

CSA1557 – CLOUD COUMPUTING AND BIG DATA ANALYTICS FOR ENTERTAINMENT

LAB EXPERIMENTS – DAY 2

Name :- Aswini . P

Date :- 28sep 2022

Reg No :- 192011399

Slot :- C

12. Demonstrate Infrastructure as a Service (IaaS) by creating a resources group using a Public Cloud Service Provider (Azure), configure with minimum CPU, RAM, and Storage.

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The page is titled 'Create a virtual machine' and includes a warning message: 'Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.' The 'Project details' section is active, showing the following configuration:

- Subscription:** Azure for Students
- Resource group:** [New] cloud
- Instance details:**
 - Virtual machine name:** Vmseven
 - Region:** (Asia Pacific) Central India
 - Availability options:** Availability zone
 - Availability zone:** Zones 1

At the bottom, there are navigation buttons: 'Review + create', '< Previous', and 'Next : Disks >'. A 'Microsoft Store' button is also visible.

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Network interface' step. The page is titled 'Create a virtual machine' and includes a description: 'Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.' The 'Network interface' section is active, showing the following configuration:

- Virtual network:** (new) cloud-vnet
- Subnet:** (new) default (10.0.0.0/24)
- Public IP:** (new) Vmseven-ip
- NIC network security group:** Basic
- Public inbound ports:** Allow selected ports
- Select inbound ports:** RDP (3389)

At the bottom, there are navigation buttons: 'Review + create', '< Previous', and 'Next : Management >'. A 'Give feedback' button is also visible.

13. Demonstrate Infrastructure as a Service (IaaS) by creating a Virtual Machine using a Public Cloud Service Provider (Azure), configure with required memory and CPU.

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Network interface' section. The page is titled 'Create a virtual machine' and includes a sub-header 'Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)

Network interface
When creating a virtual machine, a network interface will be created for you.

Virtual network *
[Create new](#)

Subnet *
[Create new](#)

Public IP *
[Create new](#)

NIC network security group ☐ None
☒ Basic
☐ Advanced

Public inbound ports * ☐ None
☒ Allow selected ports

Select inbound ports *

[Review + create](#) [< Previous](#) [Next: Management >](#) [Give feedback](#)

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Project details' section. The page is titled 'Create a virtual machine' and includes a sub-header 'Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *
Resource group *
[Create new](#)

Instance details
Virtual machine name *
Region *
Availability options
Availability zone *
☒ You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

[Review + create](#) [< Previous](#) [Next: Disks >](#) [Give feedback](#)

14. Demonstrate Infrastructure as a Service (IaaS) by establishing the remote connection, launch the created VM image and run in your desktop.

New lab

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

Home >

Create a virtual machine

Subscription *

Resource group *
[Create new](#)

Instance details

Virtual machine name *

Region *

Availability options

Availability zone *

Security type

Image *
[See all images](#) | [Configure VM generation](#)

VM architecture ☐ Arm64
☒ x64
Arm64 is not supported with the selected image.

Run with Azure Spot discount ☒

Size *
[See all sizes](#)
[Request quota](#)
[Refresh quota](#)

Administrator account

Username *

[Review & create](#) [< Previous](#) [Next > Disks](#) [Give feedback](#)

New lab

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

Home >

Create a virtual machine

Validation passed

Basics

Subscription	Azure for Students
Resource group	record
Virtual machine name	koti
Region	West US 3
Availability options	Availability zone
Availability zone	1
Security type	Standard
Image	Windows 10 Pro, version 21H2 - Gen2
VM architecture	x64
Size	Standard D2as v4 (2 vcpus, 8 GiB memory)
Username	koti192011
Public inbound ports	RDP
Already have a Windows license?	Yes
License type	Windows Client
Azure Spot	No

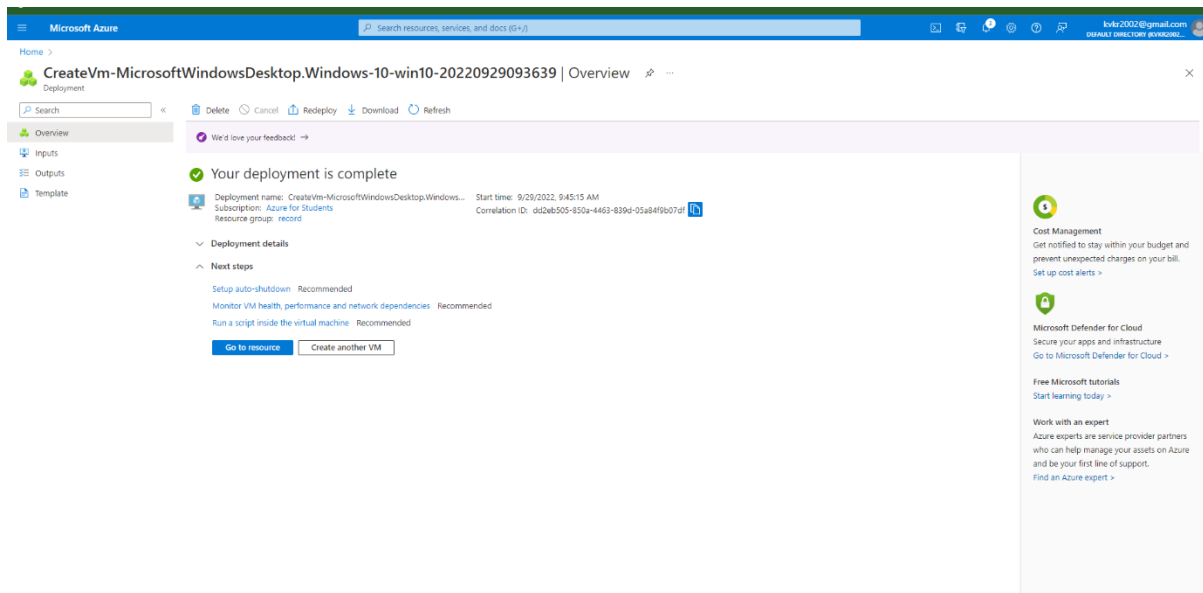
Disks

OS disk type	Premium SSD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

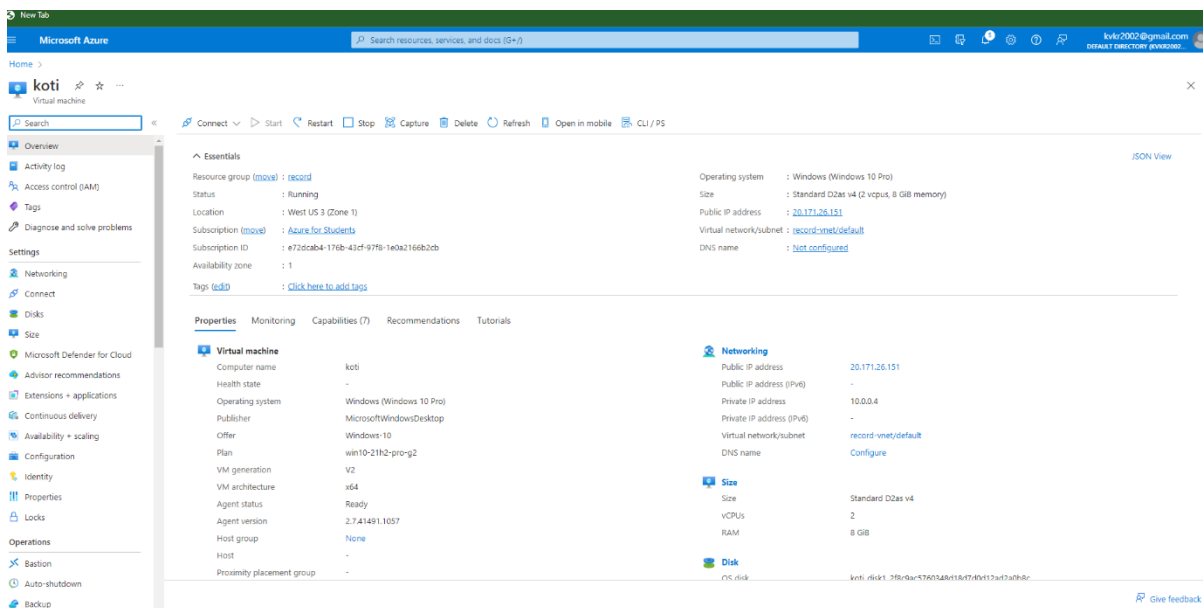
Networking

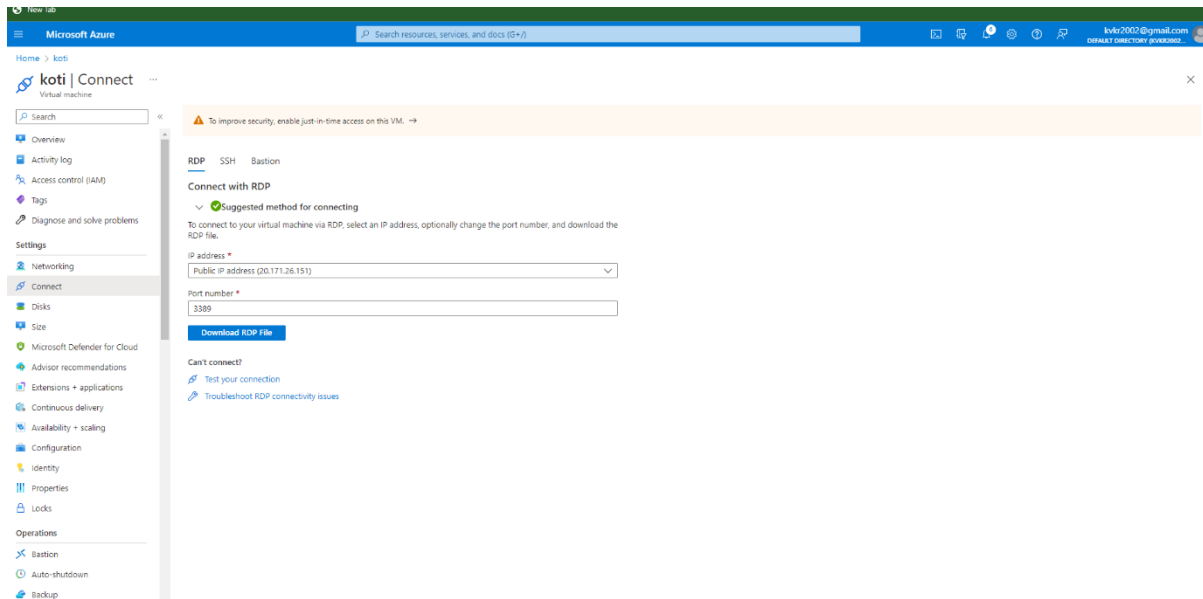
Virtual network	(new) record-vnet
Subnet	(new) default (10.0.0.0/24)

[Create](#) [< Previous](#) [Next >](#) [Download a template for automation](#) [Give feedback](#)

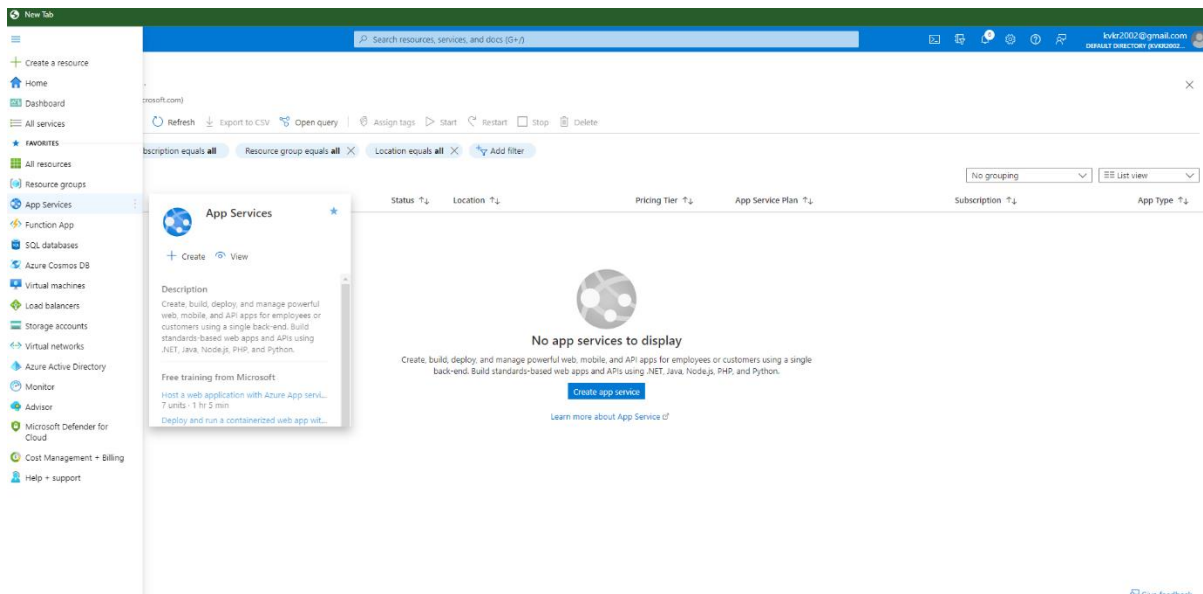


15. Demonstrate Platform as a Service (PaaS) create and configure a new VM Image in any Public Cloud Service Provider.





16. Create a Simple Web Application using Java or Python and host it in any Public Cloud Service Provider (Azure/GCP/AWS) to demonstrate Platform as a Service (PaaS)



Microsoft Azure

Search resources, services, and docs (Ctrl+J)

kvic2002@gmail.com

DEFAULT DIRECTORY (VIEW PROFILE)

Home > App Services >

Create Web App

Basics

Deployment

Networking

Monitoring

Tags

Review + create

App Service Web Apps lets you quickly build, deploy, and scale enterprise-grade web, mobile, and API apps running on any platform. Meet rigorous performance, scalability, security and compliance requirements while using a fully managed platform to perform infrastructure maintenance. [Learn more](#)

Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Azure for Students

Resource Group *

(New) Resource group

Create new

Instance Details

Need a database? Try the new Web + Database experience.

Name *

Web App name

azurewebsites.net

Publish *

☒ Code

☐ Docker Container

☐ Static Web App

Runtime stack *

Select a runtime stack

Operating System

☒ Linux

☐ Windows

Region *

Central US

Not finding your App Service Plan? Try a different region or select your App Service Environment.

App Service Plan

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Review + create

< Previous

Next: Deployment >

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

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DEFAULT DIRECTORY (VIEW PROFILE)

Home > App Services >

Create Web App

Basics

Deployment


Networking

Monitoring

Tags

Review + create

Summary

 **Web App**
by Microsoft

Basic (B1) sku
Estimated price - loading ...

Details

Subscription	e72dcab4-17fb-43cf-91fb-1e0a2166b2cb
Resource Group	koti
Name	koti-app
Publish	Code
Runtime stack	Node 14 LTS

App Service Plan (New)

Name	ASP-koti-b289
Operating System	Linux
Region	Central US
SKU	Basic
Size	Small
ACU	100 total ACU
Memory	1.75 GB memory

Monitoring

Application insights	Not enabled
----------------------	-------------

Deployment

Continuous deployment	Not enabled / Set up after app creation
-----------------------	---

Create

< Previous

Next >

Download a template for automation

New Tab

Microsoft Azure

Search resources, services, and docs (G+)

Home > Microsoft.Web-WebApp-Portal-443964a-8d6f | Overview >

koti-app

App Service

Search

Browse

Stop

Swap

Restart

Delete

Refresh

Get publish profile

Reset publish profile

Share to mobile

Send us your feedback

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Deployment

Quickstart

Deployment slots

Deployment Center

Settings

Configuration

Authentication

Application Insights

Identity

Backups

Custom domains

Custom domains (preview)

TLS/SSL settings

Certificates (preview)

Networking

Scale up (App Service plan)

Essentials

Resource group (move)

: koti

Status

: Running

Location

: Central US

Subscription (move)

: Azure for Students

Subscription ID

: e72dcab4-176b-43cf-97f8-1e0a2166b2cb

URL

: <https://koti-app.azurewebsites.net>

Health Check

: [Not Configured](#)

App Service Plan

: [ASP-koti-b289 \(B1:1\)](#)

FTP/deployment username

: No FTP/deployment user set

FTP hostname

: <ftp://waws-prod-dm1-313.ftp.azurewebsites.net>

FTPS hostname

: <ftps://waws-prod-dm1-313.ftp.azurewebsites.net>

Tags (edit)

: [Click here to add tags](#)

Diagnose and solve problems

Our self-service diagnostic and troubleshooting experience helps you identify and resolve issues with your web app.

Application Insights

Application Insights helps you detect and diagnose quality issues in your apps, and helps you understand what your users actually do with it.

Http 5xx

100

90

80

70

60

50

40

30

20

10

0

9:30 AM

9:45 AM

10 AM

UTC+05:30

Http Server Errors (Sum)

koti-app

0

Data In

100B

90B

80B

70B

60B

50B

40B

30B

20B

10B

0B

9:30 AM

9:45 AM

10 AM

UTC+05:30

Data In (Sum)

koti-app

--

Data Out

100B

90B

80B

70B

60B

50B

40B

30B

20B

10B

0B

9:30 AM

9:45 AM

10 AM

UTC+05:30

Data Out (Sum)

koti-app

0B

Microsoft Azure

Your web app is running and waiting for your content

Your web app is live, but we don't have your content yet. If you've already deployed, it could take up to 5 minutes for your content to show up, so come back soon.

node Built with NodeJS

Haven't deployed yet?
Use the deployment center to publish code or set up continuous deployment.

[Deployment center](#)

Starting a new web site?
Follow our Quickstart guide to get a web app ready quickly.

[Quickstart](#)

18. Create a Storage service using any Public Cloud Service Provider (Azure/GCP/AWS) and check the public accessibility of the stored file to demonstrate Storage as a Service.

New Tab

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

kvkr2002@gmail.com
DEFAULT DIRECTORY (VIEW PROFILE)

Home > Storage accounts >

Create a storage account

BasicsAdvancedNetworkingData protectionEncryptionTagsReview

storage accounts

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *
Azure for Students

Resource group *
koti
[Create new](#)

Instance details

If you need to create a legacy storage account type, please click [here](#).

Storage account name *
kottistorage

Region *
(US) East US

Performance *
☒ Standard: Recommended for most scenarios (general-purpose v2 account)
☐ Premium: Recommended for scenarios that require low latency.

Redundancy *
Geo-redundant storage (GRS)
☒ Make read access to data available in the event of regional unavailability.

Review

< Previous

Next : Advanced >

New Tab

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

kvkr2002@gmail.com
DEFAULT DIRECTORY (VIEW PROFILE)

Home >

Storage accounts

Default Directory (kvkr2002@gmail.com@microsoft.com)

+ Create

Restore

Manage view

Refresh

Export to CSV

Open query

Assign tags

Delete

Filter for any field...

Subscription equals all

Resource group equals all

Location equals all

Add filter

No grouping

List view

Name ↑↓	Type ↑↓	Kind ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
<div><div></div><div>No storage accounts to display</div><div>Create a storage account to store up to 500TB of data in the cloud. Use a general-purpose storage account to store object data, use a NoSQL data store, define and use queues for message processing, and set up file shares in the cloud. Use the Blob storage account and the hot or cool access tiers to optimize your costs based on how frequently your object data is accessed.</div><div>Create storage account</div><div>Learn more</div></div>					

Give feedback

Microsoft Azure

Home > Storage accounts >

Create a storage account

BasicsAdvancedNetworkingData protectionEncryptionTagsReview

Basics

Subscription

Azure for Students

Resource Group

koti

Location

eastus

Storage account name

kotistorage

Deployment model

Resource manager

Performance

Standard

Replication

Read-access geo-redundant storage (RA-GRS)

Advanced

Secure transfer

Enabled

Allow storage account key access

Enabled

Allow cross-tenant replication

Enabled

Default to Azure Active Directory authorization in the Azure portal

Disabled

Blob public access

Enabled

Minimum TLS version

Version 1.2

Permitted scope for copy operations (preview)

From any storage account

Enable hierarchical namespace

Disabled

Enable network file system v3

Disabled

Access tier

Hot

Enable SFTP

Disabled

Large file shares

Disabled

CreatePreviousNextDownload a template for automation

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

kvkr2002@gmail.com

Home >

kotistorage_1664428758694 | Overview

Deployment

Search

DeleteCancelRedeployDownloadRefresh

We'd love your feedback! →

Overview

Inputs

Outputs

Template

Deployment succeeded

Deployment 'kotistorage_1664428758694' to resource group 'koti' was successful.

Go to resourcePin to dashboard

✓ Your deployment is complete

Deployment name: kotistorage_1664428758694

Subscription: Azure for Students

Resource group: koti

Start time: 9/29/2022, 10:49:29 AM

Correlation ID: 17092903-f48c-4b5f-84e1-9b4c3b3daee5

Deployment details

Resource	Type	Status	Operation details
✓ kotistorage/default	Microsoft.Storage/storageAccounts/fileservices	OK	Operation details
✓ kotistorage/default	Microsoft.Storage/storageAccounts/blobServices	OK	Operation details
✓ kotistorage	Microsoft.Storage/storageAccounts	OK	Operation details

Next steps

Go to resource

Cost Management

Get notified to stay within your budget and prevent unexpected charges on your bill. Set up cost alerts >

Microsoft Defender for Cloud

Secure your apps and infrastructure Go to Microsoft Defender for Cloud >

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Microsoft Azure

Search resources, services, and docs (Ctrl+J)

kvkr2002@gmail.com

Home >

kotistorage_1664428758694 | Overview

Storage account

Search

UploadOpen in ExplorerDeleteMoveRefreshOpen in mobileFeedback

JSON View

Overview

Activity log

Tags

Diagnose and solve problems

Access Control (IAM)

Data migration

Events

Storage browser

Data storage

Containers

File shares

Queues

Tables

Security + networking

Networking

Azure CDN

Access keys

Shared access signature

Encryption

Microsoft Defender for Cloud

Data management

Redundancy

Essentials

Resource group (mcusd) : koti

Location : East US

Primary/Secondary Location : Primary: East US, Secondary: West US

Subscription (mcusd) : Azure for Students

Subscription ID : e72dcab4-17fb-43cf-97fb-1e0a2166b2cb

Disk state : Primary: Available, Secondary: Available

Tags (add) : Click here to add tags

Properties

Monitoring

Capabilities (7)

Recommendations

Tutorials

Developer Tools

Blob service

Hierarchical namespace

Disabled

Default access tier

Hot

Blob public access

Enabled

Blob soft delete

Enabled (7 days)

Container soft delete

Enabled (7 days)

Versioning

Disabled

Change feed

Disabled

NFS v3

Disabled

Allow cross-tenant replication

Enabled

File service

Large file share

Disabled

Active Directory

Not configured

Soft delete

Enabled (7 days)

Share capacity

5 TiB

Performance : Standard

Replication : Read-access geo-redundant storage (RA-GRS)

Account kind : StorageV2 (general purpose v2)

Provisioning state : Succeeded

Created : 9/29/2022, 10:49:36 AM

Security

Require secure transfer for REST API operations

Enabled

Storage account key access

Enabled

Minimum TLS version

Version 1.2

Infrastructure encryption

Disabled

Networking

Allow access from

All networks

Number of private endpoint connections

0

Network routing

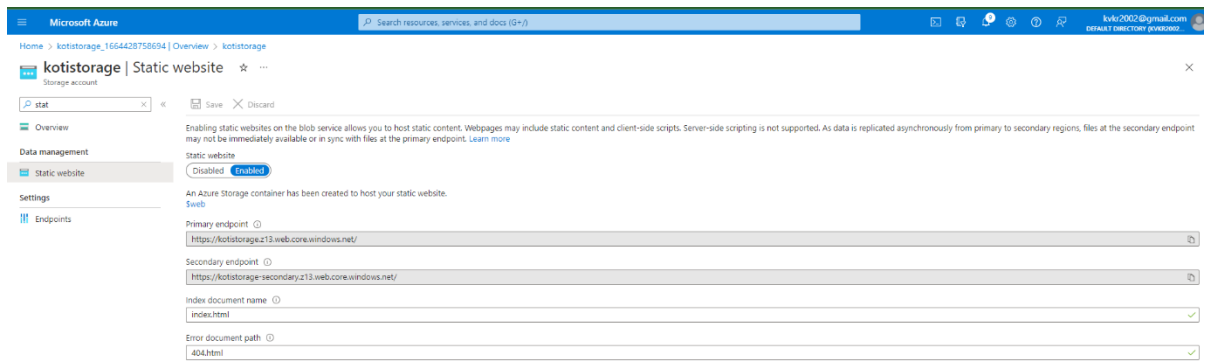
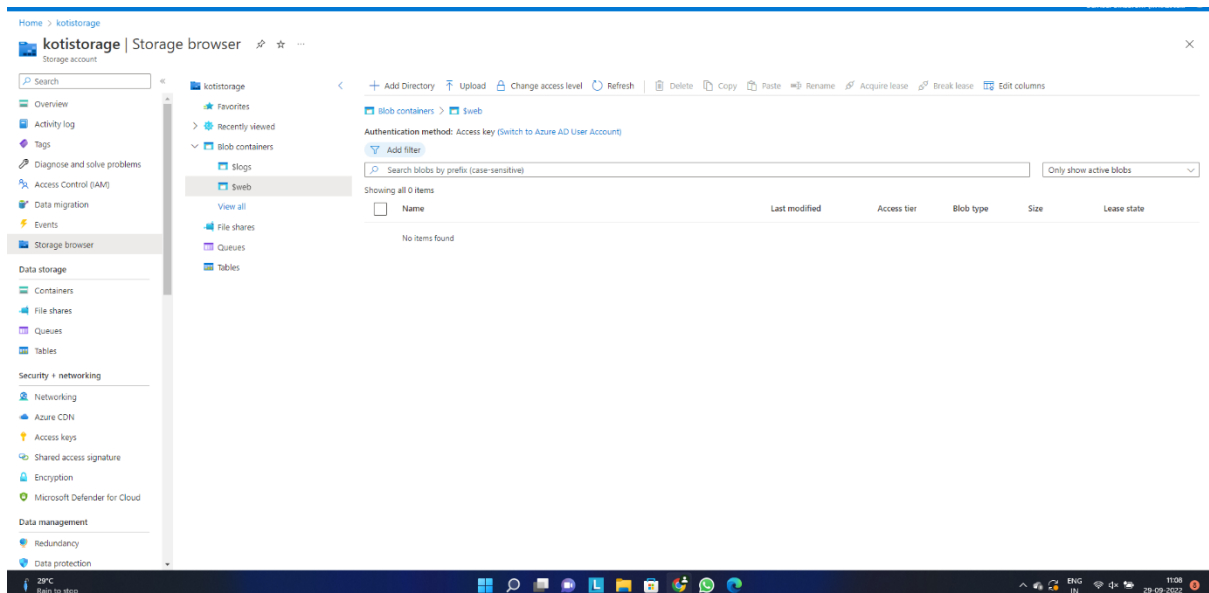
Microsoft network routing

Access for trusted Microsoft services

Yes

Endpoint type

Standard



20. Create a SQL storage service and perform a basic query using any Public Cloud Service Provider (Azure/GCP/AWS) to demonstrate Database as a Service (DaaS).

Microsoft Azure

Search resources, services, and docs (0+)

lvkr2002@gmail.com
DEFAULT DIRECTORY (VIEW PROFILE)

Home >

SQL databases

Default Directory (lvkr2002@gmail.onmicrosoft.com)

Create

Reservations

Manage view

Refresh

Export to CSV

Open query

Assign tags

Delete

Filter for any field...

Subscription equals all

Resource group equals all

Location equals all

Add filter

No grouping

List view

Name

SQL

No SQL databases to display

Try changing or clearing your filters.

Create SQL database

Learn more

Give feedback

Home > SQL databases >

Create SQL Database

Microsoft

BasicsNetworkingSecurityAdditional settingsTagsReview + create

Product details

SQL database by Microsoft

Terms of use | Privacy policy

Estimated cost per month

26870.81 INR

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing, and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Basics

Subscription

Resource group

Region

Database name

Server

Authentication method

Azure AD Admin

Compute + storage

Backup storage redundancy

Azure for Students

koti

East US

kotidb

(new) kotreddy

Azure Active Directory authentication only

AAD Request Verification Service - PROO

General Purpose: Standard-series (Gen5), 2 vCores, 32 GB storage, zone redundant disabled

Geo-redundant backup storage

Networking

Allow Azure services and resources to access this server.

No

Create

< Previous

Download a template for automation

SQL

Cost summary

General Purpose (GP_Gen5_2)

Cost per vCore (in INR)

13263.07

vCores selected

x 2

Cost per GB (in INR)

8.29

Max storage selected (in GB)

x 41.6

ESTIMATED COST / MONTH

26870.81 INR

Microsoft Azure

Search resources, services, and docs (0+)

lvkr2002@gmail.com
DEFAULT DIRECTORY (VIEW PROFILE)

Home >

Create SQL Database

Microsoft

BasicsNetworkingSecurityAdditional settingsTagsReview + create

Customize additional configuration parameters including backup & sample data.

Data source

Start with a blank database, restore from a backup, or select sample data to populate your new database.

Use existing data *

None

Backup

Sample

Database collation

Database collation defines the rules that sort and compare data, and cannot be changed after database creation. The default database collation is SQL_Latin1_General_CP1_CI_AS. [Learn more](#)

Collation *

SQL_Latin1_General_CP1_CI_AS

Find a collation

Maintenance window

Select a preferred maintenance window from the drop down. Please note, during a maintenance event, Azure SQL Database are fully available and accessible but some of the maintenance updates require a follow as Azure takes SQL DB instances offline for a short time to apply the maintenance updates. If the database is part of elastic pool, the maintenance configuration of elastic pool will be applied. [Learn more](#)

Maintenance window

System default (5pm to 8am)

SQL

Cost summary

General Purpose (GP_Gen5_2)

Cost per vCore (in INR)

13263.07

vCores selected

x 2

Cost per GB (in INR)

8.29

Max storage selected (in GB)

x 41.6

ESTIMATED COST / MONTH

26870.81 INR

Review + create

< Previous

Next: Tags >

Microsoft Azure

Search resources, services, and docs (Ctrl+J)

Home > Microsoft.SqlDatabase.newDatabaseNewServer_cc78ced754804907a1509 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

We'd love your feedback! →

✓ Your deployment is complete

Deployment name: Microsoft.SqlDatabase.newDatabaseNewServer... Start time: 9/29/2022, 12:14:5 PM
Subscription: Azure for Students Correlation ID: 5549f8d6-a9e2-4c89-a530-ed8a7e6c7299
Resource group: koti

Deployment details

Next steps

Go to resource

Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill. Set up cost alerts >

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QL databases > kotidb (kotireddy/kotidb)

atabases

Search

Overview

Activity log

Tags

Diagnose and solve problems

Getting started

Query editor (preview)

Power Platform

Power BI

Power Apps

Power Automate

Settings

Compute + storage

Connection strings

Properties

Locks

Data management

Replicas

Sync to other databases

Integrations

Stream analytics (preview)

Add Azure Search

Security

1 of 1

kotidb (kotireddy/kotidb) | Query editor (preview)

Search

Login + New Query Open query Feedback

Welcome to SQL Database Query Editor

SQL server authentication

Login *

kotireddy ✓

Password *

***** ✓

OK

Active Directory authentication

Logging in as kvlr2002@gmail.com...

Continue as kvlr2002@gmail.com

Search (Ctrl+J)

Login + New Query Open query Feedback

Query 1

Run Cancel query Save query Export data as Show only Editor

```
1 SELECT TOP 20 pc.Name as CategoryName, p.name as ProductName
2 FROM SalesLT.ProductCategory pc
3 JOIN SalesLT.Product p
4 ON pc.productcategoryid = p.productcategoryid;
```

Results Messages

Search to filter items...

CategoryName	ProductName
Road Frames	HL Road Frame - Black, 58
Road Frames	HL Road Frame - Red, 58
Helmets	Sport-100 Helmet - Red

Query succeeded 10s