

Part A:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

yuanze.yang@mail.utor... UNIVERSITY OF TORONTO (UTO...)

Home > a4mie1628_1730730627667 | Overview > a4mie1628 >

Assignment4_MIE1628

Resource group

Search

Create Manage view Delete resource group Refresh Export to CSV Open query Assign tags Move

Overview

- Activity log
- Access control (IAM)
- Tags
- Resource visualizer
- Events
- Settings
- Cost Management
- Monitoring
- Automation
- Help

Resources Recommendations

Filter for any field... Type equals all Location equals all Add filter

Showing 1 to 4 of 4 records. Show hidden types No grouping List view

Name	Type	Location
A4-1628	Data factory (V2)	East US
a4-1628	SQL server	Canada Central
A4-1628 (a4-1628/A4-1628)	SQL database	Canada Central
a4mie1628	Storage account	East US

< Previous Page 1 of 1 Next >

Give feedback

1.

Microsoft Azure

Data Factory > A4-1628

Search factory and documentation

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Preview experience Off

Factory Resources

- Pipelines 1
 - a4_copyPipeline
- Change Data Capture (preview) 0
- Datasets 2
 - a4_db
 - DelimitedText1
- Data flows 0
- Power Query 0

Activities

- Move and transform
- Synapse
- Azure Data Explorer
- Azure Function
- Batch Service
- Databricks
- Data Lake Analytics
- General
- HDInsight
- Iteration & conditionals
- Machine Learning
- Power Query

Copy data

Parameters Variables Settings Output

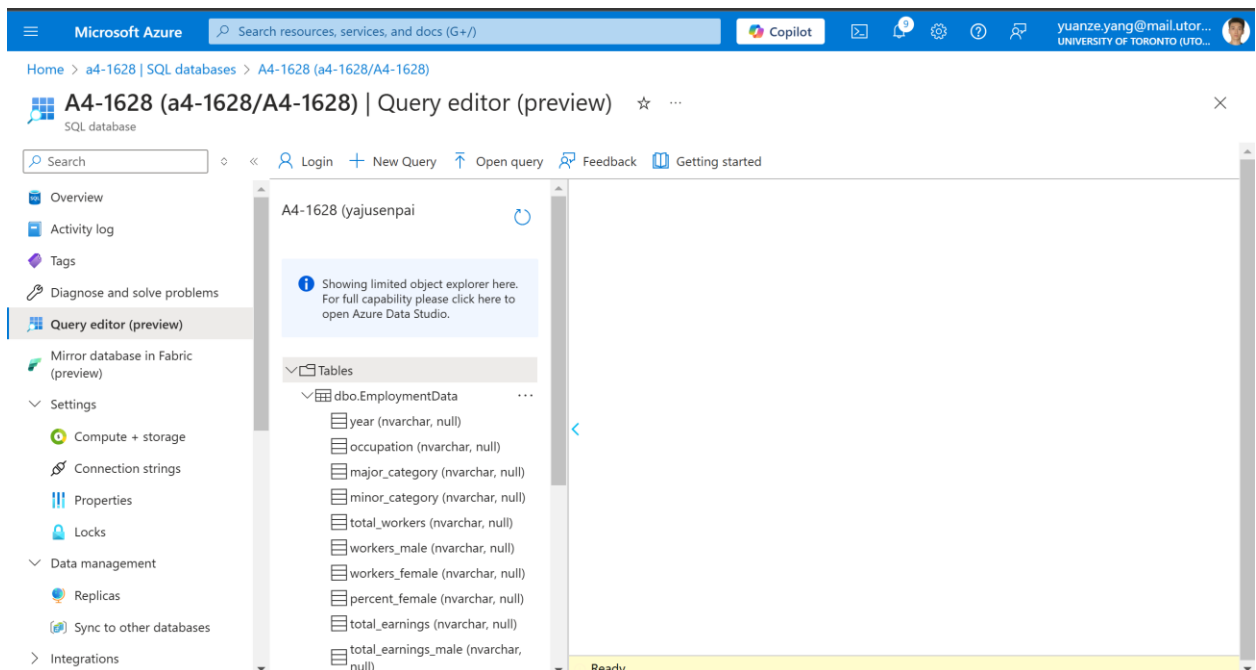
Pipeline run ID: c696865c-163b-4d2b-9707-c94a1aa3c5b8 Pipeline status Succeeded View debug run consumption

All status

Showing 1 - 1 of 1 items

Activity name	Activity status	Activity type	Run start	Duration	Integration runtime	User profile
a4	Succeeded	Copy data	11/4/2024, 11:03:33 AM	18s	AutoResolveIntegration	

2.



- The major types of trigger in ADF are schedule trigger, tumbling window trigger, event-based trigger and manual trigger. Schedule triggers are designed for regularly run ETL, periodic batch processing jobs. Tumbling window triggers maintains the state, which allows it to process data in fixed-time windows and handle data streams. Event-based triggers can be classified into storage event and custom event types, used in event-driven processing. Manual triggers can be triggered from the studio UI at any given point.

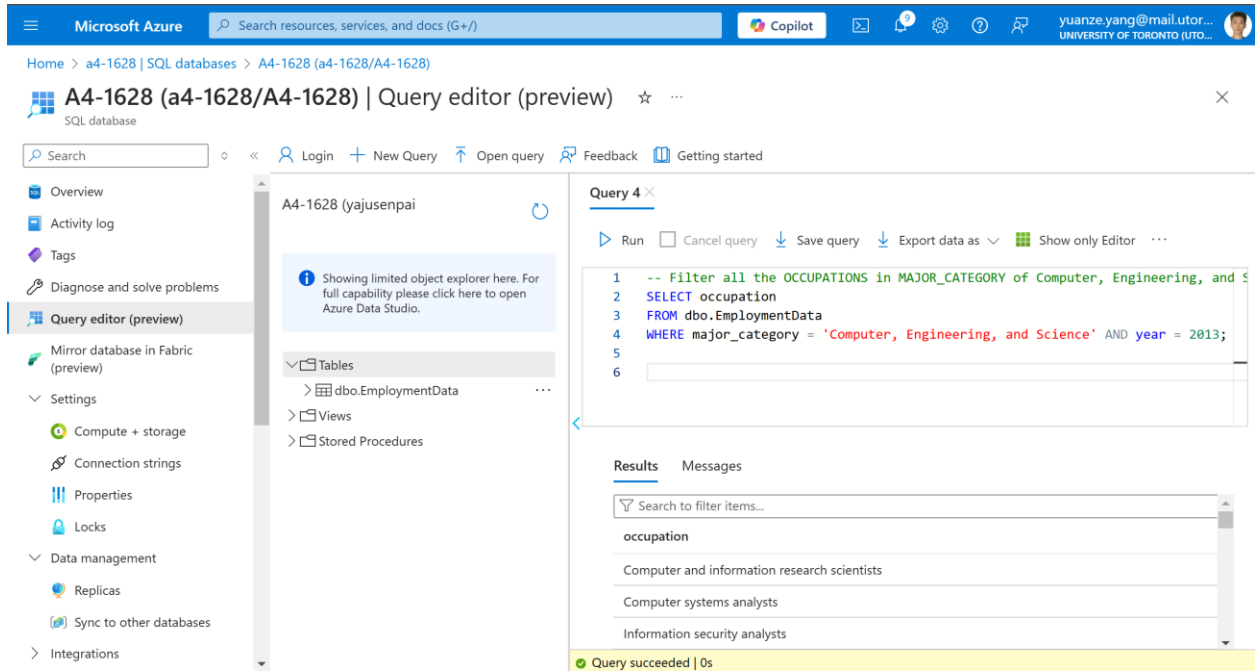
Pipeline name	Run start	Run end	Duration	Triggered by	Status	Run	Parameters	Annotations
a4_copyPipeline	11/4/2024, 11:27:00 AM	11/4/2024, 11:27:23 AM	24s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 11:24:00 AM	11/4/2024, 11:25:58 AM	1m 58s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 11:21:00 AM	11/4/2024, 11:21:21 AM	22s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 11:18:01 AM	11/4/2024, 11:18:18 AM	17s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 11:15:00 AM	11/4/2024, 11:15:39 AM	39s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 11:12:00 AM	11/4/2024, 11:12:20 AM	21s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 11:09:01 AM	11/4/2024, 11:09:21 AM	21s	q3	Succeeded	Original		
a4_copyPipeline	11/4/2024, 10:41:45 AM	11/4/2024, 10:42:16 AM	31s	Manual trigger	Failed	Original		
a4_copyPipeline	11/4/2024, 10:25:42 AM	11/4/2024, 10:26:03 AM	22s	Manual trigger	Failed	Original		

- The Copy Activity from ADF can handle data movement between ADLS Gen2 accounts. There will be 2 pipelines: one for replicating from Canada Central to Europe and another one for the reverse direction. And

triggers can be used for automation. Since bidirectional writes could cause conflicts, we will need a policy to address them, such as most recent change dominant.

Part B:

1.

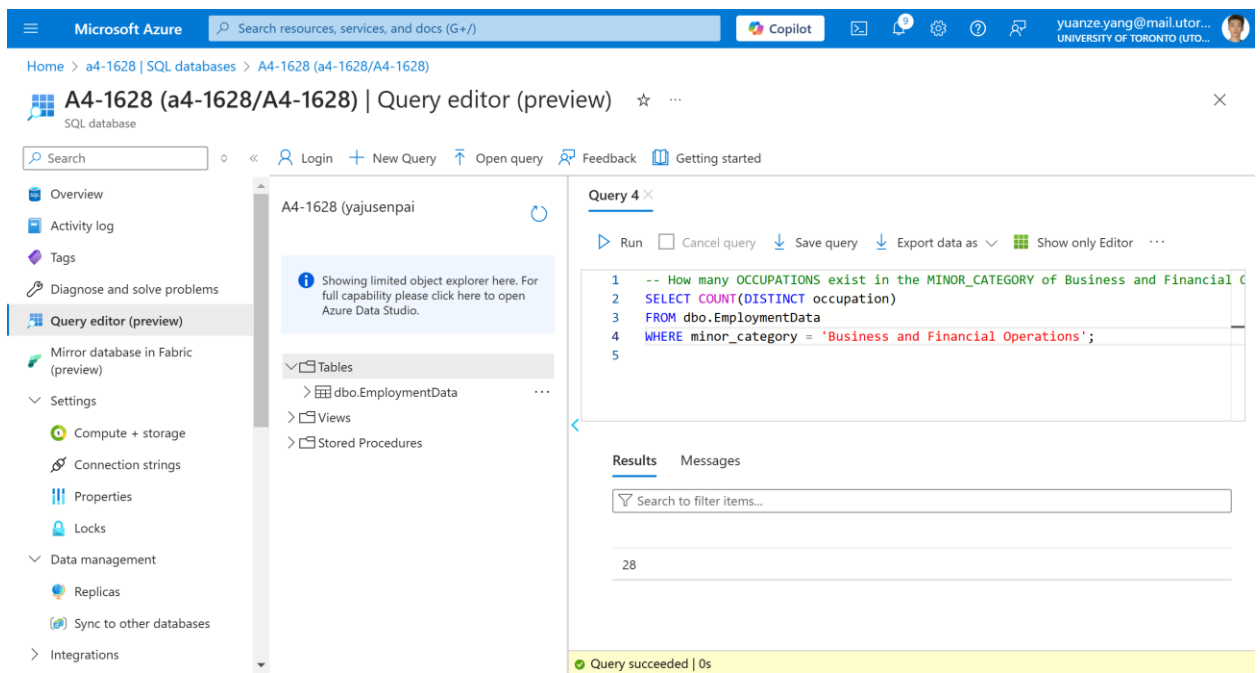


The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'yuanze.yang@mail.utor... UNIVERSITY OF TORONTO (UTO...)'. The breadcrumb trail indicates the path: Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628). The main heading is 'A4-1628 (a4-1628/A4-1628) | Query editor (preview)'. The left sidebar contains a search bar and a list of navigation items: Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview) (selected), Mirror database in Fabric (preview), Settings, Compute + storage, Connection strings, Properties, Locks, Data management, Replicas, Sync to other databases, and Integrations. The central pane shows the 'A4-1628 (yajusenpai)' database with a message about limited object explorer and a tree view containing Tables (dbo.EmploymentData), Views, and Stored Procedures. The right pane, titled 'Query 4', contains a SQL query:

```
1 -- Filter all the OCCUPATIONS in MAJOR_CATEGORY of Computer, Engineering, and S
2 SELECT occupation
3 FROM dbo.EmploymentData
4 WHERE major_category = 'Computer, Engineering, and Science' AND year = 2013;
5
6
```

 Below the query editor, the 'Results' pane shows a table with one column 'occupation' and three rows: 'Computer and information research scientists', 'Computer systems analysts', and 'Information security analysts'. A status bar at the bottom indicates 'Query succeeded | 0s'.

2.



The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'yuanze.yang@mail.utor... UNIVERSITY OF TORONTO (UTO...)'. The breadcrumb trail indicates the path: Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628). The main heading is 'A4-1628 (a4-1628/A4-1628) | Query editor (preview)'. The left sidebar contains a search bar and a list of navigation items: Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview) (selected), Mirror database in Fabric (preview), Settings, Compute + storage, Connection strings, Properties, Locks, Data management, Replicas, Sync to other databases, and Integrations. The central pane shows the 'A4-1628 (yajusenpai)' database with a message about limited object explorer and a tree view containing Tables (dbo.EmploymentData), Views, and Stored Procedures. The right pane, titled 'Query 4', contains a SQL query:

```
1 -- How many OCCUPATIONS exist in the MINOR_CATEGORY of Business and Financial C
2 SELECT COUNT(DISTINCT occupation)
3 FROM dbo.EmploymentData
4 WHERE minor_category = 'Business and Financial Operations';
5
```

 Below the query editor, the 'Results' pane shows a table with one column and one row containing the value '28'. A status bar at the bottom indicates 'Query succeeded | 0s'.

3.

Microsoft Azure | Search resources, services, and docs (G+/)

Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview)

SQL database

Search | Login | New Query | Open query | Feedback | Getting started

Overview | Activity log | Tags | Diagnose and solve problems | **Query editor (preview)** | Mirror database in Fabric (preview) | Settings | Compute + storage | Connection strings | Properties | Locks | Data management | Replicas | Sync to other databases | Integrations

A4-1628 (yajusenpai)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

- Tables
 - dbo.EmploymentData
- Views
- Stored Procedures

Query 4

```

1 -- Get all relevant information for bus drivers across all years
2 SELECT *
3 FROM dbo.EmploymentData
4 WHERE occupation = 'Bus drivers';
5

```

Run | Cancel query | Save query | Export data as | Show only Editor

Results | Messages

Search to filter items...

year	occupation	major_category	mi
2013	Bus drivers	Production, Transportation, and...	Tre
2014	Bus drivers	Production, Transportation, and...	Tre
2015	Bus drivers	Production, Transportation, and...	Tre

Query succeeded | 0s

4.

Microsoft Azure | Search resources, services, and docs (G+/)

Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview)

SQL database

Search | Login | New Query | Open query | Feedback | Getting started

Overview | Activity log | Tags | Diagnose and solve problems | **Query editor (preview)** | Mirror database in Fabric (preview) | Settings | Compute + storage | Connection strings | Properties | Locks | Data management | Replicas | Sync to other databases | Integrations

A4-1628 (yajusenpai)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

- Tables
 - dbo.EmploymentData
- Views
- Stored Procedures

Query 4

```

1 -- Summarize the total number of WORKERS_FEMALE in the MAJOR_CATEGORY of Manage
2 SELECT year, SUM(CAST(workers_female AS INT)) AS total_female_workers
3 FROM dbo.EmploymentData
4 WHERE major_category = 'Management, Business, and Financial'
5 GROUP BY year;

```

Run | Cancel query | Save query | Export data as | Show only Editor

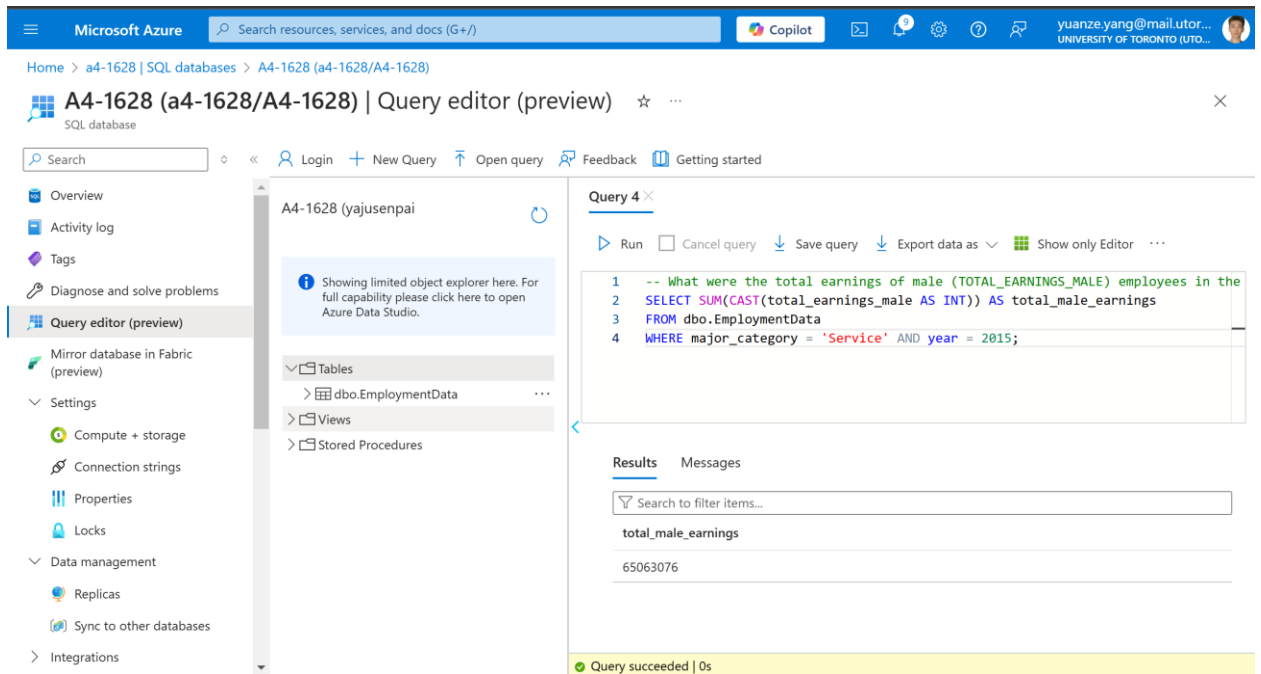
Results | Messages

Search to filter items...

year	total_female_workers
2016	224064178
2014	209598480
2015	217927112

Query succeeded | 0s

5.



Microsoft Azure

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

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Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview) ☆ ...

SQL database

Search

Login + New Query ↑ Open query Feedback Getting started

Overview

Activity log

Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings

Compute + storage

Connection strings

Properties

Locks

Data management

Replicas

Sync to other databases

Integrations

A4-1628 (yajusenpai)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

dbo.EmploymentData

Views

Stored Procedures

Query 4

Run Cancel query Save query Export data as Show only Editor

```

1 -- What were the total earnings of male (TOTAL_EARNINGS_MALE) employees in the
2 SELECT SUM(CAST(total_earnings_male AS INT)) AS total_male_earnings
3 FROM dbo.EmploymentData
4 WHERE major_category = 'Service' AND year = 2015;

```

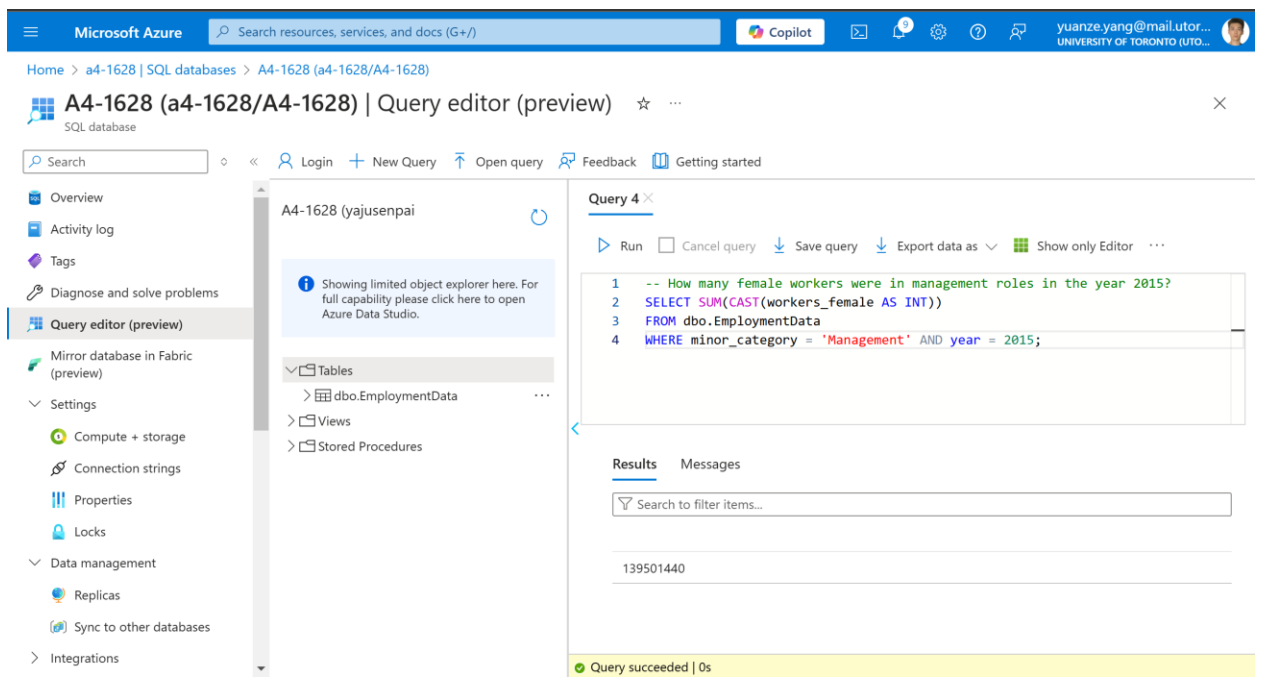
Results Messages

Search to filter items...

total_male_earnings
65063076

Query succeeded | 0s

6.



Microsoft Azure

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

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Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview) ☆ ...

SQL database

Search

Login + New Query ↑ Open query Feedback Getting started

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Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings

Compute + storage

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Data management

Replicas

Sync to other databases

Integrations

A4-1628 (yajusenpai)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

dbo.EmploymentData

Views

Stored Procedures

Query 4

Run Cancel query Save query Export data as Show only Editor

```

1 -- How many female workers were in management roles in the year 2015?
2 SELECT SUM(CAST(workers_female AS INT))
3 FROM dbo.EmploymentData
4 WHERE minor_category = 'Management' AND year = 2015;

```

Results Messages

Search to filter items...

139501440

Query succeeded | 0s

7.

Microsoft Azure Search resources, services, and docs (G+)

Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview)

SQL database

Search Login + New Query ↑ Open query Feedback Getting started

Overview Activity log Tags Diagnose and solve problems **Query editor (preview)** Mirror database in Fabric (preview) Settings Compute + storage Connection strings Properties Locks Data management Replicas Sync to other databases Integrations

dbo.EmploymentData

- year (nvarchar, null)
- occupation (nvarchar, null)
- major_category (nvarchar, null)
- minor_category (nvarchar, null)
- total_workers (nvarchar, null)
- workers_male (nvarchar, null)
- workers_female (nvarchar, null)
- percent_female (nvarchar, null)
- total_earnings (nvarchar, null)
- total_earnings_male (nvarchar, null)
- total_earnings_female (nvarchar, null)
- wage_percent_of_male (nvarchar, null)
- total_full_time (nvarchar, null)
- total_part_time (nvarchar, null)
- full_time_female (nvarchar, null)
- part_time_female (nvarchar, null)

Query 4

Run Cancel query Save query Export data as Show only Editor

```

1 -- Compare the TOTAL_EARNINGS_MALE and TOTAL_EARNINGS_FEMALE earnings irrespe
2 SELECT
3     year,
4     SUM(CASE WHEN total_earnings_male = 'NA' THEN 0 ELSE CAST(total_earnings
5     SUM(CASE WHEN total_earnings_female = 'NA' THEN 0 ELSE CAST(total_earnin
6 FROM dbo.EmploymentData
7 GROUP BY year;
8

```

Results Messages

year	total_male_earnings	total_female_earnings
2016	825445502	669192458
2014	796643050	652245032
2015	804890679	660287109
2013	784472678	639577716

Query succeeded | 0s

8.

Microsoft Azure Search resources, services, and docs (G+)

Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview)

SQL database

Login + New Query ↑ Open query Feedback Getting started

For full capability please click here to open Azure Data Studio.

Tables

dbo.EmploymentData

- year (nvarchar, null)
- occupation (nvarchar, null)
- major_category (nvarchar, null)
- minor_category (nvarchar, null)
- total_workers (nvarchar, null)
- workers_male (nvarchar, null)
- workers_female (nvarchar, null)
- percent_female (nvarchar, null)
- total_earnings (nvarchar, null)
- total_earnings_male (nvarchar, null)
- total_earnings_female (nvarchar, null)
- wage_percent_of_male (nvarchar, null)
- total_full_time (nvarchar, null)
- total_part_time (nvarchar, null)
- full_time_female (nvarchar, null)
- part_time_female (nvarchar, null)

Query 4

Run Cancel query Save query Export data as Show only Editor Open Copilot

```

1 -- How much money (TOTAL_EARNINGS_FEMALE) did female workers make as engineers in 2016?
2 SELECT SUM(CASE WHEN ISNUMERIC(total_earnings_female) = 1 THEN CAST(total_earnings_female AS DECIMAL(18,2)) ELSE 0 END)
3 FROM dbo.EmploymentData
4 WHERE occupation = 'Engineers' AND year = 2016;

```

Results Messages

Search to filter items...

Query succeeded | 0s

9.

Microsoft Azure

Search resources, services, and docs (G+)

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Home > a4-1628 | SQL databases > A4-1628 (a4-1628/A4-1628)

A4-1628 (a4-1628/A4-1628) | Query editor (preview)

SQL database

Search

Login + New Query Open query Feedback Getting started

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Query editor (preview)

Mirror database in Fabric (preview)

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Replicas

Sync to other databases

Integrations

Power Platform

Security

Tables

dbo.EmploymentData

year (nvarchar, null)

occupation (nvarchar, null)

major_category (nvarchar, null)

minor_category (nvarchar, null)

total_workers (nvarchar, null)

workers_male (nvarchar, null)

workers_female (nvarchar, null)

percent_female (nvarchar, null)

total_earnings (nvarchar, null)

total_earnings_male (nvarchar, null)

total_earnings_female (nvarchar, null)

wage_percent_of_male (nvarchar, null)

total_full_time (nvarchar, null)

total_part_time (nvarchar, null)

full_time_female (nvarchar, null)

part_time_female (nvarchar, null)

Query 4

Run Cancel query Save query Export data as Show only Editor Open Copilot

```
1 -- What is the total number of full-time and part-time female workers versus male workers year
2 SELECT
3     year,
4     SUM(CASE WHEN ISNUMERIC(full_time_female) = 1 THEN CAST(full_time_female AS DECIMAL(18,2))
5     SUM(CASE WHEN ISNUMERIC(part_time_female) = 1 THEN CAST(part_time_female AS DECIMAL(18,2))
6     SUM(CASE WHEN ISNUMERIC(full_time_male) = 1 THEN CAST(full_time_male AS DECIMAL(18,2)) ELSE
7     SUM(CASE WHEN ISNUMERIC(part_time_male) = 1 THEN CAST(part_time_male AS DECIMAL(18,2)) ELSE
8 FROM dbo.EmploymentData
9 GROUP BY year;
```

Results Messages

Search to filter items...

year	total_full_time_female	total_part_time_female	total_full_time_male	total_part_time_male
2016	1176066.00	389934.00	1371816.00	194184.00
2014	1161972.00	404028.00	1367118.00	198882.00
2015	1171368.00	394632.00	1371816.00	194184.00
2013	1158840.00	407160.00	1360854.00	205146.00

Query succeeded | 0s