

## 1<sup>st</sup>: Create and Configure an Azure SQL Database:

- Create a new Azure SQL Database.
- Configure firewall rules to allow access to your database from specific IP addresses.
- Create tables, insert sample data, and run basic SQL queries
- Create Employees and Departments tables and demonstrate INNER JOIN, LEFT OUTER JOIN and RIGHT OUTER JOIN
- Configure automated backups and test restoring a database from a backup
- Set up and configure geo-replication to create readable secondary replicas in different regions.

The screenshot shows the Microsoft Azure portal with the URL [https://portal.azure.com/#create/Microsoft.SqlDatabase](#). The page title is "Create SQL Database Server". The top navigation bar includes "Microsoft Azure", "Search resources, services, and docs (G+)", and a user profile "harshagiduturi@outlook... DEFAULT DIRECTORY". The main content area is titled "Basics" and contains fields for "Subscription" (set to "Azure Pass - Sponsorship") and "Resource group" (set to "(View) training"). Below these are sections for "Project details" and "Server details". In "Server details", the "Server name" is "training-micron" and the "Location" is "(Asia Pacific) Central India". At the bottom, there are "Review + create" and "Next : Networking >" buttons, along with a taskbar at the bottom.

The screenshot shows the Microsoft Azure portal on the "Authentication" step of the "Create SQL Database Server" wizard. The URL is [https://portal.azure.com/#create/Microsoft.SqlDatabase](#). The page title is "Create SQL Database Server". The top navigation bar includes "Microsoft Azure", "Search resources, services, and docs (G+)", and a user profile "harshagiduturi@outlook... DEFAULT DIRECTORY". The main content area has a note about Azure Active Directory being renamed to Microsoft Entra ID. It asks to select authentication methods: "Use Microsoft Entra-only authentication", "Use both SQL and Microsoft Entra authentication", and "Use SQL authentication". The "Use SQL authentication" option is selected. Below this, fields for "Server admin login" ("azureuser"), "Password" (redacted), and "Confirm password" (redacted) are shown. A note says "Password and confirm password must match.". At the bottom, there are "Review + create" and "Next : Networking >" buttons, along with a taskbar at the bottom.

Microsoft Azure

Home > training > training-micron >

## Create SQL Database ...

Basics Networking Security Additional settings Tags Review + create

Create a SQL database with your preferred configurations. Complete the Basics tab then go to Review + Create to provision with smart defaults, or visit each tab to customize. [Learn more](#)

Want to try Azure SQL Database for free? Create a free serverless database with the first 100,000 vCore seconds, 32GB of data, and 32GB of backup storage free per month for the lifetime of the subscription. [Learn more](#)

SQL Database Hyperscale: Low price, high scalability, and best feature set. [Learn more](#)

Project details

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

Subscription: Azure Pass - Sponsorship

Resource group: training

Cost summary

General Purpose (GP Gen5 2)	22341.40
Cost per vCore (in INR)	x 2
Cost per GB (in INR)	21.80
Max storage selected (in GB)	x 41.6
ESTIMATED COST / MONTH	45589.56 INR

Apply offer (Preview)

Review + create Next: Networking >

5:15 AM 8/19/2024

Microsoft Azure

Home > Azure SQL > Select SQL deployment option >

## Create SQL Database Server ...

Basics Networking Security Additional settings Tags Review + create

Configure networking access for your server.

Firewall rules

Allow Azure services and resources to access this server: Yes

Review + create < Previous Next: Security >

5:01 AM 8/19/2024

Microsoft Azure

Search resources, services, and docs (G+)

Home > Microsoft.SQLDatabase.newDatabaseExistingServer\_aeb70194594e4faf | Overview

### harshadatabase (training-micron/harshadatabase)

SQL database

Copy Restore Export Set server firewall Delete Connect with... Feedback

Overview

Activity log Tags Diagnose and solve problems Query editor (preview) Mirror database in Fabric (preview) Settings Data management Integrations Power Platform Security Intelligent performance Monitoring Automation Help

Mirror databases in Microsoft Fabric. Easily replicate your existing databases in Fabric, and help your team achieve streamlined ETL and operational analytics goals. Learn more

Resource group (move) : training Status : Online Location : Central India Subscription (move) : Azure Pass - Sponsorship Subscription ID : 348ac279-08f0-424f-b35b-80035082612a Server name : training-micron.database.windows.net Elastic pool : No elastic pool Connection strings : Show database connection strings Pricing tier : General Purpose: Gen5, 2 vCores Earliest restore point : No restore point available

Tags (edit) : learner:harsha

Getting started Monitoring Properties Notifications (1) Integrations Tutorials

Start working with your database

Configure access Connect to application Start developing Mirror database in Fabric

5:20 AM 8/19/2024

This screenshot shows the Microsoft Azure portal interface. The user is viewing the overview of a SQL database named 'harshadatabase'. The left sidebar contains navigation links for Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Mirror database in Fabric (preview), Settings, Data management, Integrations, Power Platform, Security, Intelligent performance, Monitoring, Automation, and Help. The main content area displays database details such as Resource group (move) to 'training', Status 'Online', Location 'Central India', Subscription 'Azure Pass - Sponsorship', and various configuration settings like Server name, Elastic pool, Connection strings, Pricing tier, and Earliest restore point. Below the details, there's a 'Getting started' section with links for Configure access, Connect to application, Start developing, and Mirror database in Fabric. The bottom of the screen shows the Windows taskbar with various pinned icons.

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Microsoft.SQLDatabase.newDatabaseExistingServer\_ed81cf3a774b4fc2 | Overview > harshadatabase (training-micron/harshadatabase) > training-micron

### training-micron | Networking

SQL server

Overview Activity log Access control (IAM) Tags Quick start Diagnose and solve problems Settings Data management Security Networking Microsoft Defender for Cloud Transparent data encryption Identity Auditing Intelligent performance Monitoring

Virtual networks

Add a virtual network rule

Rule	Virtual network	Subnet	Address range	Endpoint status	Resource group	Subscription	State
------	-----------------	--------	---------------	-----------------	----------------	--------------	-------

Firewall rules

Add your client IPv4 address (103.172.93.212) Add a firewall rule

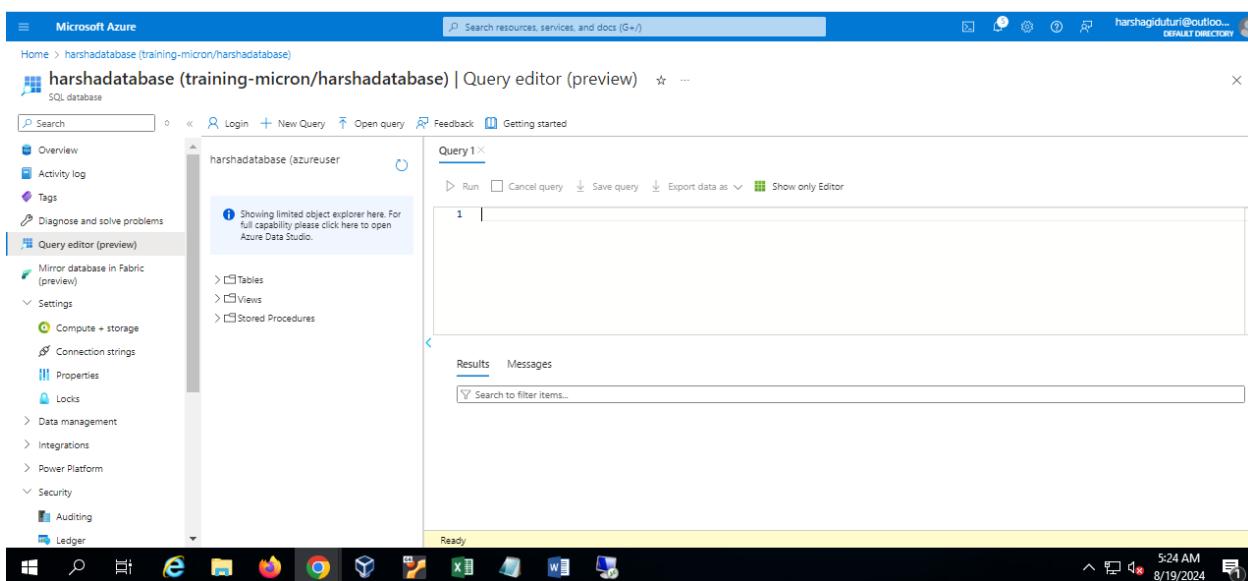
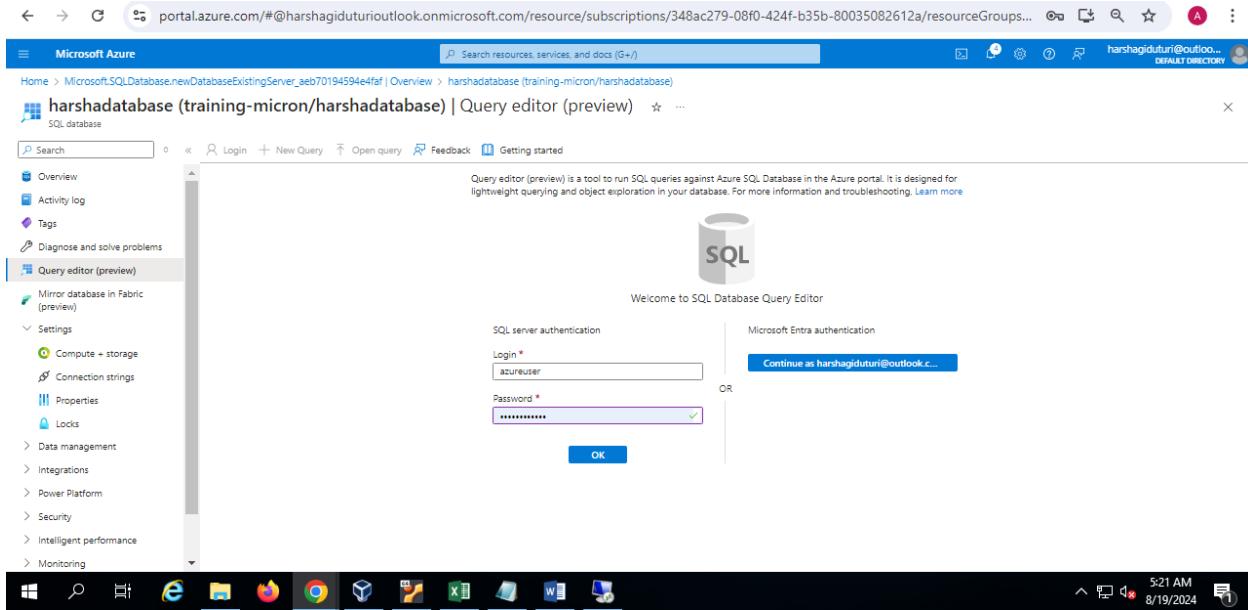
Rule name	Start IPv4 address	End IPv4 address
ClientIPAddress_2024-8-21_7-15-2	103.172.93.212	103.172.93.212

Exceptions

Allow Azure services and resources to access this server

Save Discard

This screenshot shows the Microsoft Azure portal interface, specifically the networking configuration for a SQL database. The user is viewing the 'Networking' blade for the 'training-micron' resource group. The left sidebar includes links for Overview, Activity log, Access control (IAM), Tags, Quick start, Diagnose and solve problems, Settings, Data management, Security, and Networking. Under Networking, sub-options like Microsoft Defender for Cloud, Transparent data encryption, Identity, Auditing, and Intelligent performance are listed. The main content area shows the 'Virtual networks' section with a link to add a new rule. Below it is the 'Firewall rules' section, which lists a single rule allowing access from the IP address 103.172.93.212. There's also an 'Exceptions' section with a checked checkbox for 'Allow Azure services and resources to access this server'. At the bottom, there are 'Save' and 'Discard' buttons.



Selecting all orders

```
1 SELECT * FROM Orders;
```

OrderID	OrderDate	CustomerID	Amount
101	2024-08-01	1	150.00
102	2024-08-05	2	200.00
103	2024-08-10	1	300.00
104	2024-08-15	3	250.00

## Selecting all customers

```
1 SELECT * FROM Customers;
```

CustomerID	FirstName	LastName	Email
1	John	Doe	john.doe@example.com
2	Jane	Smith	jane.smith@example.com
3	Michael	Johnson	michael.johnson@example.com

## Join Customers and Orders to see who placed each order:

The screenshot shows the Microsoft Azure Query editor (preview) interface. The left sidebar contains navigation links such as Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Settings, Compute + storage, Connection strings, Properties, Locks, Data management, Replicas, Sync to other databases, Integrations, and Power Platform. The main area displays a query editor with five tabs: Query 1, Query 2, Query 3, Query 4, and Query 5. The Query 4 tab is active, showing the following T-SQL code:

```

1 SELECT Orders.OrderID, Orders.OrderDate, Customers.FirstName, Customers.LastName, Orders.Amount
2 FROM Orders
3 JOIN Customers ON Orders.CustomerID = Customers.CustomerID;
4
5

```

Below the code, there are buttons for Run, Cancel query, Save query, Export data as, and Show only Editor. The Results pane shows the output of the query:

OrderID	OrderDate	FirstName	LastName	Amount
101	2024-08-01	John	Doe	150.00
102	2024-08-05	Jane	Smith	200.00
103	2024-08-10	John	Doe	300.00
104	2024-08-15	Michael	Johnson	250.00

The status bar at the bottom indicates "Query succeeded | 0s". The system tray shows the date and time as 8/19/2024 5:47 AM.

Find total amount spent by each customer:

The screenshot shows the Microsoft Azure Query editor (preview) interface, identical to the previous one but with a different query. The Query 5 tab is active, displaying the following T-SQL code:

```

1 SELECT Customers.FirstName, Customers.LastName, SUM(Orders.Amount) AS TotalSpent
2 FROM Orders
3 JOIN Customers ON Orders.CustomerID = Customers.CustomerID
4 GROUP BY Customers.FirstName, Customers.LastName;
5

```

The Results pane shows the output of the query:

FirstName	LastName	TotalSpent
John	Doe	450.00
Michael	Johnson	250.00
Jane	Smith	200.00

The status bar at the bottom indicates "Query succeeded | 0s". The system tray shows the date and time as 8/19/2024 5:48 AM.

Create Employees and Departments tables and demonstrate INNER JOIN, LEFT OUTER JOIN and RIGHT OUTER JOIN:

Create Tables as departments and employees:

Home > harshadatabase (training-micron/harshadatabase)

## harshadatabase (training-micron/harshadatabase) | Query editor (preview)

SQL database

Search Login New Query Open query Feedback Getting started

Overview Activity log Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings Compute + storage Connection strings Properties Locks

Data management Replicas Sync to other databases

Integrations Power Platform

Tables

- dbo.BuildVersion
- dbo.Customers
- dbo.ErrorLog
- dbo.Orders
- SalesLT.Address
- SalesLT.Customer
- SalesLT.CustomerAddress
- SalesLT.Product
- SalesLT.ProductCategory
- SalesLT.ProductDescription
- SalesLT.ProductModel
- SalesLT.ProductModelProductC
- SalesLT.SalesOrderDetail
- SalesLT.SalesOrderHeader

Views

Stored Procedures

Query 1 × dbo.Customers × Query 2 × Query 3 × Query 4 × Query 5 × Query 6 ×

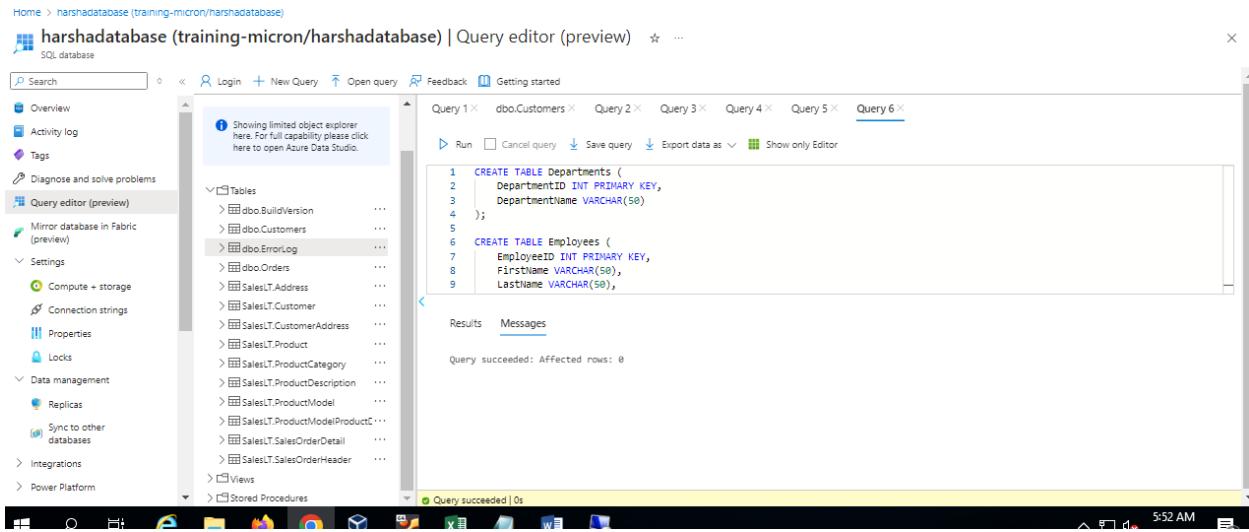
Run Cancel query Save query Export data as Show only Editor

```
1 CREATE TABLE Departments (
2     DepartmentID INT PRIMARY KEY,
3     DepartmentName VARCHAR(50)
4 );
5
6 CREATE TABLE Employees (
7     EmployeeID INT PRIMARY KEY,
8     FirstName VARCHAR(50),
9     LastName VARCHAR(50),
```

Results Messages

Query succeeded: Affected rows: 0

5:52 AM



Insert sample data:

Microsoft Azure

Home > harshadatabase (training-micron/harshadatabase)

## harshadatabase (training-micron/harshadatabase) | Query editor (preview)

SQL database

Search Login New Query Open query Feedback Getting started

Overview Activity log Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings Compute + storage Connection strings Properties Locks

Data management Replicas Sync to other databases

Integrations Power Platform

Tables

- dbo.BuildVersion
- dbo.Customers
- dbo.ErrorLog
- dbo.Orders
- SalesLT.Address
- SalesLT.Customer
- SalesLT.CustomerAddress
- SalesLT.Product
- SalesLT.ProductCategory
- SalesLT.ProductDescription
- SalesLT.ProductModel
- SalesLT.ProductModelProductC
- SalesLT.SalesOrderDetail
- SalesLT.SalesOrderHeader

Views

Stored Procedures

Query 1 × dbo.Customers × Query 2 × Query 3 × Query 4 × Query 5 × Query 6 × Query 7 ×

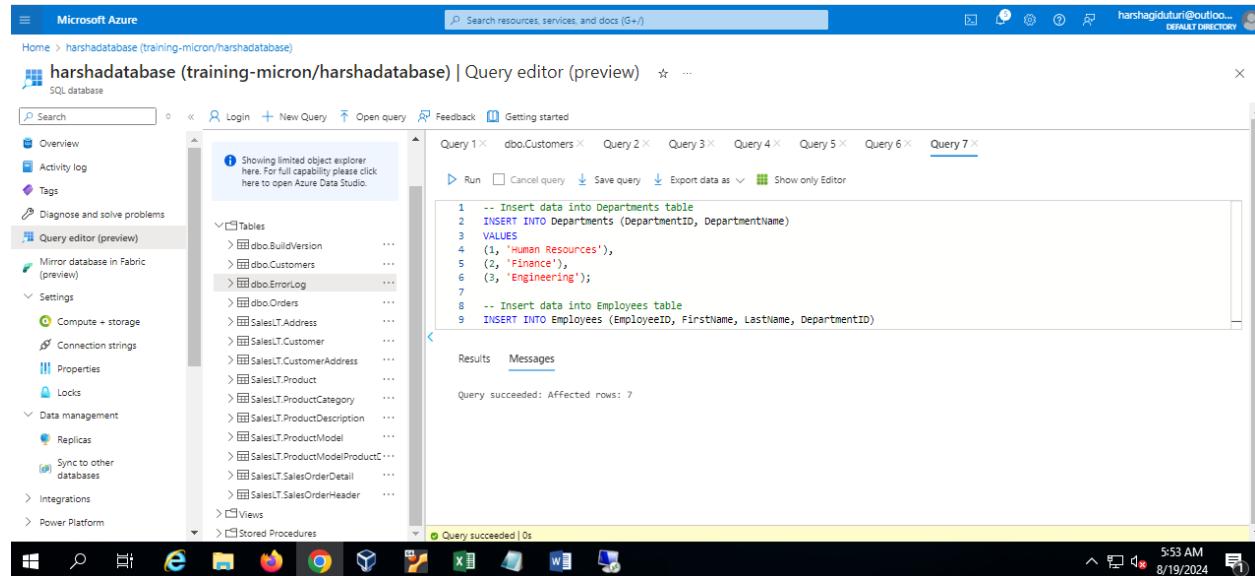
Run Cancel query Save query Export data as Show only Editor

```
1 -- Insert data into Departments table
2 INSERT INTO Departments (DepartmentID, DepartmentName)
3 VALUES
4 (1, 'Human Resources'),
5 (2, 'Finance'),
6 (3, 'Engineering');
7
8 -- Insert data into Employees table
9 INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID)
```

Results Messages

Query succeeded: Affected rows: 7

5:53 AM 8/19/2024



INNER JOIN :

Microsoft Azure

Home > harshadatabase (training-micron/harshadatabase)

### harshadatabase (training-micron/harshadatabase) | Query editor (preview)

SQL database

Search Login New Query Open query Feedback Getting started

Query 1 × dbo.Customers × Query 2 × Query 3 × Query 4 × Query 5 × Query 6 × Query 7 × Query 8 ×

Run Cancel query Save query Export data as Show only Editor

```

1 SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName
2 FROM Employees
3 INNER JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
4

```

Results Messages

EmployeeID	FirstName	LastName	DepartmentName
101	John	Doe	Human Resources
102	Jane	Smith	Finance
103	Michael	Johnson	Engineering

Query succeeded | 0s

## LEFT OUTER JOIN:

Home > harshadatabase (training-micron/harshadatabase)

### harshadatabase (training-micron/harshadatabase) | Query editor (preview)

SQL database

Search Login New Query Open query Feedback Getting started

Query 1 × dbo.Customers × Query 2 × Query 3 × Query 4 × Query 5 × Query 6 × Query 7 × Query 8 × Query 9 ×

Run Cancel query Save query Export data as Show only Editor

```

1 SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName
2 FROM Employees
3 LEFT OUTER JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
4

```

Results Messages

EmployeeID	FirstName	LastName	DepartmentName
101	John	Doe	Human Resources
102	Jane	Smith	Finance
103	Michael	Johnson	Engineering
104	Emily		Davis

Query succeeded | 0s

## RIGHT OUTER JOIN:

Home > harshadatabase (training-micron/harshadatabase)

## harshadatabase (training-micron/harshadatabase) | Query editor (preview)

SQL database

Search Login New Query Open query Feedback Getting started

Overview Activity log Tags Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings Compute + storage Connection strings Properties Locks

Data management Replicas Sync to other databases Integrations Power Platform

Tables

- > dbo.BuildVersion
- > dbo.Customers
- > dbo.ErrorLog
- > dbo.Orders
- > SalesLT.Address
- > SalesLT.Customer
- > SalesLT.CustomerAddress
- > SalesLT.Product
- > SalesLT.ProductCategory
- > SalesLT.ProductDescription
- > SalesLT.ProductModel
- > SalesLT.ProductModelProductC...
- > SalesLT.SalesOrderDetail
- > SalesLT.SalesOrderHeader

Views Stored Procedures

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Query 1 × dbo.Customers × Query 2 × Query 3 × Query 4 × Query 5 × Query 6 × Query 7 × Query 8 × Query 9 × Query 10 ×

Run Cancel query Save query Export data as Show only Editor

```
1 SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName
2 FROM Employees
3 RIGHT OUTER JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
```

Results Messages

EmployeeID	FirstName	LastName	DepartmentName
101	John	Doe	Human Resources
102	Jane	Smith	Finance
103	Michael	Johnson	Engineering

Query succeeded | 0s

portal.azure.com/#view/SqAzureExtension/RestoreDatabaseBlade/restoreDatabaseType/Live/sourceDatabaseResourceId/%2Fsubscriptions%2F348ac... Download Search A ...

## Microsoft Azure

Search resources, services, and docs (G+)

Home > harshadatabase (training-micron/harshadatabase) > training-micron | Backups >

### Create SQL Database - Restore database

Basics Tags Review + create

SQL Database Hyperscale: Low price, high scalability, and best feature set. [Learn more](#)

Project details

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

Subscription: Azure Pass - Sponsorship

Resource group: training

Source Details

Select a backup source and details. Additional settings will be defaulted where possible based on the backup selected.

Source Database: harshadatabase

Select source: Point-in-time

Earliest restore point: 2024-08-19 12:21 UTC

Review + create Next : Tags >

Windows Taskbar: 6:08 AM 8/19/2024

← → ⌂ portal.azure.com/#view/SqIAzureExtension/RestoreDatabaseBlade/restoreDatabaseType/Live/sourceDatabaseResourceId/%2Fsubscriptions%2F348ac... ⌂ 🔍

Microsoft Azure  harshadatabase

Home > harshadatabase (training-micron/harshadatabase) > training-micron | Backups >

## Create SQL Database - Restore database ...

Microsoft

**⚠️ Changing Basic options may reset selections you have made. Review all options prior to creating the resource.**

more ↴

Database level key  Not configured [Configure transparent data encryption](#)

Backup storage redundancy

Choose how your PITR and LTR backups are replicated. Geo restore or ability to recover from regional outage is only available when geo-redundant storage is selected.

The default backup storage redundancy setting is taken from the setting of the source.

Backup storage redundancy  Locally-redundant backup storage  Zone-redundant backup storage  Geo-redundant backup storage

**⚠️ Selected value for backup storage redundancy is Geo-redundant backup storage. Database backup will be geo-replicated which might impact your data residency requirements. [Learn more ↴](#)**

**Review + create** [Next : Tags >](#)



Microsoft Azure  harshadatabase

Home > harshadatabase\_2024-08-19T13-08Z (training-micron/harshadatabase\_2024-08-19T13-08Z)

## harshadatabase\_2024-08-19T13-08Z (training-micron/harshadatabase\_2024-08-19T13-08Z) | Query editor (preview) ⋮

SQL database

Search  Login [New Query](#) [Open query](#) [Feedback](#) [Getting started](#)

Overview Activity log Tags Diagnose and solve problems **Query editor (preview)** Mirror database in Fabric (preview) Settings Compute + storage Connection strings Properties Locks Data management Replicas Sync to other databases Integrations Power Platform

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables Views Stored Procedures

Query 1 × Run Cancel query Save query Export data as Show only Editor

Results Messages

Ready



Microsoft Azure

Search resources, services, and docs (G+)

harshadatabase\_2024-08-19T13-08Z (training-micron/harshadatabase\_2024-08-19T13-08Z) | Query editor (preview)

Query 1

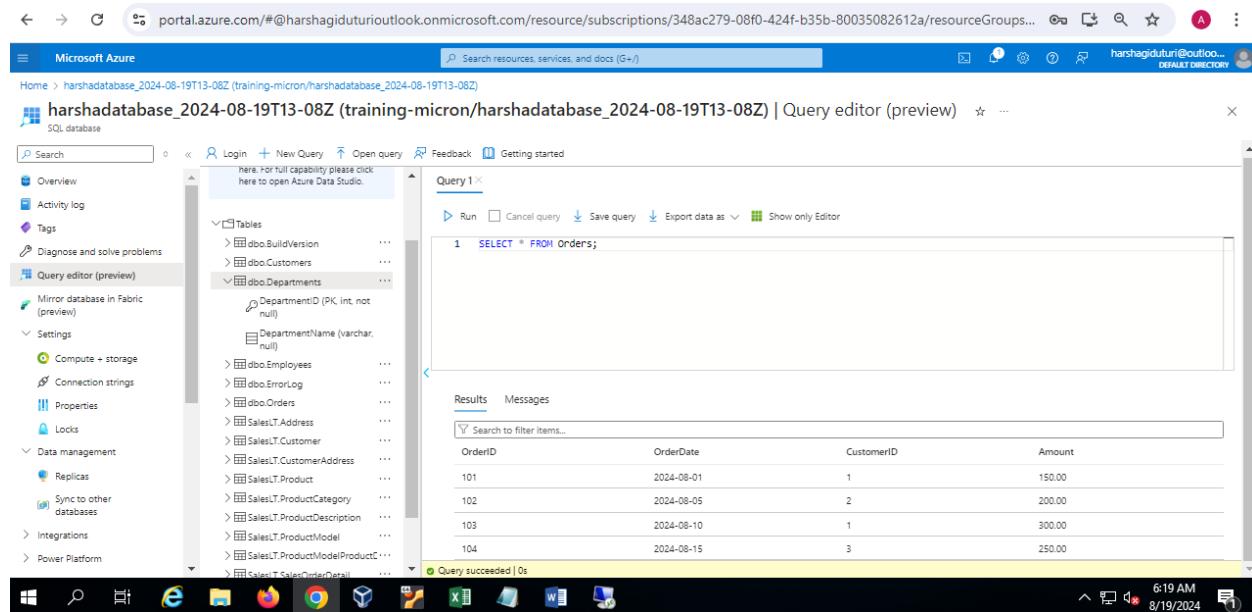
```
1 SELECT * FROM Orders;
```

Results

OrderID	OrderDate	CustomerID	Amount
101	2024-08-01	1	150.00
102	2024-08-05	2	200.00
103	2024-08-10	1	300.00
104	2024-08-15	3	250.00

Query succeeded | 0s

6:19 AM 8/19/2024



Microsoft Azure

Search resources, services, and docs (G+)

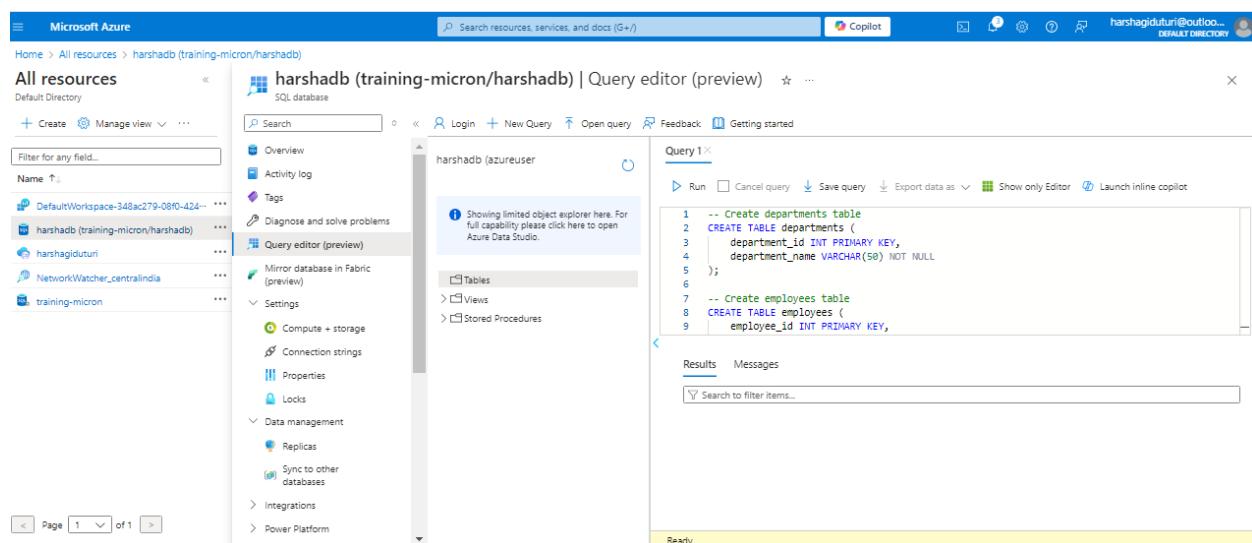
harshadb (training-micron/harshadb) | Query editor (preview)

Query 1

```
1 -- Create departments table
2 CREATE TABLE departments (
3     department_id INT PRIMARY KEY,
4     department_name VARCHAR(50) NOT NULL
5 );
6
7 -- Create employees table
8 CREATE TABLE employees (
9     employee_id INT PRIMARY KEY,
```

Results

Ready



Microsoft Azure

Home > All resources > harshadb (training-micron/harshadb)

All resources

Default Directory

+ Create Manage view ...

Filter for any field...

Name ↑

DefaultWorkspace-348ac279-08f0-424a-...  
harshadb (training-micron/harshadb)  
harshagiduturi  
NetworkWatcher\_centralindia  
training-micron

Page 1 of 1

Search Login New Query Open query Feedback Getting started

harshadb (azuresuser) | Query editor (preview)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Query editor (preview)

Tables Views Stored Procedures

Query 1 × Query 2 × Query 3 ×

Run Cancel query Save query Export data as Show only Editor Launch inline copilot

```
1 -- Select all data from departments table
2 SELECT * FROM departments;
3
4 -- Select all data from employees table
5 SELECT * FROM employees;
6
7
8
```

Results Messages

Search to filter items...

employee_id	first_name	last_name	department_id	salary
1	John	Doe	1	50000.00
2	Jane	Smith	2	60000.00
3	Alice	Johnson	3	70000.00

Query succeeded | 0s

7:42 AM 8/21/2024

The screenshot shows the Microsoft Azure portal interface. On the left, the 'All resources' blade is open, displaying a list of resources including 'DefaultWorkspace-348ac279-08f0-424a-...', 'harshadb (training-micron/harshadb)', 'harshagiduturi', 'NetworkWatcher\_centralindia', and 'training-micron'. In the center, the 'harshadb (training-micron/harshadb)' resource details page is shown. The 'Query editor (preview)' section is active, showing a query window with two queries. The first query selects all data from the 'departments' table, and the second query selects all data from the 'employees' table. Below the queries, the results are displayed in a table with columns: employee\_id, first\_name, last\_name, department\_id, and salary. The table contains three rows with data for John Doe, Jane Smith, and Alice Johnson respectively. At the bottom right, the status bar shows the time as 7:42 AM and the date as 8/21/2024.

Microsoft Azure

Home > All resources > harshadb (training-micron/harshadb) | Replicas > Create SQL Database - Geo Replica >

Create SQL Database Server

Microsoft

Server details

Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database.

Server name \* training-replica .database.windows.net

Location \* (Asia Pacific) Central India

Allow Azure services to access server

Authentication

Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#), or select both SQL and Microsoft Entra authentication.

OK

The screenshot shows the 'Create SQL Database Server' configuration page. It includes fields for 'Server name' (set to 'training-replica') and 'Location' (set to '(Asia Pacific) Central India'). There is also a checkbox for 'Allow Azure services to access server' which is checked. Below these fields, there is a section titled 'Authentication' with a note about Azure Active Directory being renamed to Microsoft Entra ID. A large 'OK' button is at the bottom of the form.

Home > Microsoft.SQLDatabase.newDatabaseCopyNewServer\_8038174918ef4bcab | Overview >

### harshadb (training-replica/harshadb)

SQL database

Search Copy Restore Export Set server firewall Delete Connect with... Feedback

Overview Activity log Tags Diagnose and solve problems Mirror database in Fabric (preview) Settings Compute + storage Connection strings Properties Locks Data management Replicas Sync to other databases Integrations Power Platform

Mirror databases in Microsoft Fabric. Easily replicate your existing databases in Fabric, and help your team achieve streamlined ETL and operational analytics goals. [Learn more](#)

Resource group (move) : training Status : Online Location : Central India Subscription (move) : Azure Pass - Sponsorship Subscription ID : 348ac279-08f0-424f-b35b-80035082612a Server name : training-replica.database.windows.net Elastic pool : No elastic pool Connection strings : Show database connection strings Pricing tier : General Purpose: Gen5, 2 vCores Earliest restore point : No restore point available Replica type : Geo Primary database : harshadb

Tags (edit) Add tags Getting started Monitoring Properties Features Notifications (0) Integrations Tutorials Start working with your database Connect to your database and start working with data with a few simple steps. [Learn more](#)

7:48 AM 9/21/2024

Microsoft Azure Search resources, services, and docs (G+) Copilot harshagiduturi@outlook.com DEFAULT DIRECTORY

Home > Microsoft.SQLDatabase.newDatabaseCopyNewServer\_8038174918ef4bcab | Overview > harshadb (training-replica/harshadb)

### harshadb (training-replica/harshadb) | Query editor (preview)

SQL database

Search Login New Query Open query Feedback Getting started

Overview Activity log Tags Diagnose and solve problems Query editor (preview) Mirror database in Fabric (preview) Settings Compute + storage Connection strings Properties Locks Data management Replicas Sync to other databases Integrations Power Platform

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables > dbo.departments > dbo.employees > Views > Stored Procedures

Query 1

Run Cancel query Save query Export data as Show only Editor Launch inline copilot

```
1 select * from [dbo].[departments]
```

Results Messages

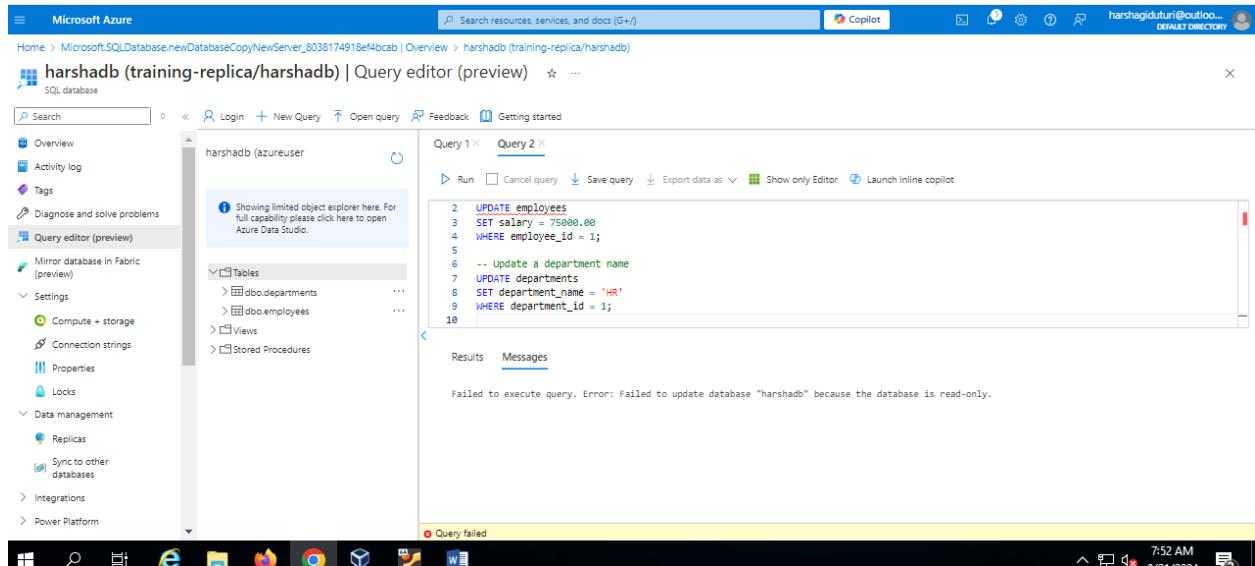
Search to filter items...

department_id	department_name
1	Human Resources
2	Finance
3	Engineering

Query succeeded | 0s

7:51 AM

department_id	department_name
1	Human Resources
2	Finance
3	Engineering



## 2<sup>nd</sup>: Create and Configure an Azure MySQL Database:

- Create a new Azure SQL Database.
- Configure firewall rules to allow access to your database from specific IP addresses.
- Create tables, insert sample data, and run basic SQL queries
- Create Employees and Departments tables and demonstrate INNER JOIN, LEFT OUTER JOIN and RIGHT OUTER JOIN
- Configure automated backups and test restoring a database from a backup
- Set up and configure geo-replication to create readable secondary replicas in different regions.

The screenshot shows the Microsoft Azure portal with the URL 'portal.azure.com/#create/Microsoft.MySQLServer'. The page title is 'Select Azure Database for MySQL deployment option'. It features a question 'How do you plan to use the service?' with two options: 'Flexible server' and 'Wordpress + MySQL Flexible server'. Both options have a 'Create' button and a 'Learn More' link. The status bar at the bottom right shows the time as 9:58 AM and the date as 8/19/2024.

**Microsoft Azure** Search resources, services, and docs (G+) harshagiduturi@outlook... DEFAULT DIRECTORY

Home > Azure Database for MySQL servers > Flexible server ...

**Flexible server**

**Server details**

Enter required settings for this server, including picking a location and configuring the compute and storage resources.

**Server name \*** harshaserver

**Region \*** Central India

**MySQL version \*** 8.0

**Workload type**  For small or medium size databases  
 Tier 1 Business Critical Workloads  
 For development or hobby projects

**Compute + storage**  Burstable, B1ms  
 1 vCores, 2 GB RAM, 20 GB storage, Auto scale IOPS  
 Geo-redundancy : Disabled  
[Configure server](#)

**Availability zone** No preference

**Estimated costs**

Compute Sku	INR
Standard_B1ms (1 vCore)	1487.94/month

Storage	INR
Storage selected 20 GiB (INR 10.90 per GiB)	20 x 10.90

**Auto scale IOPS**  
 Auto scale IOPS is billed on usage in per million request increments. [Learn more ↗](#)

**Backup Retention**  
 Backup retention is billed based on additional storage used for retaining backups. [Learn more ↗](#)

**Review + create** **Next: Networking >**

**Microsoft Azure** Search resources, services, and docs (G+)

Home > Azure Database for MySQL servers > Select Azure Database for MySQL deployment option > Flexible server > Compute + storage ...

**Compute**

Compute resources are pre-allocated and billed per hour based on vCores configured.  
**Note that high availability and read replicas is supported for only General purpose and Business critical tiers.**

**Compute tier**  Burstable (1-20 vCores) - Best for workloads that don't need the full CPU continuously  
 General Purpose (2-96 vCores) - Balanced configuration for most common workloads  
 Business Critical (2-96 vCores) - Best for Tier 1 workloads that require optimized performance

**Compute size** Standard\_B2ms (2 vCores, 8 GiB memory, 1700 max iops)

**Storage**

The storage you provision is the amount of storage capacity available to your flexible server and is billed GiB/month.  
**Note that storage cannot be scaled down once the server is created.**

**Storage size (in GiB) \*** 20

**IOPS**  Auto scale IOPS  
 Pre-provisioned IOPS

**Storage Auto-growth**

**Estimated costs**

Compute Sku	INR
Standard_B2ms (2 vCores)	11903.49

Storage	INR
Storage selected 20 GiB (INR 10.90 per GiB)	20 x 10.90

**Auto scale IOPS**  
 Auto scale IOPS is billed on usage in per million request increments. [Learn more ↗](#)

**Backup Retention**  
 Backup retention is billed based on additional storage used for retaining backups. [Learn more ↗](#)

**Bandwidth**

**Save**

Windows Start button, Taskbar icons: File Explorer, Edge, Firefox, Chrome, Docker, Python, Java, Microsoft Word, Microsoft Excel.

**Microsoft Azure**

Home > Azure Database for MySQL servers >

### Flexible server

Microsoft

**⚠️ Server name, networking connectivity method, zone redundant HA and backup redundancy cannot be changed after server is created. Review these options carefully before provisioning.**

You can connect to your server by specifying a public IP address, creating private endpoints or from within a selected virtual network.

**Connectivity method**

- Public access (allowed IP addresses) and Private endpoint
- Private access (VNet Integration)

**Connections from the IP addresses configured in the Firewall rules section below will have access to this server. By default, no public IP addresses are allowed. [Learn more](#)**

**Public access**

Allow public access to this resource through the internet using a public IP address

**Firewall rules**

Inbound connections from the IP addresses specified below will be allowed to port 3306 on this server. [Learn more](#)

Allow public access from any Azure service within Azure to this server

+ Add current client IP address ( 103.172.93.212 ) + Add 0.0.0 - 255.255.255.255

**Estimated costs**

Compute Sku	INR	1487.94/month
Standard_B1ms (1 vCore)	1487.94	
Storage	INR	217.98/month
Storage selected 20 GiB (INR 10.90 per GiB)	20 x 10.90	10.90
Auto scale IOPS		
Auto scale IOPS is billed on usage in per million request increments. <a href="#">Learn more</a>		
Backup Retention		
Backup retention is billed based on additional storage used for retaining backups. <a href="#">Learn more</a>		

**Review + create** < Previous Next : Security >

**Microsoft Azure**

Home > Azure Database for MySQL servers > Select Azure Database for MySQL deployment option >

### Flexible server

Microsoft

**Basics** **Networking** **Security** **Tags** **Review + create**

**Creation time**

Estimated Server Creation Time (in minutes) 5

**Product details**

Azure Database for MySQL by Microsoft [Terms of use](#) | [Privacy policy](#)

**Basics (Change)**

Subscription	Azure Pass - Sponsorship
Resource group	mysql
Server name	harshaserver
Server admin login name	azureuser
Location	Central India
Availability zone	No preference
High availability	Not Enabled
MySQL version	8.0

**Estimated costs**

Compute Sku	INR	11903.49/month
Storage	INR	217.98/month
Storage selected 20 GiB (INR 10.90 per GiB)	20 x 10.90	10.90
Auto scale IOPS		
Auto scale IOPS is billed on usage in per million request increments. <a href="#">Learn more</a>		
Backup Retention		
Backup retention is billed based on additional storage used for retaining backups. <a href="#">Learn more</a>		
Bandwidth		
For outbound data transfer across services in different regions will incur		

**Create** < Previous Download a template for automation

portal.azure.com/#@harshagidutrioutlook.onmicrosoft.com/resource/subscriptions/348ac279-08f0-424f-b35b-80035082612a/resourceGroups...     

Microsoft Azure

harshaserver  harshaserver Overview

Azure Database for MySQL flexible server

Connect View process list Delete Reset password Restore Restart Stop Refresh Feedback

Azure Database for MySQL - Live Webinar series: Learn about the latest updates (with demo) and interact directly with product group on the 2nd Wednesday of every month! [Subscribe to our YouTube channel](#) today!

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Learning center Settings Power Platform Security Monitoring Automation Help

Subscription (move) : [Azure Pass - Sponsorship](#)  
Subscription ID : 348ac279-08f0-424f-b35b-80035082612a  
Resource group (move) : mysql  
Status : Available  
Location : Central India

Server name : harshaserver.mysql.database.azure.com  
Server admin login name : azureuser  
Configuration : [Burstable\\_B2ms\\_2 vCores, 8 GiB RAM, 20 GiB storage](#)  
MySQL version : 8.0  
Availability zone : 2  
Created On : 2024-08-19 17:31:07.4633574 UTC

Tags (edit) : learner : harsha

Getting started Properties Recommendations Monitoring Tutorials

Start your project

Connect to your database for the first time with a few simple steps.

Learn Configure network access to your MySQL database Connect Setup a sample database schema to get started

10:39 AM 8/19/2024

MySQL Workbench

File Edit View Database Tools Scripting Help

MySQL Connection 20.244.100.96 

Setup New Connection

Connection Name: test

Connection Method: Standard (TCP/IP)

Parameters SSL Advanced

Hostname: harshaserver.mysql.database.azure.com Port: 3306

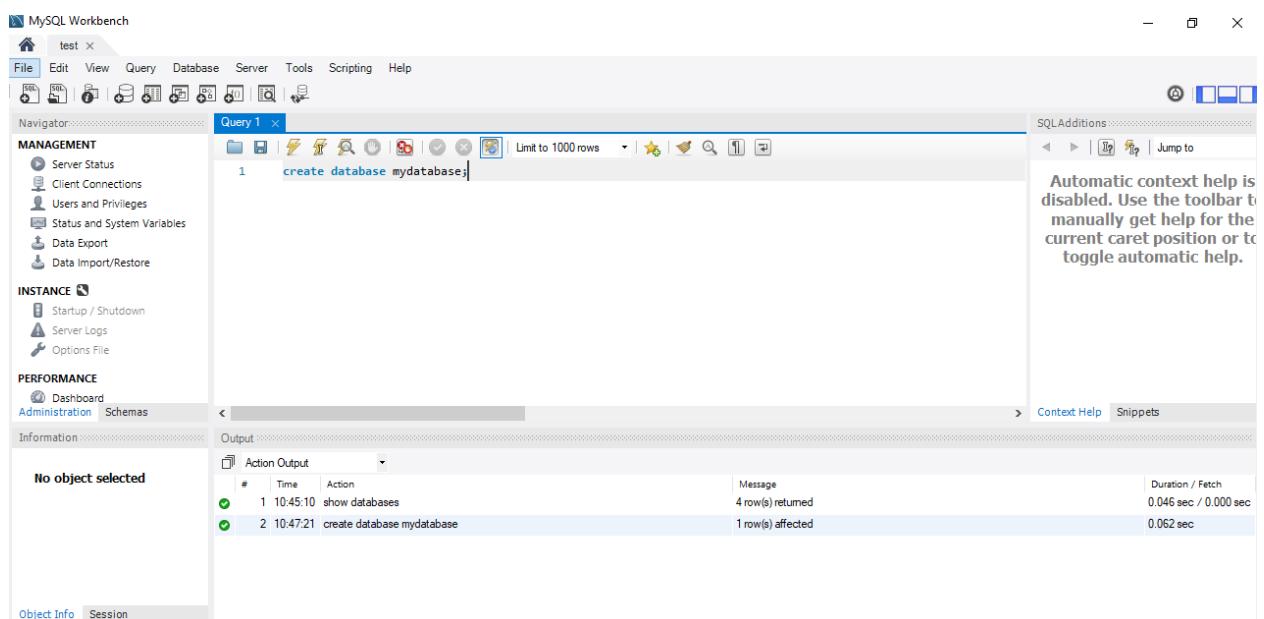
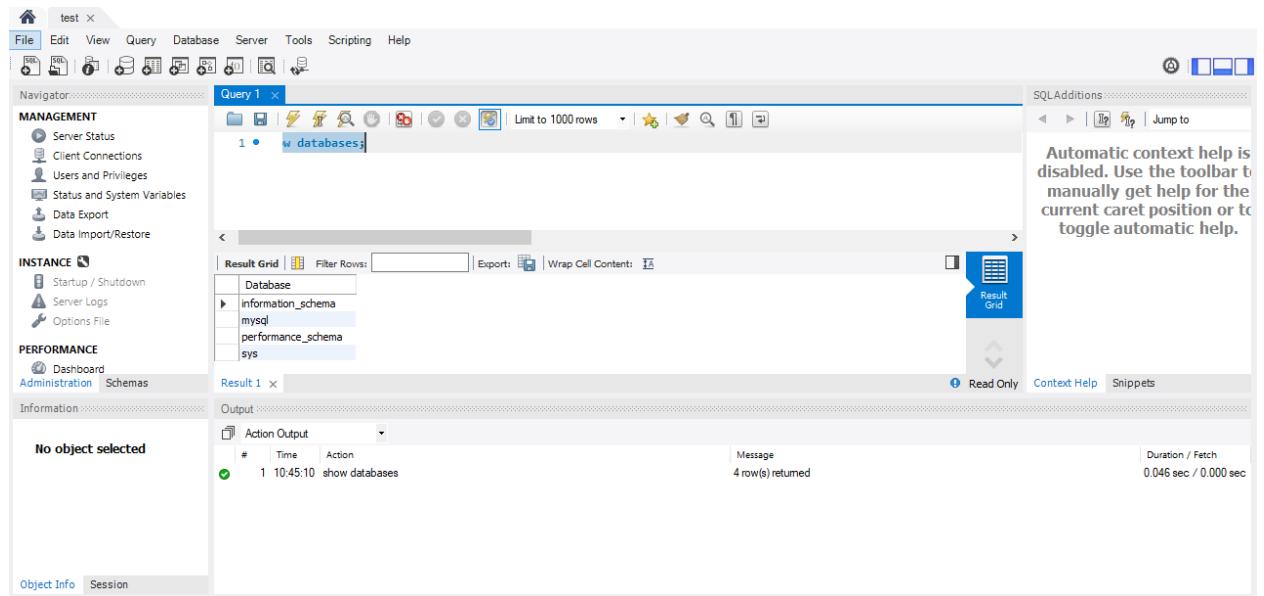
Username: azureuser

Password:

Default Schema:

Configure Server Management... Test Connection Cancel OK

10:43 AM 8/19/2024



MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: MANAGEMENT, INSTANCE, PERFORMANCE, Schemas

Query 1:

```
1 use mydatabase;
```

Output:

#	Time	Action	Message	Duration / Fetch
1	10:45:10	show databases	4 row(s) returned	0.046 sec / 0.000 sec
2	10:47:21	create database mydatabase	1 row(s) affected	0.062 sec
3	10:48:58	use mydatabase	0 row(s) affected	0.047 sec

Object Info Session

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Query 1: SQL File 1\* < SQL File 2\*

```
1 CREATE TABLE departments (
2     department_id INT PRIMARY KEY ,
3     department_name VARCHAR(100)
4 );
5
6
7 CREATE TABLE employees (
8     employee_id INT PRIMARY KEY,
9     employee_name VARCHAR(100),
10    department_id INT,
11    FOREIGN KEY (department_id) REFERENCES departments(department_id)
12 );
```

SQLAdditions: My Snippets

MySQL Workbench

**Query 1**

```

1 CREATE TABLE departments (
2     department_id INT PRIMARY KEY,
3     department_name VARCHAR(100)
4 );
5
6 CREATE TABLE employees (
7     employee_id INT PRIMARY KEY,
8     employee_name VARCHAR(100),
9     department_id INT,
10    FOREIGN KEY (department_id) REFERENCES departments(department_id)
11 );

```

**Action Output**

#	Time	Action	Message	Duration / Fetch
3	11:35:47	use mydatabase	0 row(s) affected	0.031 sec
4	11:38:34	CREATE TABLE departments (department_id INT PRIMARY KEY, department_name VARCHAR(100))	0 row(s) affected	0.110 sec
5	11:38:34	CREATE TABLE employees (employee_id INT PRIMARY KEY, employee_name VARCHAR(100), d...	0 row(s) affected	0.109 sec
6	11:43:44	INSERT INTO departments(department_id, department_name) VALUES (1, 'Human Resource'), (2, 'Engi...	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.047 sec
7	11:43:44	INSERT INTO employees(employee_id, employee_name, department_id) VALUES (101, 'Sachin', 1), (102, 'Virat', 2), ...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.078 sec

MySQL Workbench

**Query 1**

```

1 INSERT INTO departments (department_id, department_name)
2     VALUES
3     (1, 'Human Resource'),
4     (2, 'Engineering'),
5     (3, 'Marketing'),
6     (4, 'Finance');
7
8
9 INSERT INTO employees (employee_id, employee_name, department_id)
10    VALUES
11    (101, 'Sachin', 1),
12    (102, 'Virat', 2),
13    ...

```

**Action Output**

#	Time	Action	Message	Duration / Fetch
3	11:35:47	use mydatabase	0 row(s) affected	0.031 sec
4	11:38:34	CREATE TABLE departments (department_id INT PRIMARY KEY, department_name VARCHAR(100))	0 row(s) affected	0.110 sec
5	11:38:34	CREATE TABLE employees (employee_id INT PRIMARY KEY, employee_name VARCHAR(100), d...	0 row(s) affected	0.109 sec
6	11:43:44	INSERT INTO departments(department_id, department_name) VALUES (1, 'Human Resource'), (2, 'Engi...	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.047 sec
7	11:43:44	INSERT INTO employees(employee_id, employee_name, department_id) VALUES (101, 'Sachin', 1), (102, 'Virat', 2), ...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.078 sec

#inner join

```

1  SELECT employees.employee_name, departments.department_name
2  FROM employees
3  INNER JOIN departments
4  ON employees.department_id = departments.department_id;

```

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid

employee_name	department_name
Sachin	Human Resource
Virat	Engineering
Dhoni	Engineering
Rohit	Marketing
Bumrah	Finance

Action Output

#	Time	Action	Message	Duration / Fetch
4	11:38:34	CREATE TABLE departments ( department_id INT PRIMARY KEY, department_name VARCHAR(100) )	0 row(s) affected	0.110 sec
5	11:38:34	CREATE TABLE employees ( employee_id INT PRIMARY KEY, employee_name VARCHAR(100), d... )	0 row(s) affected	0.109 sec
6	11:43:44	INSERT INTO departments (department_id, department_name) VALUES (1, 'Human Resource'), (2, 'Engi...')	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.047 sec
7	11:43:44	INSERT INTO employees (employee_id, employee_name, department_id) VALUES (101, 'Sachin', 1), (102, 'Virat', 1), (103, 'Dhoni', 1), (104, 'Rohit', 2), (105, 'Bumrah', 3)	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.078 sec
8	11:47:05	SELECT employees.employee_name, departments.department_name FROM employees INNER JOIN de...	5 row(s) returned	0.031 sec / 0.000 sec

#left outer join

```

1  #left outer join
2  SELECT employees.employee_name, departments.department_name
3  FROM employees
4  LEFT OUTER JOIN departments
5  ON employees.department_id = departments.department_id;

```

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid

employee_name	department_name
Sachin	Human Resource
Virat	Engineering
Dhoni	Engineering
Rohit	Marketing
Bumrah	Finance

Action Output

#	Time	Action	Message	Duration / Fetch
5	11:38:34	CREATE TABLE employees ( employee_id INT PRIMARY KEY, employee_name VARCHAR(100), d... )	0 row(s) affected	0.109 sec
6	11:43:44	INSERT INTO departments (department_id, department_name) VALUES (1, 'Human Resource'), (2, 'Engi...')	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.047 sec
7	11:43:44	INSERT INTO employees (employee_id, employee_name, department_id) VALUES (101, 'Sachin', 1), (102, 'Virat', 1), (103, 'Dhoni', 1), (104, 'Rohit', 2), (105, 'Bumrah', 3)	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.078 sec
8	11:47:05	SELECT employees.employee_name, departments.department_name FROM employees INNER JOIN de...	5 row(s) returned	0.031 sec / 0.000 sec
9	11:48:56	SELECT employees.employee_name, departments.department_name FROM employees LEFT OUTER J...	5 row(s) returned	0.297 sec / 0.000 sec

#right OUTER join

```

1  #right OUTER join
2  SELECT employees.employee_name, departments.department_name
3  FROM employees
4  RIGHT OUTER JOIN departments
5  ON employees.department_id = departments.department_id;

```

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid

employee_name	department_name
Sachin	Human Resource
Virat	Engineering
Dhoni	Engineering
Rohit	Marketing
Bumrah	Finance

Action Output

#	Time	Action	Message	Duration / Fetch
6	11:43:44	INSERT INTO departments (department_id, department_name) VALUES (1, 'Human Resource'), (2, 'Engi...')	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.047 sec
7	11:43:44	INSERT INTO employees (employee_id, employee_name, department_id) VALUES (101, 'Sachin', 1), (102, 'Virat', 1), (103, 'Dhoni', 1), (104, 'Rohit', 2), (105, 'Bumrah', 3)	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.078 sec
8	11:47:05	SELECT employees.employee_name, departments.department_name FROM employees INNER JOIN de...	5 row(s) returned	0.031 sec / 0.000 sec
9	11:48:56	SELECT employees.employee_name, departments.department_name FROM employees LEFT OUTER J...	5 row(s) returned	0.297 sec / 0.000 sec
10	11:50:17	SELECT employees.employee_name, departments.department_name FROM employees RIGHT OUTER ...	5 row(s) returned	0.046 sec / 0.000 sec

Microsoft Azure - portal.azure.com

Create Azure Database for MySQL Flexible server - Restore server

Basics Networking Security Tags Review + create

Create an Azure Database for MySQL flexible server from an existing backup. [Learn more](#)

**Project details**

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

Subscription: Azure Pass - Sponsorship

Resource group: mysql

**Source details**

Select a backup source and detail. Additional settings will be defaulted where possible based on the backup selected.

Source server: harshaserver

Geo-redundant restore:  Restore to cross region

Earliest restore point: 2024-08-19 17:41:07.4633574 UTC

Point-in-time-restore (PITR):  Latest restore point (Now)  Select a custom restore point  Select fastest restore point (Restore using full backup)

**Estimated costs**

Compute Sku	INR
Standard_B2ms (2 vCores)	11903.49
Storage	INR 217.98/month
Storage selected 20 GiB (INR 10.90 per GiB)	20 x 10.90
Auto scale IOPS	Auto scale IOPS is billed on usage in per million request increments. <a href="#">Learn more</a>
Backup Retention	Backup retention is billed based on additional storage used for retaining backups. <a href="#">Learn more</a>
Bandwidth	

[Review + create](#) [Next: Networking >](#)

Microsoft Azure - portal.azure.com

Create Azure Database for MySQL Flexible server - Restore server

Basics Networking Security Tags Review + create

Create an Azure Database for MySQL flexible server from an existing backup. [Learn more](#)

**Source details**

Select a backup source and detail. Additional settings will be defaulted where possible based on the backup selected.

Source server: harshaserver

Geo-redundant restore:  Restore to cross region

Earliest restore point: 2024-08-19 17:41:07.4633574 UTC

Point-in-time-restore (PITR):  Latest restore point (Now)  Select a custom restore point  Select fastest restore point (Restore using full backup)

**Server details**

Enter required settings for this server, including picking a location and configuring the compute and storage resources.

Name\*: newserv04

Location: Central India

MySQL version: 8.0

**Estimated costs**

Compute Sku	INR
Standard_B2ms (2 vCores)	11903.49
Storage	INR 217.98/month
Storage selected 20 GiB (INR 10.90 per GiB)	20 x 10.90
Auto scale IOPS	Auto scale IOPS is billed on usage in per million request increments. <a href="#">Learn more</a>
Server name must be at least 3 characters and at most 63 characters.	
Server name must only contain lowercase letters, numbers, and hyphens. The server name must not start or end in a hyphen.	
Server name must be available.	
Bandwidth	

[Review + create](#) [Next: Networking >](#)

portal.azure.com/#view/HubsExtension/DeploymentDetailsBlade/~/overview/id/%2Fsubscriptions%2F348ac279-08f0-424f-b35b-80035082612a...

Microsoft Azure

RestoreMySQLFlexibleServer\_87a3982073524163bbd706b05fb5f5b3 | Overview

Your deployment is complete

Deployment name : RestoreMySQLFlexibleServer\_87a3982073524163bbd706b05fb5f5b3 Start time : 8/19/2024, 11:56:42 AM  
Subscription : Azure Pass - Sponsorship Correlation ID : 473f52e7-67e0-4abb-b89b-629ca614d8fa  
Resource group : mysql

Deployment details

Next steps

Learn how to manage your server Recommended  
For public access connectivity, setup a firewall rule to connect to the server Recommended  
Learn about private access connectivity method Recommended  
Setup monitoring alerts Recommended

Go to resource

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

Get started with MySQL Flexible Server  
Free Microsoft tutorials  
Create PHP + MySQL App

portal.azure.com/#@harshagiduturioutlook.onmicrosoft.com/resource/subscriptions/348ac279-08f0-424f-b35b-80035082612a/resourceGroups...

Microsoft Azure

Home > RestoreMySQLFlexibleServer\_87a3982073524163bbd706b05fb5f5b3 | Overview >

newserver04 ...  
Azure Database for MySQL Flexible server

Search

Connect View process list Delete Reset password Restore Restart Stop Refresh Feedback

Azure Database for MySQL - Live Webinar series: Learn about the latest updates (with demo) and interact directly with product group on the 2nd Wednesday of every month! [Subscribe to our YouTube channel](#) today!

Essentials

Subscription (move) : Azure Pass - Sponsorship  
Subscription ID : 348ac279-08f0-424f-b35b-80035082612a  
Resource group (move) : mysql  
Status : Available  
Location : Central India

Server name : newserver04.mysql.database.azure.com  
Server admin login name : azureuser  
Configuration : Burstable\_B2ms\_2 vCores, 8 GB RAM, 20 GB storage  
MySQL version : 8.0  
Availability zone : 2  
Created On : 2024-08-19 18:57:03.7467420 UTC

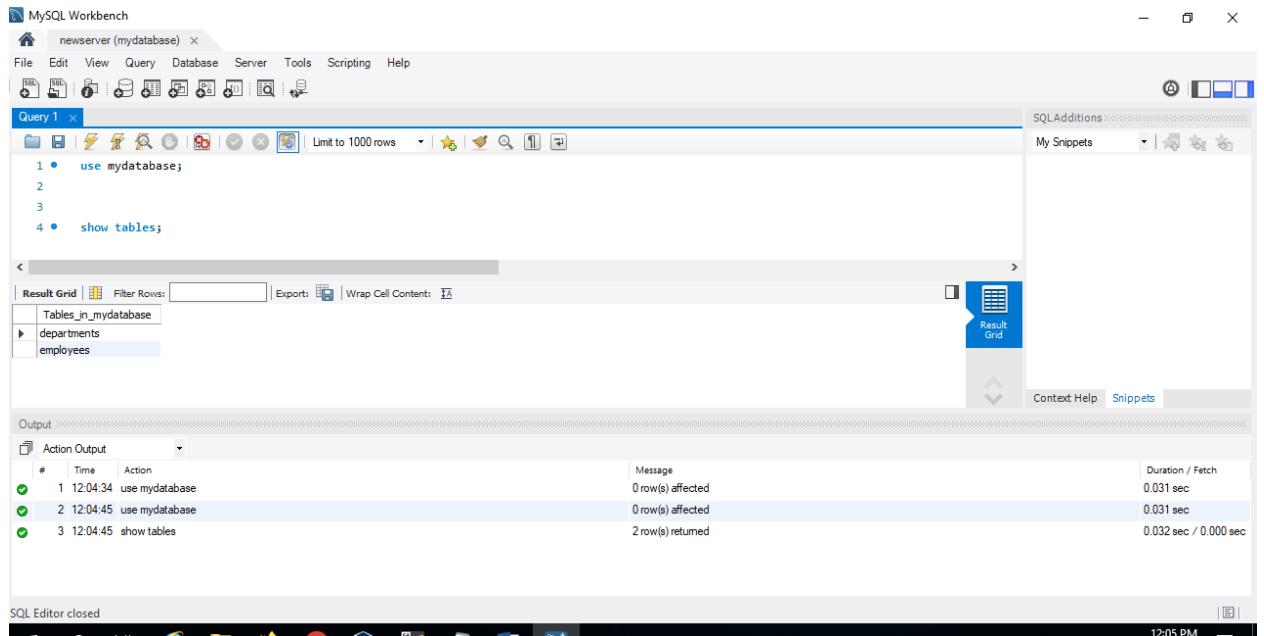
Tags (edit) : learner : harsha

Getting started Properties Recommendations Monitoring Tutorials

Start your project  
Connect to your database for the first time with a few simple steps.

Learn Learn about MySQL Flexible Server through a curated list of modules to take you from zero to hero.  
Allow access Configure network access to your MySQL database  
Connect View connection string to learn how to connect with the application driver you use (NET, PSQL, Python, JDBC, PHP, Node.js, Ruby, PHP, C++)  
Samples Setup a sample database schema to get started

12:02 PM 8/19/2024



The screenshot shows the Microsoft Azure portal with the URL 'Home > MySQLFlexibleServer\_c3504469ab90467aa0ac71753712999 | Overview'. The left sidebar shows the 'training-harsha' resource group with various options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Learning center, Settings, Connect, Server parameters, Replication, Maintenance, High availability, Backup and restore, and Advisor recommendations.

The main page displays the 'Azure Database for MySQL - Live Webinar series: Learn about the latest updates (with demo) and interact directly with product group on the 2nd Wednesday of every month! [Subscribe to our YouTube channel](#) today!' message.

The 'Essentials' section provides the following details:

Setting	Value
Subscription (move)	Azure Pass - Sponsorship
Subscription ID	: 348ac279-08f0-424f-b35b-80035082612a
Resource group (move)	: training
Status	: Available
Location	: Central India
Tags (edit)	: Add tag

Below the essentials, there are sections for 'Getting started', 'Start your project', 'Learn', 'Allow access', 'Connect', and 'Samples'.

The status bar at the bottom indicates '9:41 AM 8/21/2024'.

MySQL Workbench

replica

File Edit View Query Database Server Tools Scripting Help

Query Open a SQL script file in a new query tab

SHOW DATABASES

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

Database

information\_schema  
mysql  
performance\_schema  
sys

Action Output

#	Time	Action
1	09:54:56	SHOW DATABASES

Message: 4 row(s) returned

Duration / Fetch: 0.031 sec / 0.000 sec

Result 1

Output

Read Only Context Help Snippets



MySQL Workbench

replica

File Edit View Query Database Server Tools Scripting Help

Query 1 SQL File 1\* SQL File 2\*

SHOW DATABASES

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

Tables\_in\_mydatabase

Action Output

#	Time	Action	Message	Duration / Fetch
9	10:01:55	show tables	Error Code: 1046. No database selected Select the default DB to be used by double-clicking its name in t...	0.031 sec
10	10:04:32	create database mydatabase	1 row(s) affected	0.046 sec
11	10:04:47	show tables	Error Code: 1046. No database selected Select the default DB to be used by double-clicking its name in t...	0.047 sec
12	10:05:26	use mydatabase	0 row(s) affected	0.047 sec
13	10:06:19	show tables	0 row(s) returned	0.047 sec / 0.000 sec

Result 1

Output

Read Only Context Help Snippets

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

Tables\_in\_mydatabase

Action Output

#	Time	Action	Message	Duration / Fetch
9	10:01:55	show tables	Error Code: 1046. No database selected Select the default DB to be used by double-clicking its name in t...	0.031 sec
10	10:04:32	create database mydatabase	1 row(s) affected	0.046 sec
11	10:04:47	show tables	Error Code: 1046. No database selected Select the default DB to be used by double-clicking its name in t...	0.047 sec
12	10:05:26	use mydatabase	0 row(s) affected	0.047 sec
13	10:06:19	show tables	0 row(s) returned	0.047 sec / 0.000 sec

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Query 1 SQL File 1\* SQL File 2\* SQL File 3\* | Limit to 1000 rows

```

1 -- Create departments table
2 • CREATE TABLE departments (
3     department_id INT PRIMARY KEY,
4     department_name VARCHAR(50) NOT NULL
5 );
6
7 -- Create employees table
8 • CREATE TABLE employees (
9     employee_id INT PRIMARY KEY,
10    first_name VARCHAR(50),
11    last_name VARCHAR(50),
12    department_id INT,
13    salary DECIMAL(10,2)
14

```

Action Output

#	Time	Action	Message	Duration / Fetch
14	10:43:34	SHOW DATABASES	5 row(s) returned	0.047 sec / 0.000 sec
15	10:43:50	use mydatabase	0 row(s) affected	0.031 sec
16	10:44:09	show tables	0 row(s) returned	0.031 sec / 0.000 sec
17	10:44:53	CREATE TABLE departments ( department_id INT PRIMARY KEY, department_name VARCHAR(5... )	0 row(s) affected	0.109 sec
18	10:44:53	CREATE TABLE employees ( employee_id INT PRIMARY KEY, first_name VARCHAR(50), last_n...	0 row(s) affected	0.125 sec

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Query 1 SQL File 1\* SQL File 2\* SQL File 3\* | Limit to 1000 rows

```

1 • select * from employees

```

Result Grid | Filter Rows: [ ] | Edit: [ ] | Export/Import: [ ] | Wrap Cell Content: [ ]

employee_id	first_name	last_name	department_id	salary
1	John	Doe	1	50000.00
2	Jane	Smith	2	60000.00
3	Alice	Johnson	3	70000.00
HULL	HULL	HULL	HULL	HULL

employees 1 x

Action Output

#	Time	Action	Message	Duration / Fetch
17	10:44:53	CREATE TABLE departments ( department_id INT PRIMARY KEY, department_name VARCHAR(5... )	0 row(s) affected	0.109 sec
18	10:44:53	CREATE TABLE employees ( employee_id INT PRIMARY KEY, first_name VARCHAR(50), last_n...	0 row(s) affected	0.125 sec
19	10:46:04	INSERT INTO departments (department_id, department_name) VALUES (1, 'Human Resources'), (2, 'Fin...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.047 sec
20	10:46:04	INSERT INTO employees (employee_id, first_name, last_name, department_id, salary) VALUES (1, 'John', 'Doe', 1, 50000.00)	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.047 sec
21	10:46:19	select * from employees LIMIT 0, 1000	3 row(s) returned	0.047 sec / 0.000 sec

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > MySQLFlexibleServer\_c3504469ab90467aa0ac71753712999 | Overview > training-harsha

training-harsha | Compute + storage

Azure Database for MySQL flexible server

Compute

Compute resources are pre-allocated and billed per hour based on vCores configured.  
Note that high availability and read replicas is supported for only General purpose and Business critical tiers.

Compute tier

- Burstable (1-20 vCore) - Best for workloads that don't need the full CPU continuously
- General Purpose (2-96 vCores) - Balanced configuration for most common workloads
- Business Critical (2-96 vCores) - Best for Tier 1 workloads that require optimized performance

Compute Processor

- AMD
- Intel

Compute size

Standard\_D2ads\_v5 (2 vCores, 8 GB memory, 3200 max IOPS)

Storage

The storage you provision is the amount of storage capacity available to your flexible server and is billed GiB/month.  
Note that storage cannot be scaled down once the server is created.

Storage size (in GB) \* 20

IOPS

- Auto scale IOPS
- Pre-provisioned IOPS

Estimated costs

Compute SKU	INR	Cost
Standard_D2ads_v5 (2 vCores, INR 7318.22 per vCore)	14636.44/month	2 x 7318.22
Storage selected 20 GiB (INR 10.90 per GiB)	217.98/month	20 x 10.90

Auto scale IOPS

Auto scale IOPS is billed on usage in per million request increments. [Learn more](#)

Backup Retention

Backup retention is billed based on additional storage used for retaining backups. [Learn more](#)

Bandwidth

For outbound data transfer across services in different regions will incur additional charges. Any inbound data transfer is free. [Learn more](#)

10:47 AM 8/21/2024

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > training-harsha | Replication >

Add Replica server to Azure Database for MySQL

Basics Networking Security Tags Review + create

Project details

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

Subscription  Azure Pass - Sponsorship

Resource group  training

Server details

Enter required settings for this server, including picking a location and configuring the compute and storage resources.

Primary server name  training-harsha

Server name \* replica-harsha

Location \* Central India

Compute + storage  General Purpose, D2ads\_v5  
2 vCores, 8 GB RAM, 20 GiB storage  
[Configure server](#)

Estimated costs

Compute SKU	INR	Cost
Standard_D2ads_v5 (2 vCores, INR 7318.22 per vCore)	14636.44/month	2 x 7318.22
Storage selected 20 GiB (INR 10.90 per GiB)	217.98/month	20 x 10.90

Backup Retention

Backup retention is billed based on additional storage used for retaining backups. [Learn more](#)

Bandwidth

For outbound data transfer across services in different regions will incur additional charges. Any inbound data transfer is free. [Learn more](#)

Review + create Next: Networking >

10:54 AM

Microsoft Azure

Home > MySQLFlexibleServer\_d43611575fc14fb8a26a80477731b3ad | Overview >

replica-harsha

Azure Database for MySQL flexible server

Search Connect View process list Delete Reset password Restore Restart Stop Refresh Feedback

Overview Activity log Tags Diagnose and solve problems Learning center Settings Compute + storage Networking Databases Connect Server parameters Replication Maintenance High availability Backup and restore Advisor recommendations

Azure Database for MySQL – Live Webinar series: Learn about the latest updates (with demos) and interact directly with product group on the 2nd Wednesday of every month! [Subscribe to our YouTube channel](#) today!

Copied JSON View

Essentials

Subscription (move) : Azure Pass - Sponsorship  
Subscription ID : 348ac279-08f0-424f-b35b-80035082612a  
Resource group (move) : training  
Status : Available  
Location : Central India

Tags (edit) : Add tag

Getting started Properties Recommendations Monitoring Tutorials

Start your project

Connect to your database for the first time with a few simple steps.

Learn Allow access Connect Samples

Learn about MySQL Flexible Server through a curated list of modules to take you from zero, to hero.

Configure network access to your MySQL database

View connection string to learn how to connect with the application driver you use (NET, PSQL, Python, JDBC, PHP, Node.js, Ruby, PHP, C++)

Setup a sample database schema to get started

View connection strings

Samples in GitHub

11:05 AM 8/21/2024

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

replica replica-harsha

Query 1

1 • show tables;

Result Grid Filter Rows Export Wrap Cell Content

Tables\_in\_mydatabase

departments employees

Result 2

Action Output

#	Time	Action	Message	Duration / Fetch
1	11:07:29	show databases	5 row(s) returned	0.047 sec / 0.000 sec
2	11:07:54	mydatabase	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL... 0.046 sec	
3	11:08:03	use mydatabase	0 row(s) affected	0.031 sec
4	11:08:18	show tables	2 row(s) returned	0.031 sec / 0.000 sec

Result Grid Read Only Context Help Snippets

11:08 AM 8/21/2024

The screenshot shows the MySQL Workbench interface. In the top-left, there are two tabs: 'replica' and 'replica-harsha'. The menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. Below the menu is a toolbar with various icons. The main area is titled 'Query 1' and contains the following SQL code:

```
1 -- Insert data into departments table
2 INSERT INTO departments (department_id, department_name) VALUES
3 (1, 'Human Resources'),
4 (2, 'Finance'),
5 (3, 'Engineering');
6
7 -- Insert data into employees table
8 • INSERT INTO employees (employee_id, first_name, last_name, department_id, salary) VALUES
9 (1, 'John', 'Doe', 1, 50000.00),
10 (2, 'Jane', 'Smith', 2, 60000.00),
11 (3, 'Alice', 'Johnson', 3, 70000.00);
12
```

The 'Output' tab at the bottom displays the execution log:

#	Time	Action	Message	Duration / Fetch
3	11:08:03	use mydatabase	0 row(s) affected	0.031 sec
4	11:08:18	show tables	2 row(s) returned	0.031 sec / 0.000 sec
5	11:09:06	select * from employees LIMIT 0, 1000	0 row(s) returned	0.047 sec / 0.000 sec
6	11:09:25	select * from departments LIMIT 0, 1000	0 row(s) returned	0.063 sec / 0.000 sec
7	11:09:48	INSERT INTO departments (department_id, department_name) VALUES (1, 'Human Resources'), (2, 'Fin...	Error Code: 1290. The MySQL server is running with the --read-only option so it cannot execute this state...	0.032 sec

### 3<sup>rd</sup>. Host a Jenkins image on azure container instance

- FIRST CREATE A CONTAINER INSTANCE

Home > Container instances >

### Create container instance

[Review + create](#)

[Basics](#) [Networking](#) [Advanced](#) [Tags](#) [Review + create](#)

Azure Container Instances (ACI) allows you to quickly and easily run containers on Azure without managing servers or having to learn new tools. ACI offers per-second billing to minimize the cost of running containers on the cloud. [Learn more about Azure Container Instances](#)

**Project details**

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

Subscription \* [Azure Pass - Sponsorship](#)

Resource group \* [Create new](#)

**Container details**

Container name \*

Region \* [\(Asia Pacific\) Central India](#)

Availability zones (Preview) \* [None](#)

SKU [Standard](#)

Standard SKU is available for all regions. Confidential SKU is only available for specific regions. [Learn more](#)

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

- Now after giving in the resource group and container name we need to select other registry and give the JENKINS docker hub.

Microsoft Azure

Home > Container instances >

### Create container instance

[Review + create](#)

[SKU](#) [Standard](#)

Standard SKU is available for all regions. Confidential SKU is only available for specific regions. [Learn more](#)

**Image source \***

Quickstart images

Azure Container Registry

Other registry

Please be aware that Docker Hub has recently introduced a pull rate limit on Docker images. When specifying an image from the Docker Hub registry, this may impact the creation of your container instance. [Learn more](#)

**Run with Azure Spot discount**

Spot containers are not available in the selected region. [Learn more](#)

**Image type \***

Public  Private

**Image \***  The image name should be specified as a URI or a Docker Hub tag without protocol (for example: "mydockerregistry/hello-world", "myazureregistry/mycontainerimage")

If not specified, Docker Hub will be used for the container registry and the latest version of the image will be pulled.

**OS type \***

Linux  Windows

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

- Changing container size

**Create container instance**

**Image source \***

- Docker Hub images
- Azure Container Registry
- Other registry

**Please be aware that Docker Hub has recently introduced a pull rate limit on Docker images. When specifying an image from the Docker Hub registry, this may impact the creation of your container instance. [Learn more](#)**

**Run with Azure Spot discount**

**Spot containers are not available in the selected region. [Learn more](#)**

**Image type \***

- Public
- Private

**Image \*** Jenkins/jenkins

**OS type \***

- Linux
- Windows

**Size \***

1 vcpu, 1.5 GB memory, 0 gpus  
[Change size](#)

**Review + create** **< Previous** **Next : Networking >** **Ok** **Discard** **Give feedback**

- We will give in the Jenkins port number along with the desired protocol

**Create container instance**

**Networking**

Choose between three networking options for your container instance:

- **Public** will create a public IP address for your container instance.
- **Private** will allow you to choose a new or existing virtual network for your container instance.
- **None** will not create either a public IP or virtual network. You will still be able to access your container logs using the command line.

**Networking type**  Public  Private  None

**DNS name label**

**DNS name label scope reuse**  Any reuse (unsecure)

**Ports**

Ports	Ports protocol
80	TCP
8080	TCP

**Review + create** **< Previous** **Next : Advanced >** **Give feedback**

- We will wait for the validation to pass and then create the container instance.

The screenshot shows the 'Create container instance' wizard in the Microsoft Azure portal. The 'Validation passed' step has been completed. The 'Review + create' tab is selected. The 'Basics' section displays the following configuration:

Setting	Value
Subscription	Azure Pass - Sponsorship
Resource group	learning
Region	Central India
Container name	docker
SKU	Standard
Image type	Public
Image	Jenkins/Jenkins
OS type	Linux
Memory (GB)	2
Number of CPU cores	2
GPU type (preview)	None
GPU count	0

The 'Networking' section is collapsed. At the bottom, there are 'Create' and 'Next >' buttons, along with a link to 'Download a template for automation'.

- Now the container is created.

The screenshot shows the 'Overview' page for the 'docker' container instance. The left sidebar includes options like 'Search', 'Start', 'Restart', 'Stop', 'Delete', 'Refresh', and 'Give feedback'. The main area displays the container's details:

Essentials	Value
Resource group (move)	: learning
Status	: Running
Location	: Central India
Subscription (move)	: Azure Pass - Sponsorship
Subscription ID	: 348ac279-08f0-424f-b35b-80035082612a
Tags (edit)	: Add tag

Below this are three performance charts: 'CPU', 'Memory', and 'Network bytes received'. The 'CPU' chart shows usage from 0 to 100% over time. The 'Memory' chart shows usage from 0 to 1000 MB. The 'Network bytes received' chart shows usage from 0 to 1000 MB over time.

- Once the instance is created we will copy the ip and the Jenkins port number.

Getting Started

# Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

`/var/jenkins_home/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

Continue

4<sup>th</sup>: Create and configure a Cosmos DB account and perform CRUD operations.

Microsoft Azure

Home > Azure Cosmos DB >

## Create an Azure Cosmos DB account

Which API best suits your workload?

Azure Cosmos DB is a fully managed NoSQL and relational database service for building scalable, high performance applications. [Learn more](#)

To start, select the API to create a new account. The API selection cannot be changed after account creation.

Recommended APIs    Others

**Azure Cosmos DB for NoSQL**  
Azure Cosmos DB's core, or native API for working with documents. Supports fast, flexible development with familiar SQL query language and client libraries for .NET, JavaScript, Python, and Java.

[Create](#)   [Learn more](#)

**Azure Cosmos DB for MongoDB**  
Fully managed database service for apps written for MongoDB. Recommended if you have existing MongoDB workloads that you plan to migrate to Azure Cosmos DB.

[Create](#)   [Learn more](#)

Give Feedback

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portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure Search resources, services, and docs (G+) harshagiduturi@outlook.com DEFAULT DIRECTORY

### Create Azure Cosmos DB Account - Azure Cosmos DB for NoSQL ...

Validation Success

Basics Global distribution Networking Backup Policy Encryption Tags Review + create

**Creation Time**

Estimated Account Creation Time (in minutes) 2

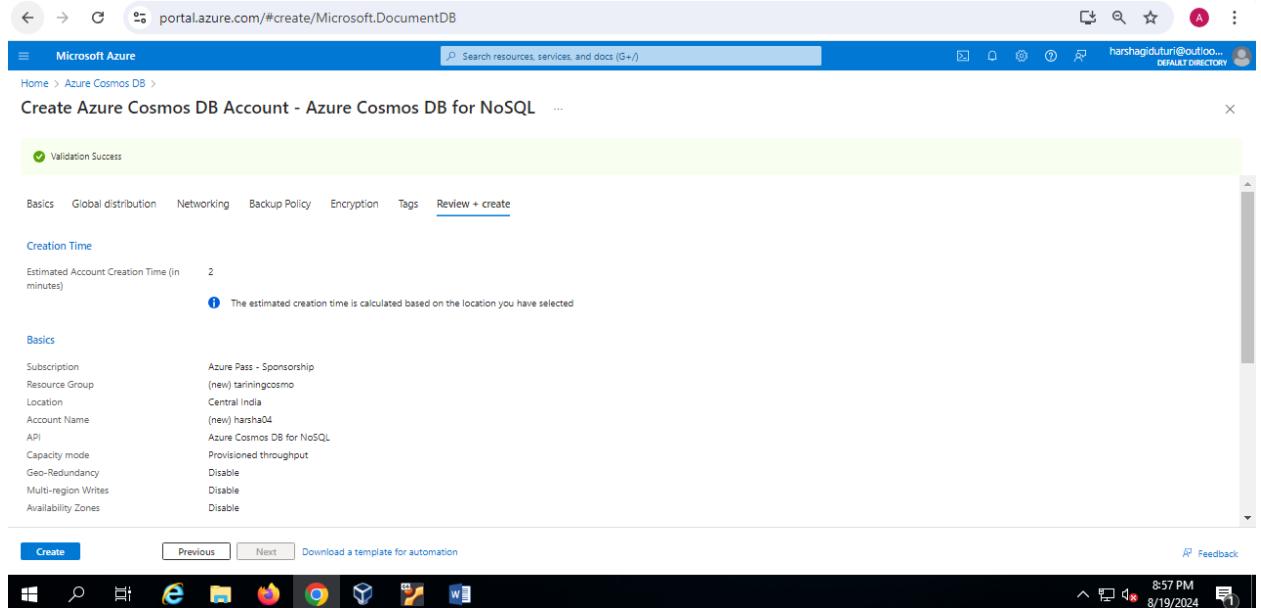
The estimated creation time is calculated based on the location you have selected

**Basics**

Subscription	Azure Pass - Sponsorship
Resource Group	(new) taringcosmo
Location	Central India
Account Name	(new) HarshaQ4
API	Azure Cosmos DB for NoSQL
Capacity mode	Provisioned throughput
Geo-Redundancy	Disable
Multi-region Writes	Disable
Availability Zones	Disable

Create Previous Next Download a template for automation Feedback

8:57 PM 8/19/2024



portal.azure.com/#view/HubsExtension/DeploymentDetailsBlade/~/overview/id/%2Fsubscriptions%2F348ac279-08f0-424f-b35b-80035082612a%2Fr...

Microsoft Azure Search resources, services, and docs (G+) harshagiduturi@outlook.com DEFAULT DIRECTORY

### Microsoft.Azure.CosmosDB-20240819205928 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

**Overview**

Your deployment is complete

Deployment name : Microsoft.Azure.CosmosDB-20240819205928  
Subscription : Azure Pass - Sponsorship  
Resource group : taringcosmo

Start time : 8/19/2024, 8:59:30 PM  
Correlation ID : 88de734b-e029-49a3-8b6a-479119b69bd1

Deployment details  
Next steps

Go to resource Give feedback Tell us about your experience with deployment

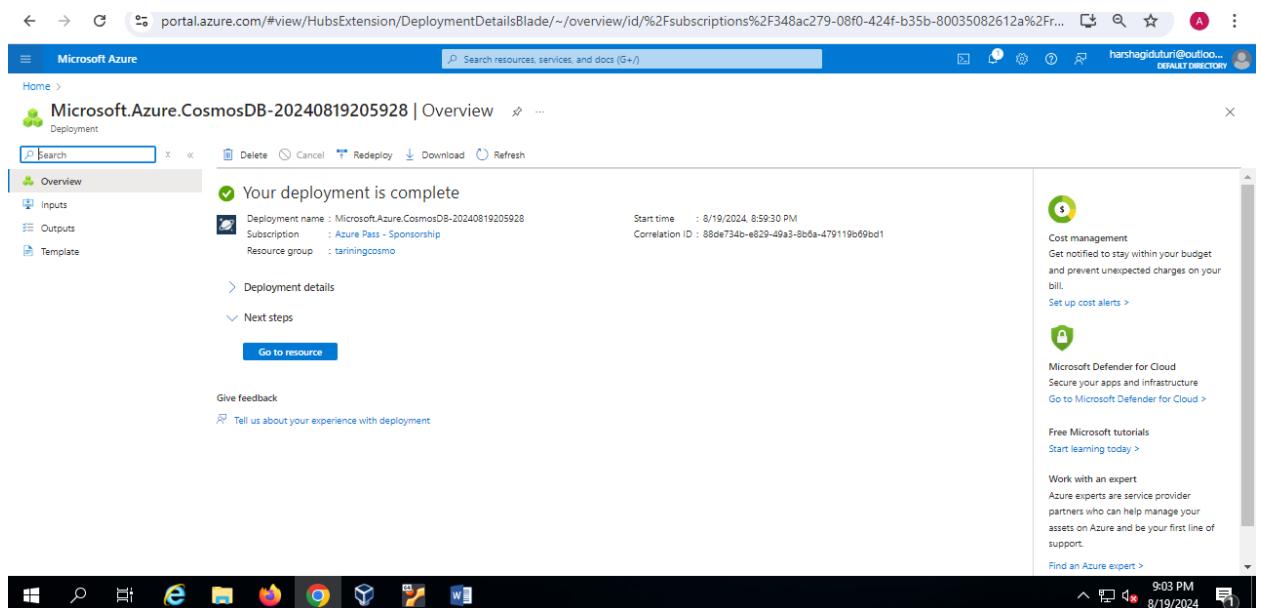
**Cost management**  
Get notified to stay within your budget and prevent unexpected charges on your bill.  
Set up cost alerts >

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

**Free Microsoft tutorials**  
Start learning today >

**Work with an expert**  
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.  
Find an Azure expert >

9:03 PM 8/19/2024



Microsoft Azure | portal.azure.com/#@harshagiduturioutlook.onmicrosoft.com/resource/subscriptions/348ac279-08f0-424f-b35b-80035082612a/resourcegroups/tarin...

Search resources, services, and docs (G+)

harsha04 | Overview

Acute Cosmos DB account

Add Container Refresh Move Data Explorer Enable geo-redundancy Delete Account Feedback

Welcome to your Azure Cosmos DB Free Tier account! Your first 1000 RU/s and 25 GB of storage will be free for the lifetime of this account. Click here to learn more.

Query with AI using Microsoft Copilot for Azure in Cosmos DB! Ask your subscription admin to enable the preview today. Learn more Enroll

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer Settings Integrations Containers Monitoring Automation Help

Essentials Status: Online Read Locations: Central India Resource group (move): tariningscosmo Write Locations: Central India Subscription (move): Azure Pass - Sponsorship URI: https://harsha04.documents.azure.com:443/ Total throughput limit: 1000 RU/s Free Tier Discount: Opted In Capacity mode: Provisioned throughput

Containers

Monitoring Show data for last: 1 hour 24 hours 7 days 30 days Requests Estimated Cost (hourly) Throughput

JSON View

9:18 PM 8/19/2024

Microsoft Azure | portal.azure.com/#@harshagiduturioutlook.onmicrosoft.com/resource/subscriptions/348ac279-08f0-424f-b35b-80035082612a/resourcegroups/tarin...

Search resources, services, and docs (G+)

harsha04 | Overview

Azure Cosmos DB account

Search Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer Settings Integrations Containers Monitoring Automation Help

Congratulations! Your Azure Cosmos DB account was created.

Now, let's connect to it using a sample app:

Choose a platform .NET Java Node.js Python

Step 1: Add a container

In Azure Cosmos DB, data is stored in containers.

Create 'Items' container

Create 'Items' container with 400 Request Units per second (RU/s) throughput capacity, for up to 400 reads/sec. To see your container, go to Data Explorer and find the ToDoList database.

Step 2: Download and run your Python app

Once collection is created, download a sample Python app connected to it, extract, build and run.

Download

Follow instructions in the [readme.md](#) to setup prerequisites needed to run Java web apps, if you haven't already.

Give Feedback Help improve this page

Windows Search Internet Explorer File Google Chrome Firefox Microsoft Edge Word

Microsoft Azure

Home > Microsoft.Azure.CosmosDB-20240819205928 | Overview > harsha04

harsha04 | Data Explorer

Azure Cosmos DB account

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Cost Management

Quick start

Data Explorer

+ New Container

New SQL Query

Open Query

New Stored Procedure

Enable Azure Synapse Link

To prevent queries from using excessive RU's, Data Explorer has a 5,000 RU default limit. To modify or remove the limit, go to the Settings cog on the right and find "RU Threshold". Learn More

Home

ToDoList

Items

Items

Scale & Settings

Stored Procedures

User Defined Functions

Triggers

SELECT \* FROM c

id /partition

Edit Filter

9:22 PM

Microsoft Azure

Home > harsha04

harsha04 | Data Explorer

Azure Cosmos DB account

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Cost Management

Quick start

Data Explorer

+ New Container

New SQL Query

Open Query

New Stored Procedure

Enable Azure Synapse Link

To prevent queries from using excessive RU's, Data Explorer has a 5,000 RU default limit. To modify or remove the limit, go to the Settings cog on the right and find "RU Threshold". Learn More

Home

harshadb

Scale

Welcome to Azure Cosmos DB

Globally distributed, multi-model database service

Launch quick start

Launch a quick start tutorial to get started with sample data.

New Container

Create a new container for storage and throughput.

New Container

Database id

Create new  Use existing

harshadb

Container id

actors

Indexing

Automatic  Off

All properties in your documents are indexed by default for flexible and efficient queries. Learn more.

Partition key

/test

Add hierarchical partition key

Provision dedicated throughput for this container

Microsoft Azure

Home > harsha04

## harsha04 | Data Explorer

Azure Cosmos DB account

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Cost Management

Quick start

Data Explorer

- Settings
- Integrations
- Containers
- Monitoring
- Automation
- Help

+ New Container

Home

SELECT \* FROM c

actors.items

id

/test

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Load more

0 2 7

11:02 PM

The screenshot shows the Microsoft Azure Data Explorer interface for an Azure Cosmos DB account named 'harsha04'. The left sidebar includes links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Cost Management, Quick start, and Data Explorer. Under Data Explorer, there are options for Settings, Integrations, Containers, Monitoring, Automation, and Help. A 'New Container' button is available at the top. The main area displays a table with columns 'id' and '/test'. The table contains three rows with values 1, 2, and 3. Below the table, a JSON snippet is shown:

```
1 { "id": "4", "name": "Suriya", "birthYear": 1975, "movies": ["Oopiri", "Kaakha Kaakha", "Singam"], "r_id": "9gQEAOhqAoFAAAAAAA=", "_self": "db://SqlAA-/colls/9gQEAOhqAo/docs/9gQEAOhqAoFAAAAAAA=", "_etag": "\\"2024-08-20T00:00:00Z\\", "_attachments": "attachments/", "_ts": 1724134946} 2 { "id": "1", "name": "Vijay", "birthYear": 1974, "movies": ["Mersal", "Thuppakkai", "Master"], "r_id": "9gQEAOhqAoFAAAAAAA=", "_self": "db://SqlAA-/colls/9gQEAOhqAo/docs/9gQEAOhqAoFAAAAAAA=", "_etag": "\\"2024-08-20T00:00:00Z\\", "_attachments": "attachments/", "_ts": 1724134828} 3 { "id": "2", "name": "Amitabh Bachchan", "birthYear": 1942, "movies": ["Sholay", "Kabhi Khushi Kabhi Gham", "Dilwale Dulhania Le Jayenge"], "r_id": "9gQEAOhqAoFAAAAAAA=", "_self": "db://SqlAA-/colls/9gQEAOhqAo/docs/9gQEAOhqAoFAAAAAAA=", "_etag": "\\"2024-08-20T00:00:00Z\\", "_attachments": "attachments/", "_ts": 1724134946}
```

Microsoft Azure

Home > harsha04

## harsha04 | Data Explorer

Azure Cosmos DB account

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Cost Management

Quick start

Data Explorer

- Settings
- Integrations
- Containers
- Monitoring
- Automation
- Help

+ New Container

Home

actors.items

harshadb.Scale

id

/test

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Load more

12:33 AM Message: ("errors": [{"severity": "Error", "location": {"start": 84, "end": 88}, "code": "SC2001", "message": "'identifier 'name' could not be resolved.'"}], ActivityId: c78580b12-2559-422f-853b-ae8af396da5, Microsoft.Azure.Documents.Common/2.14.0)

12:34 AM 8/20/2024

This screenshot shows the Microsoft Azure Data Explorer interface for the same 'harsha04' account. The left sidebar and navigation are identical to the first screenshot. The main area shows a table with columns 'id' and '/test'. The table contains two rows with values 1 and 3. Below the table, a JSON snippet is shown:

```
1 { "id": "3", "name": "Vijay", "birthYear": 1974, "movies": ["Mersal", "Thuppakkai", "Master"], "r_id": "9gQEAOhqAoFAAAAAAA=", "_self": "db://SqlAA-/colls/9gQEAOhqAo/docs/9gQEAOhqAoFAAAAAAA=", "_etag": "\\"2024-08-20T00:00:00Z\\", "_attachments": "attachments/", "_ts": 1724134828} 2 { "id": "1", "name": "Amitabh Bachchan", "birthYear": 1942, "movies": ["Sholay", "Kabhi Khushi Kabhi Gham", "Dilwale Dulhania Le Jayenge"], "r_id": "9gQEAOhqAoFAAAAAAA=", "_self": "db://SqlAA-/colls/9gQEAOhqAo/docs/9gQEAOhqAoFAAAAAAA=", "_etag": "\\"2024-08-20T00:00:00Z\\", "_attachments": "attachments/", "_ts": 1724134946}
```

A message at the bottom of the table indicates an error: "Message: ('errors': [{"severity": "Error", "location": {"start": 84, "end": 88}, "code": "SC2001", "message": "'identifier 'name' could not be resolved.'"}], ActivityId: c78580b12-2559-422f-853b-ae8af396da5, Microsoft.Azure.Documents.Common/2.14.0)". The system status bar at the bottom right shows the time as 12:34 AM and the date as 8/20/2024.

Microsoft Azure | portal.azure.com/#@harshagiduturioutlook.onmicrosoft.com/resource/subscriptions/348ac279-08f0-424f-b35b-80035082612a/resourceGroups/tarin...    

Microsoft Azure harsha04

harsha04 | Data Explorer  

Azure Cosmos DB account

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer Settings Integrations Containers Monitoring Automation Help

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New Container  Home actors.items harshadb.Scale

SELECT \* FROM c

	id	/test
<input checked="" type="checkbox"/>	1	"id": "1", "name": "Rajinikanth", "birthYear": 1952, "movies": [ {"id": 1, "name": "Sivaji", "Enthiran"}, {"id": 2, "name": "Enthiran", "Enthiran"}, {"id": 3, "name": "Sivaji", "Enthiran"}, {"id": 4, "name": "Enthiran", "Enthiran"}], "_rid": "9gQEAOhqAoCAAAAAAAA-", "_self": "dbs/9gQEAOhqAo/colls/9gQEAOhqAo/docs/9gQEAOhqAoCAAAAAAAA-", "_etag": "\\"1200af5c-0000-0000-66c447590000\\\"", "_attachments": "attachments/", "_ts": 1724134772
<input type="checkbox"/>	2	
<input type="checkbox"/>	3	
<input type="checkbox"/>	4	

Load more

12:33 AM Message: ["severity":"Error","location":{"start":84,"end":88}, "code":"SC2001", "message":"Identifier 'name' could not be resolved."] ActivityId: c7658b12-2559-4221-853b-ae8a9f96d45, Microsoft.Azure.Documents.Common/2.14.0

12:35 AM Successfully updated item 1

12:33 AM Message: ["severity":"Error","location":{"start":84,"end":88}, "code":"SC2001", "message":"Identifier 'name' could not be resolved."] ActivityId: c7658b12-2559-4221-853b-ae8a9f96d45, Microsoft.Azure.Documents.Common/2.14.0

12:33 AM Message: ["severity":"Error","location":{"start":84,"end":88}, "code":"SC2001", "message":"Identifier 'name' could not be resolved."] ActivityId: 485c5e8a-9326-4089-99e2-03e3b2ca24c, Microsoft.Azure.Documents.Common/2.14.0

11:22 PM Successfully created new item for container actors

11:20 PM Successfully created new item for container actors

Windows Taskbar:         12:35 AM 8/20/2024

Microsoft Azure | portal.azure.com/#@harshagiduturioutlook.onmicrosoft.com/resource/subscriptions/348ac279-08f0-424f-b35b-80035082612a/resourceGroups/tarin...    

Microsoft Azure harsha04

harsha04 | Data Explorer  

Azure Cosmos DB account

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer Settings Integrations Containers Monitoring Automation Help

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New Container  Home actors.items harshadb.Scale

SELECT \* FROM c

	id	/test
<input checked="" type="checkbox"/>	1	"id": "1", "name": "Rajinikanth", "birthYear": 1972, "movies": [ {"id": 1, "name": "Muthu", "Enthiran"}, {"id": 2, "name": "Sivaji", "Enthiran"}, {"id": 3, "name": "Enthiran", "Enthiran"}, {"id": 4, "name": "Enthiran", "Enthiran"}], "_rid": "9gQEAOhqAoCAAAAAAAA-", "_self": "dbs/9gQEAOhqAo/colls/9gQEAOhqAo/docs/9gQEAOhqAoCAAAAAAAA-", "_etag": "\\"1200af5c-0000-0000-66c447590000\\\"", "_attachments": "attachments/", "_ts": 1724139353
<input type="checkbox"/>	2	
<input type="checkbox"/>	3	
<input type="checkbox"/>	4	

Load more

12:35 AM Successfully updated item 1

12:33 AM Message: ["severity":"Error","location":{"start":84,"end":88}, "code":"SC2001", "message":"Identifier 'name' could not be resolved."] ActivityId: c7658b12-2559-4221-853b-ae8a9f96d45, Microsoft.Azure.Documents.Common/2.14.0

12:33 AM Message: ["severity":"Error","location":{"start":84,"end":88}, "code":"SC2001", "message":"Identifier 'name' could not be resolved."] ActivityId: 485c5e8a-9326-4089-99e2-03e3b2ca24c, Microsoft.Azure.Documents.Common/2.14.0

11:22 PM Successfully created new item for container actors

11:20 PM Successfully created new item for container actors

Windows Taskbar:         12:36 AM 8/20/2024

Microsoft Azure | Data Explorer

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer

Search Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer

Query with AI using Microsoft Copilot for Azure in Cosmos DB! Ask your subscription admin to enable the preview today. Learn more Enroll

+ New Container

To prevent queries from using excessive RU/s, Data Explorer has a 5,000 RU default limit. To modify or remove the threshold! Learn More

Enable Azure Synapse Link

New Database

Database id harshadb

Provision throughput Database throughput (autoscale)

Autoscale Manual

Estimate your required RU/s with capacity calculator

Database Max RU/s 1000

Your database throughput will automatically scale from 100 RU/s (10% of max RU/s) - 1000 RU/s based on usage.

harsha04 - Download Mail - Sri S Azure Devx Settings Extensions Azure Devx harshagidutri@outlook.com DEFAULT DIRECTORY

Microsoft Azure | Data Explorer

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer

Search Overview Activity log Access control (IAM) Tags Diagnose and solve problems Cost Management Quick start Data Explorer

Home actors.items harshadb Scale

SELECT \* FROM c

	/task	1	2	3	4	5
1		"1": "2",	"name": "Kanal Haasan",			
2						
3						
4						
5						

Confirm delete

Are you sure you want to delete the selected item?

Delete Cancel

12:35 AM Successfully updated item 1

12:33 AM Message: ["error": {"level": "Error", "location": {"start": 24, "end": 88}, "code": "SC2001", "message": "Identifier 'name' could not be resolved."}]

ActivityId: c7858d12-2559-422f-853b-aebaf596da5, Microsoft.Azure.Documents.Common/2.14.0

12:33 AM Message: ["error": {"level": "Error", "location": {"start": 24, "end": 88}, "code": "SC2001", "message": "Identifier 'name' could not be resolved."}]

ActivityId: 485c5eba-9326-40b9-99e2-03e53b2ca84c, Microsoft.Azure.Documents.Common/2.14.0

11:22 PM Successfully created new item for container actors

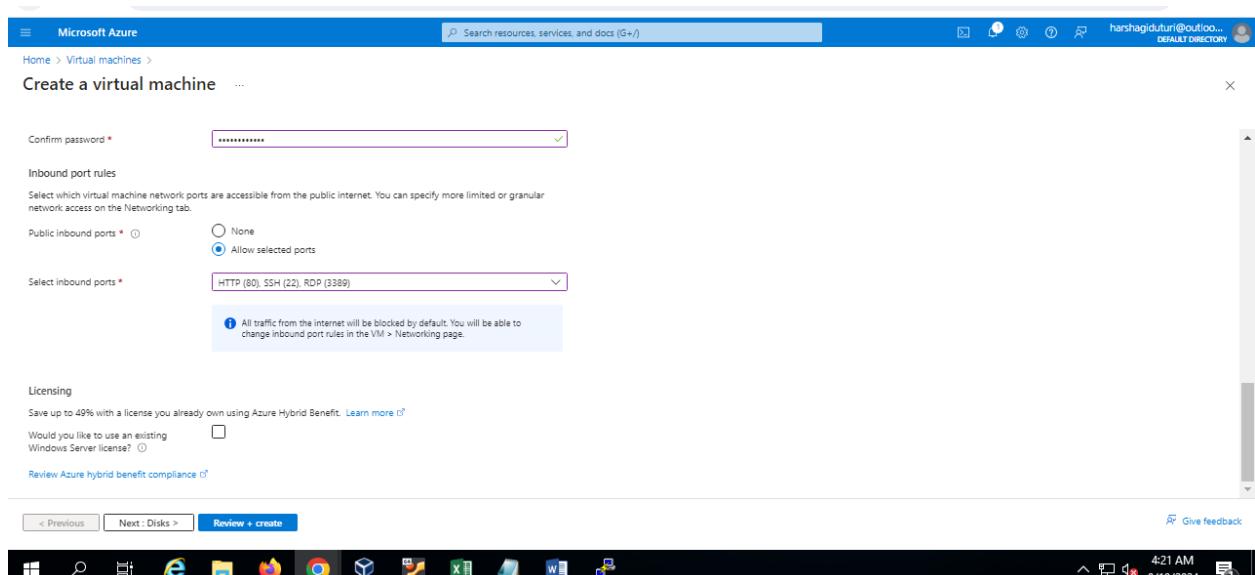
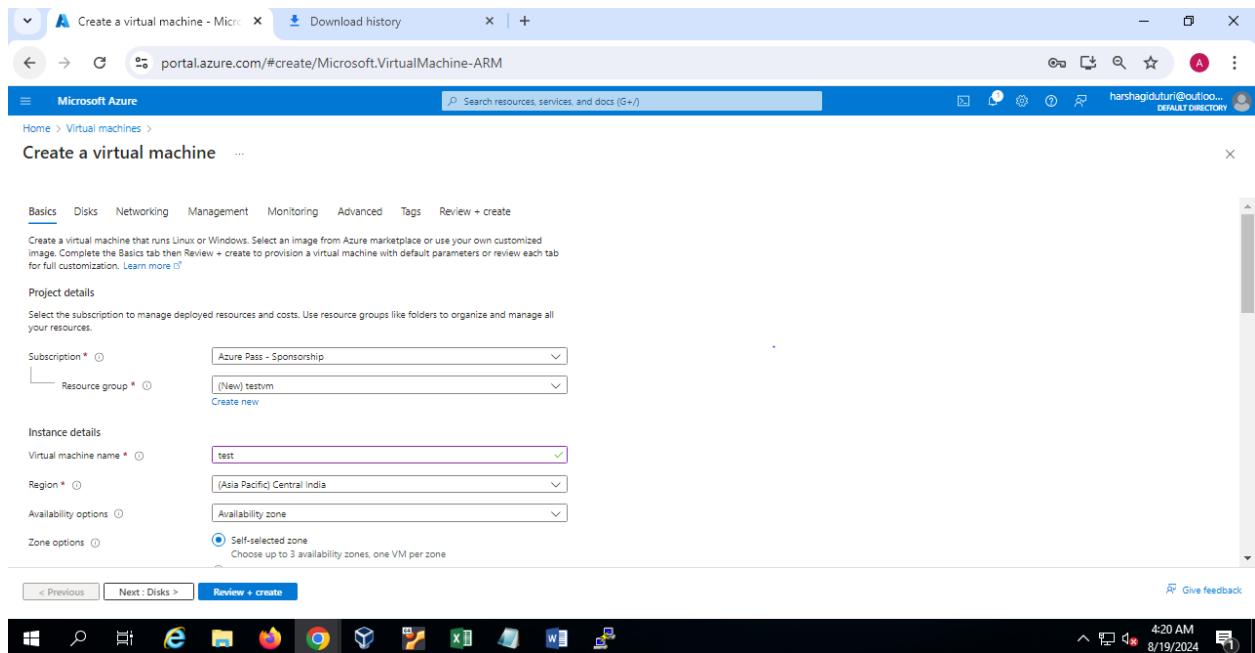
11:20 PM Successfully created new item for container actors

12:36 AM 8/20/2024

The screenshot shows the Microsoft Azure Data Explorer interface for an Azure Cosmos DB account named 'harsha04'. The left sidebar includes options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Cost Management, Quick start, and Data Explorer. The Data Explorer section is selected and displays a container named 'actors'. The 'Items' tab is active, showing four items with IDs 1, 3, and 4. A query bar at the top right shows 'SELECT \* FROM c'. Below the table, a timeline lists activity logs:

- 12:36 AM Successfully deleted item: 1 out of 1
- 12:35 AM Successfully updated item 1
- 12:33 AM Message: ("error": {"severity": "Error", "location": {"start": 84, "end": 98}, "code": "SC2001", "message": "Identifier 'name' could not be resolved."})  
ActivityId: c78580c2-3539-422f-853b-a8eaf956da45, Microsoft.Azure.Documents.Common/2.14.0
- 12:33 AM Message: ("error": {"severity": "Error", "location": {"start": 84, "end": 98}, "code": "SC2001", "message": "Identifier 'name' could not be resolved."})  
ActivityId: 488c5eba-b926-407b-9962-03e53b2ca64c, Microsoft.Azure.Documents.Common/2.14.0
- 11:22 PM Successfully created new item for container actors

5<sup>th</sup>. Create a alert for high cpu usage



Microsoft Azure

Home > Virtual machines >

### Create a virtual machine

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Configure monitoring options for your VM.

Alerts

Enable recommended alert rules

Alert rules

**Alert rules not configured**

Configure

Diagnostics

Boot diagnostics  Enable with managed storage account (recommended)  Enable with custom storage account  Disable

Enable OS guest diagnostics

Health

Enable application health monitoring

Set up recommended alert rules

Select alert rules

> Percentage CPU is greater than 80 %

> Available Memory Bytes is less than 1 GB

> Data Disk IOPS Consumed Percentage is greater than 95 %

> OS Disk IOPS Consumed Percentage is greater than 95 %

> Network In Total is greater than 500 GB

> Network Out Total is greater than 200 GB

> VmAvailability/Metric is less than 1

Notify me by

Email  harshagiduturi@outlook.com

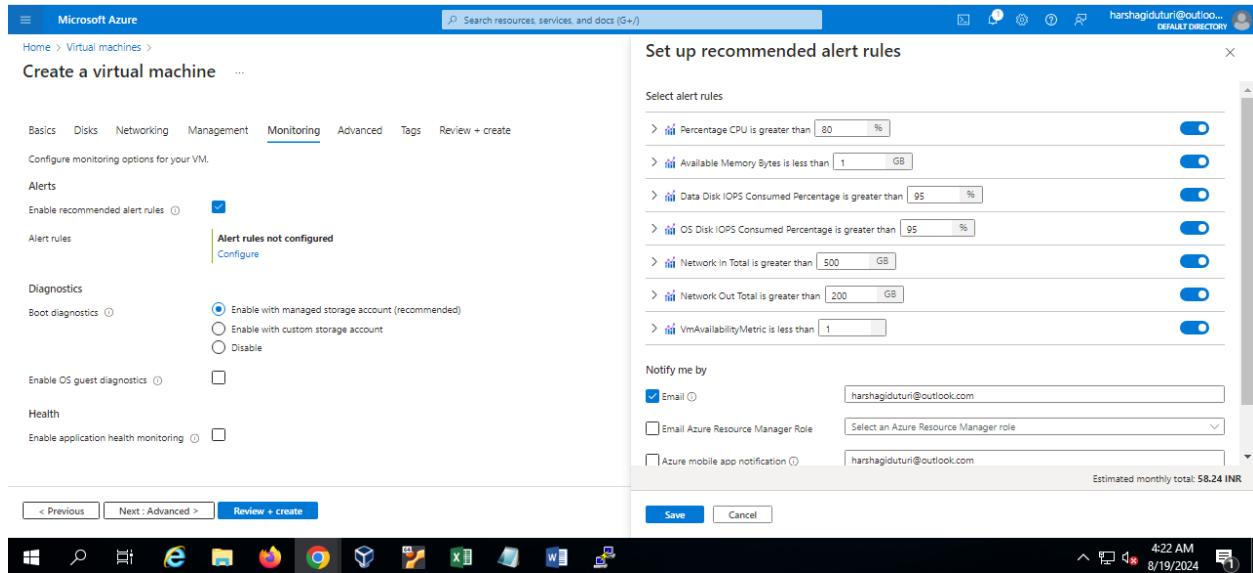
Email Azure Resource Manager Role  Select an Azure Resource Manager role

Azure mobile app notification  harshagiduturi@outlook.com

Estimated monthly total 58.24 INR

Save Cancel

4:25 AM 8/19/2024



Microsoft Azure

Home > CreateVm-MicrosoftWindowsServer:WindowsServer-202-20240819041823 | Overview >

### test

Virtual machine

Search Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Connect

Networking

Settings

Availability + scale

Security

Backup + disaster recovery

Operations

Monitoring

Automation

Help

Essentials

Resource group (move) : testvm

Status : Running

Location : Central India (Zone 1)

Subscription (move) : Azure Pass - Sponsorship

Subscription ID : 348ac279-0f10-424f-b35b-80035082612a

Availability zone : 1

Tags (edit) : Add tags

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

Computer name : test

Operating system : Windows (Windows Server 2022 Datacenter Azure Edition)

VM generation : V2

VM architecture : x64

Agent status : Ready

Agent version : 2.7.41491.1095

Networking

Public IP address : 20.244.109.83 ( Network interface test354\_1 )

Public IP address (IPv6) : -

Private IP address : 10.0.0.4

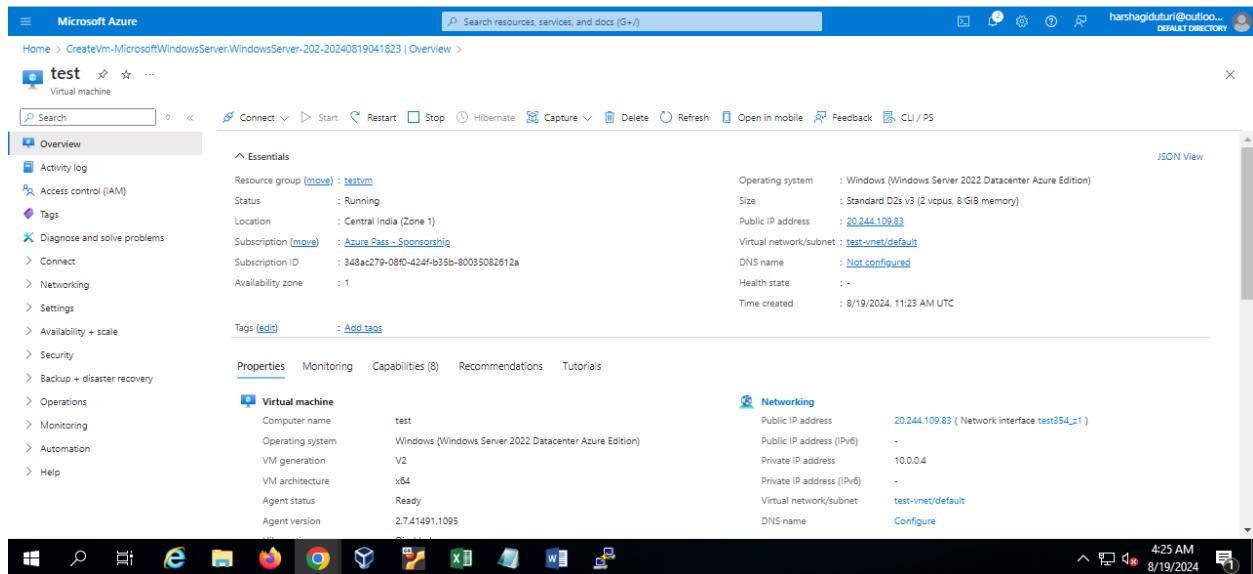
Private IP address (IPv6) : -

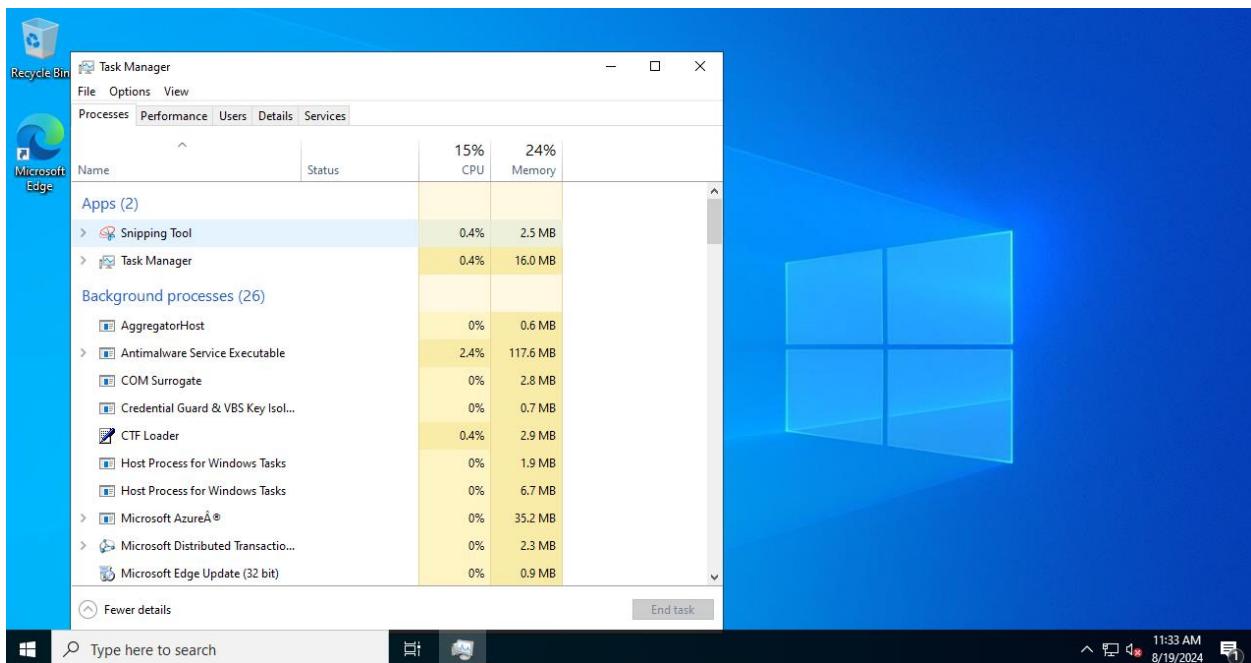
Virtual network/subnet : test-vnet/default

DNS name : Configure

JSON View

4:25 AM 8/19/2024

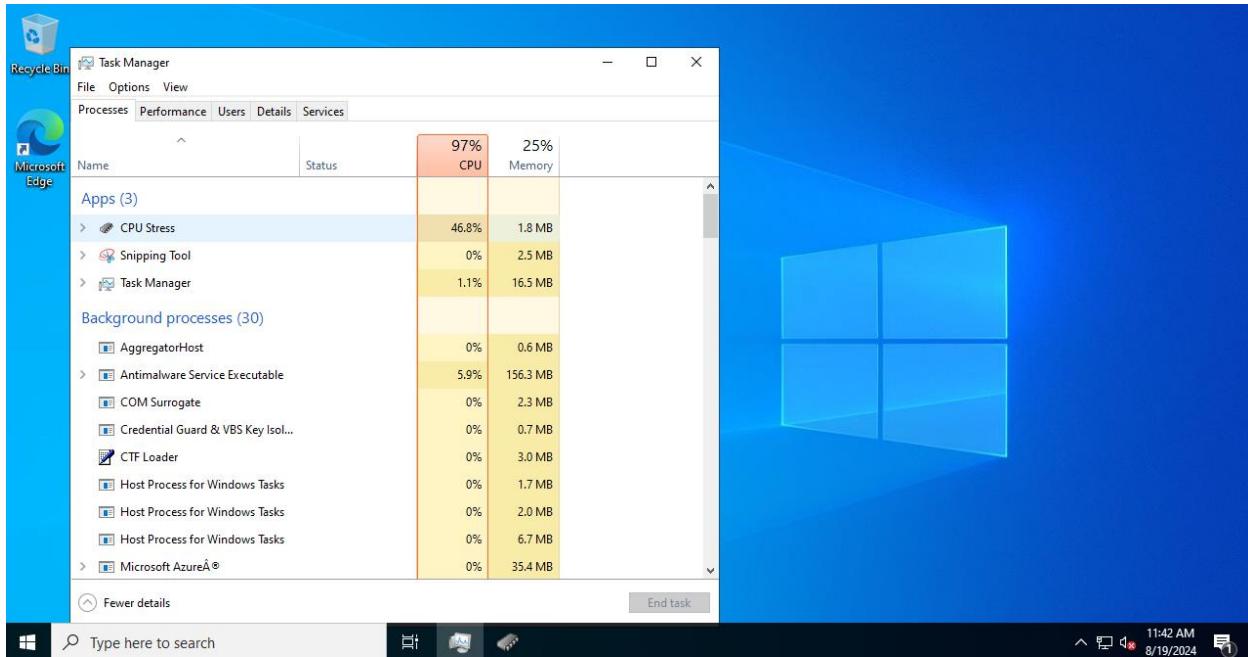




The screenshot shows the Microsoft Azure Metrics dashboard for a virtual machine named 'test'. The main chart displays the 'Avg Percentage CPU for test' over the last 24 hours. A tooltip for the chart lists the following metrics:

Metric Namespace	Metric	Aggregation
Virtual Machine Host	Percentage CPU	Avg
	Available Memory Bytes (Preview)	
	CPU Credits Consumed	
	CPU Credits Remaining	
	Data Disk Bandwidth Consumed Percentage	
	Data Disk IOPS Consumed Percentage	
	Data Disk Latency (Preview)	
	Data Disk Max Burst Bandwidth	
	Data Disk Max Write IOPS	
	Enable guest memory metrics	

The dashboard also includes options for 'New chart', 'Refresh', 'Share', 'Feedback', and 'Save to dashboard'. The left sidebar shows navigation links for 'Metrics' and other Azure services like 'Diagnose and solve problems', 'Insights', 'Logs', and 'Workbooks'.



A screenshot of the Microsoft Azure Metrics blade for a virtual machine named 'test'. The left sidebar shows navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Monitoring, Insights, Alerts, Metrics (which is selected), and Diagnostic settings. The main area displays a line chart titled 'Avg Percentage CPU for test' showing CPU usage over time. A significant spike in CPU usage is visible around 6 AM UTC on August 19, 2024, reaching nearly 100% usage.

Local Time: 8/18 5:06 PM - 8/19 5:06 PM (Auto...)

Percentage CPU (Avg), test | \$5.4495%

The screenshot shows a Microsoft Edge browser window with a pinned tab for 'Focused' alerts. The main content area displays an alert from 'Microsoft Azure' with the title 'Fired:Sev3 Azure Monitor Alert Percentage CPU - test on test (microsoft.compute/virtualmachines) at 8/19/2024 12:04:31 PM'. Below the alert summary are two buttons: 'View the alert in Azure Monitor >' and 'Investigate >'. The 'Summary' section lists the following details:

Alert name	Percentage CPU - test
Severity	Sev3
Monitor condition	Fired
Affected resource	test
Resource type	microsoft.compute/virtualmachines
Resource group	testvm
Monitoring service	Platform
Signal type	Metric
Fired time	August 19, 2024 12:04:31 UTC

The browser's taskbar at the bottom shows icons for various applications including Google Chrome, Microsoft Word, and Microsoft Excel.

Screenshot of Microsoft Outlook inbox showing a detailed alert for a Microsoft Azure metric. The alert was fired at 11:05 AM on August 19, 2024, due to a high CPU usage threshold.

**Focused** Other

**Affected resource** test

**Resource type** microsoft.compute/virtualmachines

**Resource group** testvm

**Monitoring service** Platform

**Signal type** Metric

**Fire time** August 19, 2024 12:04 UTC

**Alert ID** 679232dc-ee7c-4292-90da-dfbdc593f000

**Alert rule ID** <https://portal.azure.com/#resource/subscriptions/348ac279-080-424b-b3b-80035082612/resourcegroups/testvm/providers/Microsoft.insights/metricAlerts/PercentageCPU-test>

**Metric alert condition type** MultipleResourceMultipleMetricCriteria

**Time aggregation** Average

**Metric name** Percentage CPU

**Metric namespace** microsoft.compute/virtualmachines

**Metric value** 99.047

**Operator** GreaterThan

**Threshold** 80

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