

Submission by:

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## Azure Assignment 3

### Azure SQL to Blob Storage using Data Factory

#### Creating the Blob Storage

The screenshot displays the 'Properties' tab of a storage account in the Microsoft Azure portal. The account name is 'empstore3110rtn' and its location is 'East US'. The interface is organized into sections: 'Essentials' with account details, 'Blob service' with settings like 'Hierarchical namespace' (Disabled) and 'Default access tier' (Hot), 'File service' with 'Large file share' (Disabled), and 'Security' with 'Require secure transfer' (Enabled). A 'Networking' section is also visible at the bottom right.

Property	Value
Resource group	newrg
Location	East US
Subscription	Manipal
Subscription ID	3f75ed9e-ee81-4c15-a708-a5f09854b6ac
Disk state	Available
Performance/Access tier	Standard/Hot
Replication	Locally-redundant storage (LRS)
Account kind	StorageV2 (general purpose v2)
Provisioning state	Succeeded
Created	10/31/2021, 7:56:50 PM

The screenshot shows the 'Overview' tab of an Azure SQL database. The database name is 'testsql3110rtn' and it is located in 'East US'. The 'Compute utilization' section features a line chart showing CPU usage over time. On the right, a 'Database data storage' section displays a gauge for 'Used space' at 4 MB, with a total capacity of 16 MB. The bottom of the page contains a 'Database features' section with tiles for 'Transparent data encryption', 'Azure Defender for SQL', 'Automatic tuning', and 'Auditing'.

Feature	Status
Transparent data encryption	Enabled
Azure Defender for SQL	Enabled
Automatic tuning	Enabled
Auditing	Enabled

## Creating the Azure SQL instance

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with the Microsoft Azure logo, a search bar, and user information. Below the navigation bar, the 'Azure services' section displays various service tiles: 'Create a resource', 'Azure SQL', 'Storage accounts', 'All resources', 'Resource groups', 'Azure Cosmos DB', 'Virtual machines', and 'Virtual networks'. A 'Quickstart Center' tile is also visible. Below this, the 'Recent resources' section contains a table listing recently accessed resources.

Name	Type	Last Viewed
testsql3110rtn (testsql3110rtn/testsql3110rtn)	SQL database	a few seconds ago
newrg	Resource group	3 minutes ago
empstore3110rtn	Storage account	15 minutes ago

The screenshot shows the Azure SQL Query editor interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main header displays the path 'Home > testsql3110rtn (testsql3110rtn/testsql3110rtn) | Query editor (preview)'. The left sidebar contains a navigation menu with options like 'Overview', 'Activity log', 'Tags', 'Diagnose and solve problems', 'Quick start', 'Query editor (preview)', 'Power Platform', 'Power BI', 'Power Apps', 'Power Automate', 'Settings', 'Compute + storage', 'Connection strings', 'Properties', and 'Locks'. The main content area shows a SQL query in the 'Query editor' tab: 'SELECT TOP (1000) \* FROM [dbo].[emp]'. Below the query editor, the 'Results' tab shows the query execution status: 'Query succeeded: Affected rows: 0'.

## Connecting to the created Data Factory

The screenshot shows the Microsoft Azure Data Factory portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main header displays the path 'Home > Data Factory > factory311021'. The left sidebar contains a navigation menu with options like 'Overview', 'Activity log', 'Tags', 'Diagnose and solve problems', 'Quick start', 'Query editor (preview)', 'Power Platform', 'Power BI', 'Power Apps', 'Power Automate', 'Settings', 'Compute + storage', 'Connection strings', 'Properties', and 'Locks'. The main content area shows the 'Data factory' section for 'factory311021'. It includes a 'New' button and a diagram illustrating the data flow process: 'Ingest' (Copy data at scale once or on a schedule), 'Orchestrate' (Code-free data pipelines), 'Transform data' (Transform your data using data flows), and 'Configure SSIS' (Manage & run your SSIS packages in the cloud). Below the diagram, there's a 'Discover more' section with links to 'Browse partners (preview)' and 'Pipeline templates'.

## Linking blob storage to SQL

Microsoft Azure | Data Factory | factory311021

### Copy Data tool

- Properties
- Source
- Target
- Dataset
- Configuration
- Settings
- Review and finish

#### Destination data store

Specify the destination data store for the copy task. You can use an existing data store connection or specify a new data store.

Target type: Azure SQL Database

Connection: AzureSqlDatabase1

Source: Azure Blob Storage file

Target: Azure Blob Storage file (auto-create)

[Use existing table](#)

Microsoft Azure | Data Factory | factory311021

### Copy Data tool

- Properties
- Source
- Target
- Dataset
- Configuration
- Settings
- Review and finish

#### Column mapping

Choose how source and destination columns are mapped

Table mappings (1)

Source: Azure Blob Storage file

Target: Azure Blob Storage file

#### Column mappings

Type conversion settings

+ New mapping Clear Reset Delete

Source	Type	Destination	Type
Firstname	String	Firstname	String
Lastname	String	Lastname	String


Microsoft Azure | Data Factory | factory311021

### Copy Data tool

- Properties
- Source
- Target
- Dataset
- Configuration
- Settings
- Review and finish
- Review
- Deployment

#### Summary

You are running pipeline to copy data from Azure Blob Storage to Azure SQL Database.



Properties

Task name: copyblobstosqlpipeline

Task description:

Source

Connection name: sourceblobstomprtn

Dataset name: SourceDataset\_tn1

Column delimiter: |

Escape character: \

Quote char: "

First row as header: true

File name: inputEmp.txt

Container: empblobstn

Target

Connection name: AzureSqlDatabase1

Dataset name: DestinationDataset\_tn1

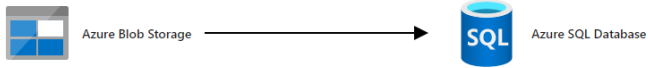
Number of tables: Azure Blob Storage file

Copy settings

Microsoft Azure | Data Factory | factory311021

### Copy Data tool

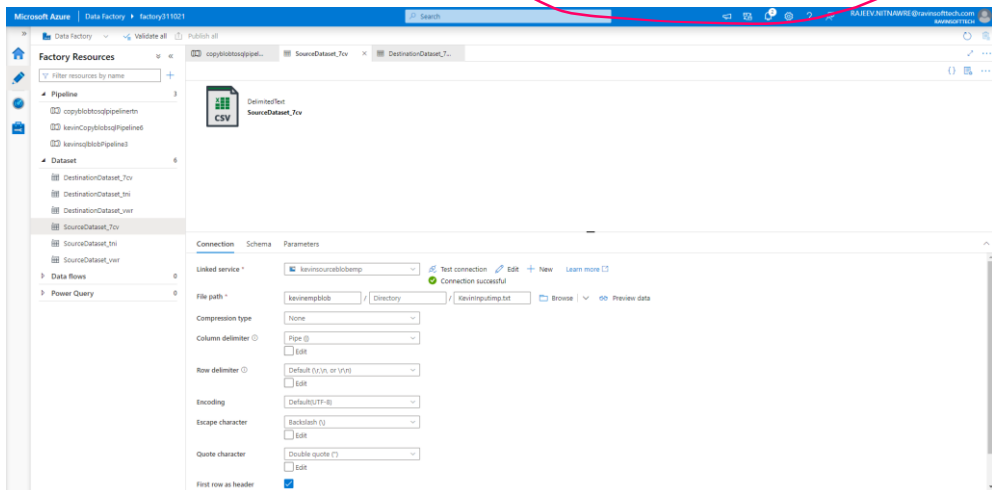
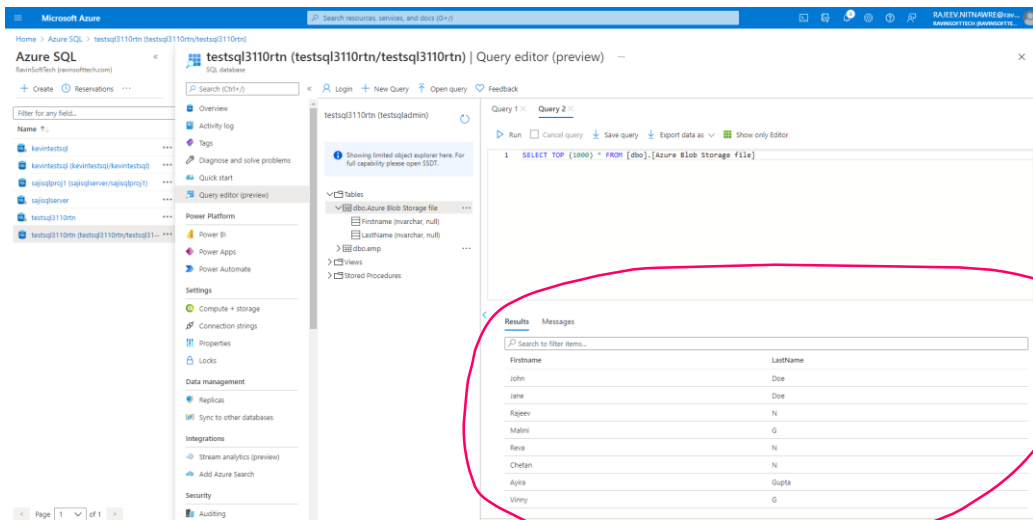
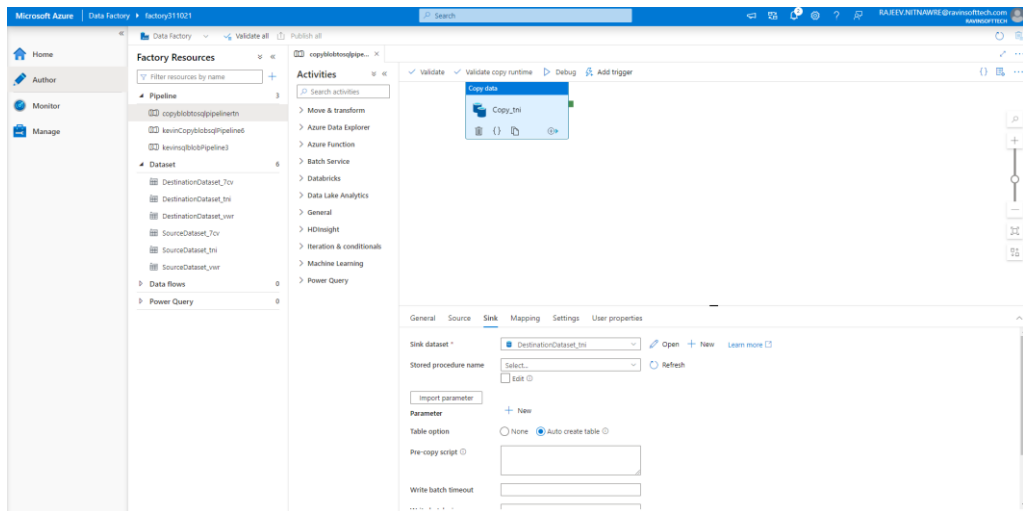
- Properties
- Source
- Target
- Dataset
- Configuration
- Settings
- Review and finish
- Review
- Deployment



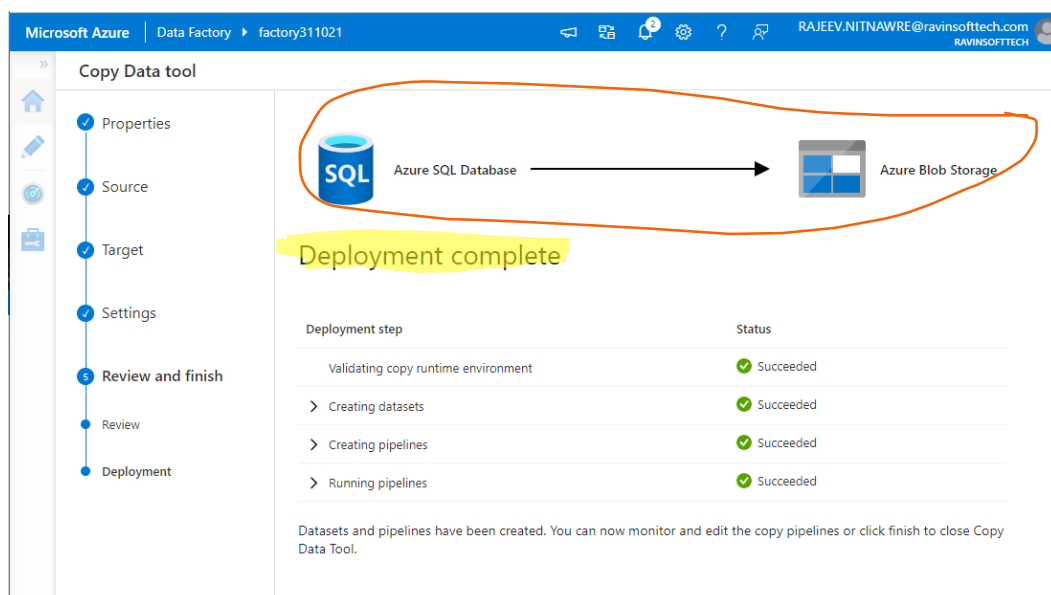
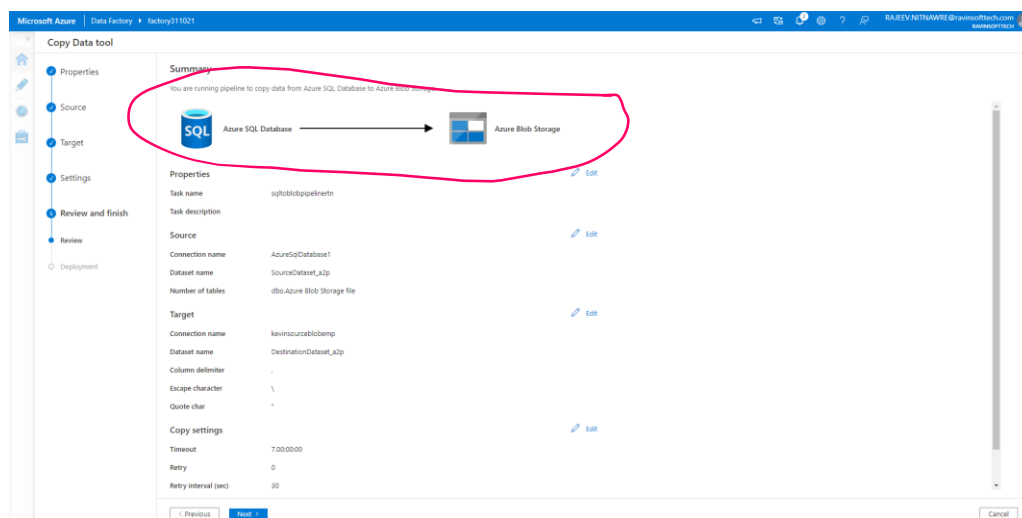
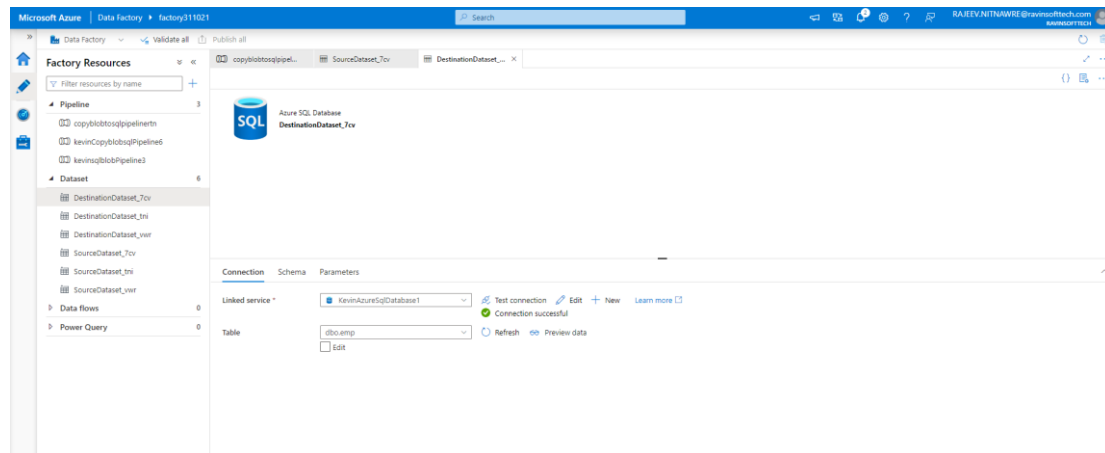
#### Deployment complete

Deployment step	Status
Validating copy runtime environment	✓ Succeeded
> Creating datasets	✓ Succeeded
> Creating pipelines	✓ Succeeded
> Running pipelines	✓ Succeeded

Datasets and pipelines have been created. You can now monitor and edit the copy pipelines or click finish to close Copy Data Tool.



## Linking SQL to blob storage



Microsoft Azure | Data Factory | factory311021

Factory Resources

- Pipeline
  - copyblobstosqlpipelinertn
  - kevinCopyblobstosqlPipeline6
  - kevinCopyblobstosqlPipeline3
  - sqlblobstosqlpipelinertn
  - SR\_copyblobstosql\_P1
- Dataset
  - DestinationDataset\_6k8
  - DestinationDataset\_7cv
  - DestinationDataset\_a2p
  - DestinationDataset\_trn
  - DestinationDataset\_yvr
  - SourceDataset\_6k8
  - SourceDataset\_7cv
  - SourceDataset\_a2p
  - SourceDataset\_trn
  - SourceDataset\_yvr
- Data flows
  - 0
- Power Query
  - 0

Activities

- Copy data
  - Copy\_a2p

Parameters Variables Settings Output

+ New

Microsoft Azure

testsq3110rtn (testsq3110rtn/testsq3110rtn) | Query editor (preview)

Query 2

```
1 SELECT TOP (1000) * FROM [dbo].[Azure Blob Storage file]
```

Results

FirstName	LastName
John	Doe
Jane	Doe
Rajeev	N
Malini	G
Reva	N
Chetan	N
Ayira	Gupta
Vinny	G

Query succeeded | 0s

Microsoft Azure

Storage accounts > empstore11694 > kevinempblob

Overview

Authentication method: Access key (Switch to Azure AD User Account)

Location: kevinempblob

Search blobs by prefix (case-sensitive)

Show deleted blobs

Add filter

Properties

URL	https://empstore11694...
LAST MODIFIED	10/31/2021, 9:10:20 PM
CREATION TIME	10/31/2021, 9:10:29 PM
VERSION ID	-
TYPE	Block blob
SIZE	112 B
ACCESS TIER	Hot (inferred)
ACCESS TIER LAST MODIFIED	N/A
SERVER ENCRYPTED	true
ETAG	0x8D99CFD04F6122
VERSION-LEVEL IMMUTABILITY POLICY	Disabled
CONTENT-TYPE	application/octet-stream
CONTENT-MD5	-
LEASE STATUS	Unlocked
LEASE STATE	Available
LEASE DURATION	-
COPY STATUS	-
COPY COMPLETION TIME	-

Metadata

Key	Value
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Blob index tags

outputEmp.txt - Notepad

File Edit Format View Help

```
"John","Doe"  
"Jane","Doe"  
"Rajeev","N"  
"Malini","G"  
"Reva","N"  
"Chetan","N"  
"Ayira","Gupta"  
"Vinny","G"
```