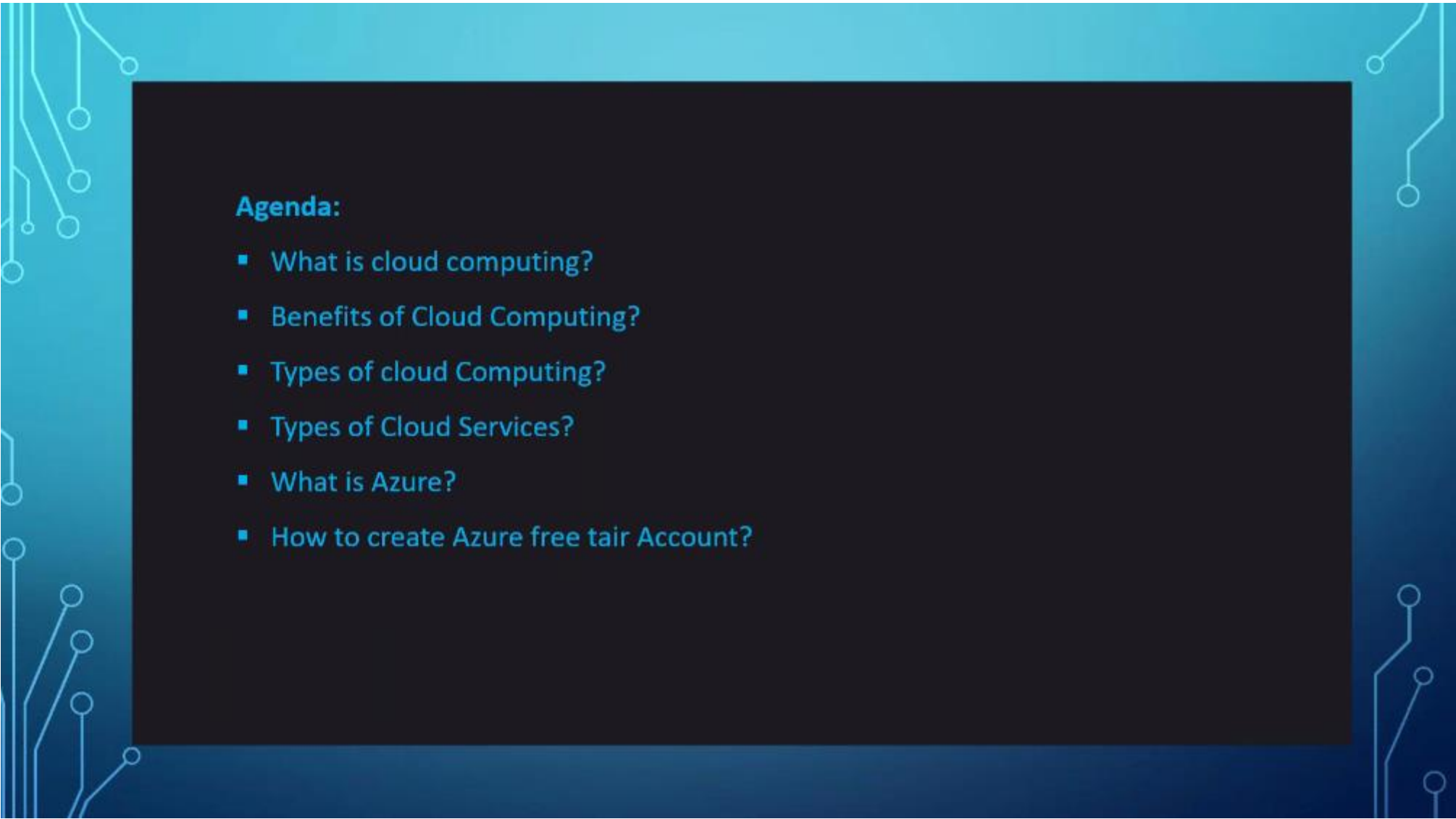




Microsoft Azure



Agenda:

- What is cloud computing?
- Benefits of Cloud Computing?
- Types of cloud Computing?
- Types of Cloud Services?
- What is Azure?
- How to create Azure free tair Account?

What is Cloud Computing?

On-demand availability of computer system resources, storage and computing power, without direct active management by the user.



Benefits of Cloud Computing

- Cost
 - Pay-as-you-go
- On-demand
- Broad network access
- Performance
- Scalability
- Security



Types of Cloud Computing

- Public Cloud
 - Operated by 3rd party service providers like Azure.
- Private Cloud
 - Cloud resources are exclusively used by an org
- Hybrid Cloud
 - Combination of Public and Private Clouds



Types of Cloud Services

- IaaS
 - Azure VM's
 - Azure Storage
 - Azure Networks
- PaaS
 - Azure App Services
 - Azure SQL Database
- SaaS
 - Office 365



What is Azure?

Microsoft Azure is an ever-expanding set of cloud services to help your organization meet your business challenges.

-definition from azure.microsoft.com



A little bit about Azure...

- Announced in 2008 with code name "Project Red Dog"
- Officially launched on Feb 1, 2010 as "Windows Azure"
- Renamed as "Microsoft Azure" on Mar 25, 2015.



A little bit about Azure

- Various service offerings
 - Virtual Machines
 - Networking
 - Storage
 - Serverless Computing
 - Containers
 - App Services
 - SQL Database are few of them



Azure Global Infrastructure



Azure Security

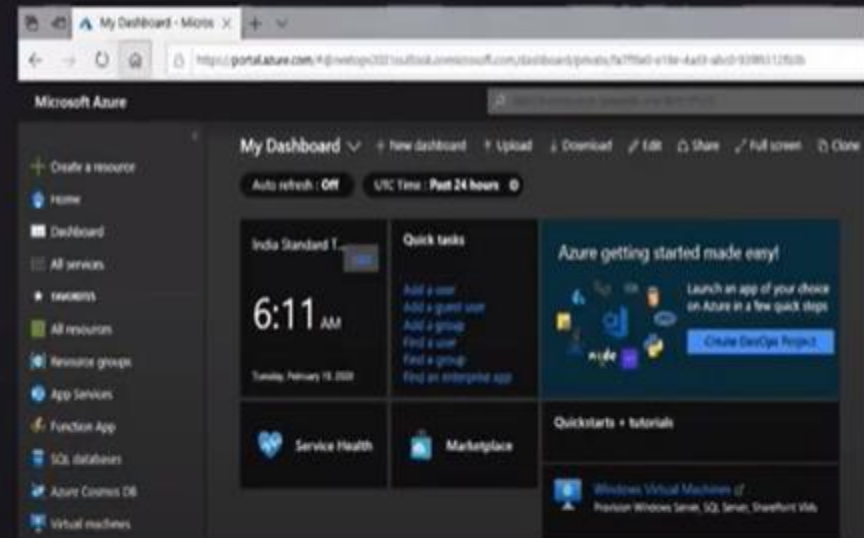
- 90+ compliance offerings
- Azure DDoS Protection
- Azure Security Center
- Azure Firewall
- Azure Key Vault



What is Azure Portal?

Unified management interface to manage all your applications on azure including

- WebApps
- Databases
- Virtual Machines
- Virtual Networks
- Storage
- and 3500+ other services.

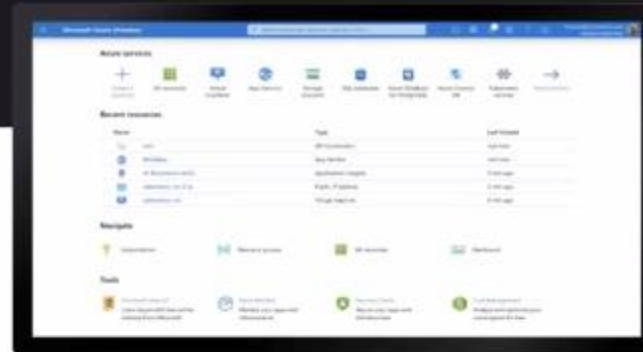


Create your Azure free account today

Get started with 12 months of free services

Start free

Or buy now



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
of popular free services

+

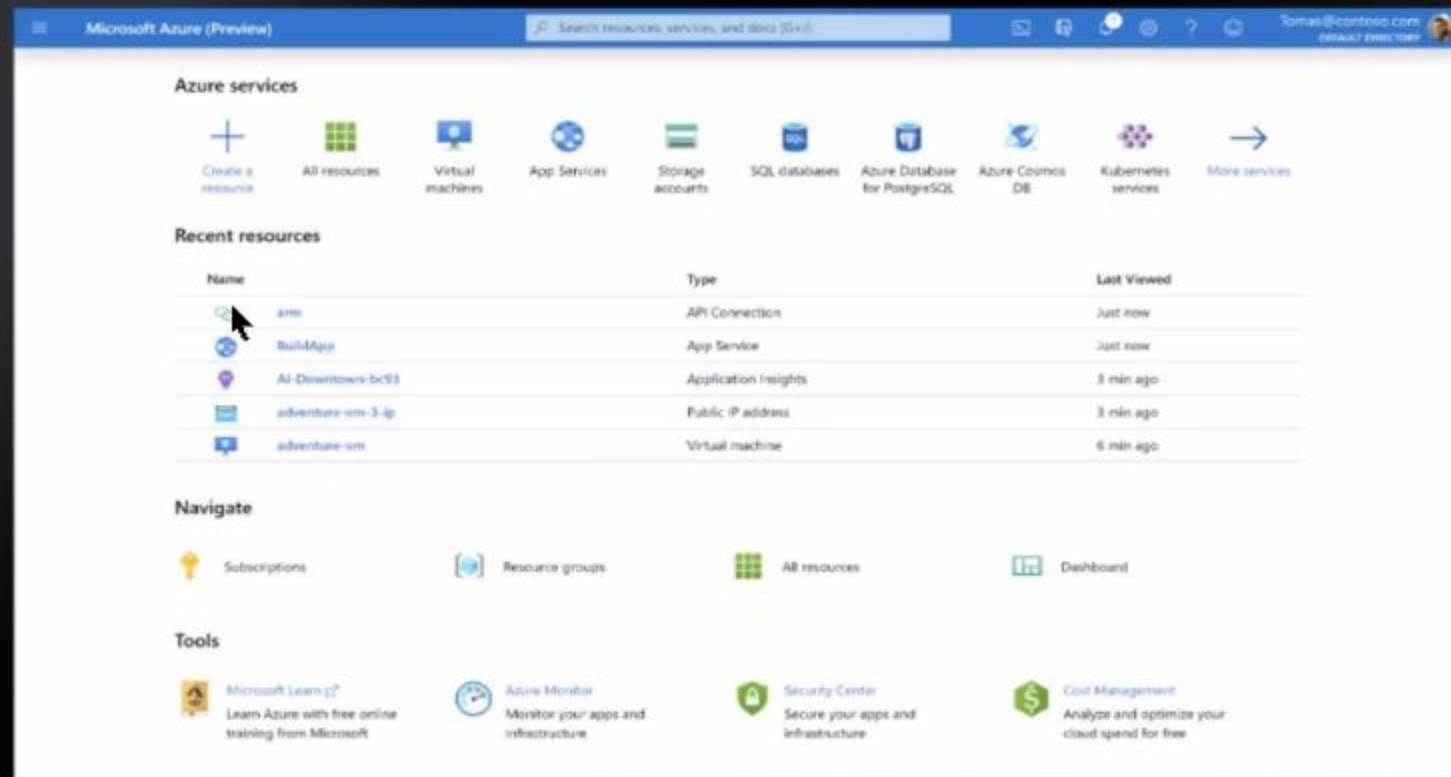
₹13,300 credit
to explore Azure for 30
days

+

Always free
25+ services

Create your Azure free account today

Get started with 12 months of free services



The screenshot displays the Microsoft Azure (Preview) dashboard. At the top, there's a blue header with the text "Microsoft Azure (Preview)" and a search bar. Below the header, the "Azure services" section features a row of icons for "Create a resource", "All resources", "Virtual machines", "App Services", "Storage accounts", "SQL databases", "Azure Database for PostgreSQL", "Azure Cosmos DB", "Kubernetes services", and "More services".

The "Recent resources" section contains a table with the following data:

Name	Type	Last Viewed
api	API Connection	Just now
BuildApps	App Service	Just now
AI-Downtown-bc93	Application Insights	3 min ago
adventure-vm-3-ip	Public IP address	3 min ago
adventure-vm	Virtual machine	6 min ago

The "Navigate" section includes icons for "Subscriptions", "Resource groups", "All resources", and "Dashboard". The "Tools" section features icons for "Microsoft Learn (2)", "Azure Monitor", "Security Center", and "Cost Management".

Which products are free for 12 months?

These products are free for 12 months, up to the monthly limits. Availability is based on resource and region.



Linux Virtual Machines

COMPUTE

750 hours

B1S Standard tier

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



Windows Virtual Machines

COMPUTE

750 hours

B1S Standard tier

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



Managed Disks

STORAGE

64 GB x 2

P6 solid state drives (SSD)

Get high performance, durable block 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.



VPN Gateway ^{NEW}

NETWORKING

750 hours

VpnGw1 Gateway Type

Establish secure, cross-premises connectivity.



Load Balancer ^{NEW}

NETWORKING

750 hours, 15 GB data processing, 5 rules

Standard Load Balancer

Deliver high availability and network performance to your applications.



Azure Cosmos DB ^{NEW}

DATABASES

400 RU/s provisioned throughput

With 25 GB of storage

Get a fast NoSQL database with open APIs for any scale.



Service Bus ^{NEW}

INTEGRATION

750 hours, 13 million operations

Standard tier base unit

Get reliable cloud messaging as a service with simple hybrid integration.



Container Registry ^{NEW}

CONTAINERS

1 Standard tier registry

With 100 GB storage and 10 webhooks

Store and manage container images across all types of Azure deployments.



Archive Storage ^{NEW}

STORAGE

10 GB LRS storage

10 GB LRS/GRS write and retrieval plus 100 reads

Store and manage rarely accessed data with locally redundant storage (LRS) or geo-redundant storage (GRS).

[View full list of products free for 12 months](#)

Which products are always free?

These products are always free, up to the specified amounts. Availability is based on resource and region.



Azure Cosmos DB
DATABASES

400 request units per second

provisioned throughput

Build modern apps with a fast NoSQL database service with open APIs at any scale.



App Service
COMPUTE

10

web, mobile or API apps

Quickly create powerful apps for any platform or device using your choice of tools including Node.js and PHP.



Functions
COMPUTE

10,000,000

requests per month

Process events with a serverless code architecture.



Event Grid
INTEGRATION

1,000,000

operations per month

Get reliable event delivery at massive scale.



Azure Kubernetes Service (AKS)
COMPUTE

Free

Deploy and manage containers using the tools you choose.



DevTest Labs
DEVELOPER TOOLS

Free

Enable fast, easy and lean dev-test environments.

[View full list of always-free products](#)

Platform Services

Compute



Cloud Services



Service Fabric



Batch



Remote App

Web and Mobile



Web Apps



API Apps



API Management



Mobile Apps



Logic Apps



Notification Hubs

Developer Services



Visual Studio



Azure SDK



Team Project



Application Insights

Integration



Storage Queues



Biztalk Services



Hybrid Connections



Service Bus

Analytics & IoT



HDInsight



Machine Learning



Data Factory



Event Hubs



Stream Analytics



Mobile Engagement

Data



SQL Database



SQL Data Warehouse



Redis Cache



Search



Document DB



Tables

Media & CDN



Media Services

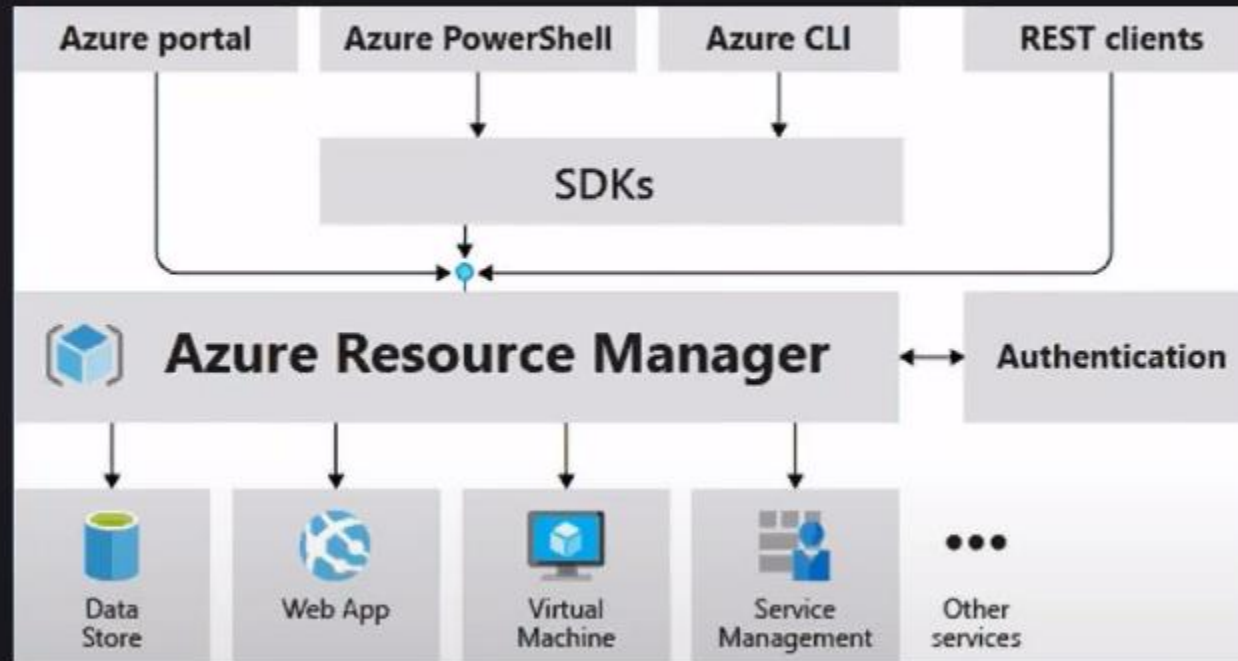


Content Delivery Network (CDN)

What is Azure Resource Manager?

Azure Resource Manager is the deployment and management service for Azure. It provides a management layer that enables you to create, update, and delete resources in your Azure subscription.

Overview of Azure Resource Manager



ARM Terminology

- Resource
 - A **Virtual Machine** or A **VNET**
- Resource Group
 - A **Container** that holds resources
- Resource Provider
 - A Service that provides resources like '**Azure Compute**'
- Resource Manager Template
 - A **JavaScript Object Notation (JSON)** file that defines one or more resources

Important Points about ARM

- Distributed across regions. Some services are regional.
- Distributed across Availability Zones (as well regions) in locations that have multiple Availability Zones.
- Not dependent on a single logical data center.
- Never taken down for maintenance activities.

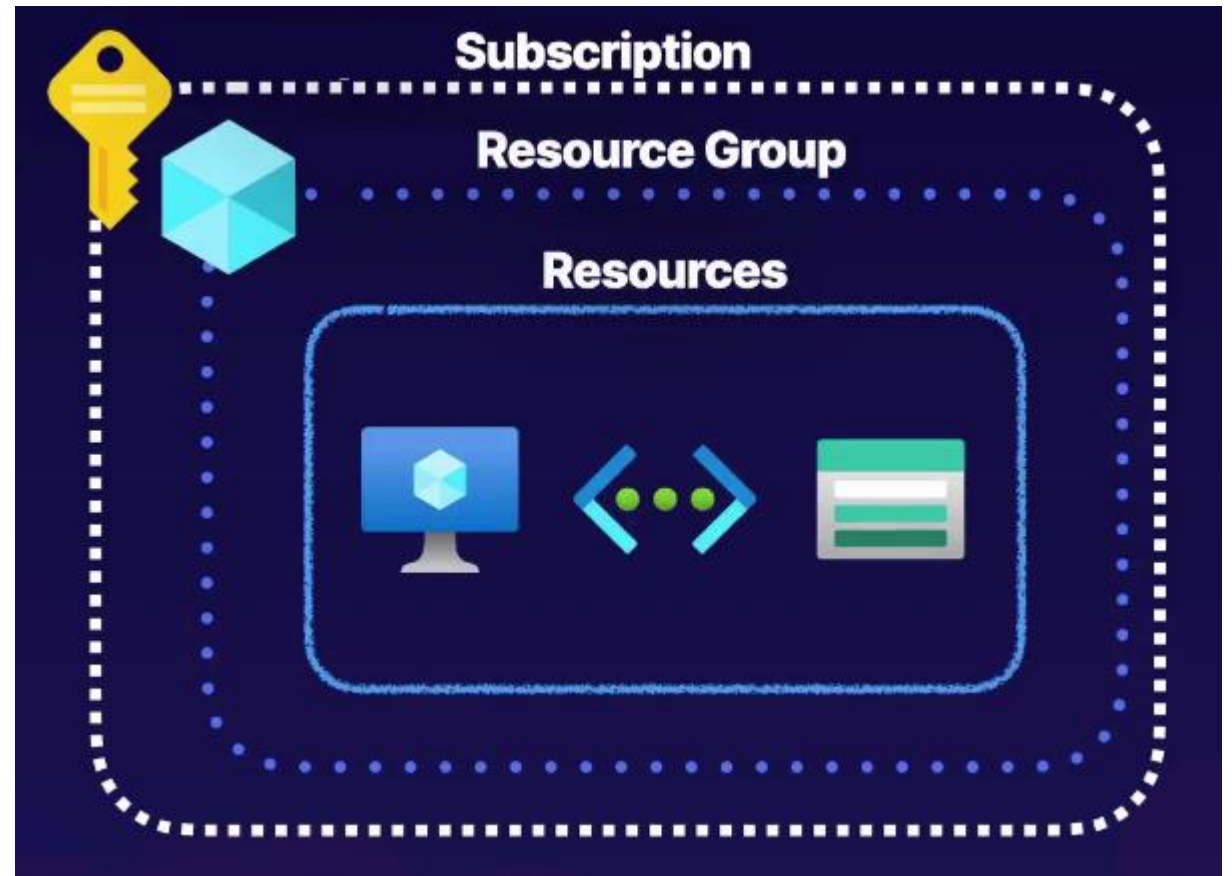
Resource Groups

- Logical container for grouping of resources.
- Group resources based on lifecycles and security



Azure Subscription

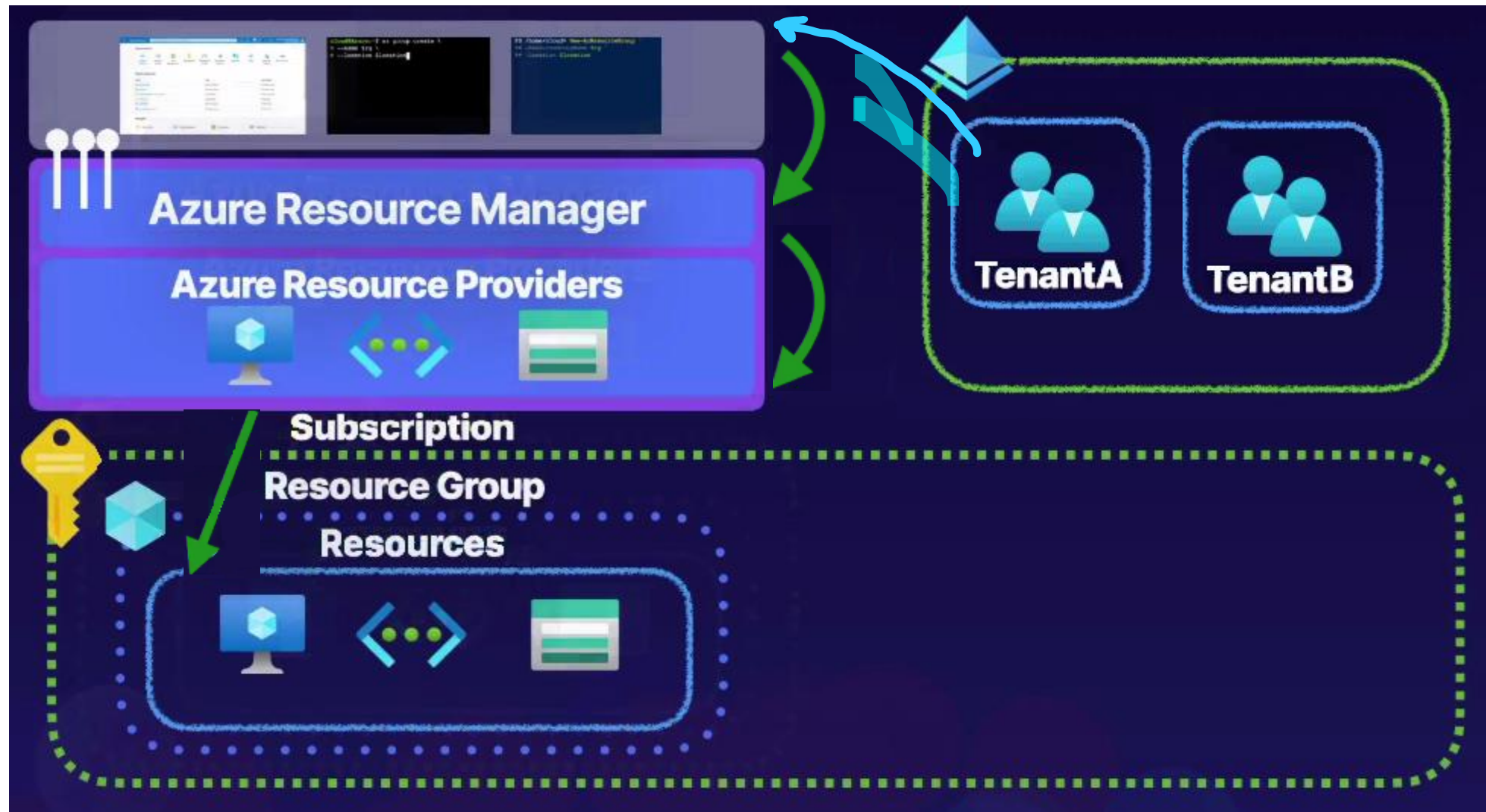
- Logical construct that groups together resource groups and associated resources.
- Billing unit for the Azure cloud.
- Controlled by Azure Resource Manager (ARM)



Azure Resource Manager

- Azure Resource Manager (ARM) is the orchestration layer for managing the Azure Cloud
- Azure Resource Manager connects to resource provider
- Resource provider completes the request







Azure Storage

Storage Accounts

Storage Type

- Blobs : A massively scalable object store for text and binary data.
- Files : Managed file shares for cloud or on-premises deployments.
- Queues : A messaging store for reliable messaging between application components.
- Tables : A NoSQL store for schema less storage of structured data.



Blob access tiers

- Hot – frequently accessed data
- Cool – infrequently accessed data
- Archive – flexible latency (several hours)





Storage per GB/month

- Hot – \$0.0196
- Cool – \$0.0100
- Archive – \$0.0018

