

# **DVS**Technologies

## Azure Administration

Compiled and Scrutinized by  
**Mr. Shaan Shaik**  
(Senior DevOps Lead)

### Words To The Students

Though we have taken utmost efforts to present you this book error free, but still it may contain some errors or mistakes. Students are encouraged to bring, if there are any mistakes or errors in this document to our notice. So that it may be rectified in the next edition of this document.

**“Suppressing your doubts is Hindering your growth”.**

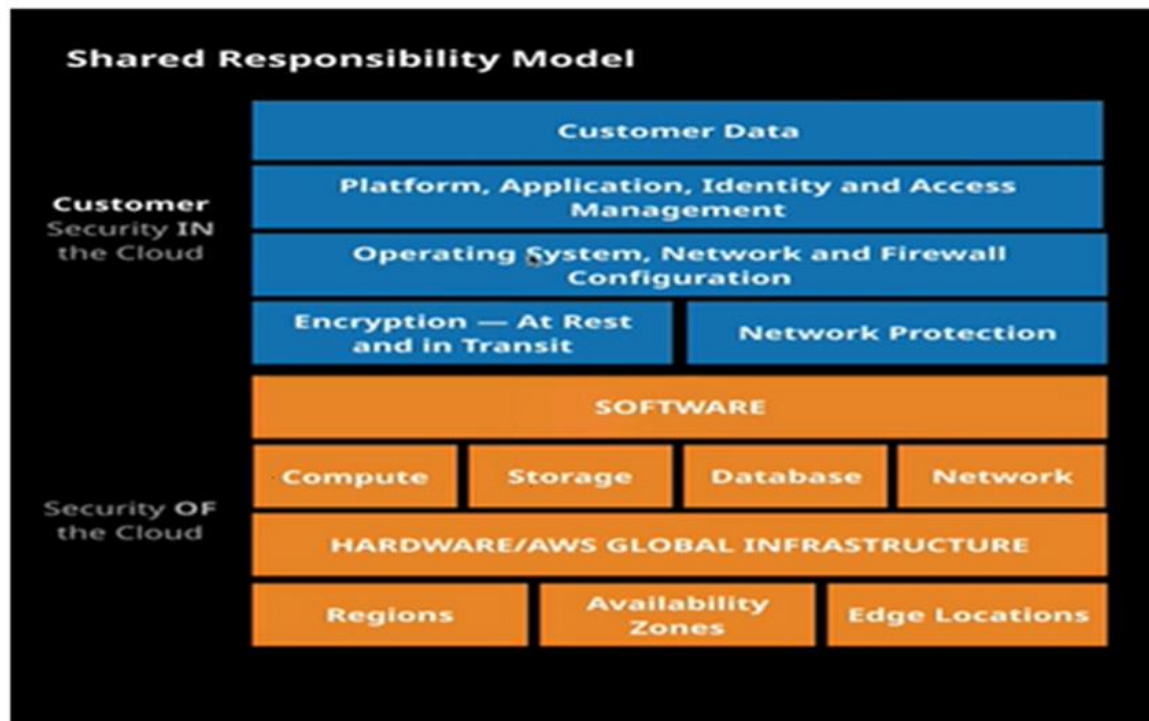
We urge you to work hard and make use of the facilities we are providing to you, because there is no substitute for hard work. We wish you all the best for your future.

**“The grass isn’t greener on the other side; the grass is greener where you water it.”**

You and your suggestions are valuable to us; Help us to serve you better. In case of any suggestions, grievance, or complaints, please feel free to write us your suggestions, grievance and feedback on the following

**Dvs.training@gmail.com**

## 1 Cloud keywords

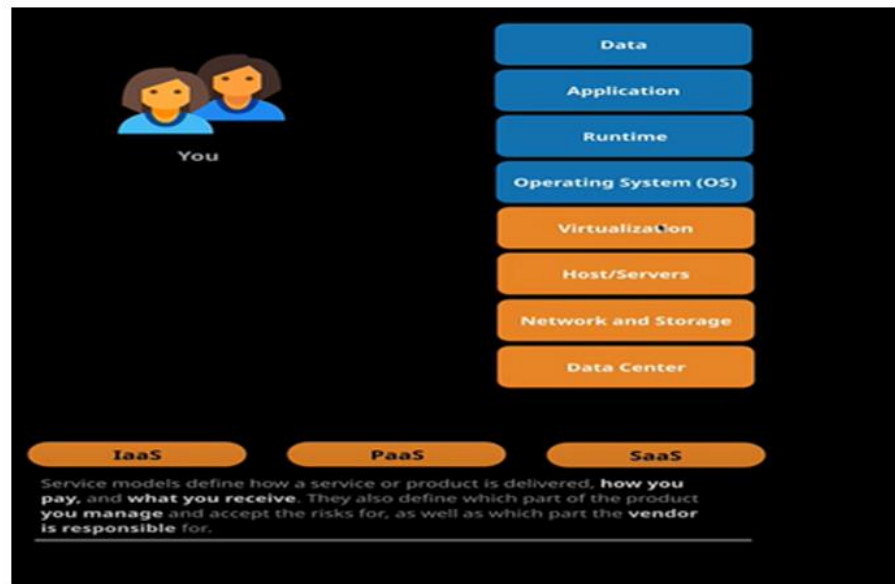


## Service Models

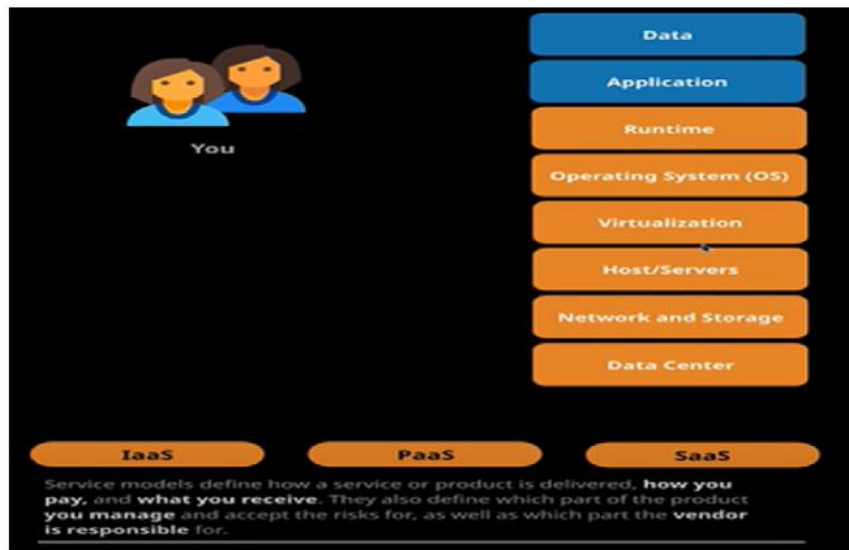
### End-To-End Application Implementation Layers



IaaS

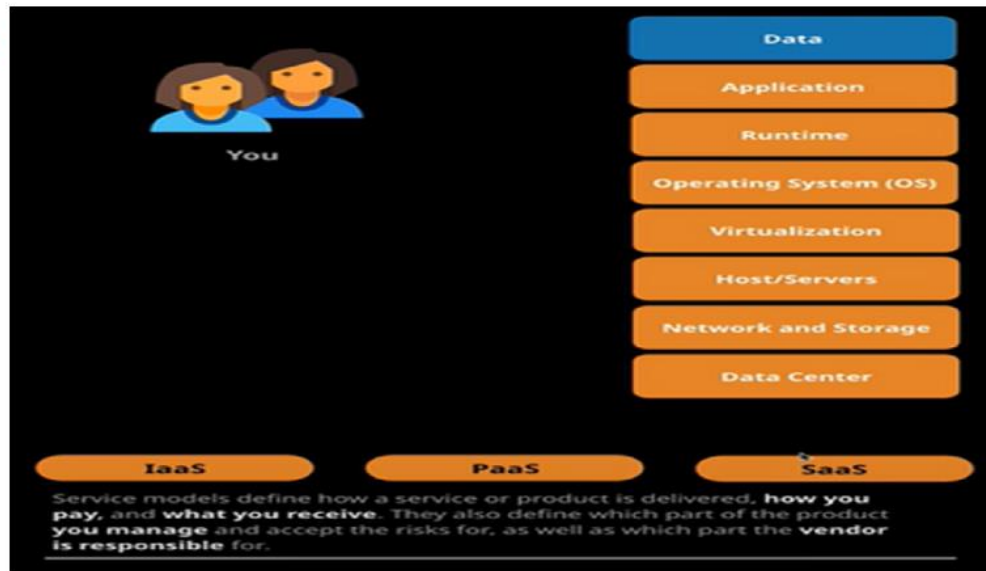


PaaS



SaaS

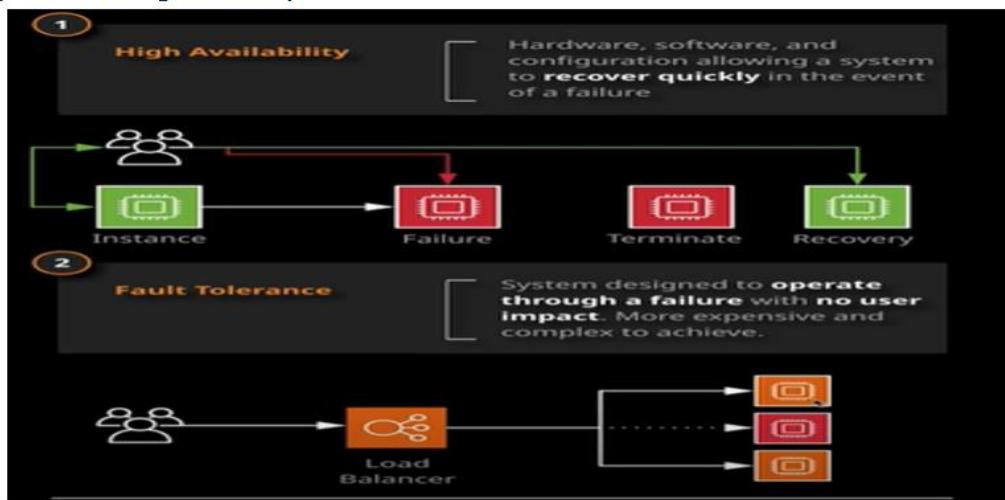
SaaS



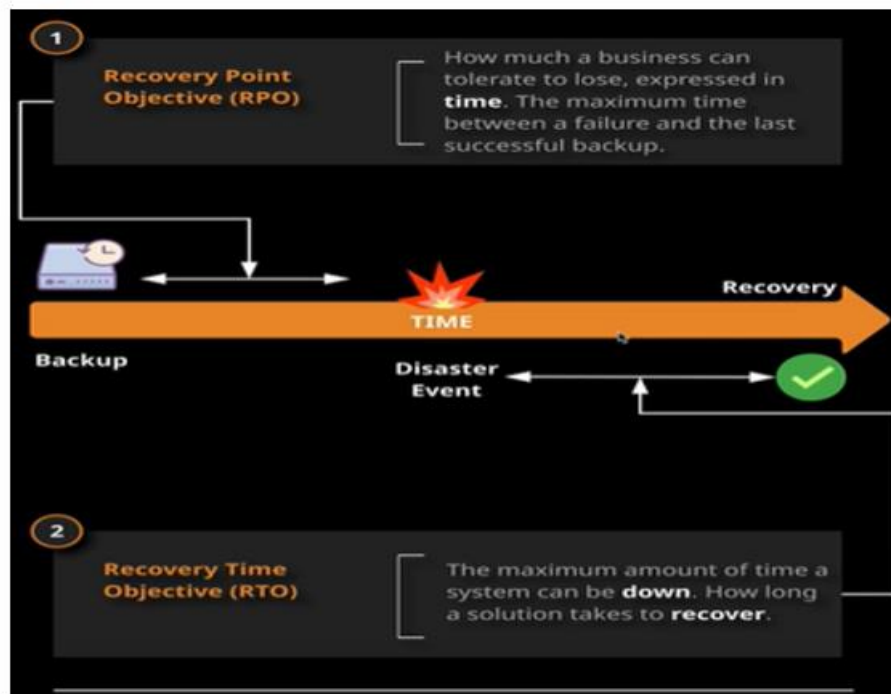
V

## High Availability vs. Fault Tolerance

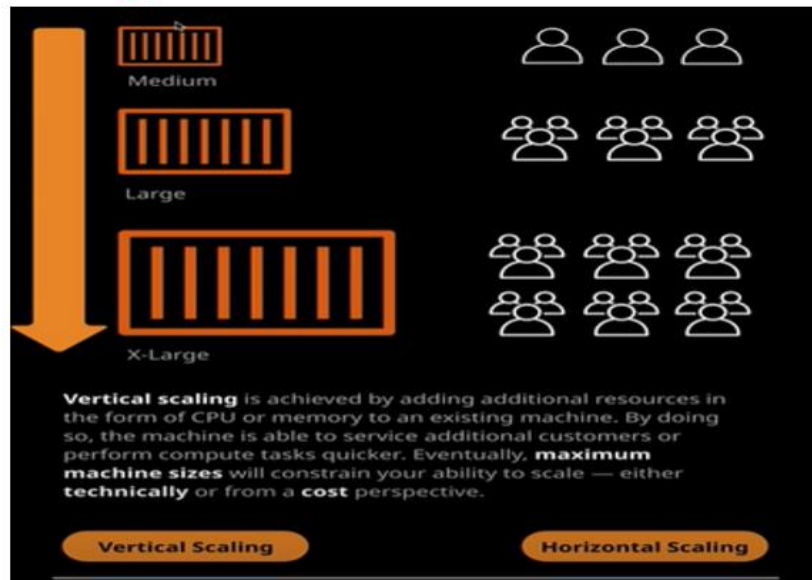
High availability sometimes need downtime whereas Fault tolerance don't. Fault tolerance is more expensive than High availability.



## RPO vs. RTO



## Scaling : Vertical Scaling



## Horizontal Scaling



## 2 Account Creation

AZ-104: Microsoft Azure Administrator

In order to complete Az Devops ( AZ-400 ) you need to complete AZ-104

### Syllabus for AZ-104:

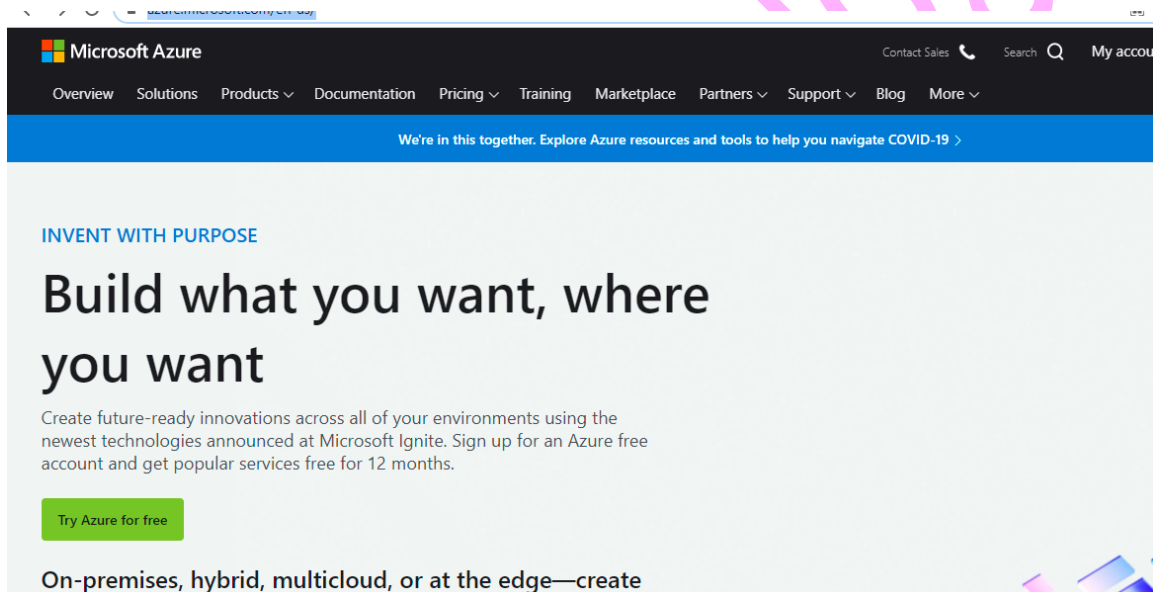
<https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4pCWy>

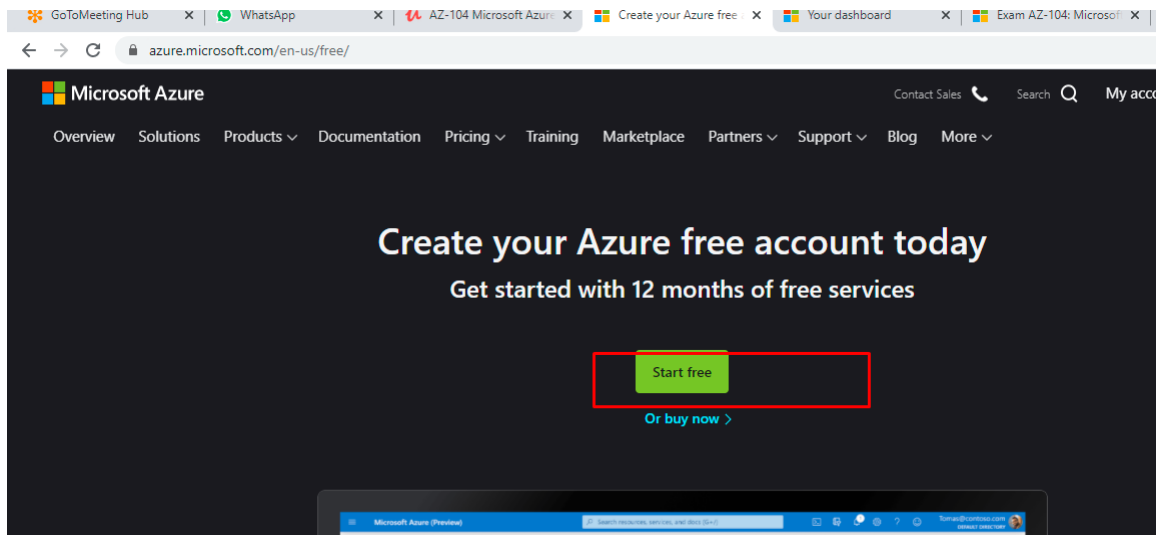
### More details:

<https://docs.microsoft.com/en-us/learn/certifications/exams/az-104>

### Free Account Creation:

<https://azure.microsoft.com/en-us/>





Give the mail address



Optional

☒ I agree to the [subscription agreement](#), [offer details](#), and [privacy statement](#).

I will receive information, tips, and offers about Azure and other Microsoft products and services.

☒ I would like Microsoft to share my information with select partners so I can receive relevant information about their products and services.

Next

Identity verification by phone

Identity verification by card

Sign up

A text or phone call helps us make sure this is you.

Country code

India (+91)

Phone number

77955-40416

Text me

Call me

Identity verification by card

Sign up

Popular service

25+ services available

₹13,300 credit to your account

No automatic charges

After your credit, we'll ask you to pay for what you do, you'll only pay if you use it.

You will get one code pls type it

India (+91)

Phone number

77955-40416

Text me

Call me

We delivered a code to your phone.

Verification code

124777

Verify code

Identity verification by card

Sign up

25+ services always free

₹13,300 credit to use in your first 30 d

No automatic charges

After your credit, we'll ask you if you want to continue

you do, you'll only pay if you use more than the free a

Provide your credit card details

We'll make a temporary authorization on this card, but **you won't be charged unless you upgrade.**

Note, we do not accept debit or prepaid cards because they do not support monthly payments in your location. Please use a credit card.

We accept the following cards:

VISA

Cardholder Name

shahan shak

Card number

4800 [REDACTED] VISA

Expires

04 22

CVV

[REDACTED] What is a CVV?

Address line 1

bangalore

Address line 2 (Optional)

Address line 3 (Optional)

City

bangalore

State

Karnataka

Postal Code

560029

Country/Region

India

Popular services free for 12 months

25+ services always free

₹13,300 credit to use in your first 30 days

No automatic charges

After your credit, we'll ask you if you want to continue with pay-as-you-go. If you do, you'll only pay if you use more than the free amounts of services.

Chat with Sales

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Verified by  
VISA

HDFC BANK

Merchant details

Merchant Name: MICROSOFT

Date: Mar 12, 2021

Card Number: XXXX XXXX XXXX XXXX

Total Charge: Rs. 2.00

Personal Message: We Understand Your World

Authenticate Transaction

OTPStatic Password

Enter Password

\*\*\*\*\*

Forgot Password

CANCELSUBMIT

Note- Please ensure that your latest mobile number/ email id is updated in the Bank records. Visit nearest Branch or call Customer Care for the same.

This page will automatically time out after 02:41 seconds

Powered by

Adyen

Agreement

☒ I agree to the [subscription agreement](#), [offer details](#) and [privacy statement](#).

I will receive information, tips, and offers about Azure, including Azure Newsletter, Pricing updates, and other Microsoft products and services.

☒ I would like Microsoft to share my information with select partners so I can receive relevant information about their products and services.

Next

Identity verification by card

Sign up

Create your Azure free account

Popular services free for 12 months

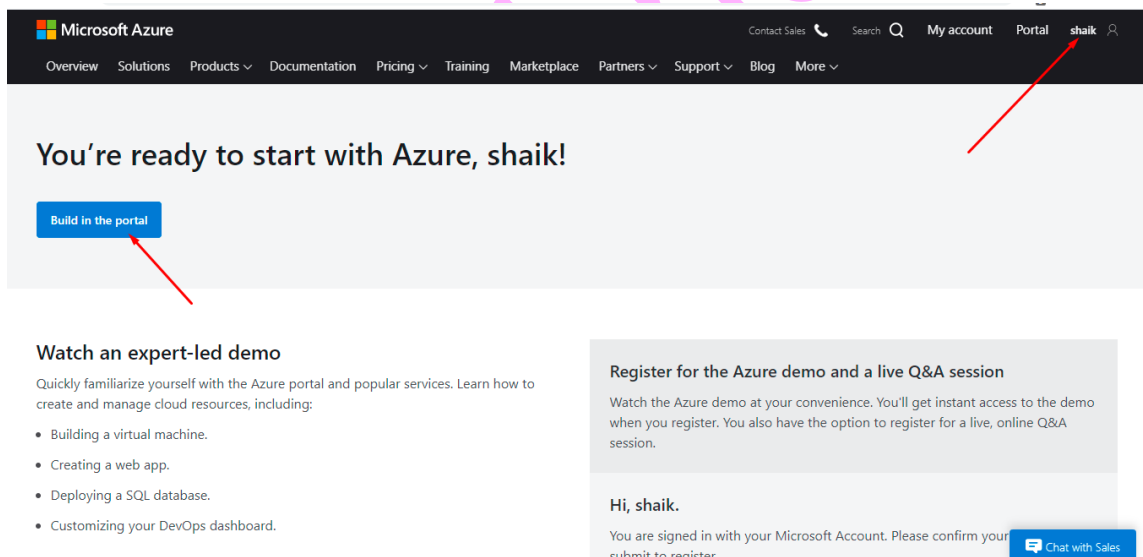
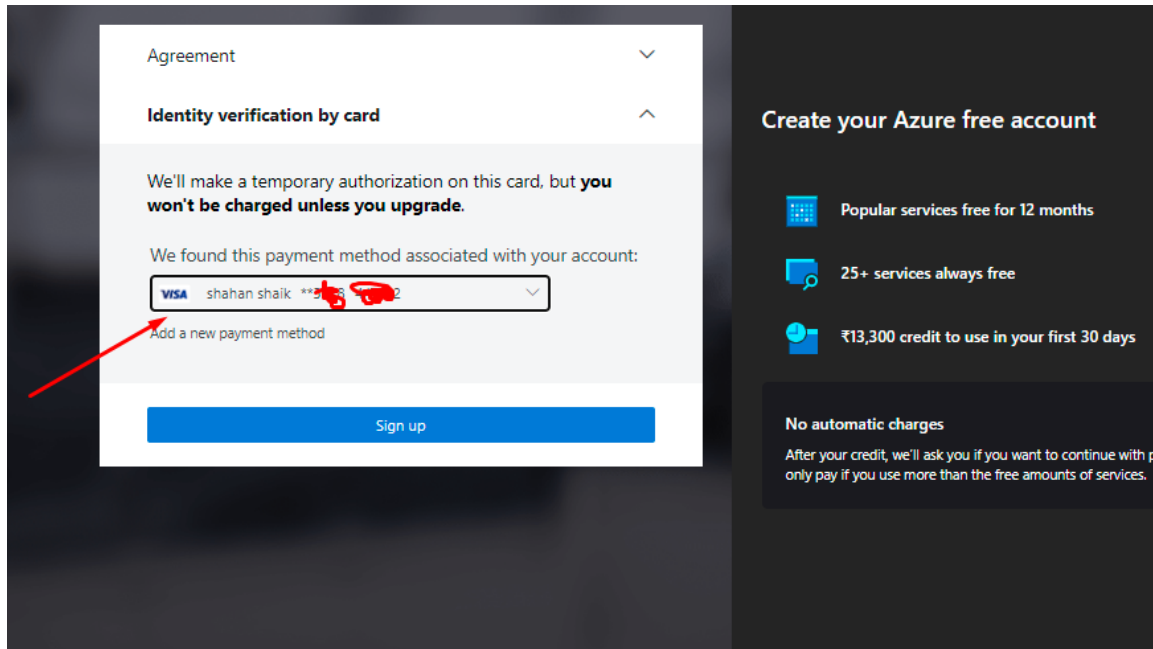
25+ services always free

₹13,300 credit to use in your first 30 days

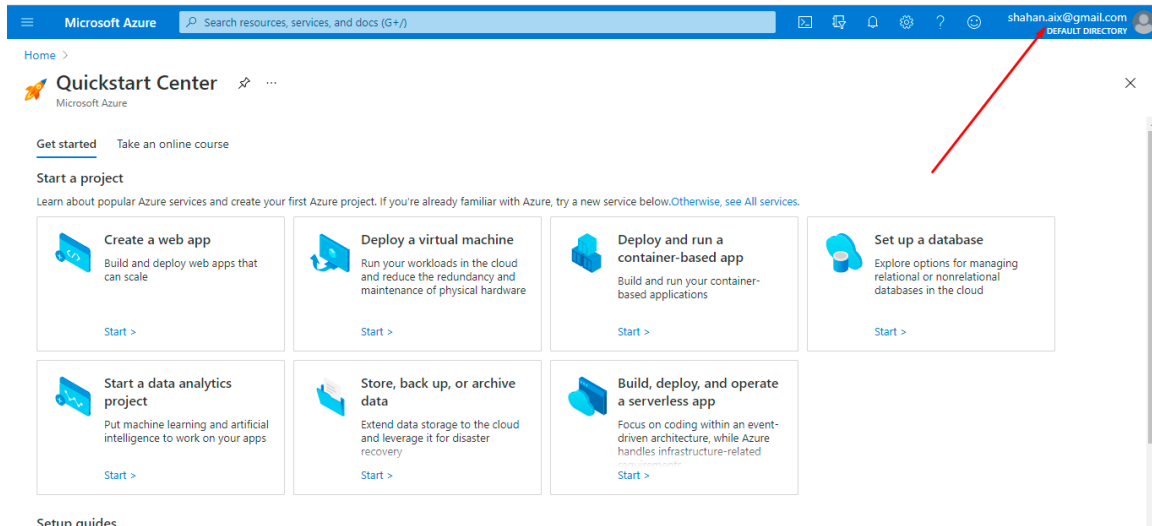
No automatic charges

After your credit, we'll ask you if you want to continue with pay-as-you-go. If you do, you'll only pay if you use more than the free amounts of services.

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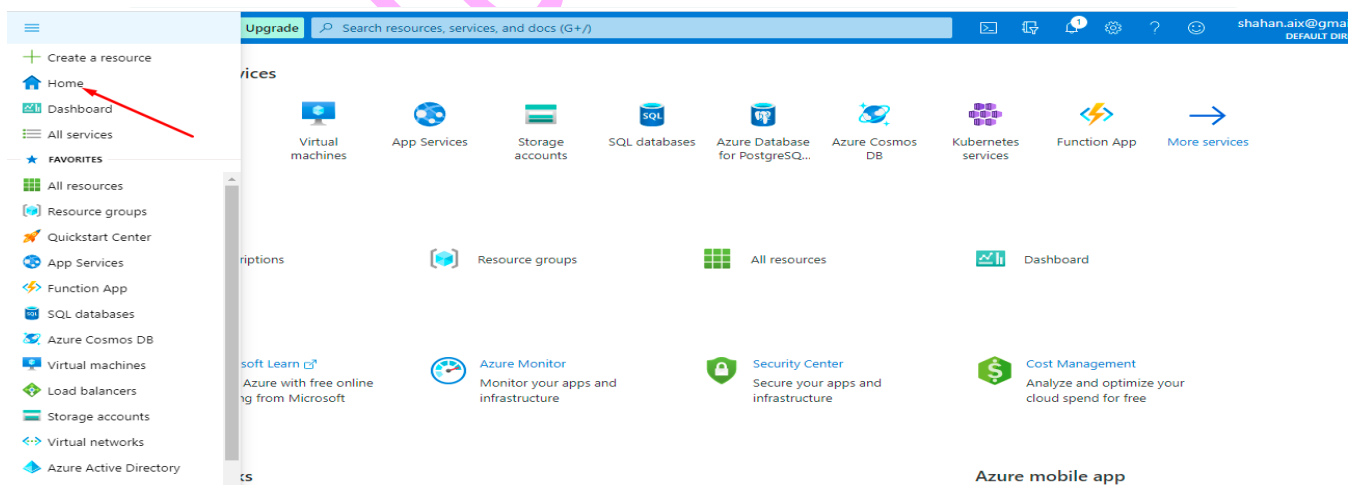
Your account is ready



Az account is free for 1 month with \$200 credit. You have to use it within this time.

**Note: You no need to worry about the payments as they don't deduct the money from your credit card directly**

### 3 Billing Alert

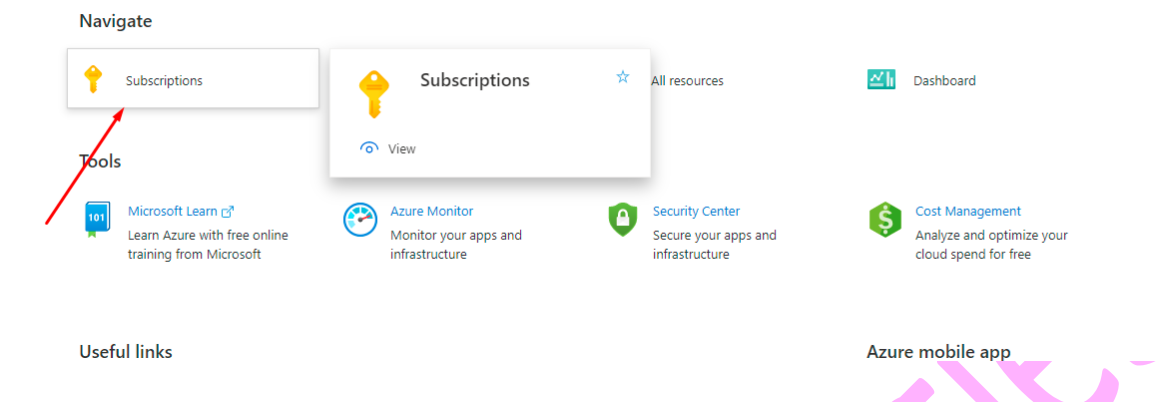


If you under free account no need to worry about billing alert

But if you don't have free subscription then you can do the below

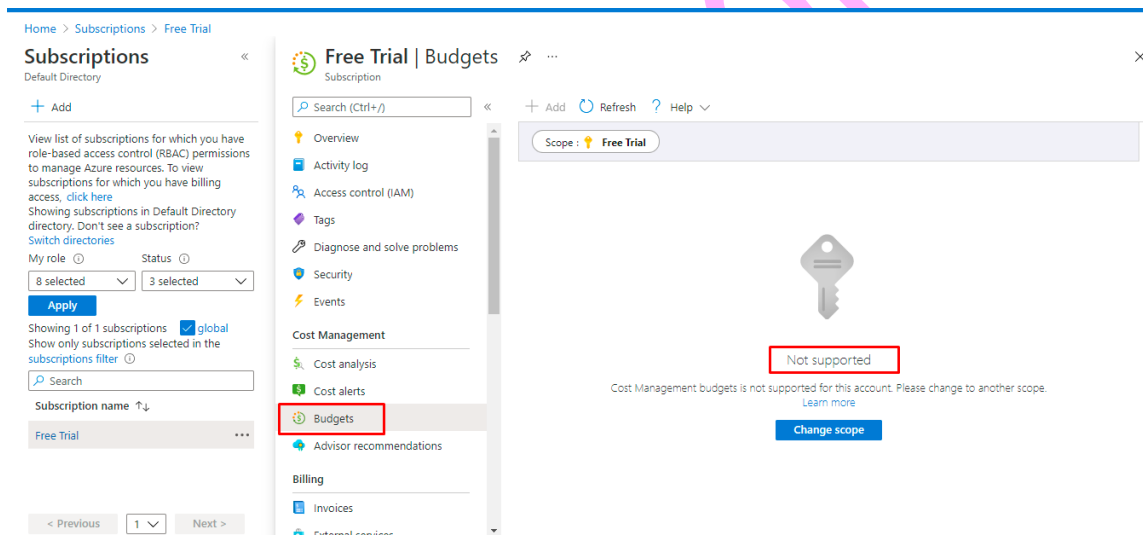
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You will get an option of "budget" which you can use it for setting up the budget.

Note: for free tier this option is not available



For others:

Cost views share scope to provide roll-ups and control access. Select a scope to use throughout Cost Management. [Learn more](#)

Pay-As-You-Go

Select this subscription

Search to filter items...

NetworkWatcherRG

cloud-shell-storage-eastus

**BUDGET SCOPING**

The budget you create will be assigned to the selected scope. Use add to have your budget monitor with more granularity as needed.

Scope Pay-As-You-Go

Change scope

Add filter

**BUDGET DETAILS**

Give your budget a unique name. Select the time window it analyzes and expiration date and the amount.

Name Enter a unique name

Reset period Monthly

Start date 2019 December

t: Pay-As-You-Go - Create budget

Name newbudget

Reset period Billing month

Start date 2019 November 19

Expiration date 2021 November 18

**BUDGET AMOUNT**

Give your budget amount threshold

Amount (C) 8

Suggested budget: CA\$8 based on forecast.

**VIEW OF MONTHLY COST DATA**

Oct 2019 - Mar 2020

LAST MONTH	MAX (PAST 4 MONTH)	MAX MONTHLY FORECAST
CA\$60	CA\$60	CA\$8

Here 8 is 8\$

«

✓ Create a budget    ✓ Set alerts

Configure alert conditions and send email notifications based on your spend.

\* Alert conditions

% Of budget	Amount	Action group	Action group type
100 ✓	20	None ▾	
Enter %	-	None ▾	

Manage action group ⓘ

\* Alert recipients (email)

Alert recipients (email)

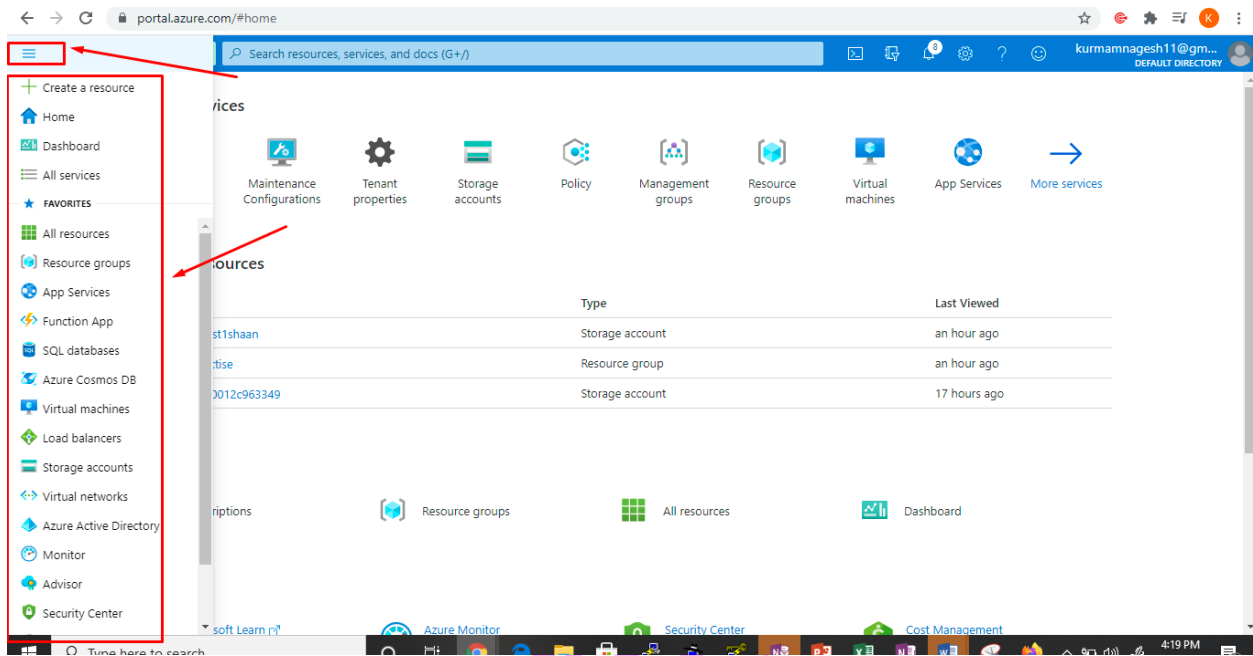
example@outlook.com ✓ ⓘ

example@email.com

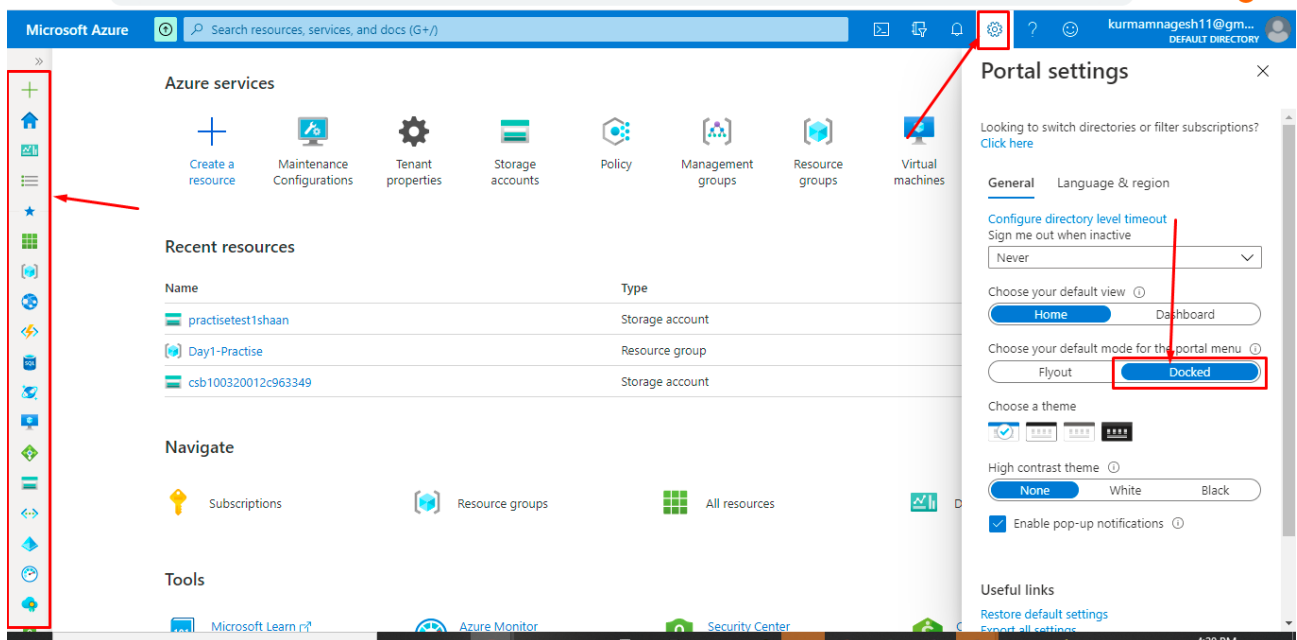
This is how we configure billing alert



## 4 Azure tour



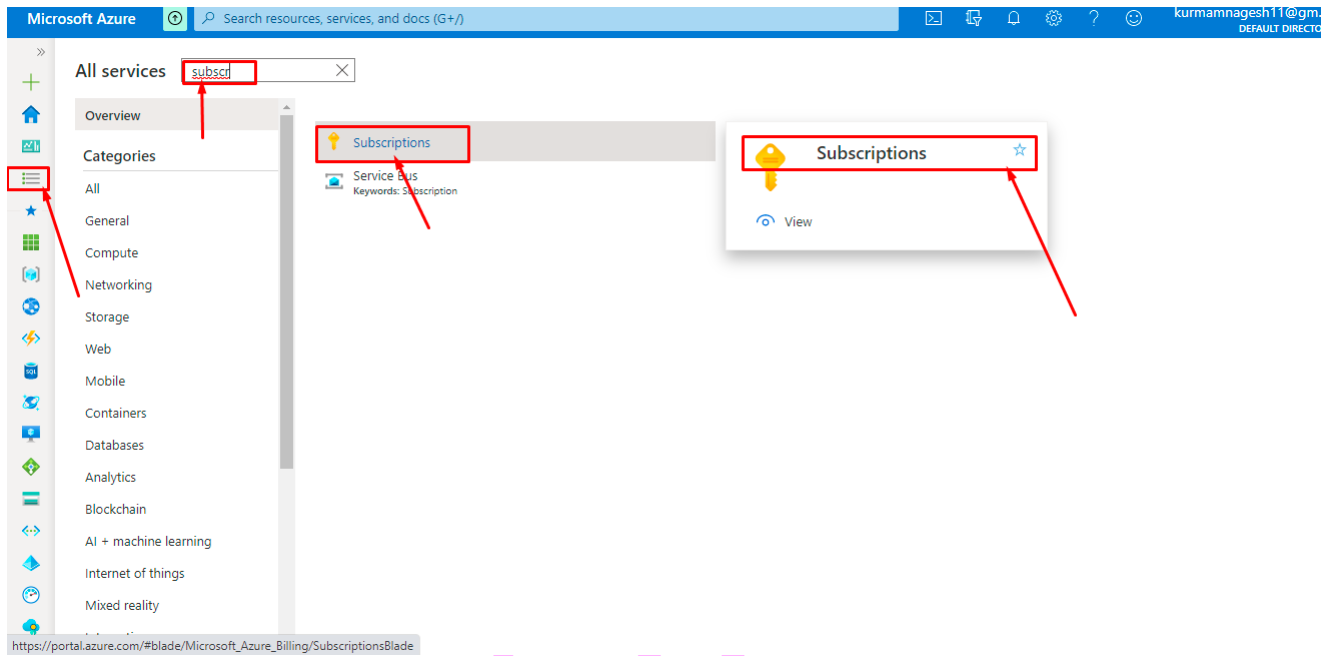
If you want to customize this screen then you can do below.



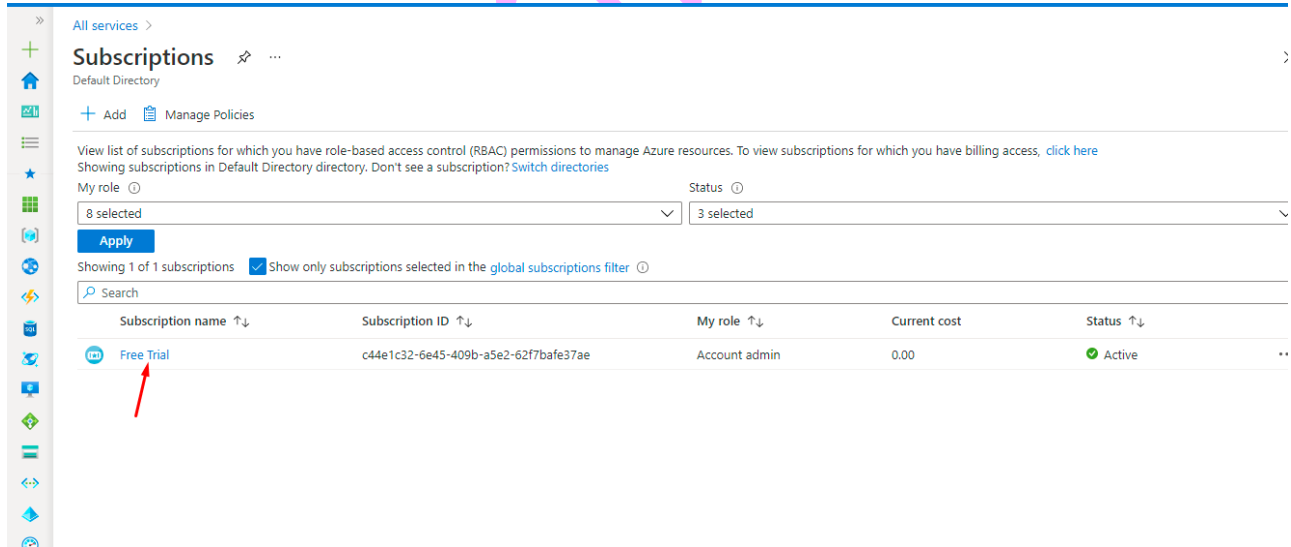
Now you can see that the icons are getting displayed on the left hand side

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## Subscriptions:

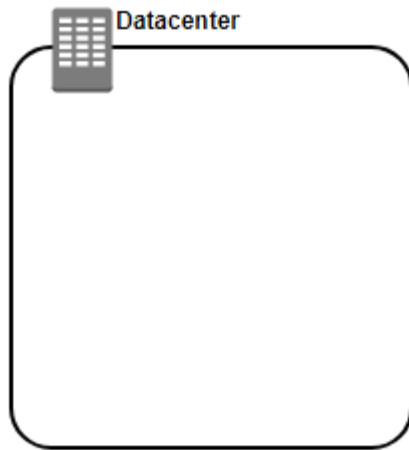


If you want to make it as favorite you can click on "\*" symbol.

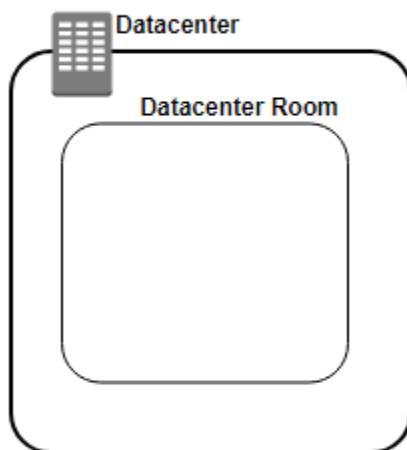


## 5 Azure infra vocabulary

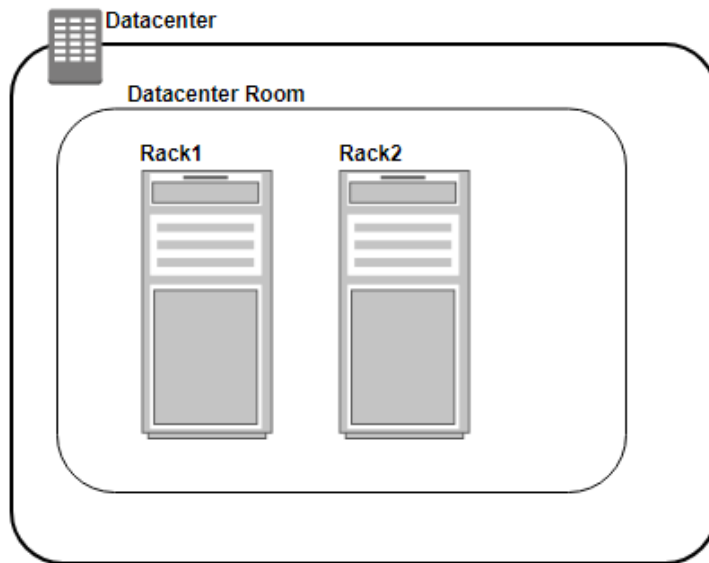
**Datacenter:**



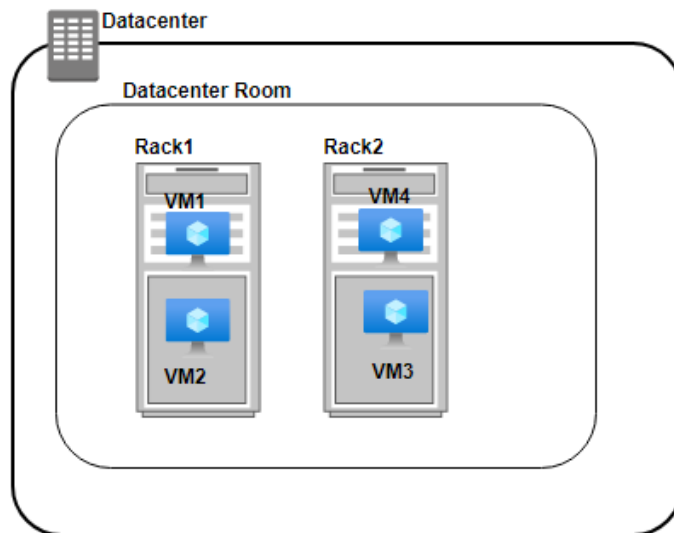
**Datacenter with room:**



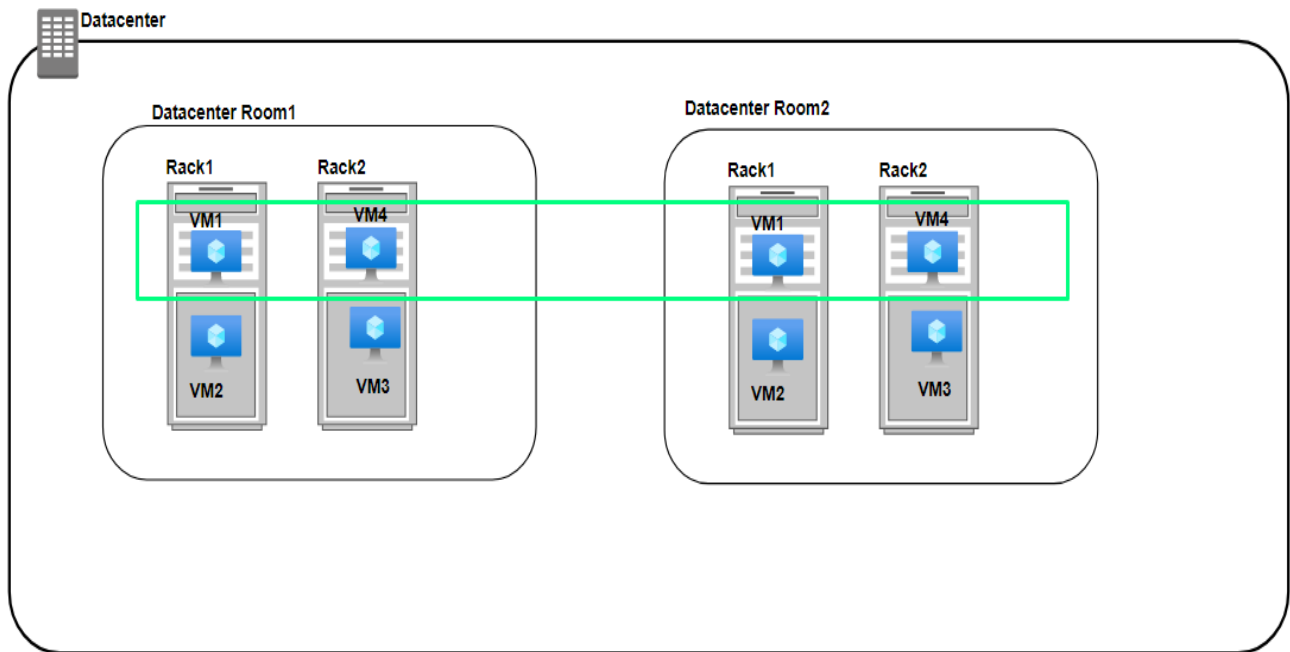
### Datacenter room with racks:



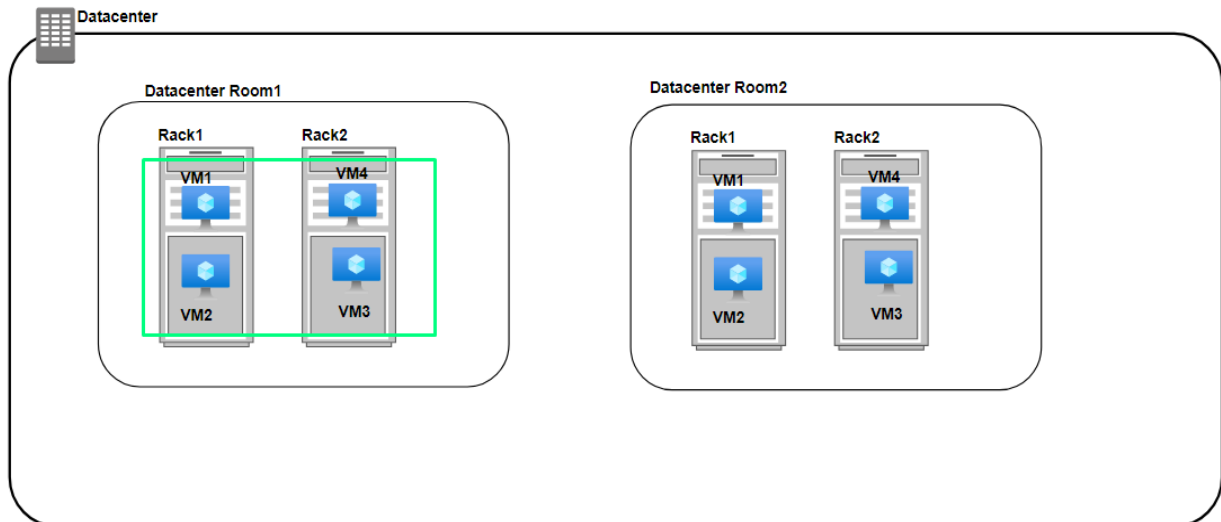
### Datacenter with servers in DC room:



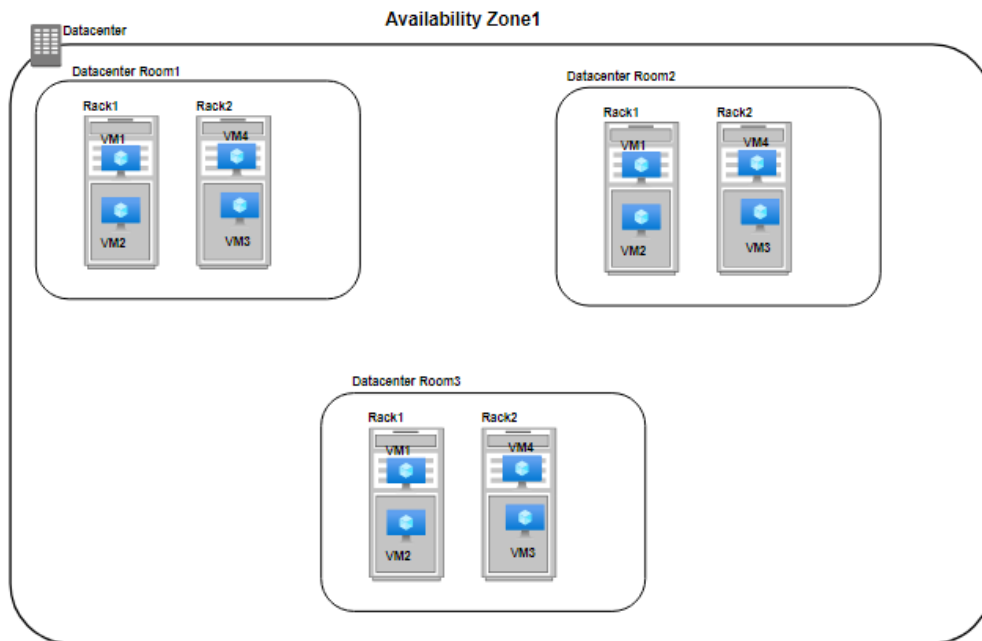
## Availability Set:



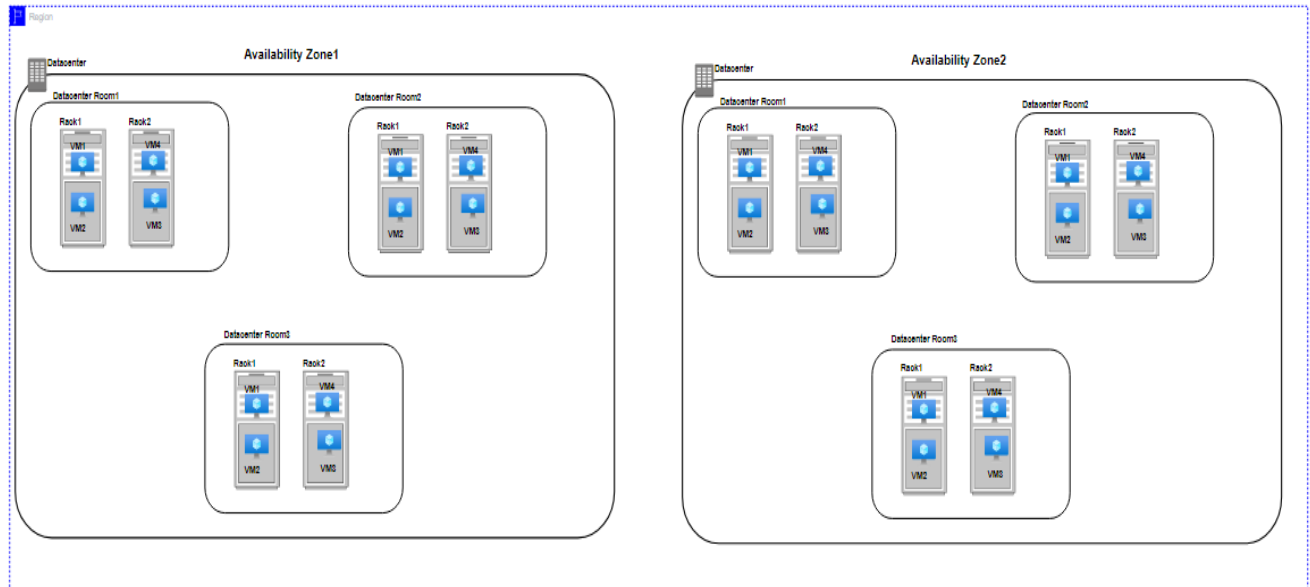
## Proximity placement group:



## Availability Zone:



## Region:



## 6 Azure portal vocabulary

Resources:

Resource1



Resource2



Resource3



Resource4



Resource group:

Resource Group



Resource1



Resource2



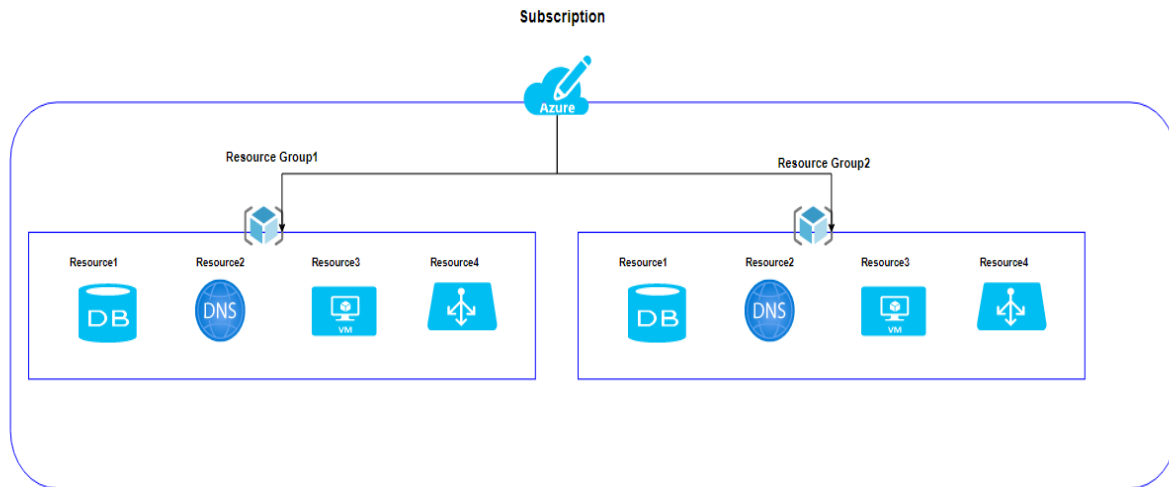
Resource3



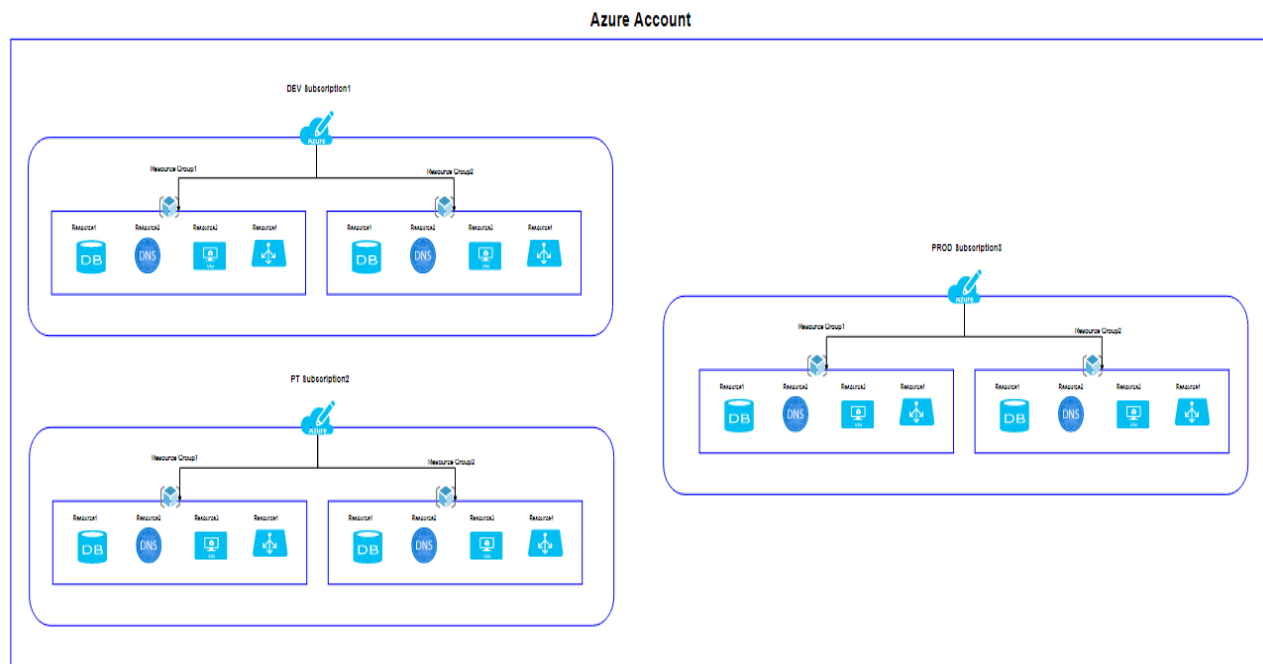
Resource4



## Subscription:



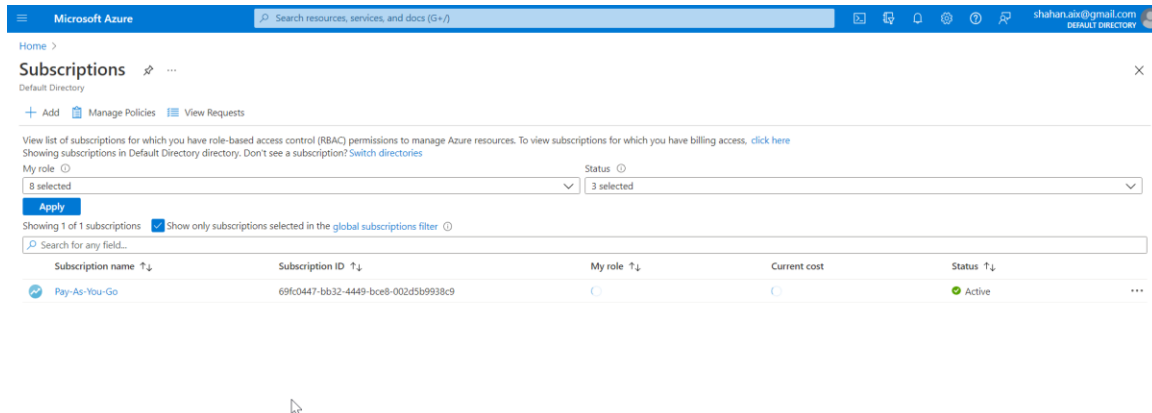
## Azure Account:



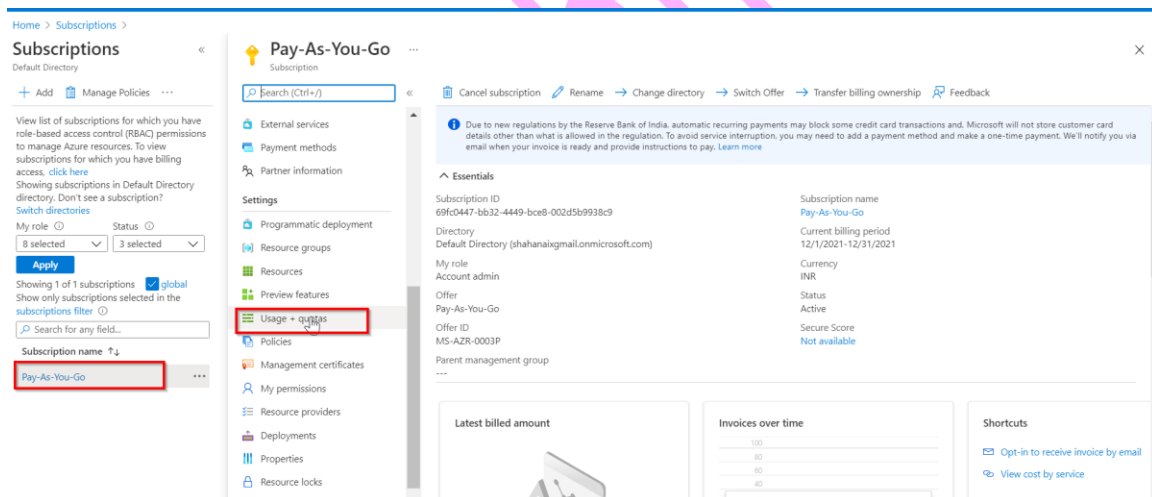


## 7 Subscription management

AZ supports subscriptions it's like our environment bounded under same email id.



Here I have only one subscription called "pay-as-you-go". If you want you can create more subscriptions based up on your need.



If you want to verify the how much quota you have consumed you click on above option, if you in need of many resources /plans then you can raise a request for increasing the quota.

Microsoft Azure

Home > Subscriptions > Pay-As-You-Go

Pay-As-You-Go | Usage + quotas

Search (Ctrl+F)

Request increase

Refresh

Search

East US

Microsoft.Network

Show all

Group by usage

Showing 1 to 43 of 43 records in 1 groups.

Quota	Provider	Location	Usage
No usage (43)			
Virtual Networks	Microsoft.Network	East US	0% 0 of 1000
Static Public IP Addresses	Microsoft.Network	East US	0% 0 of 20
Network Security Groups	Microsoft.Network	East US	0% 0 of 5000
Public IP Addresses - Basic	Microsoft.Network	East US	0% 0 of 20
Custom Ip Prefixes	Microsoft.Network	East US	0% 0 of 5
Public Ip Prefixes	Microsoft.Network	East US	0% 0 of 2147483647
Nat Gateways	Microsoft.Network	East US	0% 0 of 2147483647
Network Interfaces	Microsoft.Network	East US	0% 0 of 65536
Private Endpoints	Microsoft.Network	East US	0% 0 of 65536
Private Endpoint Redirect Maps	Microsoft.Network	East US	0% 0 of 2147483647
Load Balancers	Microsoft.Network	East US	0% 0 of 1000

Previous Page 1 of 1 Next

Microsoft Azure

Search resources, services, and docs (G+)

Home > Subscriptions > Pay-As-You-Go >

## New support request

1. Problem description 2. Recommended solution 3. Additional details 4. Review + create

Tell us your issue, and we'll help you resolve it.

Provide information about your billing, subscription, quota management, or technical issue (including requests for technical advice).

Issue type \*

Subscription \*

Quota type \*

Service and subscription limits (quotas)

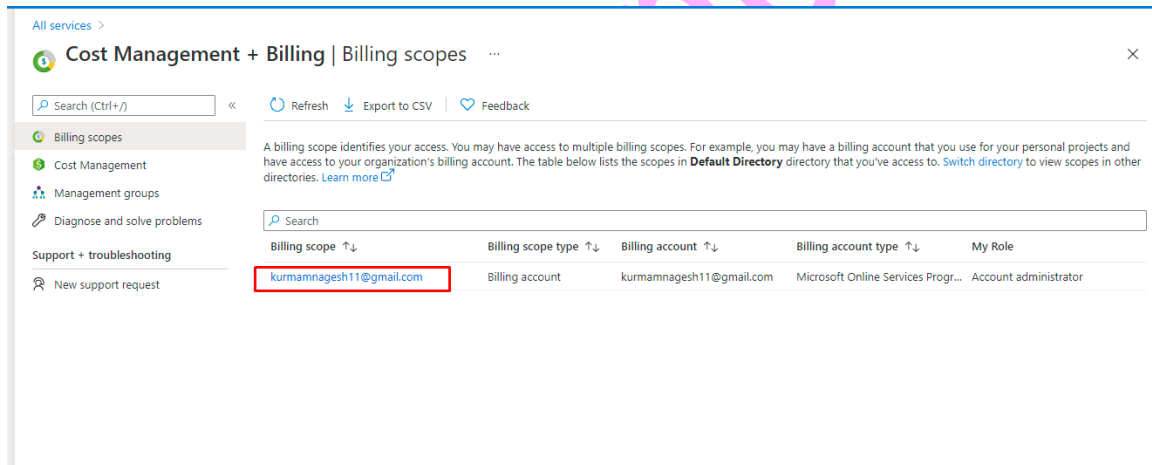
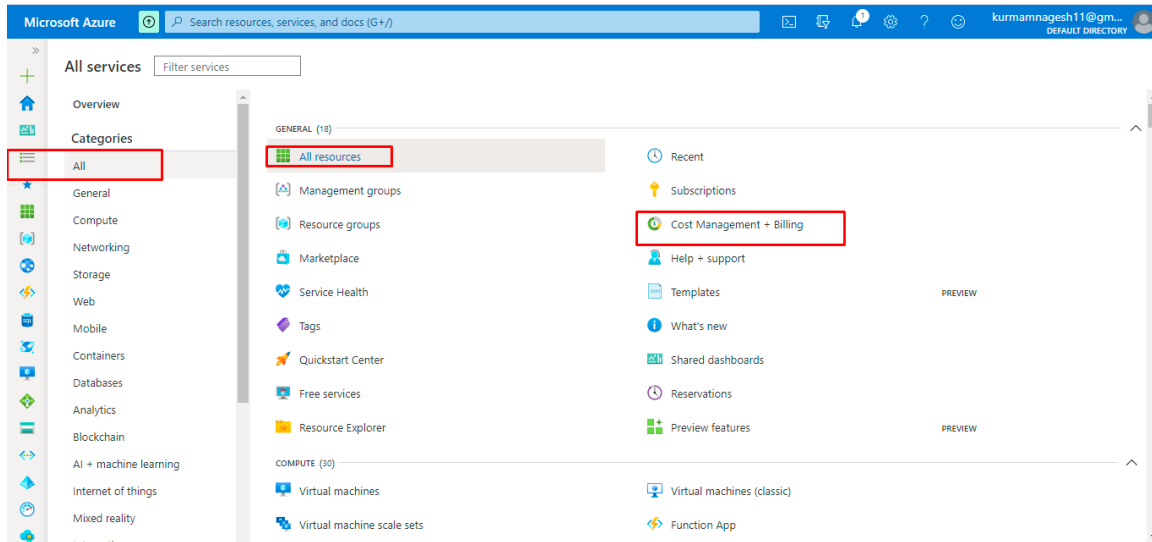
Compute-VM (cores-vCPUs) subscription limit increases

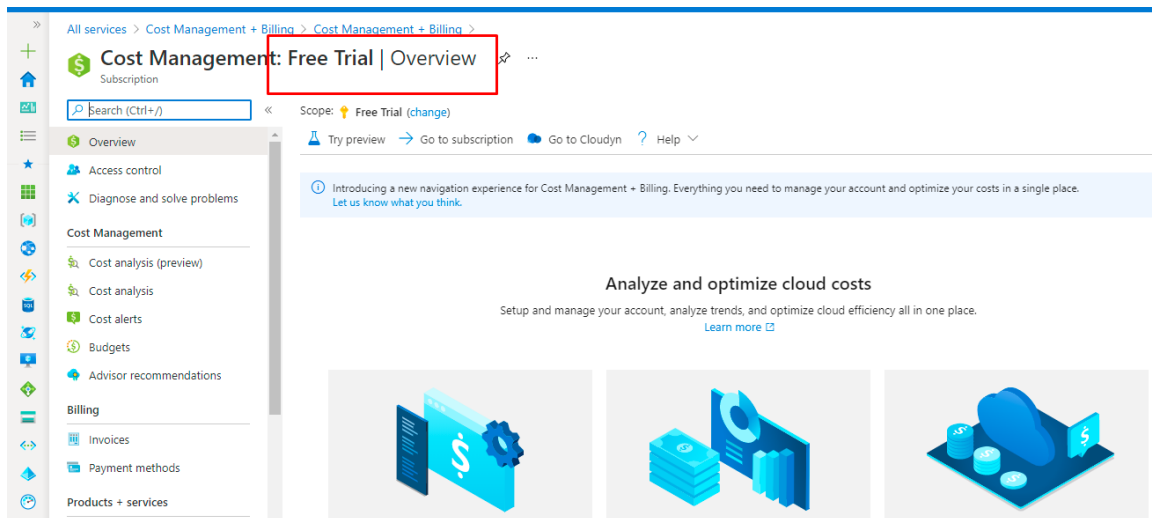
comp

Select a quota type

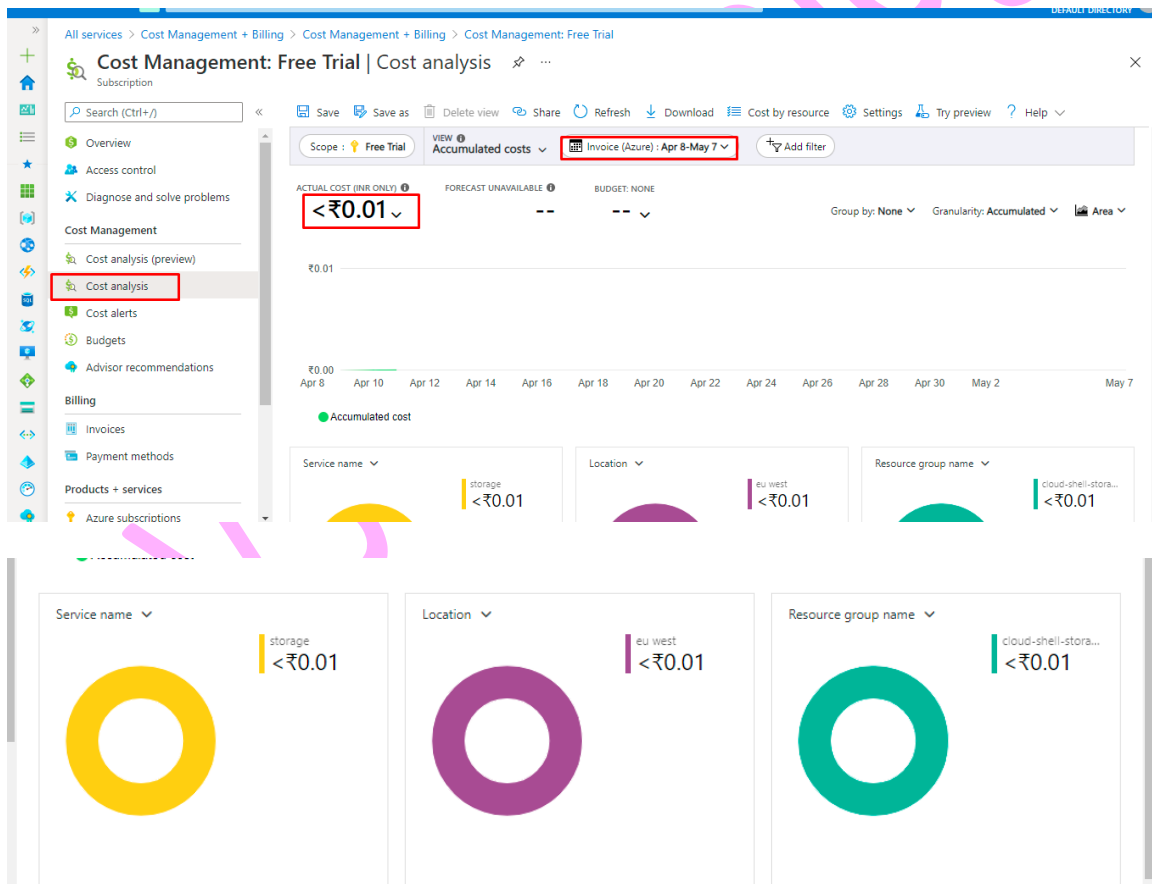
Next

## 8 Cost Analysis & Management



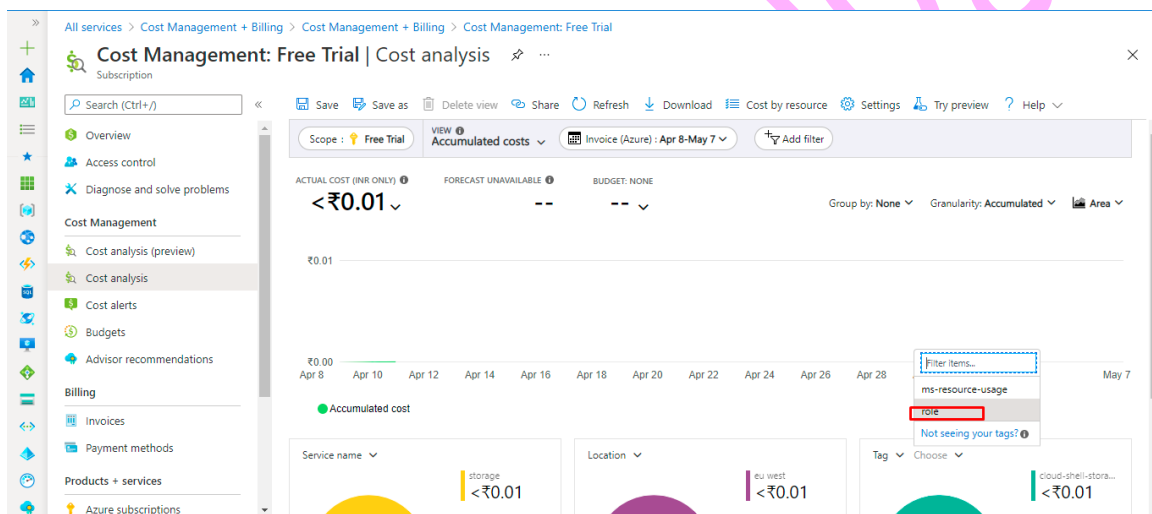
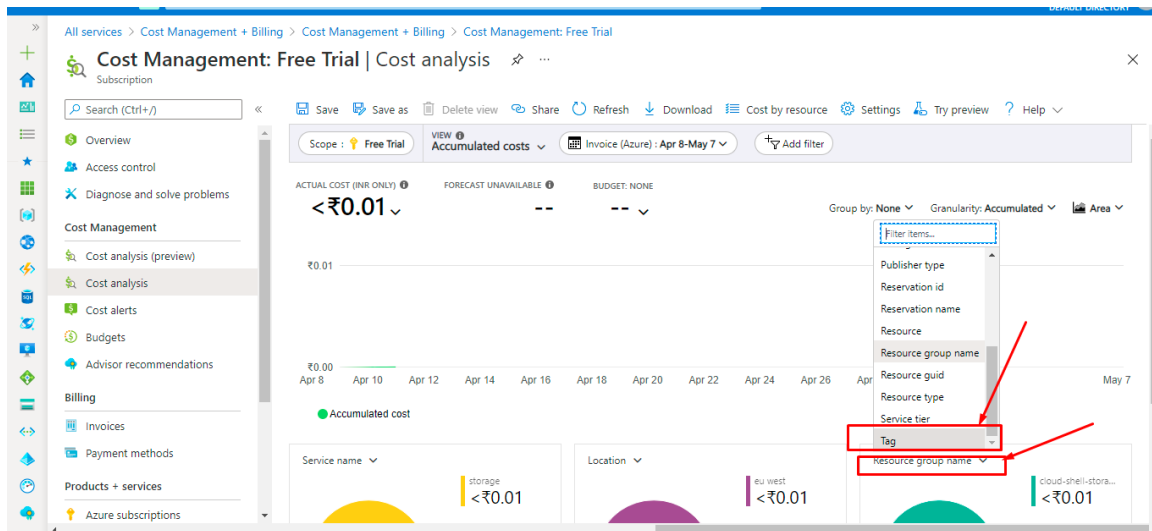


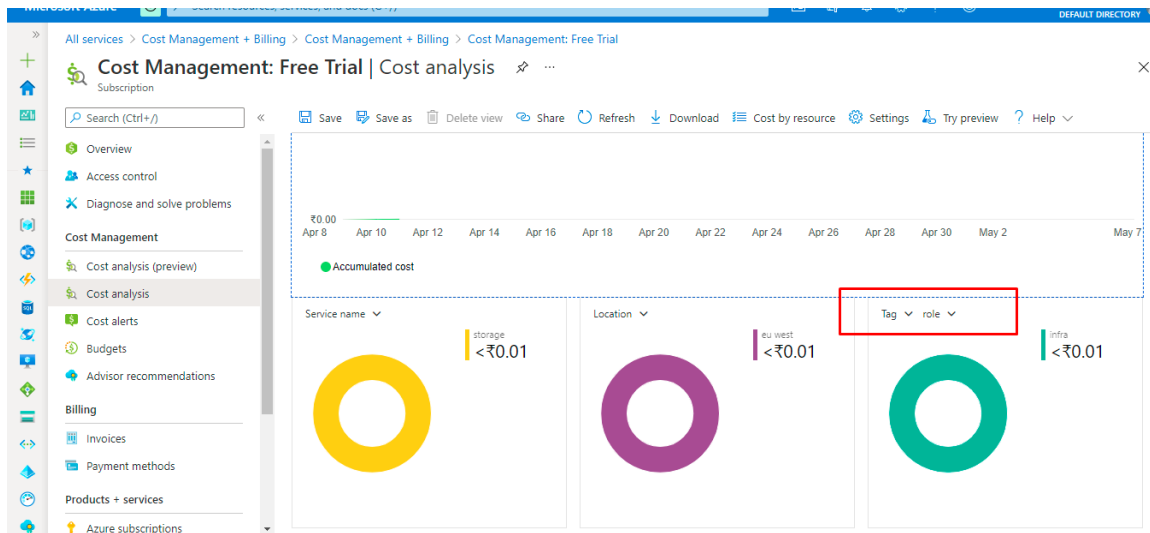
You can click on cost analysis



You can check your history of billing using invoices option based on the month.

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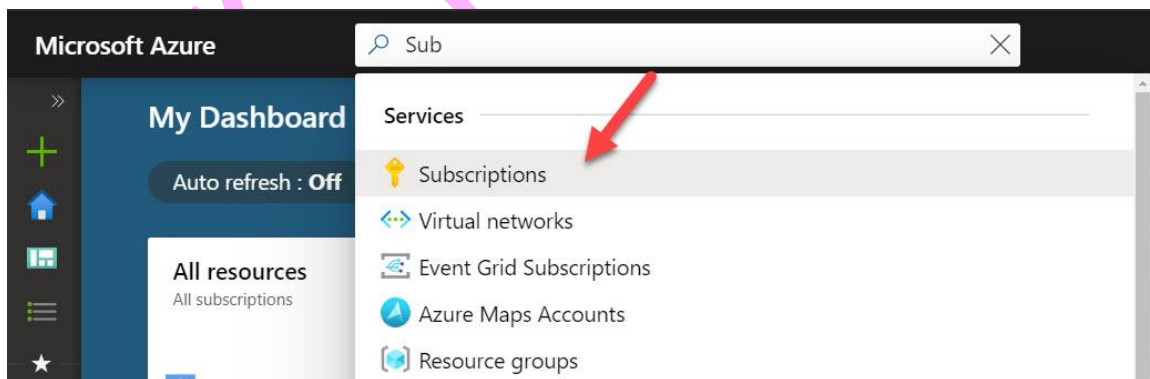


## 9 Service Limits

We have already learnt on using services such as the Virtual Machine service. Now when using services it is important to understand that you have limits on how many resources you can create per service.

Let's understand the limit we have for Virtual Machines

1) First go to your subscriptions



2) Then go to your subscription

## Subscriptions

techsup1000gmail (Default Directory)

+ Add

Showing subscriptions in techsup1000gmail (Default Directory). Don't see a subscription? [Switch di](#)

My role ⓘ

8 selected

Status ⓘ

3 selected

Apply

Showing 2 of 2 subscriptions ☒ Show only subscriptions selected in the [global subscriptions filte](#)

🔍 Search to filter items...

	Subscription name ↑↓	Subscription ID ↑↓	My role ↑↓
📈	Test Environment	20c6eec9-2d80-4700-b0f6-4fde579a8...	Account admin
📈	Pay-As-You-Go	a493b894-72be-4ccd-9047-781c68cb...	Account admin

3) For the subscription , go to Usage + quotas



## Test Environment

Subscription



Payment methods



Partner information

### Settings



Programmatic deployment



Resource groups



Resources



Usage + quotas



Policies



Management certificates



My permissions



Resource providers



Deployments

4) In the right pane, then go to the "Select a provider" and choose Microsoft.Compute





## Test Environment

Subscription

 Search (Ctrl+ /)



Payment methods



Partner information

### Settings



Programmatic deployment



Resource groups



Resources



Usage + quotas



Policies



Management certificates



My permissions



Resource providers



Deployments

You will then see the quotas

**Test Environment | Usage + quotas** Subscription ×

Refresh

You can use each Microsoft Azure resource up to its quota. Each subscription has separate quotas and usage is tracked per subscription. If you reach a quota cap, you can request an increase via Help + Support. [Learn more](#) Request Increase

Quota	Provider	Location	Usage
Standard D5v3 Family vCPUs	Microsoft.Compute	West US	20 % 2 of 10
Total Regional vCPUs	Microsoft.Compute	West US	20 % 2 of 10
Standard D5v2 Family vCPUs	Microsoft.Compute	Central India	10 % 1 of 10
Total Regional vCPUs	Microsoft.Compute	Central India	10 % 1 of 10
Virtual Machines	Microsoft.Compute	Central India	0 % 1 of 25000
Virtual Machines	Microsoft.Compute	West US	0 % 1 of 25000
Premium Storage Managed Disks	Microsoft.Compute	Central India	0 % 1 of 50000
Premium Storage Managed Disks	Microsoft.Compute	West US	0 % 1 of 50000

Quota	Provider	Location	Usage
Standard D5v3 Family vCPUs	Microsoft.Compute	West US	20 % 2 of 10
Total Regional vCPUs	Microsoft.Compute	West US	20 % 2 of 10
Standard D5v2 Family vCPUs	Microsoft.Compute	Central India	10 % 1 of 10

If you want an increase in the quota limit, you can request an increase from Azure support

**Test Environment | Usage + quotas** Subscription ×

Refresh

You can use each Microsoft Azure resource up to its quota. Each subscription has separate quotas and usage is tracked per subscription. If you reach a quota cap, you can request an increase via Help + Support. [Learn more](#) Request Increase

Quota	Provider	Location	Usage
Standard D5v3 Family vCPUs	Microsoft.Compute	West US	20 % 2 of 10
Total Regional vCPUs	Microsoft.Compute	West US	20 % 2 of 10

For more information on service limits , one can visit the URL - <https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/azure-subscription-service-limits>