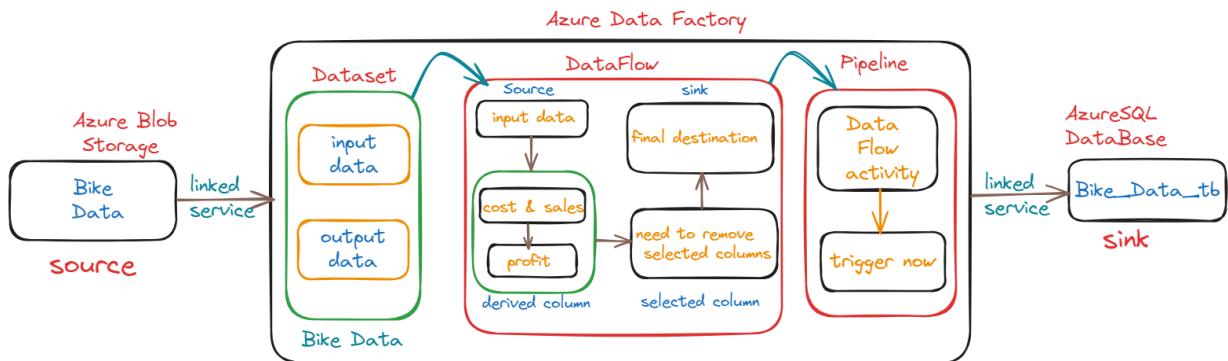


## Azure Data Factory Pipeline – I

### Architecture of the Pipeline -I



### Azure services to be Used:

1. Azure Data Lake Storage
2. Azure SQL DataBase
3. Azure Data Factory

### Creating Azure Data Lake Storage service from portal.azure.com

- Login to azure portal using this link <https://portal.azure.com/>
- After successful login you will able to see home page like below

The screenshot shows the Microsoft Azure portal home page. The left sidebar lists various services under 'All services' and 'FAVORITES'. The main area displays the 'Azure services' section with icons for different services. Below it is a 'Resources' section showing a table of recent and favorite resources, which is currently empty. At the bottom, there are navigation links for 'Subscriptions', 'Resource groups', 'All resources', and 'Dashboard'.

→ To create azure storage service from Azure market place

The screenshot shows the Azure Marketplace search results for 'storage account'. The search bar at the top contains 'storage account'. Below the search bar, there are filters: 'Pricing : All', 'Operating System : All', 'Publisher Type : All', and 'Product Type : All'. There is also a checkbox for 'Azure services only' which is unchecked. The results show 191 items, with the first item being 'Storage account' by Microsoft, which is highlighted with a yellow box. Other results include 'Storage Account Using ARM Template' by FortuneCloud LLC, 'Storage task - Azure Storage Actions' by Microsoft, and 'Azure Storage Mover' by Microsoft.

→ To create azure storage service from Home Page directly click on storage account icon

The screenshot shows the Azure Home Page. On the left sidebar, under 'Azure services', the 'Storage accounts' icon is highlighted with a yellow box. Other icons shown include 'Create a resource', 'SQL databases', 'Subscriptions', 'Azure Databricks', 'Quickstart Center', 'Virtual machines', 'App Services', 'Azure Cosmos DB', and 'More services'. In the center, there is a 'Resources' section with tabs for 'Recent' and 'Favorite'. It displays a message: 'No resources have been viewed recently' and a 'View all resources' button. At the bottom, there is a 'Navigate' section with links for 'Subscriptions', 'Resource groups', 'All resources', and 'Dashboard'.

→ There are two ways to create storage account service see in below figure

The screenshot shows the Microsoft Azure Storage accounts page. The left sidebar includes options like Create a resource, Home, Dashboard, All services, Favorites, and Resource groups. The main area is titled 'Storage accounts' and shows a message: 'No storage accounts to display'. It provides instructions for creating a storage account and includes a 'Create storage account' button.

→ After click on “create or create storage account new page will open like below

The screenshot shows the 'Create a storage account' wizard page. The left sidebar is identical to the previous screenshot. The main area has tabs for Basics, Advanced, Networking, Data protection, Encryption, Tags, and Review + create. Under Basics, it asks for a storage account name (e.g., 'MyStorageAccount'), a region (e.g., 'Asia Pacific South India'), and performance level (Standard). It also includes options for redundancy (Geo-redundant storage (GRS)) and regional availability.

→ We need to fill the required **Basic** details

1. **Subscription:** Free or pay as you go (if you don't have free subscription go with pay as you go)
2. **Resource Group:** Choose resource group if exists already if not create new resource group itself there

3. **Storage Account Name:** It must be unique across all Azure storage account names. It allows only lowercase letters and numbers, and its length must be between 3 to 24 characters. It doesn't allow uppercase letters or any special characters.
4. **Region:** Choose your preferred region
5. **Performance:** Choose "Standard" and "Premium" performance tiers based on your specific requirements.
6. **Redundancy:** Choose the redundancy level based on the criticality of your data and your business requirements.
  - a. locally redundant storage (LRS),
  - b. geo-redundant storage (GRS),
  - c. zone-redundant storage (ZRS)

The screenshot shows the Azure portal interface for creating a storage account. The left sidebar has a 'Create a resource' section with various service icons like Home, Dashboard, All services, Favorites, Resource groups, Quickstart Center, App Services, Function App, SQL databases, Azure Cosmos DB, Virtual machines, Load balancers, Storage accounts, Virtual networks, Microsoft Entra ID, Monitor, Advisor, Microsoft Defender for Cloud, Cost Management + Billing, and Help + support. The main content area is titled 'Create a storage account' and is on the 'Basics' tab. It includes sections for Project details, Instance details, and a summary table. At the bottom, there are 'Previous', 'Next', and 'Review + create' buttons.

→ Click on Next Button it will open advanced page like below

1. "In this, if the option 'Enable hierarchical namespace' is disabled, it should be a normal Azure Storage Account."
2. "In this, if the option 'Enable hierarchical namespace' is enabled (checkbox checked), it should be an Azure Data Lake Storage Account."
3. "The above two statements differentiate between an Azure Storage Account and an Azure Data Lake Storage Account based on the 'Enable hierarchical namespace' option."

The screenshot shows the 'Create a storage account' wizard on the 'Basics' tab. The left sidebar lists various Azure services. The main area is titled 'Security' and contains several configuration options:

- Require secure transfer for REST API operations (checkbox checked)
- Allow enabling anonymous access on individual containers (checkbox unchecked)
- Enable storage account key access (checkbox checked)
- Default to Microsoft Entra authorization in the Azure portal (checkbox unchecked)
- Minimum TLS version: Version 1.2 (dropdown menu)
- Permitted scope for copy operations: From any storage account (dropdown menu)
- Hierarchical Namespace: Describes a feature for Data Lake Storage Gen2 endpoint. It includes a checkbox for 'Enable hierarchical namespace' which is checked.
- Access protocols: Describes Blob and Data Lake Gen2 endpoints. It includes a checkbox for 'Enable SFTP' which is unchecked, and a note stating 'SFTP can only be enabled for hierarchical namespace accounts'.
- Enable network file system v3 (checkbox unchecked)

At the bottom are 'Previous', 'Next', and 'Review + create' buttons. The 'Review + create' button is highlighted in yellow.

- Rest of the options we go with all default values.
- Finally click on review and create button to validate the details and we can review then click on create button

The screenshot shows the 'Create a storage account' wizard on the 'Encryption' tab. The left sidebar lists various Azure services. The main area contains the following settings:

- Encryption type: Microsoft-managed keys (MMK) (radio button selected)
- Enable support for customer-managed keys:
  - Blobs and files only (radio button selected)
  - All service types (blobs, files, tables, and queues) (radio button unchecked)A warning message states: "⚠️ This option cannot be changed after this storage account is created."
- Enable infrastructure encryption (checkbox unchecked)

At the bottom are 'Previous', 'Next', and 'Review + create' buttons. The 'Review + create' button is highlighted in green.

Microsoft Azure Upgrade

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review + create

Subscription: Free Trial  
Resource group: KSR-RG  
Location: South India  
Storage account name: bikedatas  
Performance: Standard  
Replication: Locally-redundant storage (LRS)

**Advanced**

Enable hierarchical namespace: Enabled  
Enable SFTP: Disabled  
Enable network file system v3: Disabled  
Allow cross-tenant replication: Disabled  
Access tier: Hot  
Enable large file shares: Disabled

**Security**

Secure transfer: Enabled  
Block anonymous access: Disabled  
Allow storage account key access: Enabled  
Default to Microsoft Entra authorization in the Azure portal: Disabled  
Minimum TLS version: Version 1.2  
Permitted scope for copy operations (preview): From any storage account

Previous Next Create Give feedback

Microsoft Azure Upgrade

bikedatas\_1712992026160 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

**Deployment is in progress**

Deployment name: bikedatas\_1712992026160  
Subscription: Free Trial  
Resource group: KSR-RG

Start time: 13/04/2024, 12:39:48  
Correlation ID: 0fa255df-6af0-4945-a2e0-4ddc12fedd3

**Deployment details**

Resource	Type	Status	Operation details
No results.			

Give feedback  
Tell us about your experience with deployment

**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 >

→ After successfully create a service it will show like below fig

Microsoft Azure Upgrade

bikedatas\_1712992026160 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

**Your deployment is complete**

Deployment name: bikedatas\_1712992026160  
Subscription: Free Trial  
Resource group: KSR-RG

Start time: 13/04/2024, 12:39:48  
Correlation ID: 0fa255df-6af0-4945-a2e0-4ddc12fedd3

**Deployment details**

Resource	Type	Status	Operation details
No results.			

**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 >

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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 >

→ Click on GotoResource page will open like below fig

The screenshot shows the Azure portal interface for a storage account named 'bikedatas'. The left sidebar contains a navigation menu with various services like Home, All resources, Resource groups, App Services, etc. The main content area is titled 'Overview' for the 'bikedatas' storage account. It displays basic information such as Resource group (KSR-RG), Location (southindia), Subscription (Free Trial), and Disk state (Available). There are tabs for Properties, Monitoring, Capabilities (5), Recommendations (0), Tutorials, and Tools + SDKs. Under the Properties tab, sections include Data Lake Storage, File service, Security, and Networking. The 'Containers' option in the Data storage section of the sidebar is highlighted.

→ We need to create a containers, just click on containers it will open a navigate new page

This screenshot is identical to the one above, showing the Azure portal for the 'bikedatas' storage account. The only difference is that the 'Containers' option under the Data storage section in the left sidebar is now highlighted with a yellow box, indicating it has been selected.

**New container**

Name \* **exceldata**

Anonymous access level **Private (no anonymous access)**

The access level is set to private because anonymous access is disabled on this storage account.

**Create**

→ Double click on excel-data it will navigate another page see below figures

Name	Last modified
\$logs	13/04/2024, 12:40:22
<b>exceldata</b>	13/04/2024, 12:50:40

**Upload blob**

Drag and drop files here

Browse for files **2**

Overwrite if files already exist

**Upload**

**Give feedback**

**Open**

File name: **Bike\_Data.xlsx**

**Open**

**Cancel**

→ then click on open and click upload button you will get below screen if its uploaded successfully.

The screenshot shows the Microsoft Azure Storage Container blade for the 'bikedata' container in the 'excedata' storage account. The left sidebar shows various Azure services like Home, Dashboard, and Resource groups. The main area displays a table of blobs. One blob, named 'Bike\_Data.csv', is highlighted with a yellow box. The table columns include Name, Modified, Access tier, Archive status, Blob type, Size, and Lease state. The blob details show it was modified on 13/04/2024 at 12:55:04, is in the Hot (Inferred) access tier, is an Archive status, is a Block blob, and has a size of 3.15 MiB. The lease state is Available.

→ Finally, Data Lake Storage Account Created successfully and uploaded bike data dataset into that storage account

### Creating Azure Data SQL DataBase service from portal.azure.com

- Login to azure portal using this link <https://portal.azure.com/>
- After successful login you will able to see home page like below

The screenshot shows the Microsoft Azure home page. The left sidebar lists various Azure services such as Home, Dashboard, All services, Favorites, and more. The main area features a 'Create a resource' button and a grid of service icons: SQL databases, Storage accounts, Subscriptions, Azure Databricks, Quickstart Center, Virtual machines, App Services, and Azure Cosmos DB. Below this is a 'Resources' section with tabs for Recent and Favorite, showing a message 'No resources have been viewed recently'. At the bottom, there's a 'Navigate' section with links for Subscriptions, Resource groups, All resources, and Dashboard.

→ To create Azure SQL Database service from Azure market place → create resource  
 → search for SQL Database → hit enter → click on SQL Database

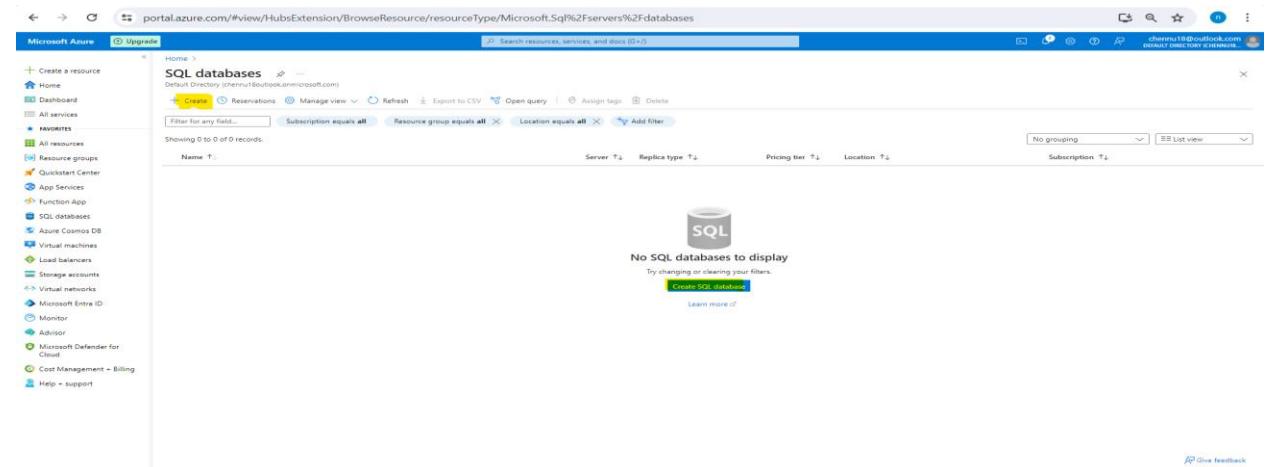
The screenshot shows the Azure Marketplace search results for 'sql database'. The search bar at the top contains 'sql database'. Below it, there are filters: Pricing: All, Operating System: All, Publisher Type: All, Product Type: All, and Publisher name: All. A checkbox for 'Azure services only' is unchecked. The results section displays 20 items, each with a thumbnail, title, publisher, and a 'Create' button. The items include:

- SQL Database Reserved vCores
- SQL Database** (selected)
- SQL Elastic database pool
- Azure SQL
- Azure Database Migration Service
- SQL Vulnerability Assessment
- SQL server (logical server)
- Azure SQL Managed Instance
- Microsoft Defender for SQL Server
- SQL Server with High Availability
- SQL Server Module
- Azure SQL Analytics (Preview)
- Database Management | SQL Server | Oracle | MySQL
- Azure SQL Instance Pool

→ To create azure storage service from Home Page directly click on storage account icon as you seen in below fig.

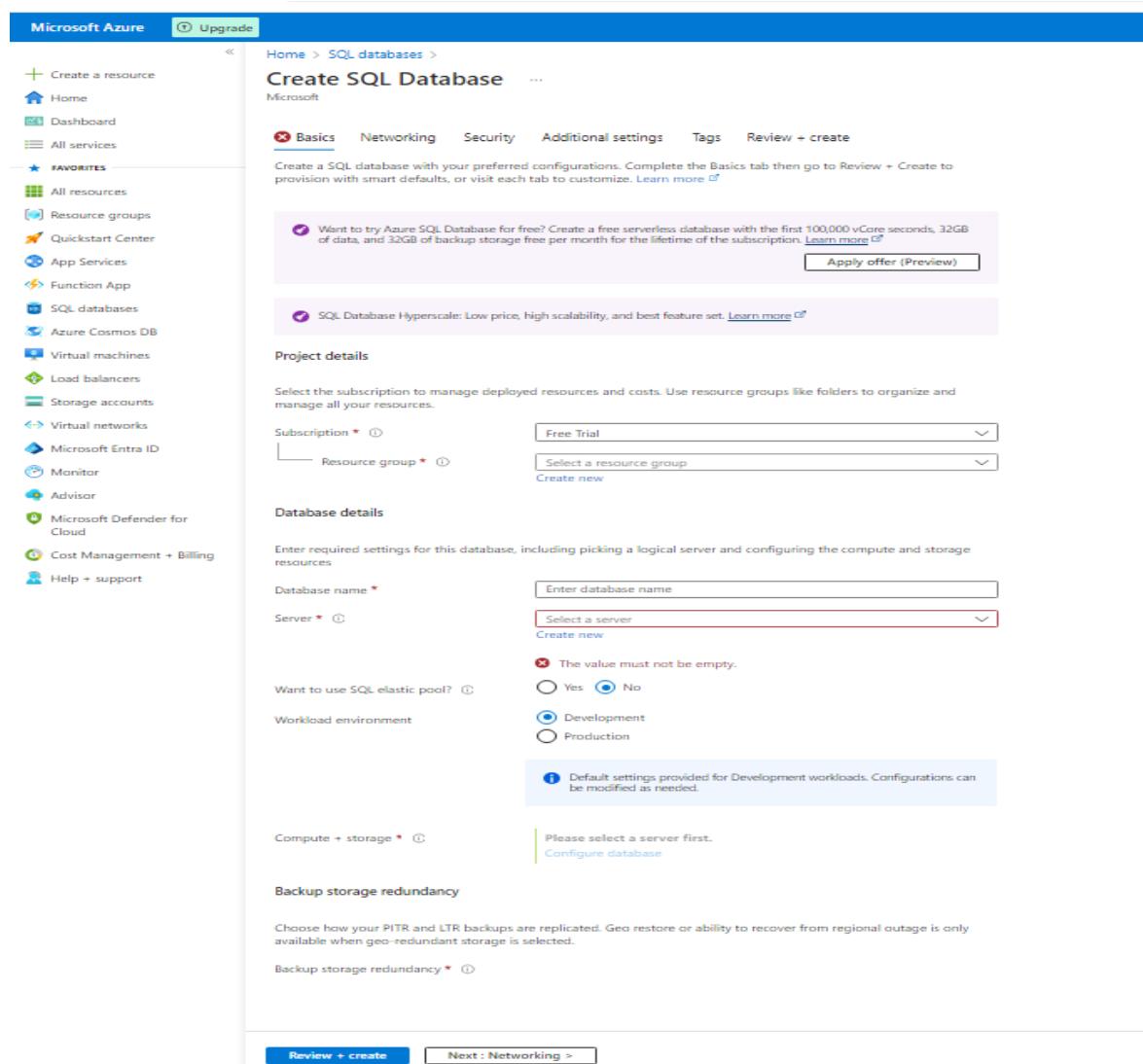
The screenshot shows the Azure Home page. On the left sidebar, under 'Resources', there is a 'Storage accounts' icon. The main content area features several sections: 'Azure services' (with icons for Create a resource, SQL databases, Storage accounts, Subscriptions, Azure Databricks, Quickstart Center, Virtual machines, App Services, Azure Cosmos DB, and More services), 'Resources' (listing a Storage account named 'bikedata' and a Resource group named 'KSR-RG'), 'Navigate' (links to Subscriptions, Resource group, All resources, and Dashboard), 'Tools' (links to Microsoft Learn, Azure Monitor, Microsoft Defender for Cloud, and Cost Management), 'Useful links' (links to Technical Documentation, Azure Services, Recent Azure Updates, and Azure mobile app download links for App Store and Google Play), and 'Azure mobile app' (links to download from App Store and Google Play).

→ Then click on create or create SQL Database button



The screenshot shows the Microsoft Azure portal's 'SQL databases' page. The URL in the address bar is [portal.azure.com/#view/HubsExtension/BrowseResource/resourceType/Microsoft.Sql%2Fservers%2Fdatabases](https://portal.azure.com/#view/HubsExtension/BrowseResource/resourceType/Microsoft.Sql%2Fservers%2Fdatabases). The page title is 'SQL databases'. On the left, there's a sidebar with various service icons like Home, Dashboard, All services, Favorites, and Resource groups. The main content area shows a message 'No SQL databases to display' with a 'Create SQL database' button. There are also filter options for Subscription, Resource group, Location, Pricing tier, Replica type, and Location.

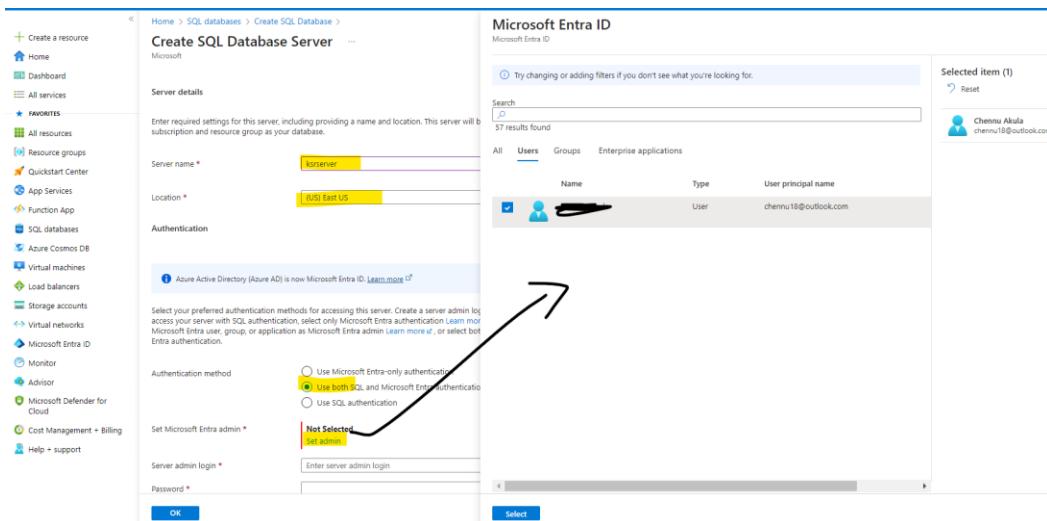
→ After hitting create button it will navigate a new page like below



The screenshot shows the 'Create SQL Database' wizard. The title bar says 'Create SQL Database' under 'Home > SQL databases'. The page has several tabs: Basics (selected), Networking, Security, Additional settings, Tags, and Review + create. The Basics tab contains a note about trying Azure SQL Database for free and an 'Apply offer (Preview)' button. Below that is a 'Project details' section with 'Subscription' set to 'Free Trial' and 'Resource group' set to 'Select a resource group'. The 'Database details' section requires a 'Database name' and a 'Server'. A note says 'The value must not be empty.' The 'Compute + storage' section has a note 'Please select a server first.' and a 'Configure database' link. The 'Backup storage redundancy' section also has a note 'Please select a server first.'. At the bottom, there are 'Review + create' and 'Next : Networking >' buttons.

Need to fill basic details:

1. **Subscription:** **Free** or **pay as you go** (if you don't have free subscription go with pay as you go)
2. **Resource Group:** Choose **resource group** if exists already, if not create new resource group itself there
3. **Database Name:** Write your database name based on your own assumptions.
4. **Server Name:** if already server exists, we can use it, other wise create new server → click on server it will navigate another like below fig.--> after filling all the details click on ok button.
  - a. Location : specify the preferred location
  - b. Authentication: we can use both SQL and Microsoft Entra Authentication
  - c. Set Microsoft Entra Admin: click on set → navigate users → choose active user as admin.



- d. Server Admin Login: provide server admin name
- e. Password: provide password, that must combination of uppercase, lowercase letters and special characters
- f. After providing all the details click on ok button same as below fig.

Microsoft Azure

Create SQL Database Server

Server details

Server name \*: kronserver

Location \*: (US) East US

Authentication

Use both SQL and Microsoft Entra authentication

Set Microsoft Entra admin: chenmu18.outlook.com/XT4@chenmu1.outlook.onmicrosoft.com

Server admin login \*: adminuser

Password \*: admin123

Confirm password \*: admin123

OK

**5. Want to use elastic pool:** This option set to “No”

**6. Workload Environment:** we have two option here Development and Production, we need to choose “Development”

**7. Compute Storage:** click on configure database we need to select, select basic because we are using this service practice purpose, if we need to use business we have select appropriate compute storage as per our budget. Observe the below three figures

Microsoft Azure

Create SQL Database

Resource group \*: KSR-RG

Database details

Database name \*: Bike\_Data\_DB

Server \*: kronserver (East US)

Want to use SQL elastic pool?  No  Yes

Workload environment:  Development  Production

Compute + storage \*: General Purpose - Serverless

Backup storage redundancy: Geo-redundant backup storage

Review + create

**Service and compute tier**

Select from the available tiers based on the needs of your workload. The Core mode provides a wide range of configuration controls and offers Hyperscale and Serverless to automatically scale your database based on your workload needs. Alternately, the DTU model provides set price/performance packages to choose from for easy configuration. Learn more [\[?\]](#)

**Service tier** General Purpose (Most budget friendly)

**Compute tier** General Purpose (Most budget friendly)

**Compute Hardware** Basic (For less demanding workloads)

**Hardware Configuration** Premium (Highest availability and performance)

**Max vCores** 1

**Min vCores** 0

**Auto-pause delay** The database automatically pauses if it is inactive for the time period specified here, and automatically resumes when database activity recurs. Alternatively, auto-pausing can be disabled.

Enable auto-pause Days: 0 Hours: 1 Minutes: 0

**Cost summary**

Basic (BPU)	Cost per DTU (in PBU)	DTUs needed	Estimated Cost / Month
81.49	81.49	x 5	\$1,464.00

**DTUs** Compare DTU options [\[?\]](#)

**5 (Basic)**

**Data max size (GB)** 2

**Apply**

8. **Backup Storage Redundancy:** Choose the redundancy level based on the criticality of your data and your business requirements.

- d. locally redundant storage (LRS),
- e. geo-redundant storage (GRS),
- f. zone-redundant storage (ZRS)

→ After provide all details in basic tab click next button to set up networking

Subscription: Free trial  
Resource group: KSR-AG

Database details:  
Database name: Bike\_Data\_DB  
Server: bikelsqlserver (East US)  
Want to use SQL elastic pool?: No  
Workload environment: Development

Compute + storage: Basic (2 GB storage)  
Backup storage redundancy: Locally-redundant backup storage

→ In networking tab, we need to enable the public endpoint in connectivity method

→ In firewall rules needs to enable,

1. Allow Azure services and resources to access this server
2. Add current client IP address. as you seen like below fig

Networking tab settings:  
Connectivity method: Public endpoint  
Firewall rules: Allow Azure services and resources to access this server: Yes  
Connection policy: Default

Cost summary	
Basic (Basic)	Cost per DB (in hrs)      \$1.49
	Units consumed      x 5
ESTIMATED COST / MONTH      407.46 ms	

→ In security tab go with all the defaults

Home > SQL databases >

Create SQL Database ...

Microsoft Defender for SQL

Protect your data using Microsoft Defender for SQL, a unified security package including vulnerability assessment and advanced threat protection for your server. [Learn more](#)

Get started with a 30 day free trial period, and then 1247.9202 INR/server/month.

Enable Microsoft Defender for SQL. \*  Start free trial  Not now

**Ledger**  
Ledger cryptographically verifies the integrity of your data and detects any tampering that might have occurred. [Learn more](#)

**Server identity**  
Use system assigned and user assigned managed identities to enable central access management between this database and other Azure resources. [Learn more](#)

**Transparent data encryption key management**  
Transparent data encryption encrypts your databases, backups, and logs at rest without any changes to your application. To enable encryption, go to each database. Database level settings if enabled, will override the server level setting. [Learn more](#)

**Server level key**  Service-managed key selected [Configure transparent data encryption](#)

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

**Cost summary**

Basic (Basic)	
Cost per DTU (in INR)	81.49
DTUs selected	x 5
ESTIMATED COST / MONTH	
407.46 INR	

**Review + create** [< Previous](#) [Next : Additional settings >](#)

→ In Additional settings tab also go with all the defaults

Home > SQL databases >

Create SQL Database ...

Customize additional configuration parameters including collation & sample data.

**Data source**  
Start with a blank database, restore from a backup or select sample data to populate your new database.

Use existing data \*  None  Backup  Sample

**Database collation**  
Database collation defines the rules that sort and compare data, and cannot be changed after database creation. The default database collation is SQL\_Latin1\_General\_CI\_AS. [Learn more](#)

Collation \*  SQL\_Latin1\_General\_CI\_AS [Find a collation](#)

**Maintenance window**  
Select a preferred maintenance window from the drop-down. During maintenance, databases remain available, but some updates may require a failover. The system default maintenance window (5pm to 8am) limits most activities to this time, but urgent updates may occur outside of it. To ensure all updates occur only during the maintenance window, select a non-default option. [Learn more](#)

Maintenance window [System default \(5pm to 8am\)](#)

**Cost summary**

Basic (Basic)	
Cost per DTU (in INR)	81.49
DTUs selected	x 5
ESTIMATED COST / MONTH	
407.46 INR	

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

→ In tags tab also go with all the defaults

Home > SQL databases > Create SQL Database

Microsoft Azure Upgrade

Tags

Name: Value: Resource:

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Cost summary

Basic (Basic) Cost per DBU (in INR) 81.49 DBUs selected x 5 ESTIMATED COST / MONTH 407.46 INR

Review + create < Previous Next > Review + create

→ Finally click on Review and create button to validating the details what you provided so far → then click on create button → it take less than 5 min to deploy the services shown below figures

Home > SQL databases > Create SQL Database

Microsoft Azure Upgrade

Review + create

Product details

SQL database by Microsoft

Estimated cost per month: 407.46 INR

Terms of use | Privacy policy

Cost summary

Basic (Basic) Cost per DBU (in INR) 81.49 DBUs selected x 5 ESTIMATED COST / MONTH 407.46 INR

Subscription: Free Trial

Region: East US

Database name: Bike\_Data\_DB

Server: (new) ksever

Authentication method: SQL and Microsoft Entra authentication

Server admin login: chennu18\_outlook.com#EXT#@chennu18outlookonmicrosoft.com

Compute + storage: Basic 2 GB storage

Backup storage redundancy: Locally-redundant backup storage

Networking

Allow Azure services and resources to access this server: Yes

Add current client IP address: 10.0.3.155.220

Private endpoint: None

Minimum TLS version: 1.2

Connection Policy: Default

Create < Previous Download a template for automation

The screenshot shows the Microsoft Azure portal interface. On the left, there's a sidebar with various service icons like Home, Dashboard, All services, and Resource groups. The main content area is titled 'Microsoft.SQLDatabase.newDatabaseNewServer\_2314fa09405e4e96a3aab | Overview'. It displays a deployment progress message: 'Deployment is in progress'. Below this, it shows deployment details: Deployment name: Microsoft.SQLDatabase.newDatabaseNewServer\_2314fa09405e4e96a3aab, Subscription: Free Trial, Resource group: KSR-RG. It also shows the start time (13/04/2024 13:26:58) and completion ID (9d700eb-15ac-48aa-9094-622a400b5f19). A note says 'There are no resources to display.' On the right side, there are promotional banners for Microsoft Defender for Cloud, Microsoft tutorials, and Azure experts.

→ After successfully completing deployment, you are able to see deployment is complete as you seen like below → click on Go to resource it will navigate to Azure SQL Database page.

This screenshot shows the same Azure portal interface as the previous one, but the deployment status has changed to 'Your deployment is complete'. The deployment details remain the same: Deployment name: Microsoft.SQLDatabase.newDatabaseNewServer\_2314fa09405e4e96a3aab, Subscription: Free Trial, Resource group: KSR-RG. The completion time is now 13:28:58. A 'Go to resource' button is visible under the deployment details section. The right side of the screen contains the same promotional banners as the first screenshot.

Microsoft Azure

Bike\_Data\_DB (krsrserver/Bike\_Data\_DB) Overview

Resource group: KSR-RG

Status: Online

Location: East US

Subscription: Free Trial

Subscription ID: b71af788-53cc-449b-982f-5963a7b21f7d

Tags: None

Getting started Monitoring Properties Notifications (0) Integrations Tutorials

Start working with your database

Configure access, Connect to application, Start developing

[https://portal.azure.com/#view/Microsoft\\_Database\\_Essentials/~/DetailsBlade/~/overview/id/%2F...](https://portal.azure.com/#view/Microsoft_Database_Essentials/~/DetailsBlade/~/overview/id/%2F...)

→ In SQL Database overview page, in left navigation to find query editor → click on that → it will navigate to the SQL Server page → we need to provide username and password → then click ok.

Microsoft Azure

Bike\_Data\_DB (krsrserver/Bike\_Data\_DB) | Query editor (preview)

Welcome to SQL Database Query Editor

SQL

SQL server authentication

Logon \*

Microsoft Entra authentication

Logged in as chennu18@outlook.com

Continue as chennu18@outlook.com

OR

Password \*

OK

[https://portal.azure.com/#view/Microsoft\\_Database\\_Essentials/~/DetailsBlade/~/queryEditor/id/%2F...](https://portal.azure.com/#view/Microsoft_Database_Essentials/~/DetailsBlade/~/queryEditor/id/%2F...)

→ After successfully login into the server → create table for checking purpose as shown in below figures

The screenshot shows the Microsoft Azure portal interface. On the left, there's a sidebar with various service icons like Home, All services, Resource groups, and App Services. The main area is titled 'Bike\_Data\_DB (ksrserver/Bike\_Data\_DB) | Query editor (preview)'. A message at the top says 'Showing limited object explorer here. For full capability please click here to open Azure Data Studio.' Below this, there's a 'Query 1' editor window containing the SQL command:

```
1 create table data (int int, name varchar(50))
2
```

At the bottom of the editor, it says 'Results' and 'Messages'. The 'Messages' tab shows the output: 'query succeeded: Affected rows: 0'.

This screenshot is nearly identical to the one above, showing the same Azure portal interface and the same SQL command being run. The output in the 'Messages' tab again shows 'query succeeded: Affected rows: 0'.

## Creating Azure Data Factory service from portal.azure.com

- Login to azure portal using this link <https://portal.azure.com/>
- After successful login you will able to see home page like below

The screenshot shows the Microsoft Azure portal home page. On the left, there's a sidebar with navigation links like Home, Dashboard, All services, Favorites, Resource groups, Quickstart Center, App Services, Function App, SQL databases, Azure Cosmos DB, Virtual machines, Load balancers, Storage accounts, Virtual networks, Microsoft Entra ID, Monitor, Advisor, and Microsoft Defender for Cloud. The main area is titled "Azure services" and contains icons for Create a resource, SQL databases, Storage accounts, Subscriptions, Azure Databricks, Quickstart Center, Virtual machines, App Services, Azure Cosmos DB, and More services. Below this is a "Resources" section with tabs for Recent and Favorite, and a "Navigate" section with links for Subscriptions, Resource groups, All resources, and Dashboard.

- Go to Azure Market place search for Azure Data Factory and hit enter, you will get page like below

The screenshot shows the Azure Marketplace search results for "Azure data factory". The search bar at the top has "azure data factory" entered. Below the search bar, there are filters for Pricing: All, Operating System: All, Publisher Type: All, Product Type: All, and Publisher name: All. The results section shows 21 of 66 results. One result, "Data Factory" by Microsoft, is highlighted with a yellow box. Other results include "Modem Data Mart" by Delphix, "DataFactory Compliance Services for Microsoft Azure" by Delphix, "Cloudin MDM and Data Quality - SaaS" by Cloudin, "Data#3 Azure Optimiser" by Data#3 Limited, "Cloudin MDM and Data Quality - PeaS" by Cloudin, "Profssee SaaS Enterprise Master Data Management" by Profssee, "Data#3 Azure Managed Services" by Data#3 Limited, "Capital Data - Azure Signature Services" by Capital Data, Inc., and several others. The left sidebar of the marketplace interface is visible, showing categories like Get Started, Service Providers, Management, and various service categories like Analytics, Compute, Internet of Things, Security, Databases, Development Tools, Storage, Migration, Networking, and Web.

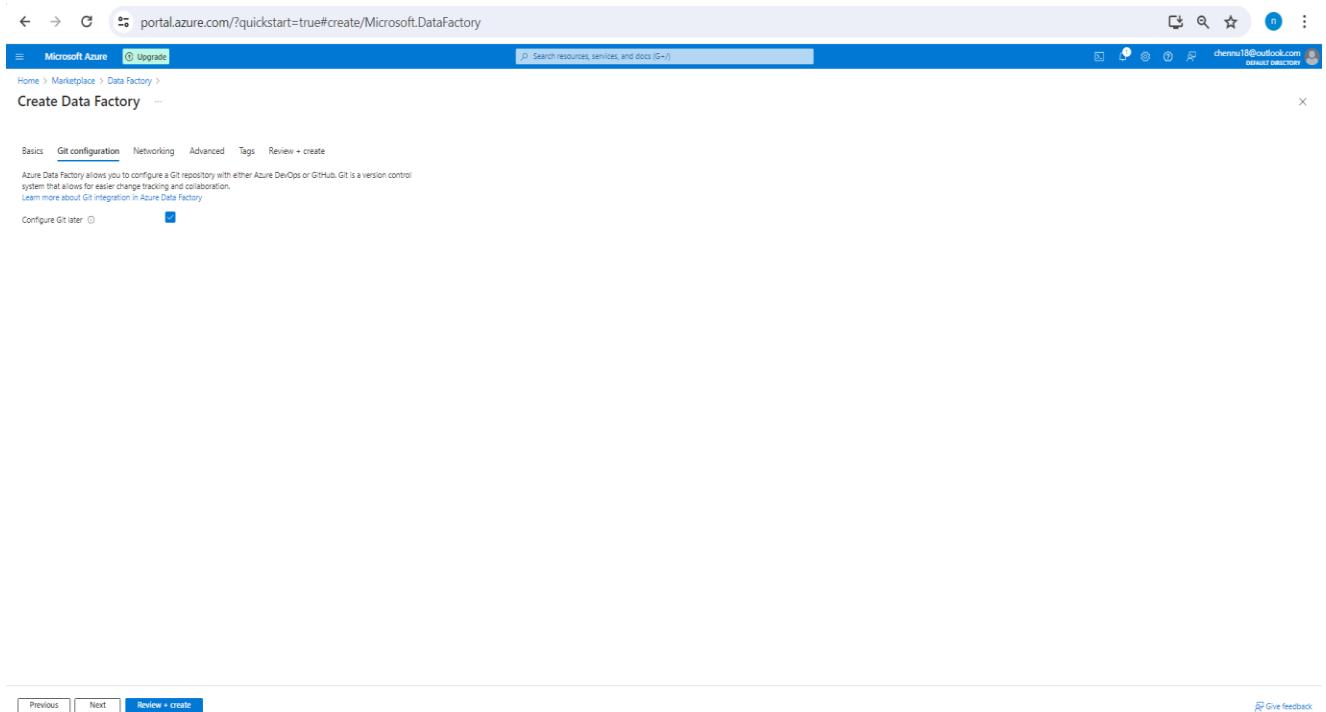
→ To create Azure Data Factory, using Create button see in below fig

The screenshot shows the Microsoft Azure Marketplace page for the 'Data Factory' service. At the top, there's a search bar and a navigation bar with links like 'Home', 'Marketplace', and 'Data Factory'. Below the navigation is a card for 'Data Factory' with a 'Create' button highlighted in yellow. The card includes a brief description, a rating of 3.6 (595 ratings), and a 'Plans' section. Below the card is a 'Media' section showing a screenshot of the Data Factory interface. At the bottom, there's a 'More products from Microsoft' section.

→ We need to provide subscription details and resource group, data factory name, region and select version. All are there below figure take a look into that.

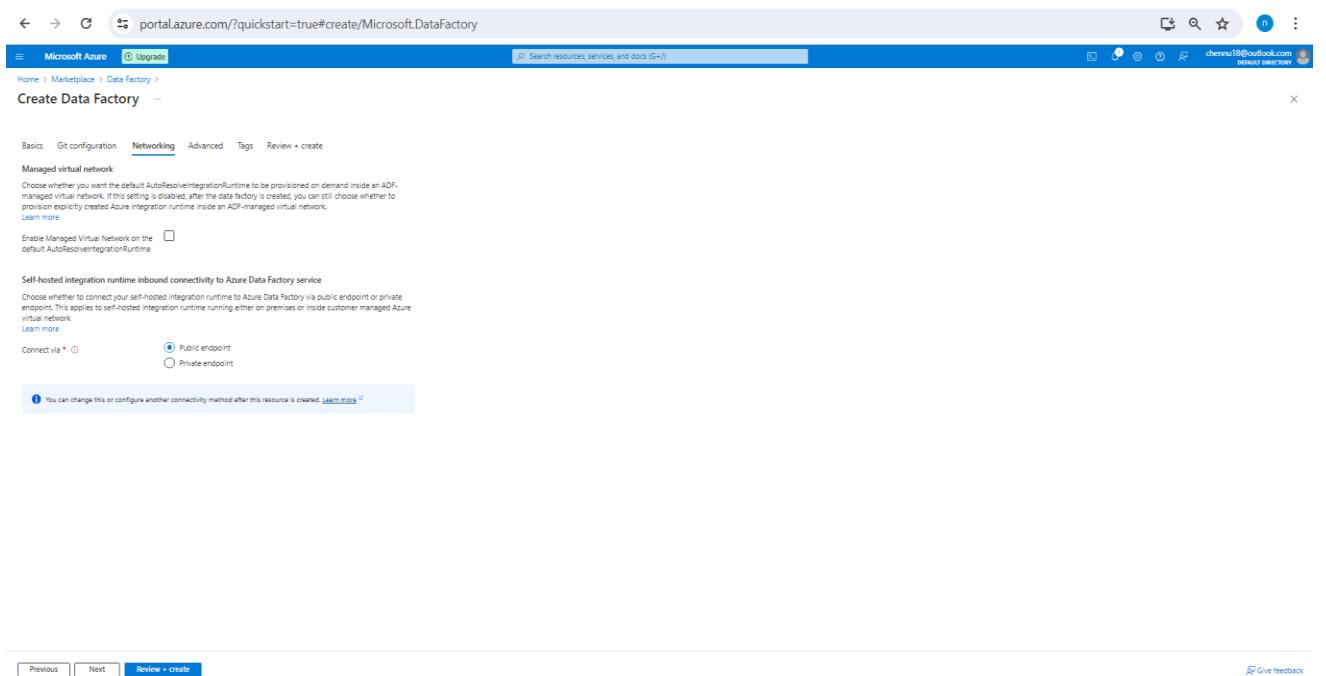
The screenshot shows the 'Create Data Factory' wizard on the 'Basic' step. It has tabs for 'Basic', 'Git configuration', 'Networking', 'Advanced', 'Tags', and 'Review + create'. The 'Basic' tab is selected. It asks for 'Project details' (Subscription: 'West US', Resource group: 'ADF-WS'), 'Instance details' (Name: 'ADFWS-DF', Region: 'West US', Version: 'V2'), and 'Advanced' settings. At the bottom, there are 'Previous', 'Next', and 'Review + create' buttons, with 'Review + create' highlighted in yellow.

➔ For this time we don't have a git repository, we can configure later go with default.



The screenshot shows the Azure portal interface for creating a Data Factory. The URL is <https://portal.azure.com/?quickstart=true#create/Microsoft.DataFactory>. The top navigation bar includes 'Microsoft Azure', 'Upgrade', 'Search resources, services, and docs (G+)', and a user profile for 'chennu18@outlook.com'. The main content area is titled 'Create Data Factory' with a sub-section 'Git configuration'. It explains that Azure Data Factory allows you to configure a Git repository with either Azure DevOps or GitHub. A note states: 'Configure Git later' with a checked checkbox. Below this, there are tabs for 'Basics', 'Git configuration' (which is selected), 'Networking', 'Advanced', 'Tags', and 'Review + create'. At the bottom, there are 'Previous' and 'Next' buttons, and a prominent 'Review + create' button.

➔ Networking tab also go with default settings



The screenshot shows the Azure portal interface for creating a Data Factory. The URL is <https://portal.azure.com/?quickstart=true#create/Microsoft.DataFactory>. The top navigation bar includes 'Microsoft Azure', 'Upgrade', 'Search resources, services, and docs (G+)', and a user profile for 'chennu18@outlook.com'. The main content area is titled 'Create Data Factory' with a sub-section 'Networking' (selected). It discusses managed virtual networks and self-hosted integration runtime connectivity. A note says: 'Enable Managed Virtual Network on the default AutoResolveIntegrationRuntime' with an unchecked checkbox. Below this, there are tabs for 'Basics', 'Git configuration', 'Networking' (selected), 'Advanced', 'Tags', and 'Review + create'. At the bottom, there are 'Previous' and 'Next' buttons, and a prominent 'Review + create' button.

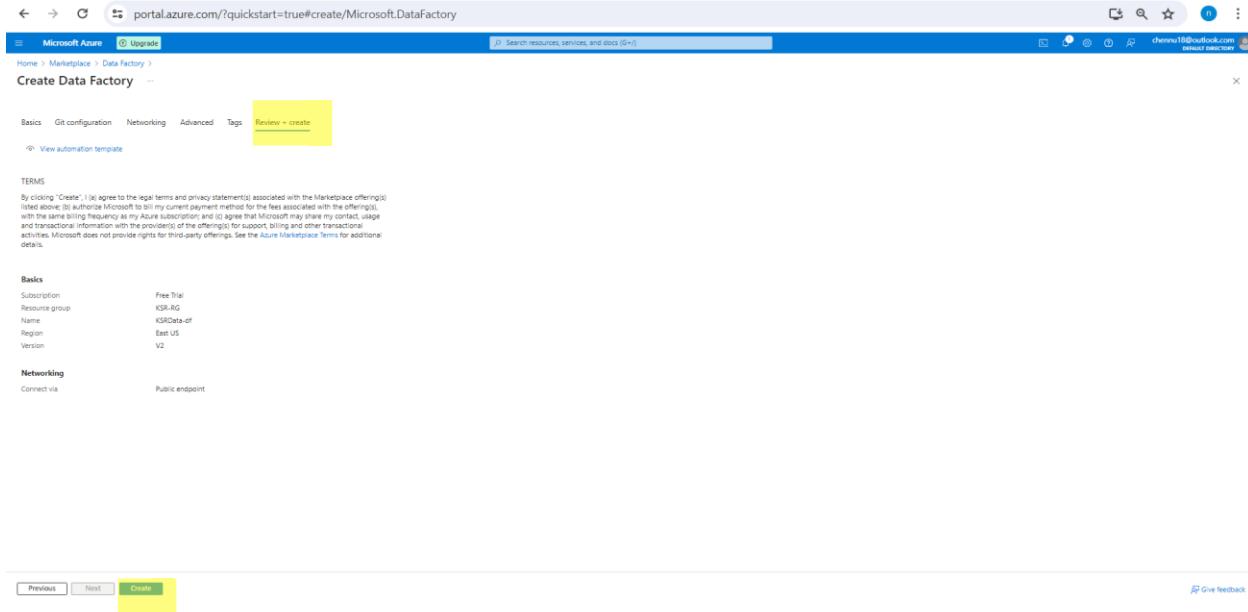
## → Advanced tab also go with default settings

The screenshot shows the Azure portal interface for creating a Data Factory. The URL is [portal.azure.com/?quickstart=true#create/Microsoft.DataFactory](https://portal.azure.com/?quickstart=true#create/Microsoft.DataFactory). The page title is "Create Data Factory". The top navigation bar includes "Microsoft Azure", "Upgrade", "Search resources, services, and docs (G+)", and a user profile for "chenyu18@outlook.com". The main content area has tabs for "Basic", "Git configuration", "Networking", "Advanced", "Tags", and "Review + create". The "Advanced" tab is currently selected. A sub-section titled "Datafactory Encryption" explains that data is encrypted with Microsoft-managed keys by default. It also describes how to use customer-managed keys, mentioning that keys must be stored in an Azure Key Vault. There are two options: "Enable encryption using a Customer Managed Key" (unchecked) and "Managed Key" (with a link). At the bottom of the page are "Previous", "Next", and "Review + create" buttons.

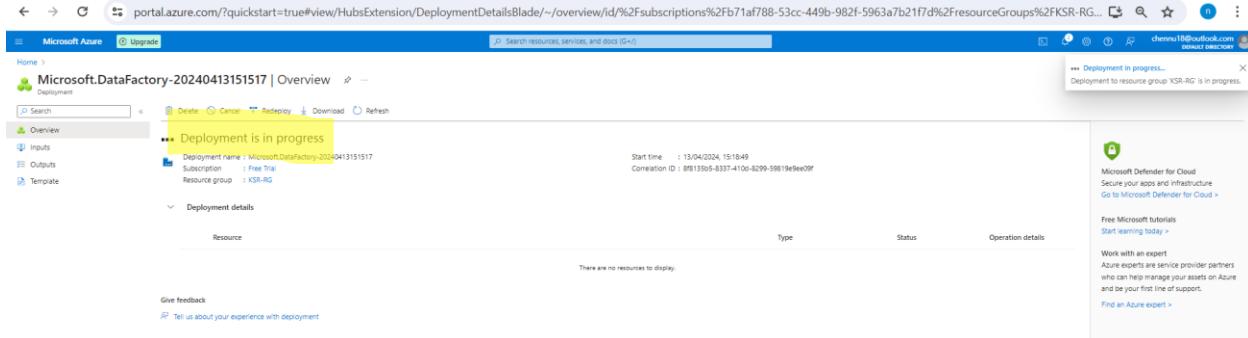
## → Tags tab also go with default settings

The screenshot shows the Azure portal interface for creating a Data Factory, specifically on the "Tags" tab. The URL is [portal.azure.com/?quickstart=true#create/Microsoft.DataFactory](https://portal.azure.com/?quickstart=true#create/Microsoft.DataFactory). The page title is "Create Data Factory". The top navigation bar includes "Microsoft Azure", "Upgrade", "Search resources, services, and docs (G+)", and a user profile for "chenyu18@outlook.com". The main content area has tabs for "Basic", "Git configuration", "Networking", "Advanced", "Tags", and "Review + create". The "Tags" tab is currently selected. A note states that tags are name-value pairs used for categorization and billing. It also notes that tags can be applied to multiple resources and resource groups. Below this, a note says that changes made here will affect other tabs. A table allows users to define tags, with columns for "Name", "Value", and "Resource". One row is shown with "Name" as "Data factory V2" and "Value" as an empty field. At the bottom of the page are "Previous", "Next", and "Review + create" buttons.

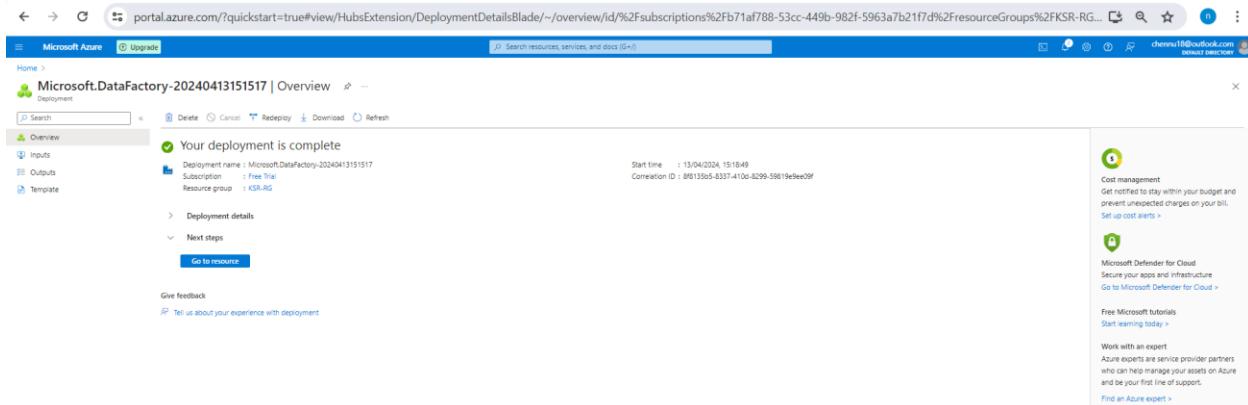
- Click on review and create button validate details what we provide , after validation pass then click on create



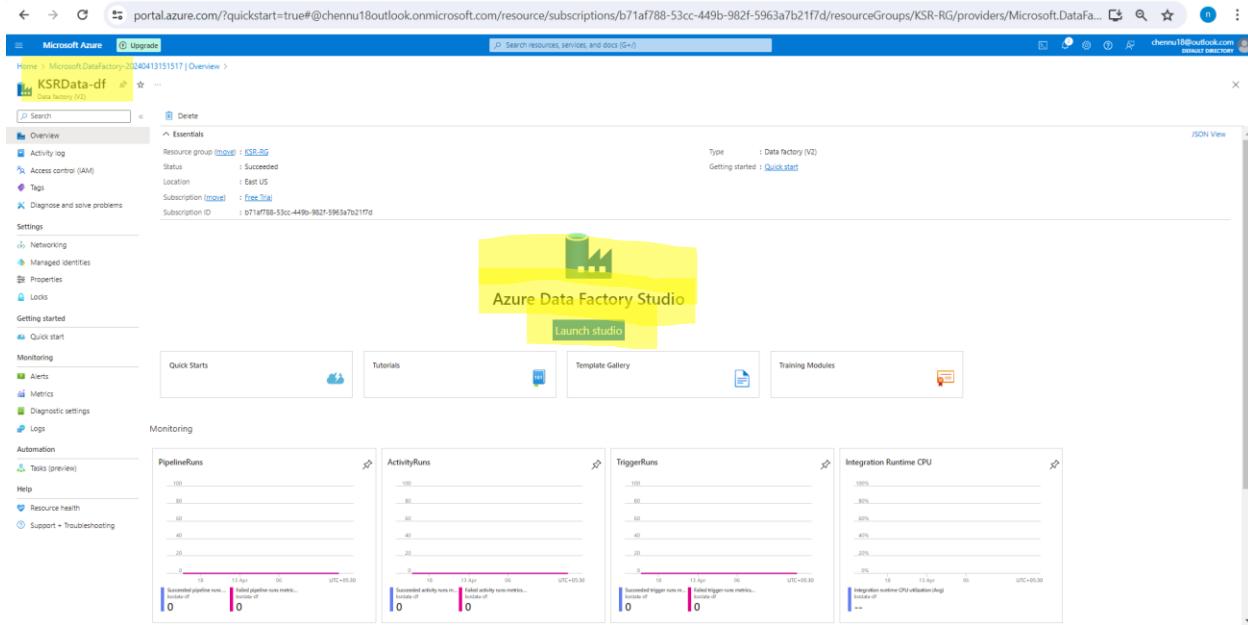
- Below figure shows the deployment in progress after hitting the create button



- Once deployment finish click on go to resource, we will navigate to azure data factory home page

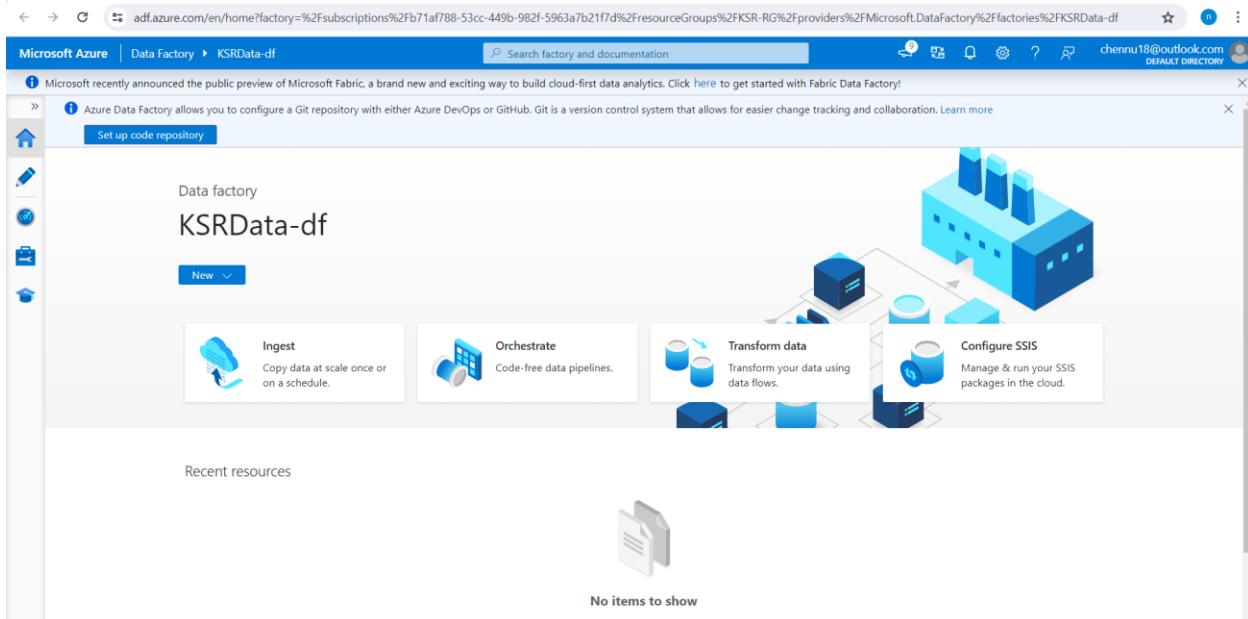


→ Switch from Azure Data factory home page to Azure data Factory Studio jus click on Azure data Factory Studio button seen below figure



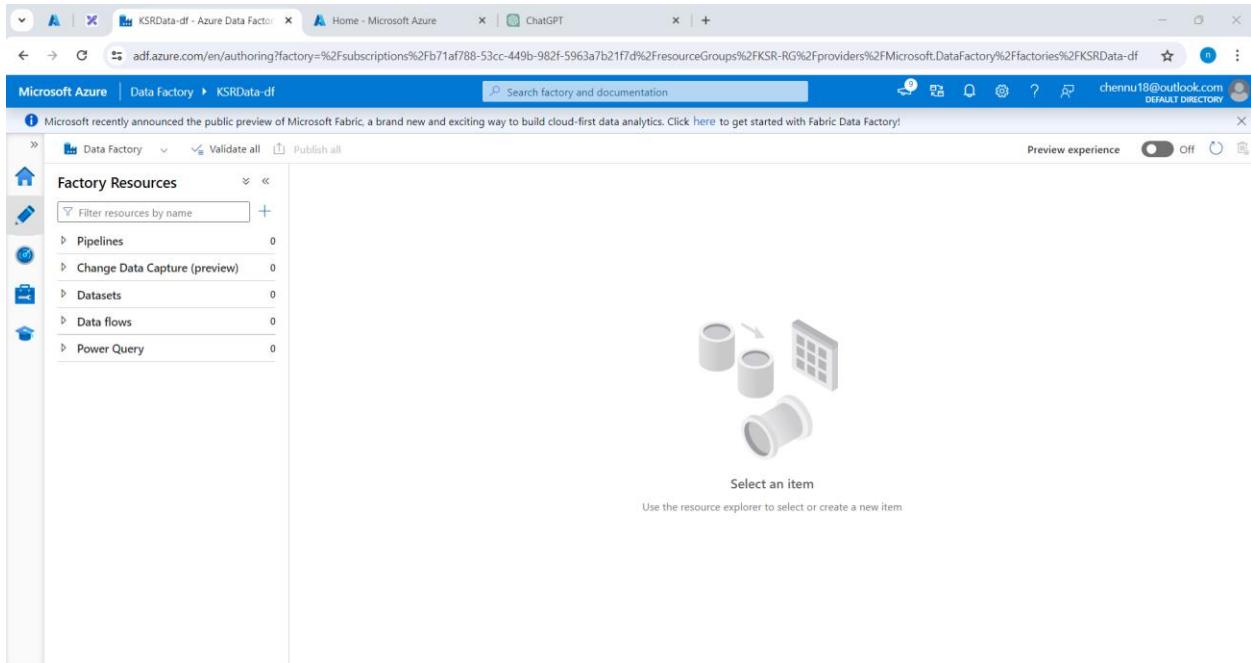
→ Below figure represents the Azure data Factory Studio work environment. In left navigation we have

- 1. Home Tab
- 2. Author tab
- 3. Monitor tab
- 4. Management Hub tab

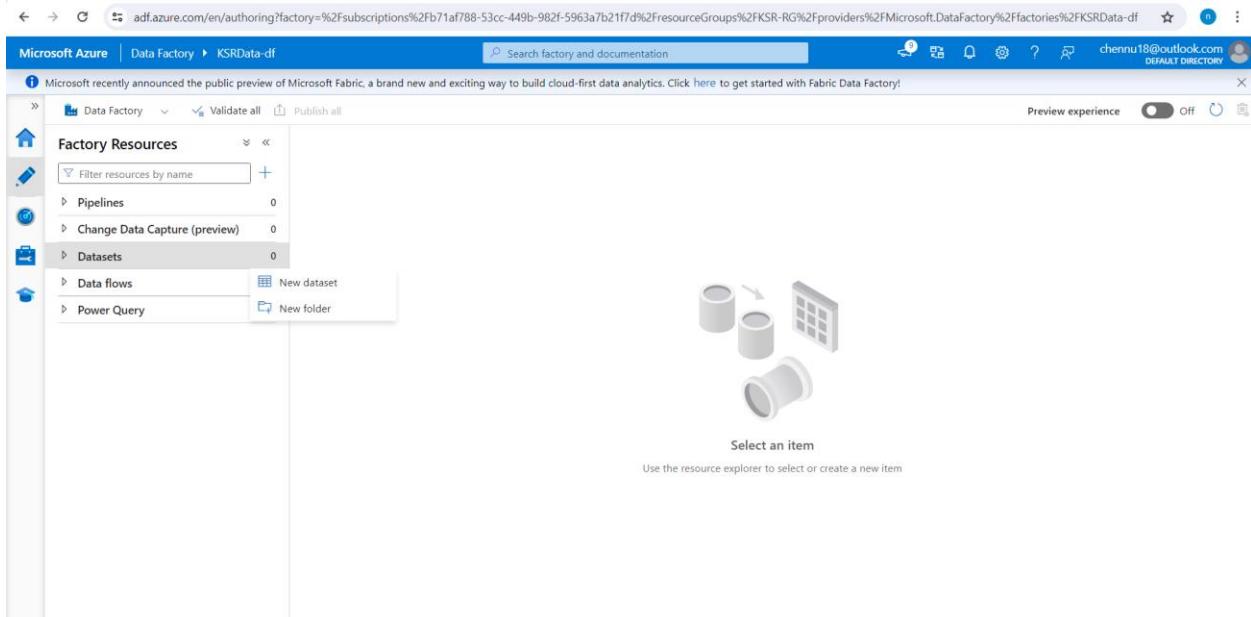


→ Click on Author tab(pencil icon) to see the factory resources

1. Pipelines
2. Change data capture(preview)
3. Datasets
4. Data Flows
5. Power Query



→ Right click on datasets resources → click on new dataset → it will asking create a dataset



→ Click on azure → click on azure data lake storage gen2 → click continue

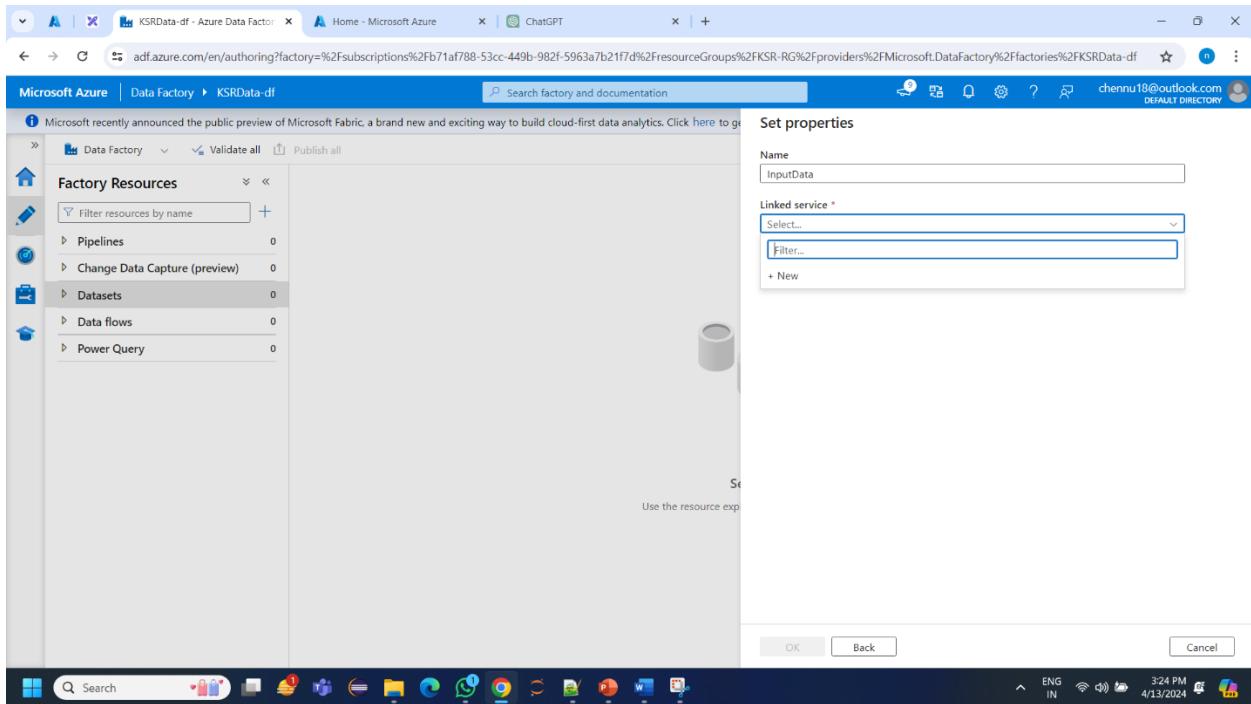
The screenshot shows the 'New dataset' configuration page in Azure Data Factory. On the left, there's a sidebar with 'Factory Resources' like Pipelines, Datasets, Data flows, and Power Query. The main area is titled 'New dataset' and has a sub-header 'In pipeline activities and data flows, reference a dataset to specify the location and structure of your data within a data store.' Below this, a search bar says 'Search' and a tab bar shows 'All', 'Azure' (which is selected), 'Database', 'File', 'Generic protocol', 'NoSQL', and 'Services and apps'. A grid of icons represents different data stores: Azure AI Search, Azure Blob Storage, Azure Cosmos DB for MongoDB, Azure Cosmos DB for NoSQL, Azure Data Explorer (Kusto), Azure Data Lake Storage Gen2 (highlighted with a yellow box), and three other unlabelled icons. At the bottom are 'Continue' and 'Cancel' buttons.

→ After that choose source file type it is excel, csv, json, xml and etc

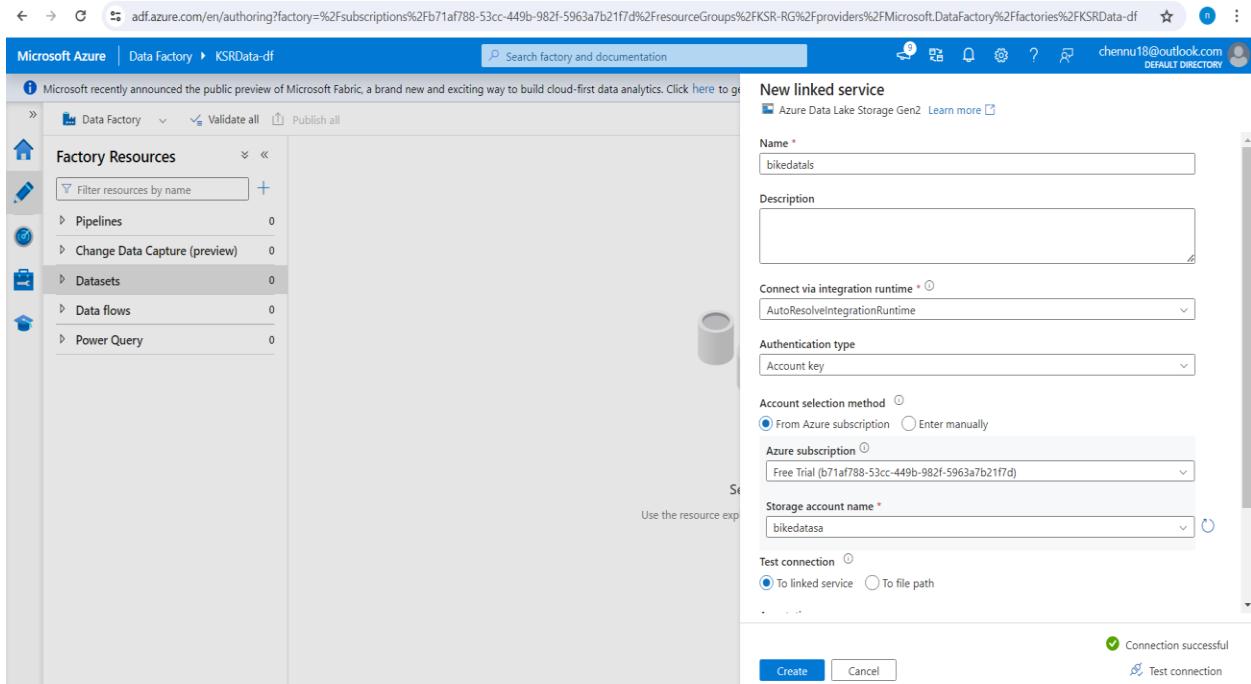
This screenshot shows the 'Select format' dialog. It has a title 'Select format' and a sub-instruction 'Choose the format type of your data'. A grid of icons represents different file formats: Avro, Binary, DelimitedText, Excel (highlighted with a yellow box), JSON, ORC, Parquet, and XML. At the bottom are 'Continue' and 'Back' buttons.

→ Need to configure the linked services(which integration tool called connection strings).

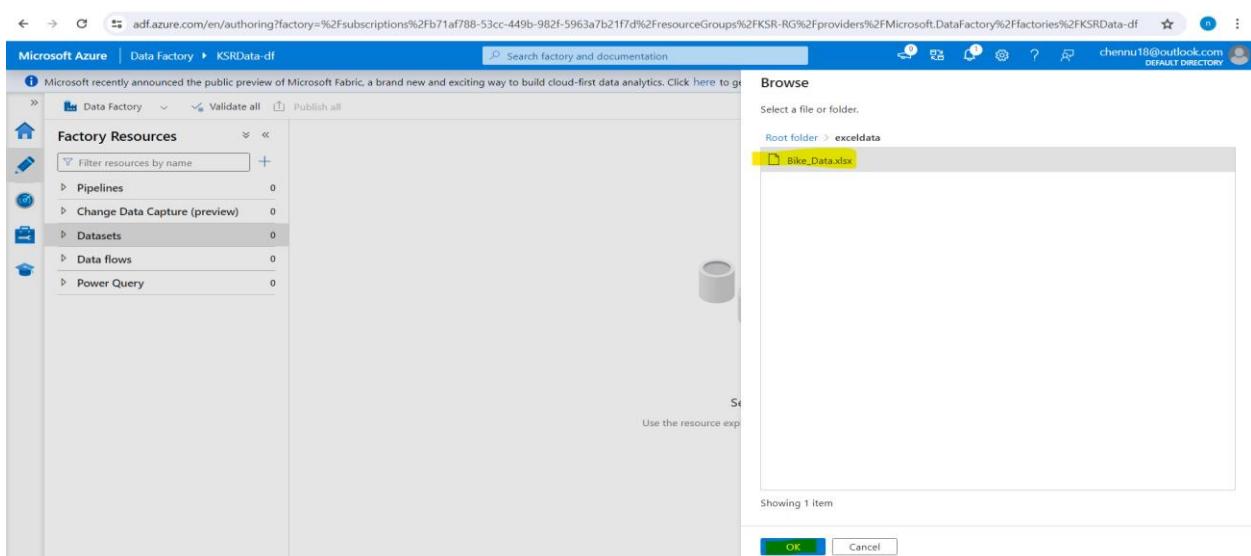
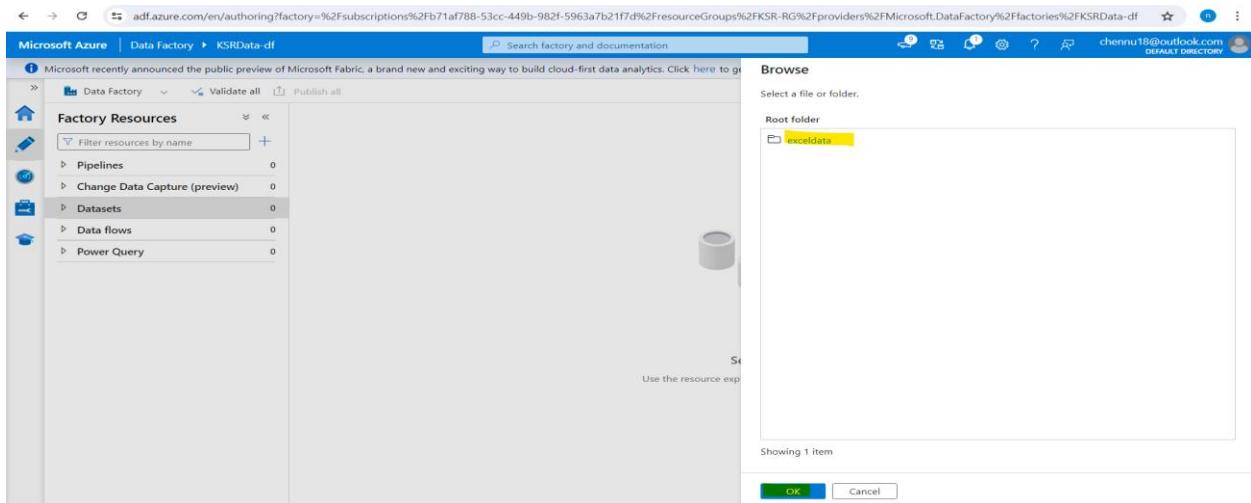
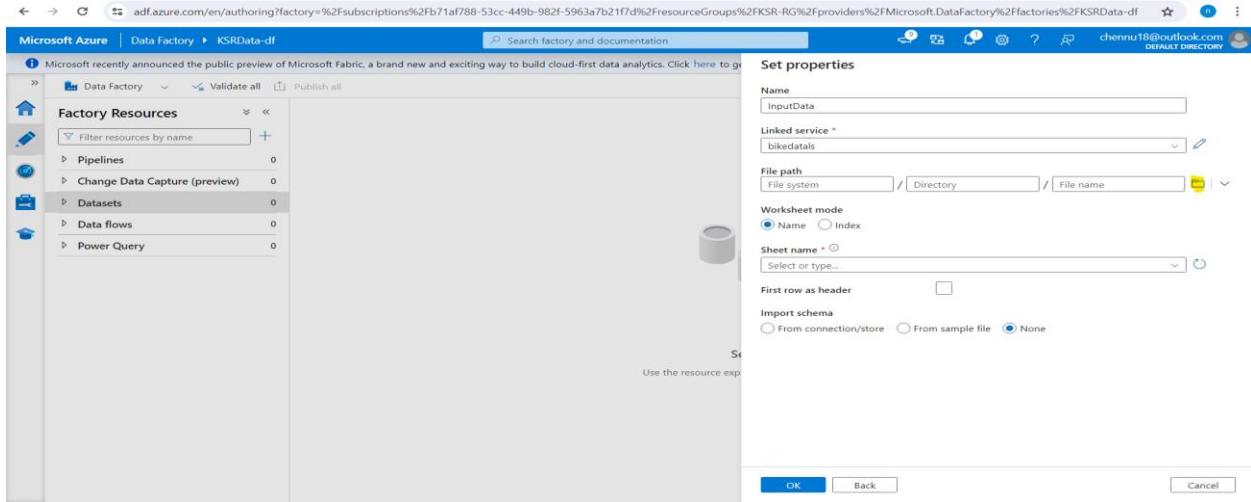
1. Provide linked service name
2. click new tab see in below figure



→ After clicking new → need to provide required details like shown in below figure → then click test the connection → to get message connection successful → click on create button



- We need to set properties of source file and browse source file location and select sheet name then click ok. See in following 4 figures



Microsoft recently announced the public preview of Microsoft Fabric, a brand new and exciting way to build cloud-first data analytics. Click here to get started with Fabric Data Factory!

**Set properties**

**Name**: InputData

**Linked service**: bikedatas

**File path**: exceldata / [Directory] / Bike\_Data.xlsx

**Worksheet mode**: Name (radio button selected)

**Sheet name**: TrainingSample2

**First row as header**: checked

**Import schema**: From connection/store (radio button selected)

**OK**, **Cancel**

→ Finally you see in the input data under dataset see in below figure

Microsoft recently announced the public preview of Microsoft Fabric, a brand new and exciting way to build cloud-first data analytics. Click here to get started with Fabric Data Factory!

**Preview experience**: Off

**Properties**

**General**

**Name**: InputData

**Description**

**Annotations**

**Connection**

**Linked service**: bikedatas

**File path**: exceldata / [Directory] / Bike\_Data.xlsx

**Compression type**: Select...

**Worksheet mode**: Name (radio button selected)

**Sheet name**: TrainingSample2

**Range**: A3:H5

**Null value**

→ Creating Data Flow under author tab → right click on Data Flow → click on New Data Flow → see in below figure.

The screenshot shows the Microsoft Azure Data Factory interface. On the left, the 'Factory Resources' sidebar lists 'Pipelines' (0), 'Change Data Capture (preview)' (0), 'Datasets' (1, with 'InputData' selected), and 'Data flows' (0). In the center, a 'New data flow' dialog is open, titled 'InputData'. The 'File path' field contains 'excdodata / Directory / Bike\_Data.xlsx'. The 'Compression type' dropdown is set to 'Select...'. Under 'Worksheet mode', 'Name' is selected. The 'Sheet name' dropdown shows 'TrainingSample2'. The 'Range' dropdown shows 'e.g. A3:H5'. The 'Null value' field is empty. On the right, the 'Properties' panel shows the 'General' tab with 'Name' set to 'InputData'.

After creating Data flow, a page shown like below figure → click down arrow → click on add resource → fill the all required details follow the two diagrams.

The screenshot shows the Microsoft Azure Data Factory interface for the 'dataflow1' Data flow. The 'Factory Resources' sidebar shows 'Datasets' (1, with 'InputData' selected) and 'Data flows' (1, with 'dataflow1' selected). The main area displays the 'dataflow1' configuration. The 'Properties' panel on the right shows the 'General' tab with 'Name' set to 'dataflow1'.

The screenshot shows the Microsoft Azure Data Factory interface for the 'dataflow1' Data flow. The 'Factory Resources' sidebar shows 'Datasets' (1, with 'InputData' selected) and 'Data flows' (1, with 'dataflow1' selected). The main area shows the 'dataflow1' configuration with a flow diagram. The 'Properties' panel on the right shows the 'General' tab with 'Name' set to 'dataflow1'.

- In projection we need to change the data type as per the field values if it its numerical data, string data and data type.

Column name	Type	Format
Region	string	Specify format
Country	string	Specify format
Customer	string	Specify format
Business Segment	string	Specify format
Category	string	Specify format
Model	string	Specify format
Color	string	Specify format
SalesDate	date	Specify format
ListPrice	date	Specify format
UnitPrice	integer	Specify format
UnitPrice	integer	Specify format
OrderQty	integer	Specify format

- After entering all the details if we want see the data → click on data preview tab, if you want see data preview, we need to enable data flow debug then only see the preview, while using data flow debug be careful because it will charge more amount.

The screenshot shows the Microsoft Azure Data Factory Data Flow interface. A pipeline named 'dataflow1' is selected. The data flow consists of an 'InputData' activity followed by a 'bikedataf' activity. The 'Data preview' tab is active, displaying the schema and 11 total rows from the input dataset. The properties pane on the right shows the name 'dataflow1'.

Region	Country	Category	Model	Color	SalesDate	ListPrice	UnitP
North	United States	Adventure Works	Road Bike	Red	2020-01-01	337	183
North	United States	Central	Bikes	Mount...	2020-01-01	3399	2039
North	United States	Leadin...	Clothing	Jersey	Long-S...	Multi	49
North	United States	Paint S...	Comp...	Mount...	2020-01-01	1349	714
North	United States	Scoote...	Bikes	Road B...	Road...	Red	1457
North	United States	Scoote...	Bikes	Road B...	Road...	Black	782
North	United States	United	Bikes	Road B...	Road...	Red	782
North	United States	Moder...	Bikes	Road B...	Road...	Red	1457
North	Canada	Corner...	Access...	Helmets	Sport...	Black	34
North	Canada	Metal ...	Bikes	Road B...	Road...	Red	782
North	United States	Excelle...	Bikes	Road B...	Road...	Red	782

→ We have created calculate column cost and sales using derived column activity, we can see below figure how to create derived column.

The screenshot shows the Microsoft Azure Data Factory Data Flow interface. The 'Derived Column' activity is selected in the 'Multiple inputs/outputs' section of the pipeline editor. The 'Data preview' tab shows the schema and 11 total rows from the input dataset. The properties pane on the right shows the name 'bikedataf'.

Region	Country	Category	Model	Color	SalesDate	ListPrice	UnitP
North	United States	Adventure Works	Road Bike	Red	2020-01-01	337	183
North	United States	Central	Bikes	Mount...	2020-01-01	3399	2039
North	United States	Leadin...	Clothing	Jersey	Long-S...	Multi	49
North	United States	Paint S...	Comp...	Mount...	2020-01-01	1349	714
North	United States	Scoote...	Bikes	Road B...	Road...	Red	1457
North	United States	Scoote...	Bikes	Road B...	Road...	Black	782
North	United States	United	Bikes	Road B...	Road...	Red	782
North	United States	Moder...	Bikes	Road B...	Road...	Red	1457
North	Canada	Corner...	Access...	Helmets	Sport...	Black	34
North	Canada	Metal ...	Bikes	Road B...	Road...	Red	782
North	United States	Excelle...	Bikes	Road B...	Road...	Red	782

→ Provide the required details for calculated columns → and you observe the column size increase 11 to 13

Microsoft Azure | Data Factory > KSRData-df

Factory Resources

CalculatedColumns

Output stream name: CalculatedColumns

Description: creating calculated columns cost and sales

Incoming stream: getInputStream

Columns:

Column	Expression
Sales	ListPrice*OrderQty
cost	UnitPrice*OrderQty

→ Click on data preview see the calculated columns cost and sales in below figure.

Data preview

TOTAL 1000

Business Unit	Category	Model	Color	Sales	cost
Comp...	Road ...	LL Ro...	Red	2020...	337
Bikes	Moun...	Mount...	Silver	2020...	3399
Clothi...	Jerseys	Long...	Multi	2020...	49
Comp...	Moun...	HL M...	Black	2020...	1349
Bikes	Road ...	Road...	Red	2020...	1457
Bikes	Road ...	Road...	Black	2020...	782

→ Again Create derived column for calculating profit from the calculated column

Data preview

TOTAL 1000

Business Unit	Category	Model	Color	Sales	cost	Profit
Comp...	Road ...	LL Ro...	Red	2020...	337	183
Bikes	Moun...	Mount...	Silver	2020...	3399	2039
Clothi...	Jerseys	Long...	Multi	2020...	49	28
Comp...	Moun...	HL M...	Black	2020...	1349	714
Bikes	Road ...	Road...	Red	2020...	1457	874
Bikes	Road ...	Road...	Black	2020...	782	419

→ When we click on data preview we can see profit column see in below diagram, the column size will increase 13 to 14

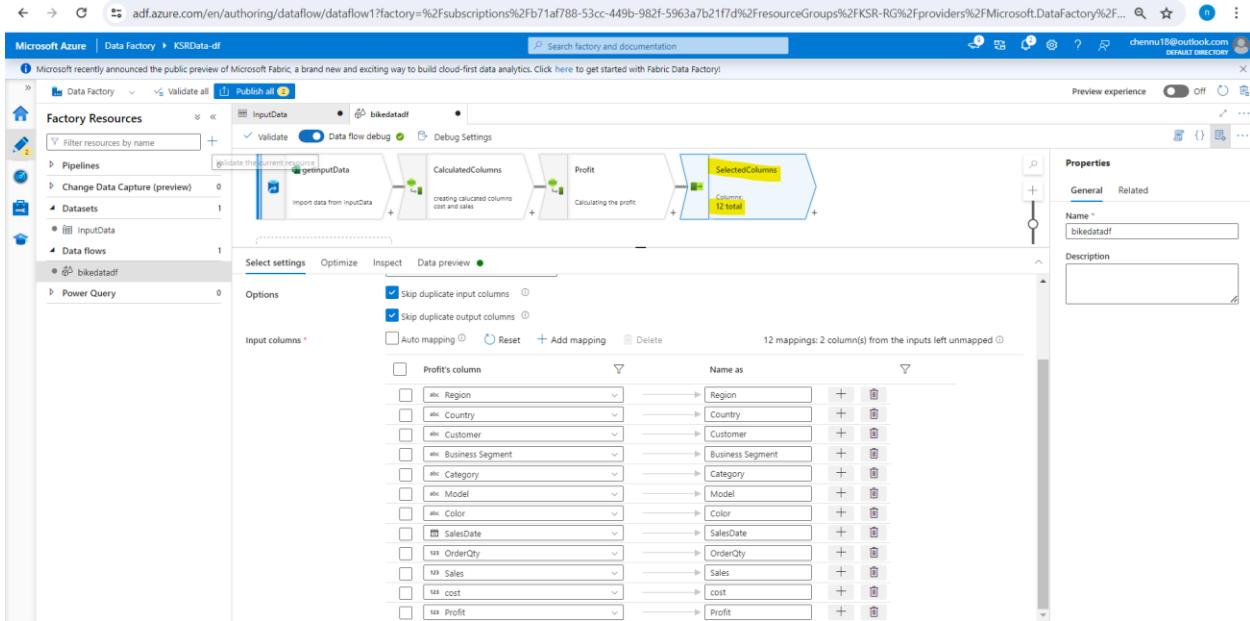
The screenshot shows the Microsoft Azure Data Factory Data Flow interface. A data flow named 'bikedatadf' is displayed. The flow consists of three main stages: 'InputData' (green), 'CalculatedColumns' (blue), and 'Profit' (yellow). The 'CalculatedColumns' stage has a tooltip 'Creating calculated columns cost and sales'. The 'Profit' stage has a tooltip 'Calculating the profit'. The 'Properties' pane on the right shows the name 'bikedatadf'. The 'Data preview' tab is selected, showing a table with 14 columns: Region, Country, Customer, Business Segment, Category, Model, Color, SalesDate, ListPrice, UnitPrice, OrderQty, Sales, cost, and profit. The 'profit' column is highlighted in yellow.

→ We have to select required columns only, other columns we can delete list price and unit price, we can see following two diagrams

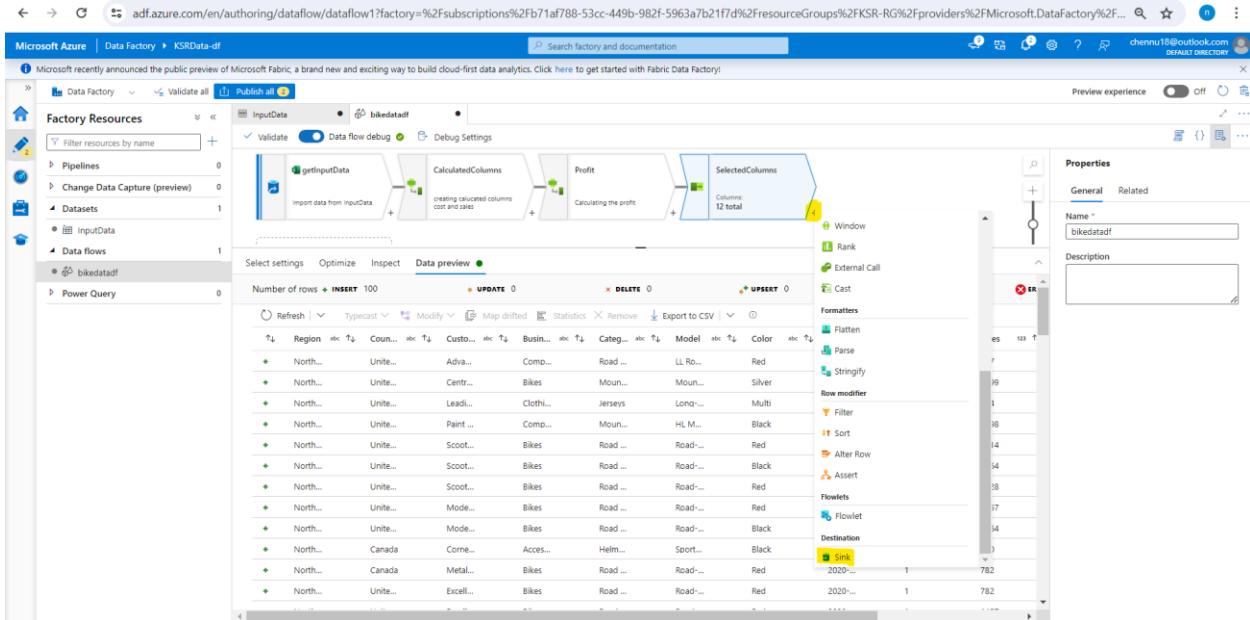
This screenshot shows the same Data Flow interface as above, but with a different configuration. The 'CalculatedColumns' stage now has a tooltip 'Creating calculated columns cost and sales'. The 'Profit' stage has a tooltip 'Calculating the profit'. The 'Properties' pane shows the name 'bikedatadf'. The 'Data preview' tab is selected, showing the same 14-column table. However, the 'ListPrice' and 'UnitPrice' columns are crossed out with a red 'X' in the header, indicating they are no longer part of the output. The 'profit' column is still highlighted in yellow.

This screenshot shows the final configuration of the Data Flow. The 'CalculatedColumns' stage has a tooltip 'Creating calculated columns cost and sales'. The 'Profit' stage has a tooltip 'Calculating the profit'. The 'Properties' pane shows the name 'bikedatadf'. The 'Data preview' tab is selected, showing the same 14-column table. The 'ListPrice' and 'UnitPrice' columns are still crossed out. The 'profit' column is highlighted in yellow. Below the preview, the 'Input columns' section shows a mapping table with 14 rows, each mapping an input column to an output column. The output columns are: Region, Country, Customer, Business Segment, Category, Model, Color, SalesDate, ListPrice, UnitPrice, OrderQty, Sales, cost, and profit. The 'profit' column is highlighted in yellow in this table as well.

→ Observe in below figure the column size reduces from 14 to 12



→ Then Finally add destination here we called as sink activity how to create see below figure.



- Click on sink activity to provide required details and create new linked service for Azure SQL Database. You can see the process following figures how to do.
- Click new → Click azure → select Azure SQL Database → continue
- To provide all the details for linked service and test the connection, once connection successfully → click ok.

Microsoft Azure | Data Factory > KSRData-df

adf.azure.com/en/authoring/dataflow/dataflow1?factory=%2Fsubscriptions%2Fb71af788-53cc-449b-982f-5963a7b21f7d%2FresourceGroups%2FKSR-RG%2Fproviders%2FMicrosoft.DataFactory%2F...

Microsoft recently announced the public preview of Microsoft Fabric, a brand new and exciting way to build cloud-first data analytics. Click here to get started with Fabric Data Factory!

Preview experience: Off

**Factory Resources**

- Pipelines: 0
- Change Data Capture (preview): 0
- Datasets: 1
- Data flows: 1
- Power Query: 0

**bikedatadf**

**InputData**

**Output**

**Properties**

Name: bikedatadf

Description:

**InputData**

**GetInputData**

Import data from InputData

**CalculatedColumns**

Creating calculated columns cost and sales

**Profit**

Calculating the profit

**Reference: 1**

**GetOutput**

Columns: 12 total

**Sink**

Output stream name: GetOutput

Description: Add sink dataset

Incoming stream: SelectedColumns

Sink type: Dataset

Dataset: Select... + New

Options: Allow schema drift (checked) Validate schema (unchecked)

**Properties**

General Related

Microsoft Azure | Data Factory > KSRData-df

adf.azure.com/en/authoring/dataflow/dataflow1?factory=%2Fsubscriptions%2Fb71af788-53cc-449b-982f-5963a7b21f7d%2FresourceGroups%2FKSR-RG%2Fproviders%2FMicrosoft.DataFactory%2F...

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Preview experience: Off

**Factory Resources**

- Pipelines: 0
- Change Data Capture (preview): 0
- Datasets: 1
- Data flows: 1
- Power Query: 0

**bikedatadf**

**InputData**

**Output**

**Properties**

Name: bikedatadf

Description:

**InputData**

**GetInputData**

Import data from InputData

**CalculatedColumns**

Creating calculated columns cost and sales

**Profit**

Calculating the profit

**Reference: 1**

**GetOutput**

Columns: 12 total

**Sink**

Output stream name: GetOutput

Description: Add sink dataset

Incoming stream: SelectedColumns

Sink type: Dataset

Dataset: Select... + New

Options: Allow schema drift (checked) Validate schema (unchecked)

**New dataset**

In pipeline activities and data flows, reference a dataset to specify the location and structure of your data within a data store. Learn more

Select a data store

All Azure Database File Generic protocol NoSQL Services and apps

Azure Blob Storage	Azure Cosmos DB for NoSQL	Azure Data Explorer (Kusto)
Azure Data Lake Storage Gen2	Azure Database for MySQL	Azure Database for PostgreSQL
Azure SQL Database	Azure SQL Database Managed Instance	Azure Synapse Analytics

Continue Cancel

Microsoft Azure | Data Factory > KSRData-df

adf.azure.com/en/authoring/dataflow/dataflow1?factory=%2Fsubscriptions%2Fb71af788-53cc-449b-982f-5963a7b21f7d%2FresourceGroups%2FKSR-RG%2Fproviders%2FMicrosoft.DataFactory%2F...

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Preview experience: Off

**Factory Resources**

- Pipelines: 0
- Change Data Capture (preview): 0
- Datasets: 1
- Data flows: 1
- Power Query: 0

**bikedatadf**

**InputData**

**Output**

**Properties**

Name: bikedatadf

Description:

**InputData**

**GetInputData**

Import data from InputData

**CalculatedColumns**

Creating calculated columns cost and sales

**Profit**

Calculating the profit

**Reference: 1**

**GetOutput**

Columns: 12 total

**Sink**

Output stream name: GetOutput

Description: Add sink dataset

Incoming stream: SelectedColumns

Sink type: Dataset

Dataset: Select... + New

Options: Allow schema drift (checked) Validate schema (unchecked)

**New linked service**

Azure SQL Database Learn more

Name: bikeservice

Description:

Connect via integration runtime: AutoResolveIntegrationRuntime

Connection string: Azure Key Vault

Account selection method: From Azure subscription Enter manually

Azure subscription: Free Trial (b71af788-53cc-449b-982f-5963a7b21f7d)

Server name: bikeservice

Database name: Bike\_Data\_DB

Authentication type: SQL authentication

User name: administrator

Password: (redacted)

Always encrypted: (unchecked)

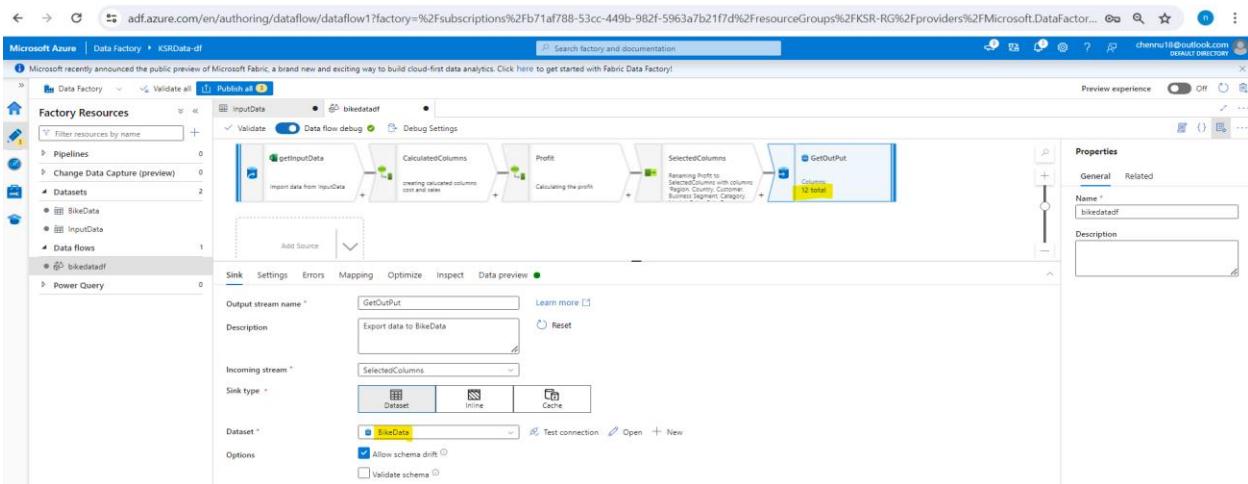
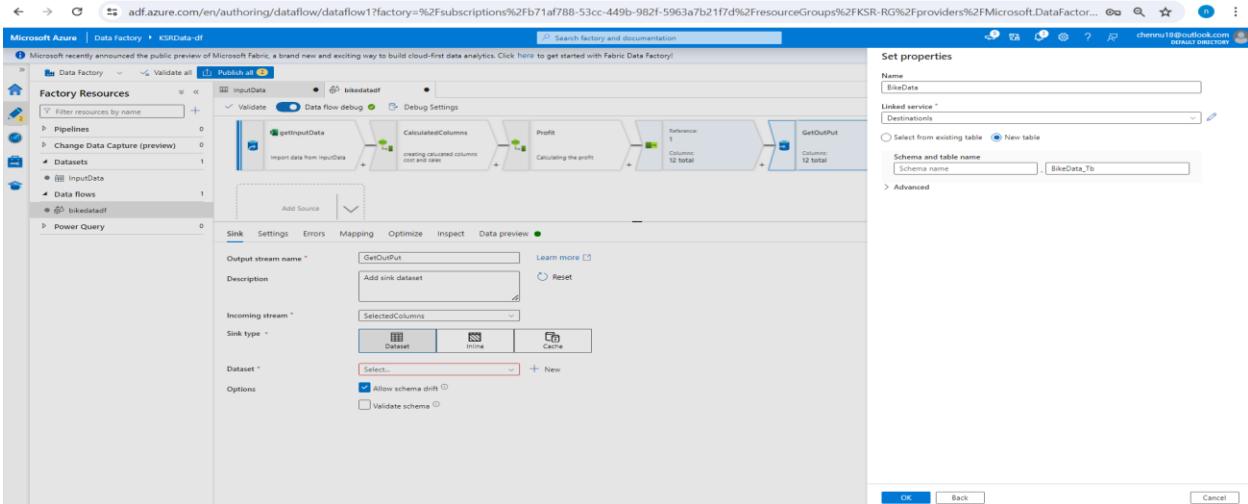
Additional connection properties:

Test connection

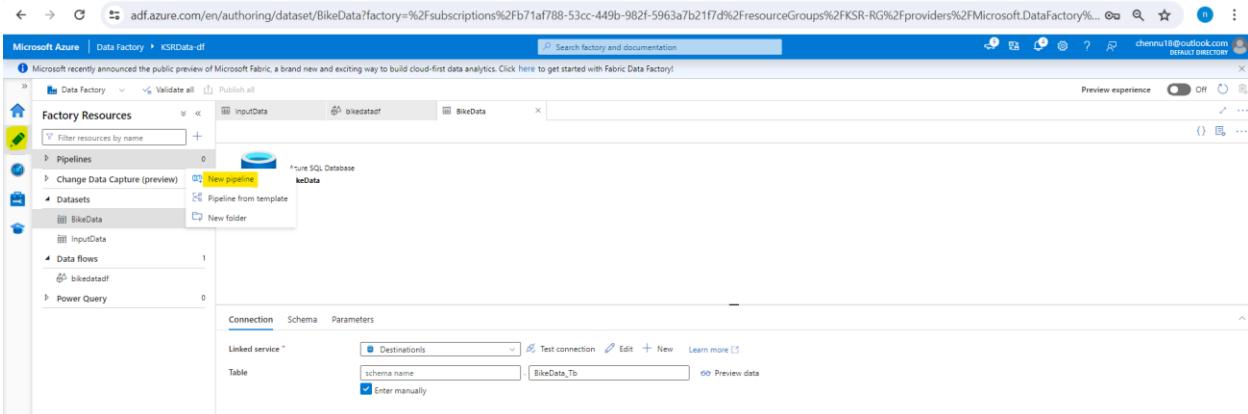
connection successful

Create Cancel

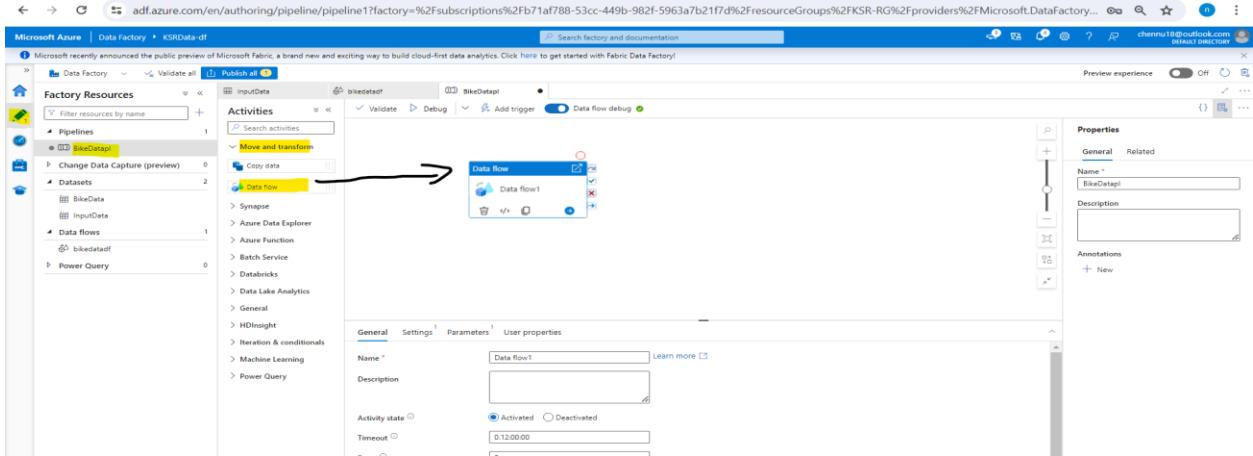
→ Now select new table option → then we provide new table name → click ok



→ Create a pipeline using Author Tab(Pencil Icon) → right click on that → click on new pipeline

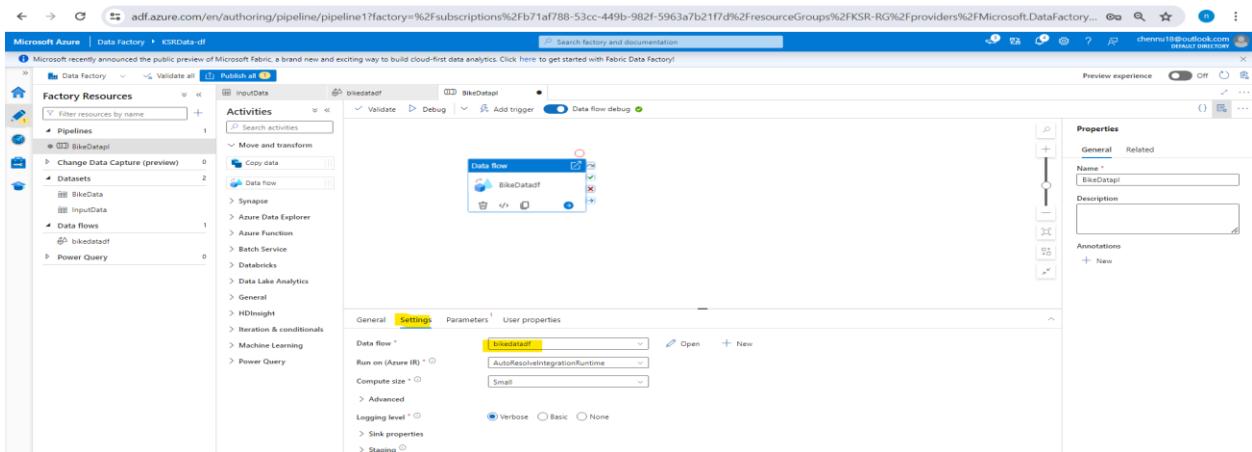


→ Drop and drag the data flow activity into canvas page

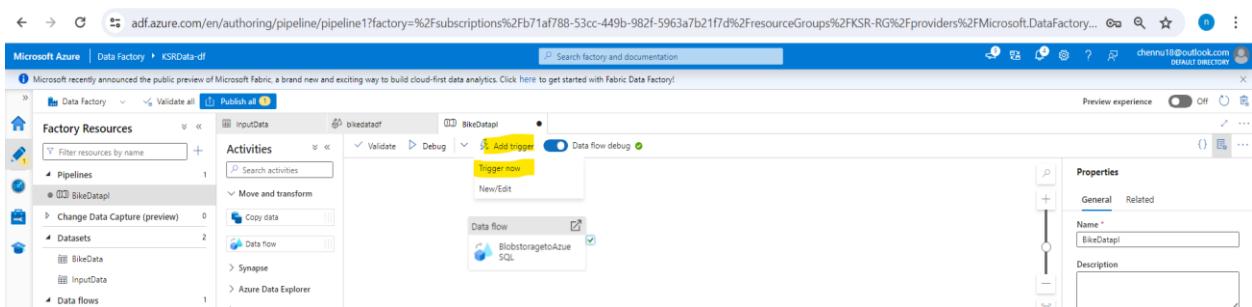


→ In settings tab we need select already created data flow under dataflow resource see in below figure

→ Just click on publish all we can save the data, if you not click on publish all you lose all work whatever you done.



→ After creating a pipeline, we can run that pipeline using trigger tab and use debug tab and also we can schedule it using triggers tab.



→ After click on debug we will see the status like in below figure.

The screenshot shows the Azure Data Factory pipeline interface. On the left, the 'Factory Resources' sidebar lists Pipelines, Datasets, Data flows, and Power Query. In the center, a pipeline named 'BikeDatafl' is displayed, containing a single 'Data flow' activity named 'BikeStorageToAzureSQL'. The 'Output' tab of the pipeline details shows a run ID of '4d268ff7-582d-49d2-9178-360cdad19503' and a status of 'In progress'. The pipeline run details table includes columns for Activity name, Activity status, Activity type, Run start, Duration, Integration runtime, User properties, and Activity run. The run status is 'In progress' for the 'BikeStorageToAzureSQL' activity, which started at 4/13/2024 4:14:54 PM and took 5s. The integration runtime is 'debugpool-BCore-Ges'.

→ It took less than 3 minutes to load data from source(Azure data lake ) to destination(Azure SQL DataBase).

This screenshot is identical to the one above, showing the same pipeline 'BikeDatafl' with the 'BikeStorageToAzureSQL' activity in progress. However, in this instance, the activity has completed successfully, as indicated by the green checkmark icon and the status 'Succeeded' in the pipeline run details table. The run duration was 2m 18s.

To validate, data loaded into destination → go to SQL Database → To SQL code see in figure

The screenshot shows the Microsoft Azure SQL Database Query editor. The left sidebar lists database resources like Home, Dashboard, Favorites, All services, All resources, and specific databases like Bike\_Data\_DB. The main area displays a query titled 'Bike\_Data\_DB (krsrserver/Bike\_Data\_DB) | Query editor (preview)'. The query window contains the following T-SQL code:

```

1 SELECT [Business Segment],Sum(Sales) FROM [dbo].[BikeData_Tb]
2 GROUP BY [Business Segment]

```

The results pane shows the output of the query:

Business Segment	Sum(Sales)
Clothing	6050462
Bikes	233215260
Accessories	1945320
Components	40623166