

**Talha Khan (2303.009.KHI.DEG)**

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## ASSIGNMNET 5.4

**Create a new query in Athena that calculates the % change in earnings for every employee from a given day compared to the previous day.**

The screenshot displays the Amazon Athena Query Editor interface. On the left, the 'Data' panel shows the 'Data source' as 'AwsDataCatalog' and the 'Database' as 'talhakan\_glue\_database'. Below this, a list of tables is visible, including 'earnings\_1\_csv', 'earnings\_2\_csv', 'employee\_earnings', 'employee\_earnings\_39d0209c38f2129f2\_412419a72943df1', 'employees\_csv', and 'locations\_csv'. The main editor area contains a SQL query that calculates the percentage change in earnings for each employee between two specific dates. The query uses CTEs to define 'current\_data' and 'previous\_data' and then joins them to calculate the percentage change. The query is executed, and the results are displayed in a table with 100 rows. The first two rows are shown, with columns for 'emp\_id', 'current\_earnings', 'previous\_earnings', and 'percentage\_change'.

```
1 WITH current_data AS (  
2   SELECT emp_id, earnings, earnings_date  
3   FROM "talhakan_glue_database"."employee_earnings_39d0209c38f2129f2412419a72943df1"  
4   WHERE earnings_date = '2022-02-14' -- Current date  
5 ),  
6 previous_data AS (  
7   SELECT emp_id, earnings, earnings_date  
8   FROM "talhakan_glue_database"."employee_earnings_39d0209c38f2129f2412419a72943df1"  
9   WHERE earnings_date = '2022-02-13' -- Previous date  
10 )  
11 SELECT  
12   current_data.emp_id,  
13   current_data.earnings AS current_earnings,  
14   previous_data.earnings AS previous_earnings,  
15   (current_data.earnings - previous_data.earnings) / CAST(previous_data.earnings AS double) * 100 AS percentage_change
```

Query results (100)

#	emp_id	current_earnings	previous_earnings	percentage_change
1	526540	2716	2843	-4.467112205416813
2	859327	8357	7280	14.793956043956044

eu-north-1.console.aws.amazon.com/athena/home?region=eu-north-1#/query-editor/history/851bf67-a171-491d-afd2-62d27f4da631

Services Search [Alt+S]

**Data**

Data source: AwsDataCatalog

Database: talhakhhan\_glue\_database

Tables and views

Filter tables and views

▼ Tables (6)

- earnings\_1\_csv
- earnings\_2\_csv
- employee\_earnings
- employee\_earnings\_39d0209c38f2129f2412419a72943df1
- employees\_csv
- locations\_csv

► Views (0)

Query 1 : X Query 2 : X Query 3 : X Query 4 : X Query 5 : X

```
1 SELECT DISTINCT office_branch, (MAX(avg_earnings.value) - MIN(avg_earnings.value)) as earnings_range
2 - FROM (
3 SELECT office_branch as ob, AVG(earnings) AS value FROM "talhakhhan_glue_database"."employee_earnings_39d0209c38f2129f2412419a72943df1" GROUP BY
4 office_branch, earnings_date
5 ) avg_earnings, "talhakhhan_glue_database"."employee_earnings_39d0209c38f2129f2412419a72943df1"
6 WHERE office_branch = avg_earnings.ob
7 GROUP BY office_branch;
```

SQL Ln 1, Col 1

Run again Explain Cancel Clear Create

Reuse query results up to 60 minutes ago

Query results Query stats

Completed Time in queue: 115 ms Run time: 978 ms Data scanned: 4.42 KB

Results (4)

Search rows

#	office_branch	earnings_range
1	Nashua	479.9354838709678
2	Scranton	1779.2800000000007
3	Stanford	1053.375
4	New York	1015.75

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eu-north-1.console.aws.amazon.com/athena/home?region=eu-north-1#/query-editor/history/65b56e7a-1178-4947-8f29-8979fb40f94c

Services Search [Alt+S]

**Data**

Data source: AwsDataCatalog

Database: talhakhhan\_glue\_database

Tables and views

Filter tables and views

▼ Tables (6)

- earnings\_1\_csv
- earnings\_2\_csv
- employee\_earnings
- employee\_earnings\_39d0209c38f2129f2412419a72943df1
- employees\_csv
- locations\_csv

► Views (0)

Query 1 : X Query 2 : X Query 3 : X Query 4 : X Query 5 : X

```
1 SELECT DISTINCT emp_id, email, office_branch, (date_diff('year', DATE(date_of_birth), current_date)) AS age
2 FROM "talhakhhan_glue_database"."employee_earnings_39d0209c38f2129f2412419a72943df1"
3 WHERE office_branch IN ('New York', 'Scranton')
4 AND
5 (date_diff('year', DATE(date_of_birth), current_date)) > 38;
```

SQL Ln 1, Col 1

Run again Explain Cancel Clear Create

Reuse query results up to 60 minutes ago

Query results Query stats

Completed Time in queue: 143 ms Run time: 804 ms Data scanned: 18.67 KB

Results (46)

Search rows

#	emp_id	email	office_branch	age
1	909018	virgil.trowbridge@aol.com	New York	37
2	878666	elda.champagne@gmail.com	Scranton	39
3	391837	cory.hayden@gmail.com	New York	56
4	496541	winfred.gonzales@aol.com	Scranton	59
5	976422	jake.espinal@shaw.ca	Scranton	64

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eu-north-1.console.aws.amazon.com/athena/home?region=eu-north-1#/query-editor/history/9cb57f61-7897-42d9-92c8-5214a24cb825

Services Search [Alt+S]

Stockholm Muhammad Moiz Khan

Update

Data

Data source

AwsDataCatalog

Database

talhakhan\_glue\_database

Tables and views

Create

Filter tables and views

Tables (6)

earnings\_1\_csv

earnings\_2\_csv

employee\_earnings

employee\_earnings\_39d0209c38f2129f2412419a72943df1

employees\_csv

locations\_csv

Views (0)

Query 1 Query 2 Query 3 Query 4 Query 5

1

SELECT \* FROM "talhakhan\_glue\_database"."employee\_earnings";

SQL Ln 1, Col 1

Run again Explain Cancel Clear Create

Reuse query results up to 60 minutes ago

Query results

Query stats

Completed

Time in queue: 126 ms Run time: 994 ms Data scanned: 63.41 KB

Results (500)

Search rows

	date_of_birt	date_of_joini	ssn	phone_numbe	user_name	password	office_branc	earnings	earnings
	h	g		r			h		
	gmail.com	1964-05-15	2001-03-24	471-57-0359	212-884-7146	akgoodwin	z{d>ez%{ @	Nashua	6227
	gmail.com	1964-05-15	2001-03-24	471-57-0359	212-884-7146	akgoodwin	z{d>ez%{ @	Nashua	2716
	m	1962-01-13	2015-12-10	624-85-4146	205-665-7020	jsshaffer	7U56i*IO	Stanford	4437
	uth.net	1958-04-11	1979-11-12	097-02-3315	205-959-7879	dtfarris	rXFj&]&m&&X	Stanford	6228

CloudShell Feedback Language

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eu-north-1.console.aws.amazon.com/athena/home?region=eu-north-1#/query-editor/history/a75feed1-dcb6-4655-ac7c-0f1ba0e284a8

Services Search [Alt+S]

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Update

Data

Data source

AwsDataCatalog

Database

talhakhan\_glue\_database

Tables and views

Create

Filter tables and views

Tables (6)

earnings\_1\_csv

earnings\_2\_csv

employee\_earnings

employee\_earnings\_39d0209c38f2129f2412419a72943df1

employees\_csv

locations\_csv

Views (0)

Query 1 Query 2 Query 3 Query 4 Query 5

1

SELECT office\_branch, MIN(earnings) as min\_earnings, MAX(earnings) as max\_earnings, AVG(earnings) as avg\_earnings, SUM(earnings) as total\_earnings, earnings\_date

2

FROM "talhakhan\_glue\_database"."employee\_earnings\_39d0209c38f2129f2412419a72943df1"

3

GROUP BY office\_branch, earnings\_date

4

ORDER BY SUM(earnings) desc;

SQL Ln 4, Col 29

Run again Explain Cancel Clear Create

Reuse query results up to 60 minutes ago

Query results

Query stats

Completed

Time in queue: 112 ms Run time: 761 ms Data scanned: 3.75 KB

Results (20)

Search rows

#	office_branch	min_earnings	max_earnings	avg_earnings	total_earnings	earnings_date
1	Nashua	2098	9728	6099.8387096774195	189095	2022-02-14
2	Nashua	2005	9786	6049.451612903225	187533	2022-02-13
3	Nashua	2006	9603	5997.967741935484	185937	2022-02-11
4	New York	2295	9889	6631.285714285715	185676	2022-02-12
5	Nashua	2124	9978	5764.5161290322585	178700	2022-02-12

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# S3 Earnings Crawler

eu-north-1.console.aws.amazon.com/glue/home?region=eu-north-1#/v2/data-catalog/crawlers/view/talhakhan\_s3\_earnings\_crawler

ServicesSearch[Alt+S]

StockholmMuhammad Moiz KhanUpdate

AWS Glue

Getting started

ETL jobs

Visual ETL

Notebooks

Job run monitoring

Data Catalog tables

Data connections

Workflows (orchestration)

Data Catalog

Databases

Tables

Stream schema registries

Schemas

Connections

Crawlers

Classifiers

Catalog settings

Data Integration and ETL

Legacy pages

What's New

Documentation

AWS Marketplace

Enable compact mode

Enable new navigation

Crawler successfully starting

The following crawler is now starting: "talhakhan\_s3\_earnings\_crawler"

AWS Glue > Crawlers > talhakhan\_s3\_earnings\_crawler

talhakhan\_s3\_earnings\_crawler

Last updated (UTC)  
May 19, 2023 at 09:35:26

Run crawler

Edit

Delete

Crawler properties

Name

talhakhan\_s3\_earnings\_crawler

IAM role

talhakhan-glue-role

Database

talhakhan\_glue\_database

State

READY

Description

-

Security configuration

-

Lake Formation configuration

-

Table prefix

-

Maximum table threshold

-

Advanced settings

Crawler runs

Schedule

Data sources

Classifiers

Tags

Crawler runs (5)

The list of crawler runs for this crawler.

Filter data

Filter by a date and time range

Stop run

View CloudWatch logs

View run details

	Start time (UTC)	End time (UTC)	Current/last duration	Status	DPU hours	Table changes
<input type="radio"/>	May 19, 2023 at 05:45:47	May 19, 2023 at 05:48:04	02 min 16 s	Completed	0.166	-
<input type="radio"/>	May 18, 2023 at 05:13:34	May 18, 2023 at 05:15:42	02 min 08 s	Completed	0.263	4 table changes, 0 partition changes
<input type="radio"/>	May 16, 2023 at 11:06:45	May 16, 2023 at 11:06:53	08 s	Failed	-	-
<input type="radio"/>	May 16, 2023 at 11:03:53	May 16, 2023 at 11:04:03	10 s	Failed	-	-
<input type="radio"/>	May 16, 2023 at 11:02:05	May 16, 2023 at 11:02:37	31 s	Failed	-	-

CloudShell

Feedback

Language

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# S3 Buckets

s3.console.aws.amazon.com/s3/buckets?region=eu-north-1&region=eu-north-1

ServicesSearch[Alt+S]

GlobalMuhammad Moiz KhanUpdate

Amazon S3

Buckets

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

Dashboards

AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

Amazon S3 > Buckets

Account snapshot

Storage lens provides visibility into storage usage and activity trends. Learn more

View Storage Lens dashboard

Buckets (8)

Info

Buckets are containers for data stored in S3. Learn more

Find buckets by name

Copy ARN

Empty

Delete

Create bucket

	Name	AWS Region	Access	Creation date
<input type="radio"/>	talhamoizbucket	EU (Stockholm) eu-north-1	Bucket and objects not public	May 15, 2023, 15:01:13 (UTC+05:00)
<input type="radio"/>	talhakhan-glue-data	EU (Stockholm) eu-north-1	Bucket and objects not public	May 16, 2023, 12:54:07 (UTC+05:00)
<input type="radio"/>	talhakawshandson	EU (Stockholm) eu-north-1	Bucket and objects not public	May 15, 2023, 15:18:15 (UTC+05:00)
<input type="radio"/>	talha-module5-day5	EU (Stockholm) eu-north-1	Bucket and objects not public	May 18, 2023, 12:45:34 (UTC+05:00)
<input type="radio"/>	moiz-module5-day-4	EU (Stockholm) eu-north-1	Bucket and objects not public	May 18, 2023, 12:47:06 (UTC+05:00)
<input type="radio"/>	maviakhan-glue-data	EU (Stockholm) eu-north-1	Bucket and objects not public	May 18, 2023, 08:49:30 (UTC+05:00)
<input type="radio"/>	mavia-module5-day5	EU (Stockholm) eu-north-1	Bucket and objects not public	May 18, 2023, 12:40:04 (UTC+05:00)
<input type="radio"/>	employeesoffice	EU (Stockholm) eu-north-1	Bucket and objects not public	May 19, 2023, 10:46:16 (UTC+05:00)

CloudShell

Feedback

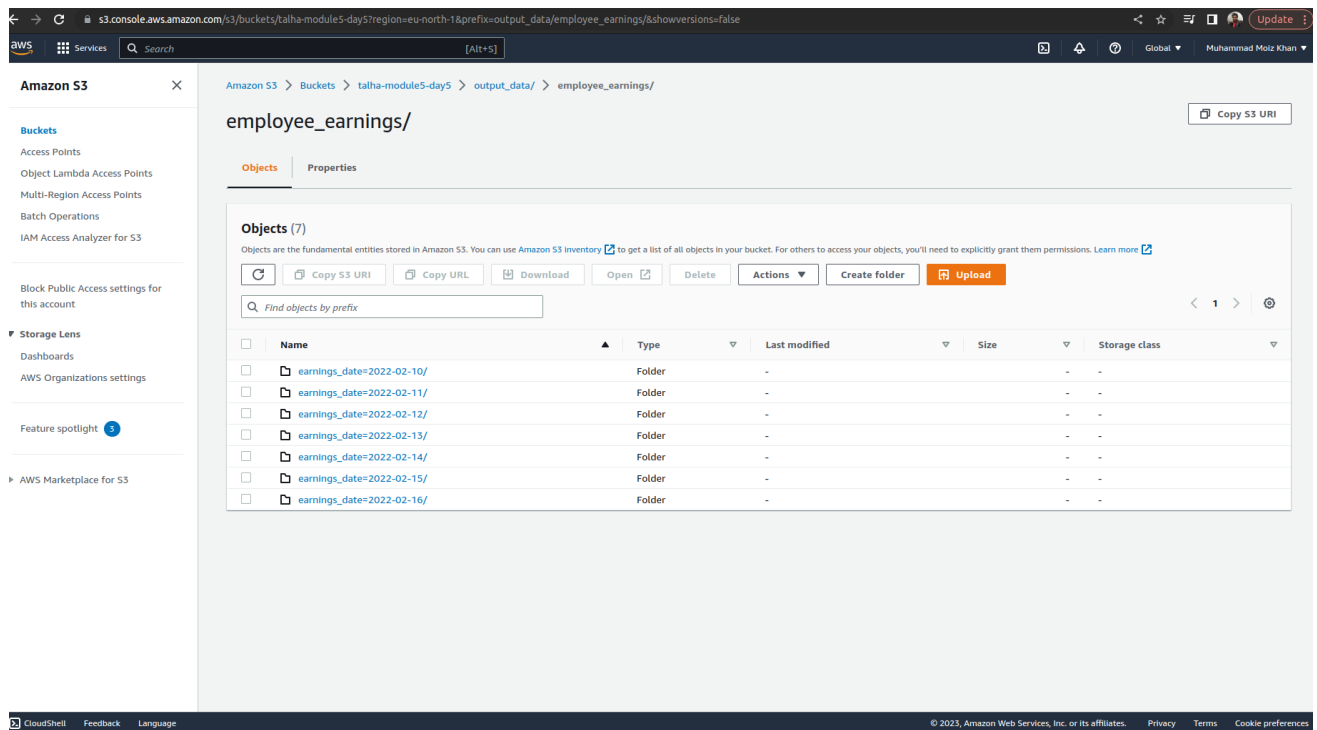
Language

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**Using the data manipulation tool of your choice (eg. Python) simulate the earnings predictions for 2 more days. Load it to the Data Lake that you’ve created today (Task 1-2).**

```
Assignment 5.4.ipynb
Python 3 (ipykernel)

date_of_birth date_of_joining ssn phone_number user_name
0 1964-05-15 2001-03-24 471-57-0359 212-884-7146 akgoodwin \
1 1902-01-13 2015-12-10 624-85-4146 205-665-7020 jsshaffer
2 1958-04-11 1979-11-12 097-02-3315 205-959-7879 dtfarris
3 1982-04-04 2008-09-18 134-98-6566 217-858-0054 sdrendon
4 1958-07-01 1993-07-14 599-92-7345 314-893-2590 jlalmanza

password office_branch earnings
0 z(d=ez%(.@ Nashua 6096
1 7U561*10 Stanford 4283
2 rx.F(j6)6m66X Stanford 3438
3 a+2;sx)<Gly Nashua 6225
4 Ou7RX(yT New York 5148

[4]: # Add the values from corresponding columns in df_1 and df_2
df_3 = df_1 + df_2

[5]: df_3.to_parquet('earnings_date=2022-02-15/employee_earnings.parquet')

[6]: df_3=pd.read_parquet('earnings_date=2022-02-15/employee_earnings.parquet')
print(df_3.head())

emp_id first_name middle_initial last_name
0 1053080 AngeliqueAngelique KK GoodwinGoodwin \
1 1718654 JeniJeni SS ShafferShaffer
2 1774774 DonaldDonald TT FarrisFarris
3 1558994 StevenSteven DD RendonRendon
4 1793034 JenellJenell LL AlmanzaAlmanza

email date_of_birth
0 angelique.goodwin@gmail.comangelique.goodwin@... 1964-05-151964-05-15 \
1 jeni.shaffer@gmail.comjeni.shaffer@gmail.com 1902-01-131902-01-13
2 donald.farris@bellsouth.netdonald.farris@bells... 1958-04-111958-04-11
3 steven.rendon@gmail.comsteven.rendon@gmail.com 1982-04-041982-04-04
4 jenell.almanza@yahoo.comjenell.almanza@yahoo.com 1958-07-011958-07-01

date_of_joining ssn phone_number
0 2001-03-242001-03-24 471-57-0359471-57-0359 212-884-7146212-884-7146 \
1 2015-12-102015-12-10 624-85-4146624-85-4146 205-665-7020205-665-7020
2 1979-11-121979-11-12 097-02-3315097-02-3315 205-959-7879205-959-7879
3 2008-09-182008-09-18 134-98-6566134-98-6566 217-858-0054217-858-0054
4 1993-07-141993-07-14 599-92-7345599-92-7345 314-893-2590314-893-2590

user_name password office_branch earnings
0 akgoodwinakgoodwin z(d=ez%(.@z(d=ez%(.@ NashuaNashua 8812
1 jsshafferjsshaffer 7U561*107U561*10 StanfordStanford 12640
2 dtfarrisdtfarris rx.F(j6)6m66Xrx.F(j6)6m66X StanfordStanford 11561
3 sdrendonsdrendon a+2;sx)<Glya+2;sx)<Gly NashuaNashua 14522
4 jlalmanzajlalmanza Ou7RX(yTOu7RX(yT New YorkNew York 7205

[7]: # Add the values from corresponding columns in df_2 and df_3
df_4 = df_2 + df_3

[4]: # Add the values from corresponding columns in df_1 and df_2
df_3 = df_1 + df_2

[5]: df_3.to_parquet('earnings_date=2022-02-15/employee_earnings.parquet')

[6]: df_3=pd.read_parquet('earnings_date=2022-02-15/employee_earnings.parquet')
print(df_3.head())

emp_id first_name middle_initial last_name
0 1053080 AngeliqueAngelique KK GoodwinGoodwin \
1 1718654 JeniJeni SS ShafferShaffer
2 1774774 DonaldDonald TT FarrisFarris
3 1558994 StevenSteven DD RendonRendon
4 1793034 JenellJenell LL AlmanzaAlmanza

email date_of_birth
0 angelique.goodwin@gmail.comangelique.goodwin@... 1964-05-151964-05-15 \
1 jeni.shaffer@gmail.comjeni.shaffer@gmail.com 1902-01-131902-01-13
2 donald.farris@bellsouth.netdonald.farris@bells... 1958-04-111958-04-11
3 steven.rendon@gmail.comsteven.rendon@gmail.com 1982-04-041982-04-04
4 jenell.almanza@yahoo.comjenell.almanza@yahoo.com 1958-07-011958-07-01

date_of_joining ssn phone_number
0 2001-03-242001-03-24 471-57-0359471-57-0359 212-884-7146212-884-7146 \
1 2015-12-102015-12-10 624-85-4146624-85-4146 205-665-7020205-665-7020
2 1979-11-121979-11-12 097-02-3315097-02-3315 205-959-7879205-959-7879
3 2008-09-182008-09-18 134-98-6566134-98-6566 217-858-0054217-858-0054
4 1993-07-141993-07-14 599-92-7345599-92-7345 314-893-2590314-893-2590

user_name password office_branch earnings
0 akgoodwinakgoodwin z(d=ez%(.@z(d=ez%(.@ NashuaNashua 8812
1 jsshafferjsshaffer 7U561*107U561*10 StanfordStanford 12640
2 dtfarrisdtfarris rx.F(j6)6m66Xrx.F(j6)6m66X StanfordStanford 11561
3 sdrendonsdrendon a+2;sx)<Glya+2;sx)<Gly NashuaNashua 14522
4 jlalmanzajlalmanza Ou7RX(yTOu7RX(yT New YorkNew York 7205

[7]: # Add the values from corresponding columns in df_2 and df_3
df_4 = df_2 + df_3

[8]: df_4.to_parquet('earnings_date=2022-02-16/employee_earnings.parquet')

[9]: df_4 = pd.read_parquet('earnings_date=2022-02-16/employee_earnings.parquet')
print(df_4.head())

emp_id first_name middle_initial last_name
0 1579030 AngeliqueAngeliqueAngelique KK GoodwinGoodwinGoodwin \
1 2577981 JeniJeniJeni SSS ShafferShafferShaffer
2 2662161 DonaldDonaldDonald TTT FarrisFarrisFarris
3 2338491 StevenStevenSteven DDD RendonRendonRendon
4 2689551 JenellJenellJenell LLL AlmanzaAlmanzaAlmanza

email
0 angelique.goodwin@gmail.comangelique.goodwin@... \
1 jeni.shaffer@gmail.comjeni.shaffer@gmail.comje...
2 donald.farris@bellsouth.netdonald.farris@bells...
```

```
Assignment 5.4.ipynb Python 3 (ipykernel)

[4]: # Add the values from corresponding columns in df_1 and df_2
df_3 = df_1 + df_2

[5]: df_3.to_parquet('earnings_date=2022-02-15/employee_earnings.parquet')

[6]: df_3 = pd.read_parquet('earnings_date=2022-02-15/employee_earnings.parquet')
print(df_3.head())

  emp_id first_name middle_initial last_name email date of birth
0 1053080 AngeliqueAngelique KK GoodwinGoodwin \ 1964-05-151964-05-15 \
1 1718654 JeniJeni SS ShafferShaffer 1962-01-131962-01-13
2 1774774 DonaldDonald TT FarrisFarris 1958-04-111958-04-11
3 1558994 StevenSteven DD RendonRendon 1982-04-041982-04-04
4 1793034 JenellJenell LL AlmanzaAlmanza 1958-07-011958-07-01

  date of joining ssn phone_number
0 2001-03-242001-03-24 471-57-0359471-57-0359 212-884-7146212-884-7146 \
1 2015-12-102015-12-10 624-85-4146624-85-4146 205-665-7020205-665-7020
2 1979-11-121979-11-12 097-02-3315097-02-3315 205-959-7879205-959-7879
3 2008-09-182008-09-18 134-98-6566134-98-6566 217-858-0054217-858-0054
4 1993-07-141993-07-14 599-92-7345599-92-7345 314-893-2590314-893-2590

  user name password office branch earnings
0 akgoodwinakgoodwin z(d=ez%{.@ NashuaNashua 8812
1 jsshafferjsshaffer 7U56i*10U56i*10 StanfordStanford 12640
2 dtfarrisdtfarris rX.F(j&l&m6&X.R.F(j&l&m6&X StanfordStanford 11561
3 sdrendonsdrendon a+2;sx)<Gly NashuaNashua 14522
4 jlalmanzajlalmanza Ou7RX(yTou7RX(yT New YorkNew York 7205

[7]: # Add the values from corresponding columns in df_2 and df_3
df_4 = df_2 + df_3

[8]: df_4.to_parquet('earnings_date=2022-02-16/employee_earnings.parquet')

[9]: df_4 = pd.read_parquet('earnings_date=2022-02-16/employee_earnings.parquet')
print(df_4.head())

  emp_id first_name middle_initial last_name email date of birth
0 1579620 AngeliqueAngeliqueAngelique KKK GoodwinGoodwinGoodwin \ 1964-05-151964-05-15 \
1 2577981 JeniJeniJeni SSS ShafferShafferShaffer 1962-01-131962-01-13
2 2662161 DonaldDonaldDonald TTT FarrisFarrisFarris 1958-04-111958-04-11
3 2338491 StevenStevenSteven DDD RendonRendonRendon 1982-04-041982-04-04
4 2689551 JenellJenellJenell LLL AlmanzaAlmanzaAlmanza 1958-07-011958-07-01

  date of joining ssn phone_number user name password office branch earnings
0 2001-03-242001-03-24 471-57-0359471-57-0359 212-884-7146212-884-7146 \
1 2015-12-102015-12-10 624-85-4146624-85-4146 205-665-7020205-665-7020
2 1979-11-121979-11-12 097-02-3315097-02-3315 205-959-7879205-959-7879
3 2008-09-182008-09-18 134-98-6566134-98-6566 217-858-0054217-858-0054
4 1993-07-141993-07-14 599-92-7345599-92-7345 314-893-2590314-893-2590

  user name password office branch earnings
0 akgoodwinakgoodwin z(d=ez%{.@ NashuaNashua 8812
1 jsshafferjsshaffer 7U56i*10U56i*10 StanfordStanford 12640
2 dtfarrisdtfarris rX.F(j&l&m6&X.R.F(j&l&m6&X StanfordStanford 11561
3 sdrendonsdrendon a+2;sx)<Gly NashuaNashua 14522
4 jlalmanzajlalmanza Ou7RX(yTou7RX(yT New YorkNew York 7205

Assignment 5.4.ipynb Python 3 (ipykernel)

[1]: import pandas as pd
import pyarrow.parquet as pq

[2]: df_1 = pd.read_parquet("earnings_date=2022-02-10/employee_earnings.parquet")
print(df_1.head())

  emp_id first_name middle_initial last_name email date of birth
0 526540 Angelique K Goodwin angelique.goodwin@gmail.com \ 1964-05-151964-05-15 \
1 859327 Jeni S Shaffer jeni.shaffer@gmail.com 1962-01-131962-01-13
2 887387 Donald T Farris donald.farris@bellsouth.net 1958-04-111958-04-11
3 779497 Steven D Rendon steven.rendon@gmail.com 1982-04-041982-04-04
4 896517 Jenell L Almanza jenell.almanza@yahoo.com 1958-07-011958-07-01

  date of joining ssn phone_number user name password office branch earnings
0 2001-03-242001-03-24 471-57-0359471-57-0359 212-884-7146212-884-7146 \
1 2015-12-102015-12-10 624-85-4146624-85-4146 205-665-7020205-665-7020
2 1979-11-121979-11-12 097-02-3315097-02-3315 205-959-7879205-959-7879
3 2008-09-182008-09-18 134-98-6566134-98-6566 217-858-0054217-858-0054
4 1993-07-141993-07-14 599-92-7345599-92-7345 314-893-2590314-893-2590

  user name password office branch earnings
0 akgoodwinakgoodwin z(d=ez%{.@ NashuaNashua 8812
1 jsshafferjsshaffer 7U56i*10U56i*10 StanfordStanford 12640
2 dtfarrisdtfarris rX.F(j&l&m6&X.R.F(j&l&m6&X StanfordStanford 11561
3 sdrendonsdrendon a+2;sx)<Gly NashuaNashua 14522
4 jlalmanzajlalmanza Ou7RX(yTou7RX(yT New YorkNew York 7205

[3]: df_2 = pd.read_parquet("earnings_date=2022-02-11/employee_earnings.parquet")
print(df_2.head())

  emp_id first_name middle_initial last_name email date of birth
0 526540 Angelique K Goodwin angelique.goodwin@gmail.com \ 1964-05-151964-05-15 \
1 859327 Jeni S Shaffer jeni.shaffer@gmail.com 1962-01-131962-01-13
2 887387 Donald T Farris donald.farris@bellsouth.net 1958-04-111958-04-11
3 779497 Steven D Rendon steven.rendon@gmail.com 1982-04-041982-04-04
4 896517 Jenell L Almanza jenell.almanza@yahoo.com 1958-07-011958-07-01

  date of joining ssn phone_number user name password office branch earnings
0 2001-03-242001-03-24 471-57-0359471-57-0359 212-884-7146212-884-7146 \
1 2015-12-102015-12-10 624-85-4146624-85-4146 205-665-7020205-665-7020
2 1979-11-121979-11-12 097-02-3315097-02-3315 205-959-7879205-959-7879
3 2008-09-182008-09-18 134-98-6566134-98-6566 217-858-0054217-858-0054
4 1993-07-141993-07-14 599-92-7345599-92-7345 314-893-2590314-893-2590

  user name password office branch earnings
0 akgoodwinakgoodwin z(d=ez%{.@ NashuaNashua 8812
1 jsshafferjsshaffer 7U56i*10U56i*10 StanfordStanford 12640
2 dtfarrisdtfarris rX.F(j&l&m6&X.R.F(j&l&m6&X StanfordStanford 11561
3 sdrendonsdrendon a+2;sx)<Gly NashuaNashua 14522
4 jlalmanzajlalmanza Ou7RX(yTou7RX(yT New YorkNew York 7205

[4]: # Add the values from corresponding columns in df_1 and df_2
df_3 = df_1 + df_2
```

**Rerun queries from Task 3 and Task 4 and see how the results change with this new data.**

CloudShellFeedbackLanguage

s3 console.aws.amazon.com/s3/buckets/talha-module5-days5/object/select?region=eu-north-1&prefix=output\_data/employee\_earnings/earnings\_date%3D2022-02-10/employee\_earnings.parquet

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Amazon S3

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Amazon S3 Select does not support whole-object compression for Apache Parquet objects.

Output settings

Format

☒ CSV

☐ JSON

CSV delimiter

☒ Comma

☐ Tab

☐ Custom

SQL query

Amazon S3 Select supports only the SELECT SQL command. Using the S3 console, you can extract up to 40 MB of records from an object that is up to 128 MB in size. To work with larger files or more records, use the AWS CLI, AWS SDK, or Amazon S3 REST API. For more complex SQL queries, use Amazon Athena.

Add SQL from templatesRun SQL query

1SELECT \* FROM "talhakan\_glue\_database"."employee\_earnings";

Data source type talhakan\_glue\_database is not supported. Please check the service documentation and try again.

Query results

Query results are not available after you choose Close or navigate away. Choose Download results to download a copy of the following query results.

Download results

Status

Failed



←

→

↺

s3.console.aws.amazon.com/s3/buckets/talha-module5-day5/object/select?region=eu-north-1&prefix=output\_data/employee\_earnings/earnings\_date%3D2022-02-10/employee\_earnings.parquet

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SQL query

Amazon S3 Select supports only the SELECT SQL command. Using the S3 console, you can extract up to 40 MB of records from an object that is up to 128 MB in size. To work with larger files or more records, use the AWS CLI, AWS SDK, or Amazon S3 REST API. For more complex SQL queries, use Amazon Athena.

Add SQL from templates

Run SQL query

```
1 SELECT DISTINCT office_branch, (MAX(avg_earnings.value) - MIN(avg_earnings.value)) as earnings_range
2 FROM
3 SELECT ( office_branch as ob, AVG(earnings) as value FROM "talhahan_glue_database"."employee_earnings_39a8289c38f2129f2412419a72943df1" GROUP BY office_branch, earnings_date
4 ) avg_earnings, "talhahan_glue_database"."employee_earnings_39a8289c38f2129f2412419a72943df1"
5 WHERE office_branch = avg_earnings.ob
6 GROUP BY office_branch;
```

⛔ Unexpected keyword found, KEYWORD:UNKNOWN at line 1, column 1.

Query results

Query results are not available after you choose Close or navigate away. Choose Download results to download a copy of the following query results.

Download results

Status

⛔ Failed

Close

CloudShell

Feedback

Language

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