



Azure SQL – Point in time Restore

Point-in-time restore in Azure SQL Database lets you restore your database to a specific time within its retention period (usually 7–35 days, depending on your service tier). Azure automatically backs up your database, so if data is accidentally deleted or corrupted, you can use this feature to create a new database as it was at the chosen time.

It's useful for recovering from unexpected issues like human error or malicious changes. You simply pick the time you want to restore, and Azure spins up a new database with that snapshot, minimizing data loss and downtime!

Use Cases of Point-in-Time Restore:

- **Accidental Data Deletion:** Restore to a time just before critical data was mistakenly deleted.
- **Data Corruption Recovery:** Roll back to a state before corruption or a faulty update occurred.
- **Testing & Development:** Clone the database at a specific point to test changes without affecting live data.
- **Ransomware or Attacks:** Recover quickly from malicious data alterations or deletions.

Benefits:

- **Data Protection:** Automatic backups ensure continuous safety.
- **Minimal Data Loss:** Restore to the exact point needed, reducing lost data.
- **Quick Recovery:** No need for manual backups or complex procedures.
- **Cost-Effective:** Included in Azure SQL pricing without extra tools or services.

In this lab, you'll enable point-in-time restoration for an Azure SQL Database. After loading data (1067 rows) with an external app and adding more rows, go to the Azure Portal, select your SQL Server, and click the Backups tab. Choose a restore point, give the new database a name, and start the restore process. Once restored, use the query editor to verify your data. The restored database lets you recover previous states, protecting against accidental changes or data loss. After exploring, you can delete the backup DB. The goal is to understand how to restore and safeguard your data!



To begin with the Lab

1. In this lab we are going to see how we can enable point-in-time restoration.
2. But in our previous lab we used an external application to load the data into our table and we have 1067 rows.

SQLQuery1.sql - de...odb (sqladmin (82))*

```
Select * From [logdata]
```

Results

	Id	Operationname	Status	Eventcategory	Resourcetype	Resource
1	1	Correlation id	Operation name	Status	Event category	Level
2	2	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Update SQL database	Succeeded	Administrative	Informational
3	3	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Create Deployment	Started	Administrative	Informational
4	4	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Create Deployment	Accepted	Administrative	Informational
5	5	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Registers the Microsoft SQL Database Resource Pr...	Started	Administrative	Informational
6	6	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Registers the Microsoft SQL Database Resource Pr...	Succeeded	Administrative	Informational
7	7	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Update SQL server	Started	Administrative	Informational
8	8	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	'audit' Policy action.	Succeeded	Policy	Warning
9	9	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	'auditIfNotExists' Policy action.	Started	Policy	Informational
10	10	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Update SQL server	Accepted	Administrative	Informational

Query executed successfully. | demodbnew.database.windows.... | sqladmin (82) | demodb | 00:00:01 | 1,067 rows

3. Now we run our program again and added a few more rows to our table.

SQLQuery1.sql - de...odb (sqladmin (81))*

```
Select * From [logdata]
```

Results

	Id	Operationname	Status	Eventcategory	Resourcetype	Resource
1	1	Correlation id	Operation name	Status	Event category	Level
2	2	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Update SQL database	Succeeded	Administrative	Informational
3	3	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Create Deployment	Started	Administrative	Informational
4	4	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Create Deployment	Accepted	Administrative	Informational
5	5	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Registers the Microsoft SQL Database Resource Pr...	Started	Administrative	Informational
6	6	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Registers the Microsoft SQL Database Resource Pr...	Succeeded	Administrative	Informational
7	7	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Update SQL server	Started	Administrative	Informational
8	8	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	'audit' Policy action.	Succeeded	Policy	Warning
9	9	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	'auditIfNotExists' Policy action.	Started	Policy	Informational
10	10	99fe9c3a-e36e-44e0-acd4-58272ab10c7e	Update SQL server	Accepted	Administrative	Informational

Query executed successfully. | demodbnew.database.windows.... | sqladmin (81) | demodb | 00:00:00 | 1,108 rows

4. Now click on the server's name to open the SQL Server on the portal.

Resource group (move)	:	NewRG
Status	:	Online
Location	:	North Europe
Subscription (move)	:	MSDN Platforms Subscription
Subscription ID	:	d6549a66-c45c-4979-840c-3b356da446b0
Server name	:	demodbnew.database.windows.net
Elastic pool	:	No elastic pool
Connection strings	:	Show database connection strings
Pricing tier	:	Standard S0: 10 DTUs
Earliest restore point	:	2025-03-03 05:26 UTC

5. In the server under the data management, you will click on the backups tab and here you will see a backup available that was created at the earliest point in time. Click on Restore.

The screenshot shows the 'Backups' blade for the 'demodbnew' database. The 'Available backups' tab is active. A red box highlights the 'Action' column for the 'demodb' database, specifically the 'Restore' button.

6. Now in the source we can see that we have the restore point and in the database details we can give it a new name. A new database will be created inside our SQL Server.

Source Details

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

Source Database	<input type="text" value="demodb"/>
Select source	<input type="text" value="Point-in-time"/>
Earliest restore point	<input type="text" value="2025-03-03 05:26 UTC"/>
Restore point (UTC) *	<input type="text" value="03/03/2025"/> 10:56:00 AM
<small>Choose a restore point between the earliest restore point and the current time in UTC.</small>	

Database details

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

Database name *	<input type="text" value="backupdb"/> ✓
Server	<input type="text" value="demodbnew (North Europe)"/>

7. Here you can see that our restore point DB has been created.

Microsoft.SQLDatabase.newDatabaseRestoreExistingServerWithPricin | Overview

Your deployment is complete

Deployment name : Microsoft.SQLDatabase.newDatabaseRestoreExistingS... Start time : 3/3/2025, 1:26:27 PM
Subscription : MSDN Platforms Subscription Correlation ID : a39d3328-9916-49f0-ae03-242a05c36119
Resource group : NewRG

Deployment details

Next steps

Go to resource

backupdb (demodbnew/backupdb)

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](#)

Essentials

Resource group (move)	: NewRG	Server name	: demodbnew.database.windows.net
Status	: Online	Elastic pool	: No elastic pool
Location	: North Europe	Connection strings	: Show database connection strings
Subscription (move)	: MSDN Platforms Subscription	Pricing tier	: Standard S0: 10 DTUs
Subscription ID	: d6549a66-c45c-4979-840c-3b356da446b0	Earliest restore point	: 2025-03-03 08:25 UTC
Tags (edit)	: Add tags		

- Now if we open our backup DB in the query editor on the portal we can see our table and the inside of it.

backupdb (demodbnew/backupdb) | Query editor (preview)

Query 2

```
1  SELECT TOP (1000) * FROM [dbo].[logdata]
```

Results

ID	Operationname	Status	Eventcategory	Resourcetype	Resource
1	Correlation id	Operation name	Status	Event category	Level
2	99fe9c3a-e36e-44e0-acd4-5...	Update SQL database	Succeeded	Administrative	Informational
3	99fe9c3a-e36e-44e0-acd4-5...	Create Deployment	Started	Administrative	Informational
4	99fe9c3a-e36e-44e0-acd4-5...	Create Deployment	Accepted	Administrative	Informational
5	99fe9c3a-e36e-44e0-acd4-5...	Registers the Microsoft SQL ...	Started	Administrative	Informational

Query succeeded | 0s

- Do not delete your backup DB, you can change its Redundancy to Geo Redundant for the next lab.