structure that implements a key-value database with optional durability.