

# What is Compute in Cloud?



- Compute = processing power needed to run apps, websites, databases, servers.
- Like renting a computer in the cloud instead of buying your own hardware.
- You pay only for the time you use.
- Netflix runs millions of requests using cloud compute instead of physical servers.





# Azure Compute Means?



- Azure Compute = all the services in Azure that run your applications.
- Includes VMs, App Services, Functions, Containers, Kubernetes.
- You choose compute based on your application size, traffic, and workflow.
- A company hosting a website, an API, and background jobs. All on different Azure compute services.





**Azure**

# Virtual Machines (VMs)



- A VM = a complete computer inside Azure, fully customizable.
- Choose OS (Windows/Linux), CPU, RAM, disk.
- Best for large apps, legacy systems, and custom software.
- A hospital runs its old on-premise software on an Azure VM to avoid hardware maintenance.



# Azure App Service



- Fully managed platform for web apps (no server management needed).
- Supports Node, Python, Java, .NET, PHP.
- Auto-scaling + built-in deployment (CI/CD).
- A startup hosts their website + backend APIs on App Service without managing any servers.



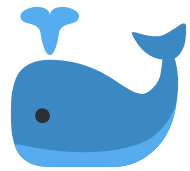


# Azure Functions (Serverless)



- Event-driven, serverless compute.
- Code runs only when triggered → pay only for execution time.
- Great for automations, background tasks, scheduled jobs.
- When a user uploads an image → Azure Function automatically resizes it and stores it.





# Azure Kubernetes Service (AKS)



- Managed Kubernetes to run containerized applications.
- Best for microservices, large-scale apps, production workloads.
- Handles scaling, networking, upgrades automatically.
- An e-commerce website running 20+ microservices (cart, order, payments, search) hosted on AKS.





# Azure Container Instances (ACI)



- Fastest way to run containers without managing servers.
- No Kubernetes, no VM just lightweight container execution.
- Pay only for the container running time.
- A company processes a CSV file daily → spins up a container for 2 minutes → processes file → stops.

