

Assignment-3

Q3. Host a Jenkins image on azure container instance?

Output screens:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the 'Microsoft Azure' logo, a search bar, and a 'Copilot' button. The main content area displays the 'Overview' page for a Container Instance named 'shanu'. The 'Essentials' section provides key 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

Below the essentials, there are tabs for 'CPU' and 'Memory'.

The screenshot shows the Jenkins 'Getting Started' page. The main heading is 'Unlock Jenkins'. The text states: '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 at the bottom right.

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

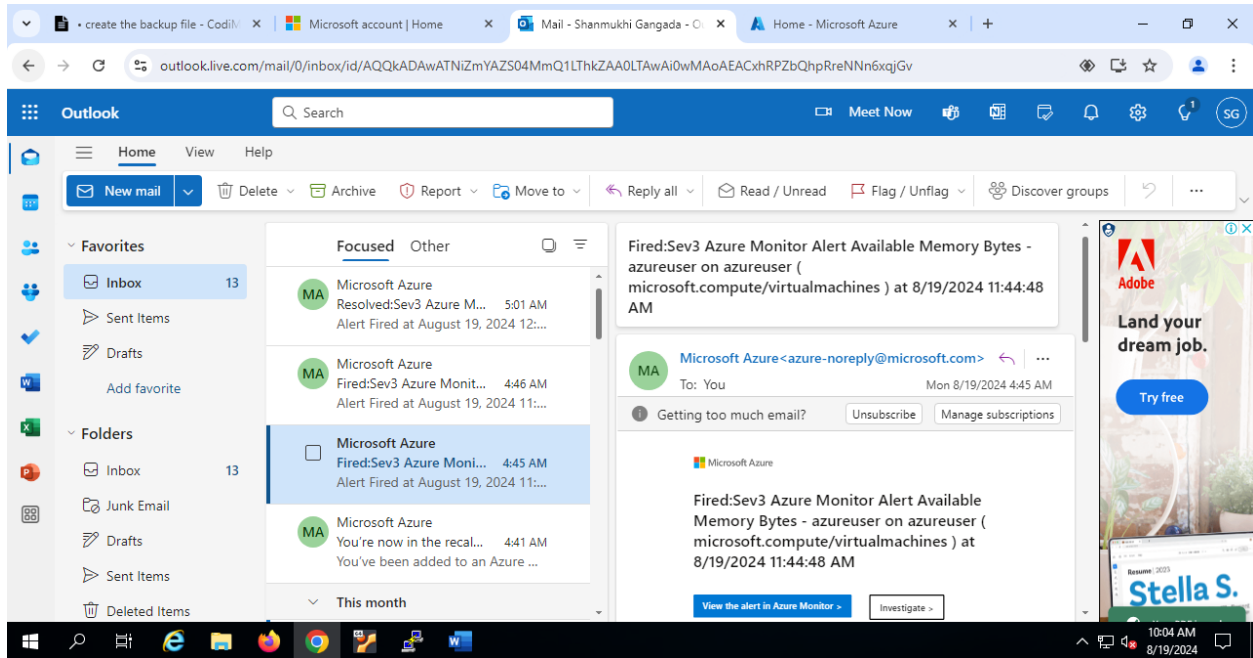
Output screens:

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 left sidebar contains a navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Networking, Settings, Availability + scale, Security, Backup + disaster recovery, and Operations. 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 →'. Below this, the 'Essentials' section lists various attributes:

Attribute	Value
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	-

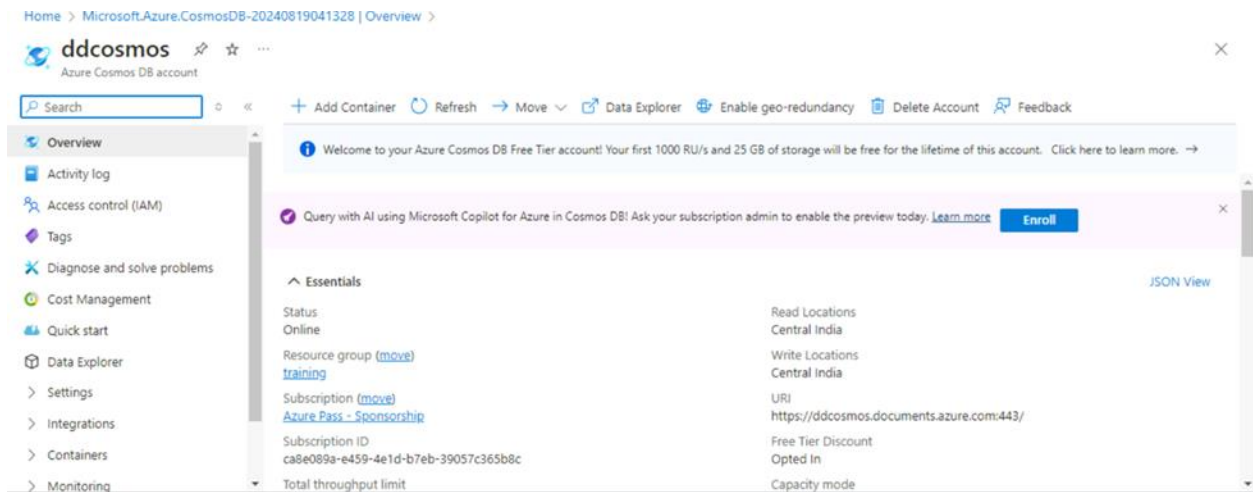
The screenshot shows a Windows desktop environment. In the foreground, the Sysinternals CPU Stress tool is running. The application window title is 'CPU Stress (PID: 3176) - Sysinternals: www.sysinternals.com'. The window contains a table with the following data:

#	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

To prevent queries from using excessive RUs, Data Explorer has a 5,000 RU default limit. To modify or remove the limit, go to the Settings on the right and find "RU Threshold". [Learn More](#)

Sampl... Items

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

To prevent queries from using excessive RUs, Data Explorer has a 5,000 RU default limit. To modify or remove the limit, go to the Settings on the right and find "RU Threshold". [Learn More](#)

Sampl... Items

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

To prevent queries from using excessive RUs, Data Explorer has a 5,000 RU default limit. To modify or remove the limit, go to the Settings on the right and find "RU Threshold". [Learn More](#)

Home Sampl... Settin... SampleDB.Sc... Sampl... Items

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...

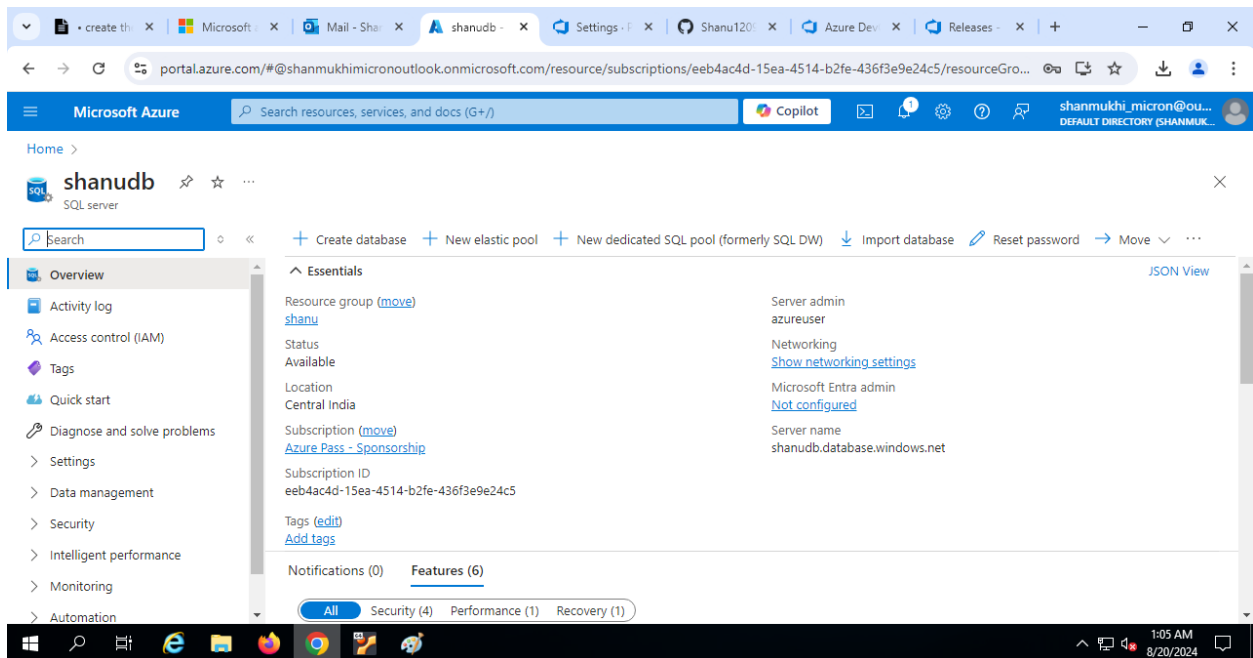
Load more

```
{
  "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": "89500F13-8516-4F77-8128-47FC4128EFC0",
  "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 HK
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

```
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 (
```

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 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

```
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 );
```

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 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 like Overview, Activity log, Tags, and Query editor (preview). The main area displays the Query editor with a SQL query and its results.

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 like Overview, Activity log, Tags, and Query editor (preview). The main area displays the Query editor with a SQL query and its results.

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

Microsoft Azure portal showing the Backups section for a SQL server named shanudb. The interface includes a search bar, a left sidebar with navigation options (Microsoft Entra ID, SQL databases, SQL elastic pools, DTU quota, Properties, Locks, Data management, Backups, Deleted databases, Failover groups, Import/Export history, Security), and a main content area. The main content area displays the Available backups section, which lists the backup status for the shanudb database. The backup is listed as shanu, with the earliest PITR rest... 2024-08-20 14:23 UTC, available LTR bac... None, and last LTR backup t... None. A Restore button is visible next to the backup entry.

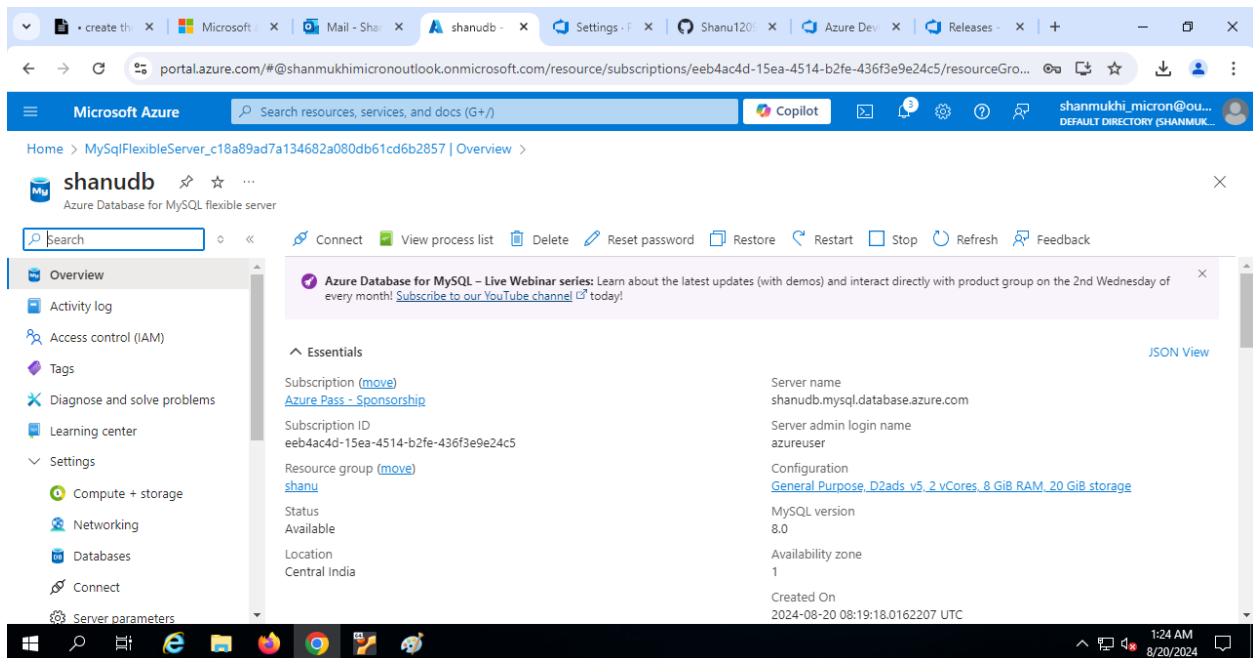
Database	Earliest PITR rest...	Available LTR bac...	Last LTR backup t...	Action
shanu	2024-08-20 14:23 UTC	None	None	Restore

Azure SQL Database Hyperscale interface showing the Query editor (preview) for a database named durgadb (azureuser). The interface includes a search bar, a left 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), and a main content area. The main content area displays the Query editor with a query being executed: `INSERT INTO employee (employee_id, name, mail_id) VALUES (1, 'shanmukhi', 'shanmukhi@example.com');`. The Results tab shows an error message: "Failed to execute query. Error: Failed to update database 'durgadb' because the database is read-only."

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:



MySQL Workbench

shandub

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
```

Result Grid

	Id	Name	Department	Project	EmployeeId
▶	1001	John Doe	IT	VALUES	VALUES
▶	1001	John Doe	IT	VALUES	VALUES
▶	1002	Mary Smith	HR	WordPress website for our company	1002

SQLAdditions

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

Result 3 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
24	06:09:31	INSERT INTO Projects (Title, ClientId, EmployeeId) VALUES ('Develop ecommerce ...	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 Em...	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 Em...	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

Microsoft Azure

Search resources, services, and docs (G+I)

Copilot

shandub | Backup and restore

Azure 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 now Export now (preview) Refresh Feedback ? FAQs

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 point 2024-08-20 08:21:27.044 UTC

Completion timestamp range Backup types

All All

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

4:57 AM 8/20/2024

MySQL Workbench

shanu 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

Object Info Session

Query 1 SQL File 2* SQL File 3*

Limit to 1000 rows

```
1 • create database team;
2 • use team;
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;
7
```

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
1	10:36:57	create database team	Error Code: 1290. The MySQL server is running with the --read-only option so it cannot ...	0.062 sec
2	10:37:24	Insert into team values('NZ5687','BLACK CAPS','NEW ZEALAND')	Error Code: 1046. No database selected Select the default DB to be used by double-cl...	0.031 sec
3	10:37:30	select * from team LIMIT 0, 1000	Error Code: 1046. No database selected Select the default DB to be used by double-cl...	0.047 sec

Windows taskbar: 10:37 AM 8/21/2024