

Assignment-3

Q3. Host a Jenkins image on azure container instance?

Output screens:

The first screenshot shows the Microsoft Azure portal interface. The browser tabs include 'create the backu...', 'Microsoft account', 'Mail - Shanmukhi', 'shanu - Microsoft', 'jenkins/jenkins - D', and 'Sign in [Jenkins]'. The address bar shows the URL: 'portal.azure.com/#@shanmukhimicronoutlook.onmicrosoft.com/resource/subscriptions/eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5/re...'. The page title is 'Microsoft Azure'. The left sidebar shows the 'Overview' tab selected. The main content area displays the 'Overview' page for a container instance named 'shanu'. The 'Essentials' section shows the following details:

Property	Value
Resource group	(move) training
Status	Running
Location	Central India
Subscription	(move) Azure Pass - Sponsorship
Subscription ID	eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5
Tags	(edit) Add tags
SKU	Standard
OS type	Linux
IP address (Public)	20.235.196.231
FQDN	---
Container count	1

The second screenshot shows the Jenkins login page. The browser tabs are the same as the first screenshot. The address bar shows the URL: '20.235.196.231:8080/login?from=%2F'. The page title is 'Getting Started'. The main content area displays the 'Unlock Jenkins' screen. The text reads: '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'. Below this, it says 'Please copy the password from either location and paste it below.' There is a text input field labeled 'Administrator password' and a 'Continue' button.

Q5. Create an alert for the high c.p.u usage with email notification on windows server?

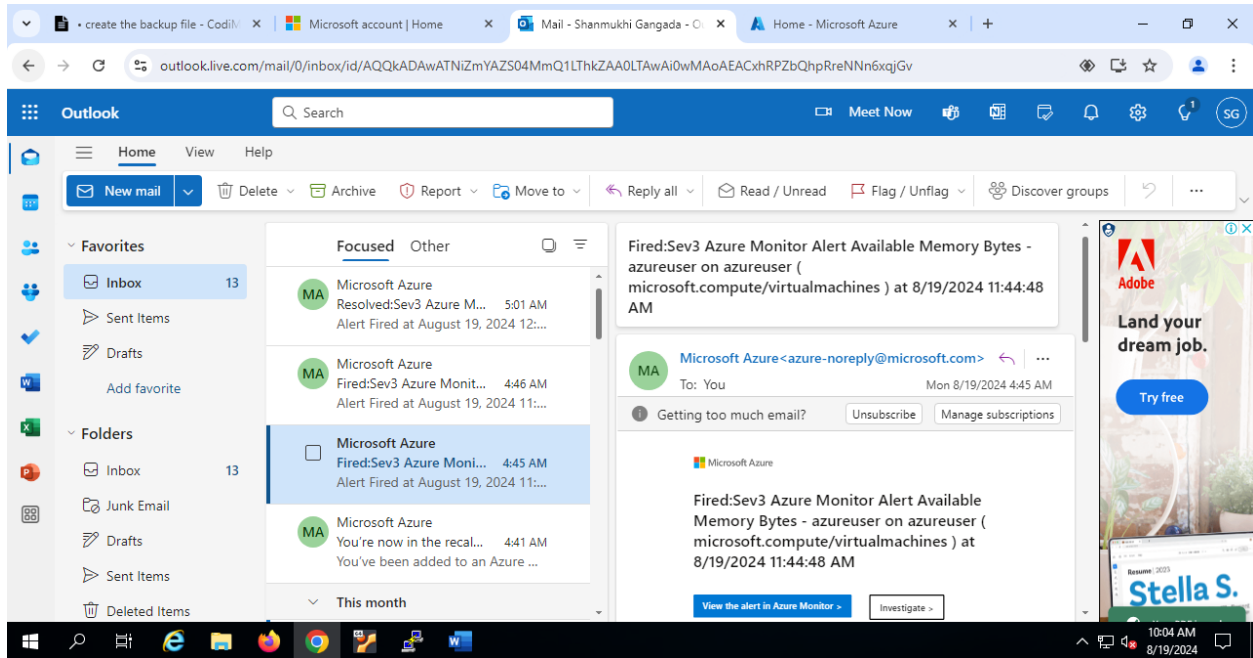
Output screens:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'shankmukhi_micron@ou...'. The main content area displays the details of a virtual machine named 'azureuser'. A warning message at the top states: 'azureuser virtual machine agent status is not ready. Troubleshoot the issue →'. The 'Essentials' section lists the following details:

- Resource group: (move) [training](#)
- Status: Running
- Location: Central India (Zone 1)
- Subscription: (move) [Azure Pass - Sponsorship](#)
- Subscription ID: eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5
- Availability zone: 1
- Operating system: Windows (Windows Server 2022 Datacenter Azure Edition)
- Size: Standard B1s (1 vcpu, 1 GiB memory)
- Public IP address: [4.188.73.129](#)
- Virtual network/subnet: [azureuser-vnet/default](#)
- DNS name: [Not configured](#)
- Health state: -

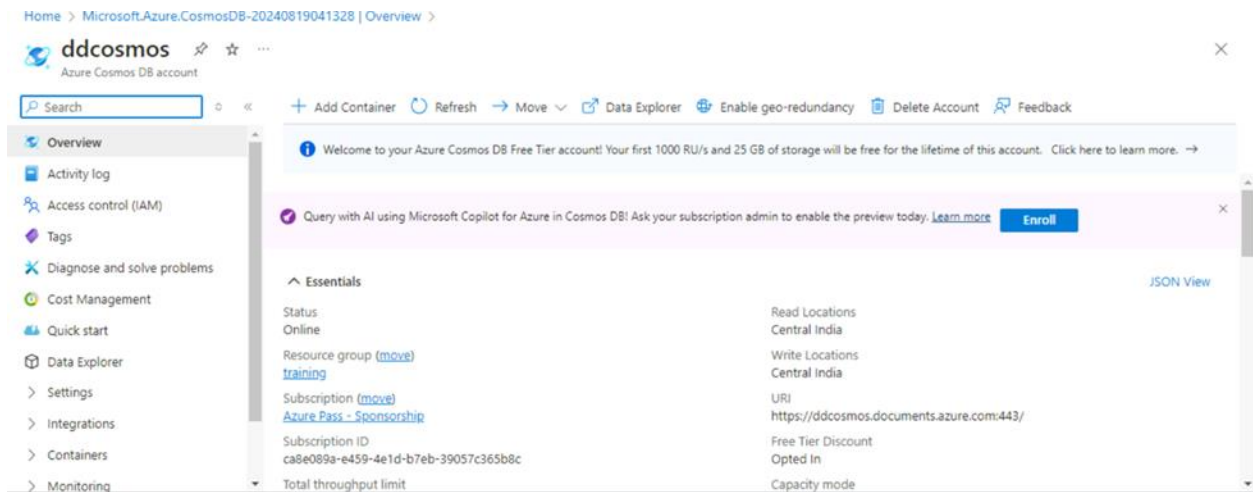
The screenshot shows the Sysinternals CPU Stress tool running on a Windows server. The tool is displaying a table of process information, including the process ID, name, activity, priority, ideal CPU, and affinity. The table is filtered by title, showing the following processes:

#	ID	Active?	Activity	Priority	Ideal CPU	Affinity
1	4872	Yes	Medium	Normal	0	11
2	7268	Yes	Maximum	Normal	1	11
3	7736		Maximum	Normal	0	11
4	6476		Busy	Normal	1	11



Q4. Create and configure a cosmos database and demonstrate crud operations?

Output screens:



Home > Microsoft.Azure.CosmosDB-20240819041328 | Overview > ddcosmos

ddcosmos | Data Explorer

Azure Cosmos DB account

Search

New Item Update Discard Delete Upload Item

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

Home

SampleDB

Scale

SampleContainer

Items

Settings

Stored Procedures

SELECT * FROM c

id	/categ
<input checked="" type="checkbox"/> 0F124781-C991-48A9...	564...
<input type="checkbox"/> BF87ACE3-C52B-44EA...	7FF...
<input type="checkbox"/> AFED4FD0-17D1-4CD...	006...
<input type="checkbox"/> 056C459F-DA40-475E...	926...

Load more

```
{
  "id": "0F124781-C991-48A9-ACF2-249771D44029",
  "categoryId": "56400CF3-446D-4C3F-8982-68286DA38899",
  "categoryName": "Bikes, Mountain Bikes",
  "sku": "BK-M688-42",
  "name": "Mountain-200 Black, 42",
  "description": "The product called \"Mountain-200 Black, 42\"",
  "price": 2294.99,
  "tags": [
    {
      "id": "4F67013C-385E-4A3D-B480-8C597A491E86",
      "name": "Tag-82"
    }
  ]
}
```

Home > Microsoft.Azure.CosmosDB-20240819041328 | Overview > ddcosmos

ddcosmos | Data Explorer

Azure Cosmos DB account

Search

New Item Update Discard Delete Upload Item

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

Home

SampleDB

Scale

SampleContainer

Items

Settings

Stored Procedures

SELECT * FROM c

id	/categ
<input checked="" type="checkbox"/> 0F124781-C991-48A9...	564...
<input type="checkbox"/> BF87ACE3-C52B-44EA...	7FF...
<input type="checkbox"/> AFED4FD0-17D1-4CD...	006...
<input type="checkbox"/> 056C459F-DA40-475E...	926...

Load more

```
{
  "id": "0F124781-C991-48A9-ACF2-249771D44029",
  "categoryId": "56400CF3-446D-4C3F-8982-68286DA38899",
  "categoryName": "Bikes, Mountain Bikes",
  "sku": "BK-M688-42",
  "name": "Mountain-200 Black, 42",
  "description": "The product called \"Mountain-200 Black, 42\"",
  "price": 2294.99,
  "tags": [
    {
      "id": "4F67013C-385E-4A3D-B480-8C597A491E86",
      "name": "Tag-82"
    }
  ]
}
```

Home > Microsoft.Azure.CosmosDB-20240819041328 | Overview > ddcosmos

ddcosmos | Scale

Azure Cosmos DB account

Search

New Item Update Discard Delete Upload Item

Tags Diagnose and solve problems Cost Management Quick start Data Explorer Settings Integrations Containers Browse Scale Settings Monitoring

Home

SampleDB

Scale

SampleContainer

Items

Settings

Stored Procedures

SELECT * FROM c WHERE c.price > 2000

id	/categ
<input checked="" type="checkbox"/> 0F124781-C991-48A9...	564...
<input type="checkbox"/> 462F8EAF-0988-4D32...	564...
<input type="checkbox"/> 4DA12D36-495E-4DC...	564...
<input type="checkbox"/> 935EB287-8D50-4E20...	564...

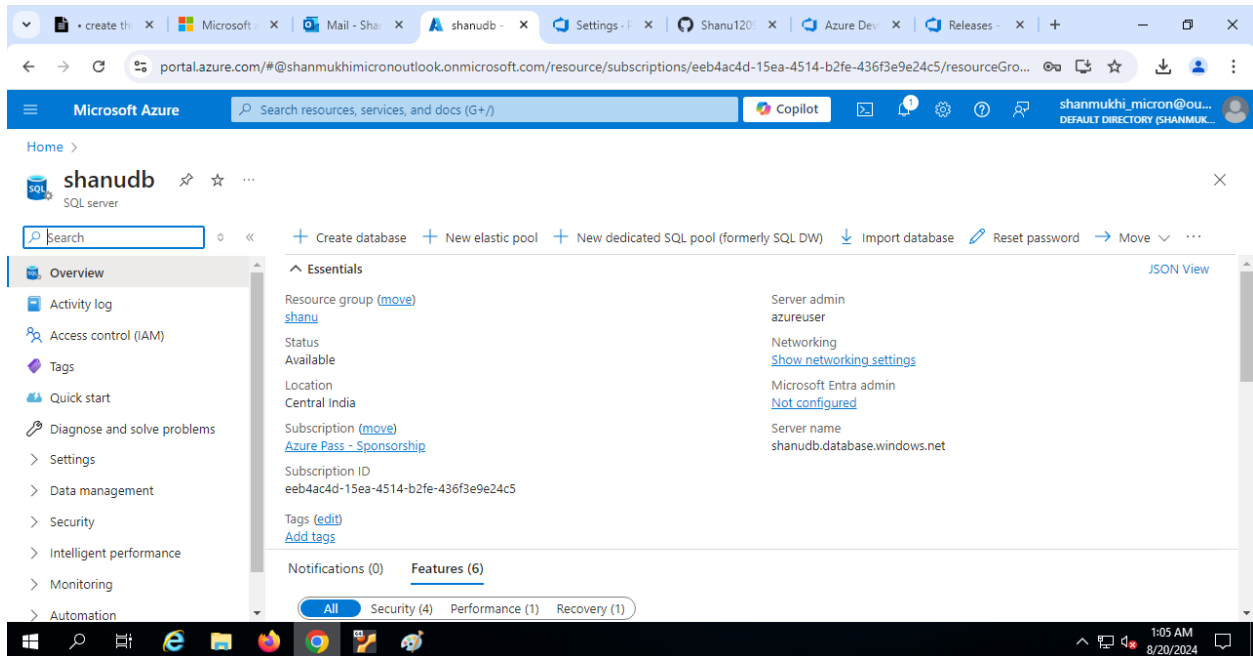
Load more

```
{
  "description": "The product called \"Mountain-200 Black, 42\"",
  "price": 2294.99,
  "tags": [
    {
      "id": "4F67013C-385E-4A3D-B480-8C597A491E86",
      "name": "Tag-82"
    }
  ]
},
{
  "id": "596761B3-1807-48A0-8380-42B3C8800E80",
  "name": "Tag-64"
},
{
  "id": "89500F13-B516-4F77-8128-47FC4128EFC0",
  "name": "Tag-151"
}
```

Q1. 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.**

Output screens:



Microsoft Azure portal showing the overview of the 'shanudbs' SQL database. The interface includes a search bar, navigation menu, and a list of database properties.

Overview

Activity log

Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings

Data management

Integrations

Power Platform

Security

Essentials

Resource group (move) [shanu](#)

Status: Online

Location: Central India

Subscription (move) [Azure Pass - Sponsorship](#)

Subscription ID: eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5

Server name: [shanudb.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

Microsoft Azure portal showing the 'Query editor (preview)' for the 'shanu' SQL database. The interface includes a search bar, navigation menu, and a query editor with a table of results.

shanu (shanudb/shanu) | Query editor (preview)

Search

Login + New Query

Open query

Feedback

Getting started

Query 1

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

```
1 CREATE TABLE employee (
2   employer_id INT PRIMARY KEY,
3   name VARCHAR(100),
4   department VARCHAR(50),
5   mail_id VARCHAR(100)
6 );
```

Results Messages

1	Alice Johnson	55000.00	HR
2	Bob Smith	62000.00	Finance
3	Charlie Brown	70000.00	IT

Query succeeded | 0s

Microsoft Azure portal interface showing the Query editor (preview) for the shanu (shanudb/shanu) SQL database. The interface includes a sidebar with navigation options (Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Mirror database in Fabric (preview), Settings, Compute + storage, Connection strings, Properties, Locks) and a main area for editing queries. The query editor shows a query titled "Query 1" with the following SQL code:

```
8 INSERT INTO employer (employer_id, name, department, mail_id) VALUES
9 (1, 'Alice Johnson', 'HR', 'alice.johnson@example.com'),
10 (2, 'Bob Smith', 'Finance', 'bob.smith@example.com'),
11 (3, 'Charlie Brown', 'IT', 'charlie.brown@example.com');
12
13 CREATE TABLE department (
```

The results of the query are displayed in a table with 4 columns: employee_id, name, salary, and department. The results show 3 rows of data:

employee_id	name	salary	department
1	Alice Johnson	55000.00	HR
2	Bob Smith	62000.00	Finance
3	Charlie Brown	70000.00	IT

The status bar indicates "Query succeeded | 0s".

Microsoft Azure portal interface showing the Query editor (preview) for the shanu (shanudb/shanu) SQL database. The interface includes a sidebar with navigation options (Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Mirror database in Fabric (preview), Settings, Compute + storage, Connection strings, Properties, Locks) and a main area for editing queries. The query editor shows a query titled "Query 1" with the following SQL code:

```
13 CREATE TABLE department (
14     employer_id INT PRIMARY KEY,
15     employer_name VARCHAR(100),
16     salary DECIMAL(10, 2),
17     department VARCHAR(50)
18 );
```

The results of the query are displayed in a table with 4 columns: employee_id, name, salary, and department. The results show 3 rows of data:

employee_id	name	salary	department
1	Alice Johnson	55000.00	HR
2	Bob Smith	62000.00	Finance
3	Charlie Brown	70000.00	IT

The status bar indicates "Query succeeded | 0s".

Microsoft Azure portal interface showing the Query editor (preview) for the shanu (shanudb/shanu) SQL database. The interface includes a sidebar with navigation options like Overview, Activity log, Tags, and Query editor (preview). The main area displays the Query editor with a query window and a Results window.

Query 1

```
19
20 INSERT INTO department (employee_id, employee_name, salary, department) VALUES
21 (1, 'Alice Johnson', 55000.00, 'HR'),
22 (2, 'Bob Smith', 62000.00, 'Finance'),
23 (3, 'Charlie Brown', 70000.00, 'IT');
24
```

Results

Results	Messages
1	Alice Johnson 55000.00 HR
2	Bob Smith 62000.00 Finance
3	Charlie Brown 70000.00 IT

Query succeeded | 0s

Microsoft Azure portal interface showing the Query editor (preview) for the shanu (shanudb/shanu) SQL database. The interface includes a sidebar with navigation options like Overview, Activity log, Tags, and Query editor (preview). The main area displays the Query editor with a query window and a Results window.

Query 1

```
25 SELECT
26 e.employee_id,
27 e.name AS employee_name,
28 d.salary,
29 d.department
30 FROM
```

Results

Results	Messages
1	Alice Johnson 55000.00 HR
2	Bob Smith 62000.00 Finance
3	Charlie Brown 70000.00 IT

Query succeeded | 0s

Microsoft Azure portal interface showing the Query editor (preview) for the shanu (shanudb/shanu) SQL database. The interface includes a sidebar with navigation options (Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Mirror database in Fabric (preview), Settings, Compute + storage, Connection strings, Properties, Locks) and a main area for writing and executing SQL queries.

Query 1:

```
29 d.department
30 FROM
31 employer e
32 INNER JOIN
33 department d
34 ON
```

Results:

1	Alice Johnson	55000.00	HR
2	Bob Smith	62000.00	Finance
3	Charlie Brown	70000.00	IT

Query succeeded | 0s

Microsoft Azure portal interface showing the Query editor (preview) for the shanu (shanudb/shanu) SQL database. The interface includes a sidebar with navigation options (Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Mirror database in Fabric (preview), Settings, Compute + storage, Connection strings, Properties, Locks) and a main area for writing and executing SQL queries.

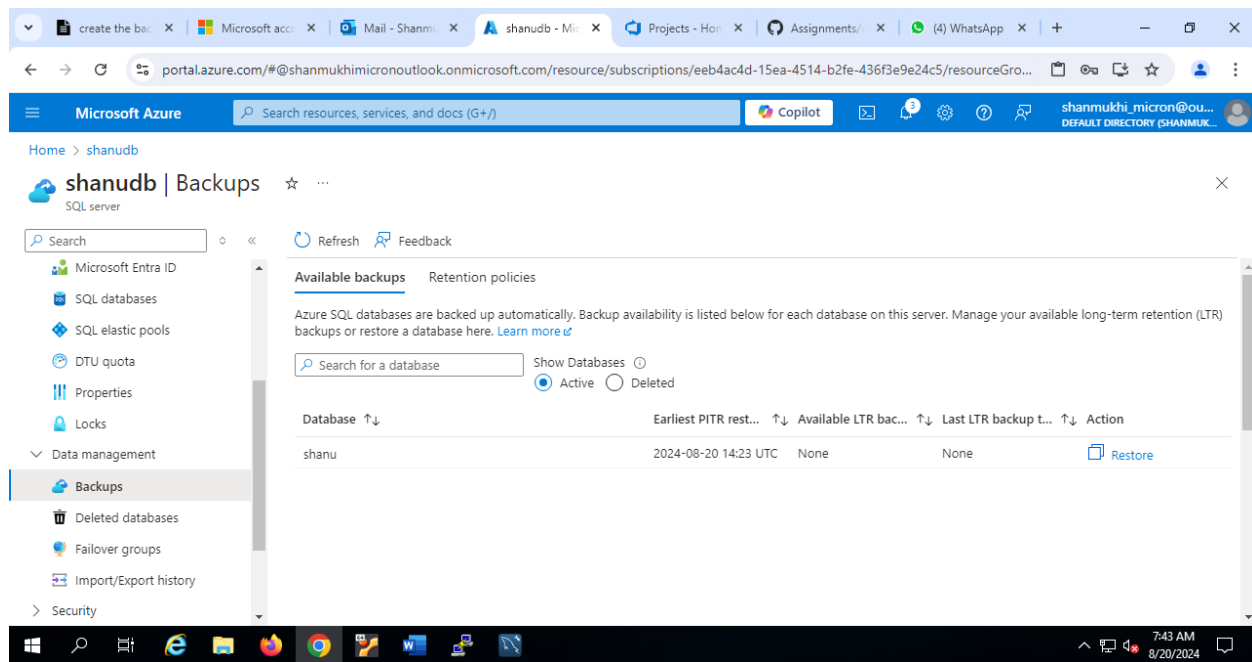
Query 1:

```
41 FROM
42 employer e
43 RIGHT OUTER JOIN
44 department d
45 ON
46 e.employer_id = d.employer_id;
```

Results:

1	Alice Johnson	55000.00	HR
2	Bob Smith	62000.00	Finance
3	Charlie Brown	70000.00	IT

Query succeeded | 0s



Q2 . 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.**

Output screens:

The screenshot shows the Microsoft Azure portal interface. The browser address bar displays the URL: `portal.azure.com/#@shanmukhimicronoutlook.onmicrosoft.com/resource/subscriptions/eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5/resourceGro...`. The page title is "Microsoft Azure". The search bar contains "Search resources, services, and docs (G+ /)". The user profile is "shanmukhi_micron@ou...".

The main content area shows the "Overview" page for the "shanudb" Azure Database for MySQL flexible server. The left sidebar lists navigation options: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Learning center, Settings, Compute + storage, Networking, Databases, Connect, and Server parameters.

The "Essentials" section displays the following information:

- Subscription (move): [Azure Pass - Sponsorship](#)
- Subscription ID: eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5
- Resource group (move): [shanu](#)
- Status: Available
- Location: Central India
- Server name: shanudb.mysql.database.azure.com
- Server admin login name: azureuser
- Configuration: [General Purpose_D2ads_v5_2_vCores_8_GiB_RAM_20_GiB_storage](#)
- MySQL version: 8.0
- Availability zone: 1
- Created On: 2024-08-20 08:19:18.0162207 UTC

A banner at the top right promotes the "Azure Database for MySQL - Live Webinar series".

The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows the "MANAGEMENT" section with options like Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, and Data Import/Restore. The "INSTANCE" section shows Startup / Shutdown, Server Logs, and Options File. The "PERFORMANCE" section shows Administration and Schemas.

The main area displays a query window with the following SQL code:

```
1 use team;
2
3 Create table team(team_id varchar(30), teamname varchar(30), countryname varchar(30));
4 Insert into team values('NZ5687','BLACK CAPS','NEW ZEALAND');
5 Insert into team values('BAN9852','TIGERS','BANGLADESH');
6 select * from team;
```

The "Result Grid" shows the following data:

team_id	teamname	countryname
NZ5687	BLACK CAPS	NEW ZEALAND
BAN9852	TIGERS	BANGLADESH

The "Output" section shows the execution results:

#	Time	Action	Message	Duration / Fetch
11	05:46:14	Create table team(team_id varchar(30), teamname varchar(30), countryname varchar(30));	0 row(s) affected	0.093 sec
12	05:46:14	Insert into team values('NZ5687','BLACK CAPS','NEW ZEALAND');	1 row(s) affected	0.047 sec
13	05:46:14	Insert into team values('BAN9852','TIGERS','BANGLADESH');	1 row(s) affected	0.047 sec
14	05:46:49	select * from team LIMIT 0, 1000	2 row(s) returned	0.062 sec / 0.000 sec

A tooltip on the right side of the interface states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

MySQL Workbench

shanubd x

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

Administration Schemas

Information

No object selected

Query 1 SQL File 2* SQL File 3*

```
1 CREATE DATABASE Company;
2 USE Company;
3 CREATE TABLE Employee (
4   Id INT,
5   Name VARCHAR(45) NOT NULL,
6   Department VARCHAR(45) NOT NULL,
7   Salary FLOAT NOT NULL,
8   Gender VARCHAR(45) NOT NULL);
9 INSERT INTO Employee (Id, 'Name', Department, Salary, Gender) VALUES (1001, 'John Doe', 'IT', 35000, 'Male');
10 INSERT INTO Employee (Id, 'Name', Department, Salary, Gender) VALUES (1002, 'Mary Smith', 'HR', 45000, 'Female');
11
```

SQLAdditions

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

Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
24	06:09:31	INSERT INTO Projects (Title, ClientId, EmployeeId) VALUES ('Develop ecommerce website from scratch', 1, 1003);	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.047 sec
25	06:12:12	SELECT Id as EmployeeId, Name, Department, Title as Project, ClientId FROM Employee	1 row(s) returned	0.032 sec / 0.000 sec
26	06:13:40	SELECT Id as EmployeeId, Name, Department, Title as Project, ClientId FROM Employee	1 row(s) returned	0.046 sec / 0.000 sec
27	06:14:44	select Employee.Id as Id, Name, Department, Title as Project, Projects.EmployeeId	3 row(s) returned	0.047 sec / 0.000 sec

Object Info Session

6:16 AM 8/20/2024

MySQL Workbench

shanubd x

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

Administration Schemas

Information

No object selected

Query 1 SQL File 2* SQL File 3*

```
7 ('Develop ecommerce website from scratch', 1, 1003), ('WordPress website for our company', 1, 1002);
8 SELECT Id as EmployeeId, Name, Department, Title as Project, ClientId
9 FROM Employee
10 INNER JOIN Projects
11 ON Employee.Id = Projects.EmployeeId;
12 select Employee.Id as Id, Name, Department, Title as Project, Projects.EmployeeId
```

SQLAdditions

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

Context Help Snippets

Result Grid

Id	Name	Department	Project	EmployeeId
1001	John Doe	IT	Develop ecommerce website from scratch	1003
1001	John Doe	IT	WordPress website for our company	1002
1002	Mary Smith	HR	WordPress website for our company	1002

Result 3 x

Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
24	06:09:31	INSERT INTO Projects (Title, ClientId, EmployeeId) VALUES ('Develop ecommerce website from scratch', 1, 1003);	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.047 sec
25	06:12:12	SELECT Id as EmployeeId, Name, Department, Title as Project, ClientId FROM Employee	1 row(s) returned	0.032 sec / 0.000 sec
26	06:13:40	SELECT Id as EmployeeId, Name, Department, Title as Project, ClientId FROM Employee	1 row(s) returned	0.046 sec / 0.000 sec
27	06:14:44	select Employee.Id as Id, Name, Department, Title as Project, Projects.EmployeeId	3 row(s) returned	0.047 sec / 0.000 sec

Object Info Session

6:16 AM 8/20/2024

create the ba...Microsoft acc...Mail - Shanm...shanudb - Mi...Projects - Ho...Shanu1209/j...Pipelines - R...+--

portal.azure.com/#@shanmukhimicronoutlook.onmicrosoft.com/resource/subscriptions/eeb4ac4d-15ea-4514-b2fe-436f3e9e24c5/resourceGroups/shanu/...

Microsoft AzureSearch resources, services, and docs (G+/)Copilotshanmukhi_micron@ou...DEFAULT DIRECTORY (SHANMUK...)

Home > shanudb

shanudb | Backup and restoreAzure Database for MySQL flexible server

Search

Databases

Connect

Server parameters

Replication

Maintenance

High availability

Backup and restore

Advisor recommendations

Locks

Power Platform

Security

Monitoring

Backup nowExport now (preview)RefreshFeedbackFAQs

Azure Database for MySQL flexible servers are backed up automatically. Available full backups for restores are listed below. [Learn more](#)

Azure Database for MySQL flexible server takes full backups once daily. You may fail to see your daily backup if the transactional load on your server instance is high throughout the day. If a backup fails, our backup service tries every 20 mins to take a backup until a successful backup.

Earliest restore point2024-08-20 08:21:27.044 UTC

Completion timestamp rangeBackup types

AllAll

Name	Status	Completion timestamp (UTC)	Retained till (UTC)	Type
shanubackup	Completed	2024-08-20 11:57:11.362	2024-08-27 11:57:11.362	On-Demand backup
Automated backup #1	Completed	2024-08-20 08:21:55.855	2024-08-27 08:21:55.855	Automated full backup

Windows taskbar with icons for Start, Search, Task View, Edge, File Explorer, Teams, Chrome, Word, and others.

4:57 AM8/20/2024