AMAZON REDSHIFT

1.1 – 1.5

Confidential

```
● postgresql.service - PostgreSQL database server
     Loaded: loaded (/usr/lib/systemd/system/postgresql.service; enabled; preset: disabled)
     Active: active (running) since Tue 2024-09-03 10:02:10 UTC; 2min 20s ago
   Main PID: 2178 (postgres)
      Tasks: 7 (limit: 1112)
     Memory: 29.7M
        CPU: 71ms
     CGroup: /system.slice/postgresql.service
             ├─2178 /usr/bin/postgres -D /var/lib/pgsql/data
             ├─2199 "postgres: logger "
             ├─2200 "postgres: checkpointer "
             ├─2201 "postgres: background writer "
             ├─2208 "postgres: walwriter "
             ├─2209 "postgres: autovacuum launcher "
             └─2210 "postgres: logical replication launcher "

Sep 03 10:02:10 ip-172-31-26-63.eu-central-1.compute.internal systemd[1]: Starting postgresql.service - PostgreSQL database server...
Sep 03 10:02:10 ip-172-31-26-63.eu-central-1.compute.internal postgres[2178]: 2024-09-03 10:02:10.247 UTC [2178] LOG:  redirecting log output to logging collector process
Sep 03 10:02:10 ip-172-31-26-63.eu-central-1.compute.internal postgres[2178]: 2024-09-03 10:02:10.247 UTC [2178] HINT:  Future log output will appear in directory "log".
Sep 03 10:02:10 ip-172-31-26-63.eu-central-1.compute.internal systemd[1]: Started postgresql.service - PostgreSQL database server.
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lines 1-20/20 (END)
[ec2-user@ip-172-31-26-63 ~]$ psql -h data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central- 1.redshift.amazonaws.com -v
schema=public -p 5439 -U dilab_student1500 -d dev
psql: option requires an argument -- 'v'
psql: hint: Try "psql --help" for more information.
-bash: -p: command not found
[ec2-user@ip-172-31-26-63 ~]$ psql -h data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central- 1.redshift.amazonaws.com -v schema=public -p 5439 -U dilab_student1500 -d dev
psql: warning: extra command-line argument "1.redshift.amazonaws.com" ignored
psql: error: could not translate host name "data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central-" to address: Name or service not known
[ec2-user@ip-172-31-26-63 ~]$ psql -h data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central-1.redshift.amazonaws.com -v schema=public -p 5439 -U dilab_student1500 -d dev
Password for user dilab_student1500:
psql (15.8, server 8.0.2)
WARNING: psql major version 15, server major version 8.0.
         Some psql features might not work.
SSL connection (protocol: TLSv1.2, cipher: ECDHE-RSA-AES256-GCM-SHA384, compression: off)
Type "help" for help.

dev=>
```
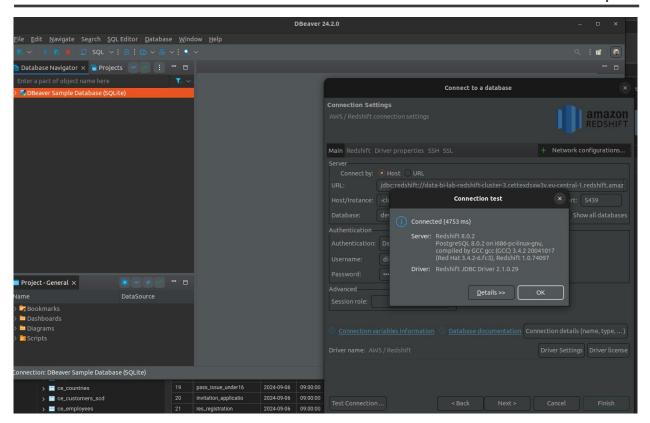
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-bash: -p: command not found
[ec2-user@ip-172-31-26-63 ~]$ psql -h data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central- 1.redshift.amazonaws.com -v schema=public -p 5439 -U dilab_student1500 -d dev
psql: warning: extra command-line argument "1.redshift.amazonaws.com" ignored
psql: error: could not translate host name "data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central-" to address: Name or service not known
[ec2-user@ip-172-31-26-63 ~]$ psql -h data-bi-lab-redshift-cluster-3.cettexdsxw3v.eu-central-1.redshift.amazonaws.com -v schema=public -p 5439 -U dilab_student1500 -d dev
Password for user dilab_student1500:
psql (15.8, server 8.0.2)
WARNING: psql major version 15, server major version 8.0.
         Some psql features might not work.
SSL connection (protocol: TLSv1.2, cipher: ECDHE-RSA-AES256-GCM-SHA384, compression: off)
Type "help" for help.

dev=> SELECT * FROM information_schema.tables LIMIT 5;
 table_catalog |   table_schema    |         table_name          | table_type | self_referencing_column_name | reference_generation | user_defined_type_catalog | user_defined_type_schema | user_defin
ed_name
---------------+-------------------+-----------------------------+------------+------------------------------+----------------------+---------------------------+--------------------------+----------
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 dev           | information_schema | information_schema_catalog_name | VIEW   |                              |                      |                           |                          |
 dev           | information_schema | applicable_roles            | VIEW       |                              |                      |                           |                          |
 dev           | information_schema | check_constraints           | VIEW       |                              |                      |                           |                          |
 dev           | information_schema | column_domain_usage         | VIEW       |                              |                      |                           |                          |
 dev           | information_schema | column_privileges           | VIEW       |                              |                      |                           |                          |
(5 rows)

dev=>
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```sql
IGNOREHEADER 1;

select * from dilab_student1500.dim_stores

SELECT
    "column" AS column_name,
    "type" AS data_type,
    encoding
FROM
    pg_table_def
WHERE
    tablename = 'dim_customers_scd'
    AND schemaname = 'dilab_student1500';
```

pg_table_def 1 ✕

SELECT "column" AS column_name, "type" A! ⤢ Enter a SQL expression to filter results (use Ctrl+Space)

#	column_name	data_type	encoding
1	customer_surr_id	bigint	az64
2	f_name	character varying(50)	lzo
3	l_name	character varying(50)	lzo
4	email	character varying(100)	lzo
5	cust_phone	character varying(30)	lzo
6	start_dt	date	az64
7	end_dt	date	az64
8	is_active	character varying(10)	lzo
9	insert_dt	date	az64
10	source_id	character varying(100)	lzo
11	source_system	character varying(100)	lzo
12	source_entity	character varying(100)	lzo

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AMT en_US Writable   Smart Insert   58 : 1 [189]   Sel:

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```
ANALYZE COMPRESSION dilab_student1500.dim_customers_scd_withoutcomp;
```

Results 1

ANALYZE COMPRESSION dilab_student1500. *Enter a SQL expression to filter results (use Ctrl+Space)*

	Table	Column	Encoding	Est_reduction_pct
1	dim_customers_scd_withoutcomp	customer_surr_id	raw	0.00
2	dim_customers_scd_withoutcomp	f_name	raw	0.00
3	dim_customers_scd_withoutcomp	l_name	raw	0.00
4	dim_customers_scd_withoutcomp	email	raw	0.00
5	dim_customers_scd_withoutcomp	cust_phone	raw	0.00
6	dim_customers_scd_withoutcomp	start_dt	raw	0.00
7	dim_customers_scd_withoutcomp	end_dt	raw	0.00
8	dim_customers_scd_withoutcomp	is_active	raw	0.00
9	dim_customers_scd_withoutcomp	insert_dt	raw	0.00
10	dim_customers_scd_withoutcomp	source_id	raw	0.00
11	dim_customers_scd_withoutcomp	source_system	raw	0.00
12	dim_customers_scd_withoutcomp	source_entity	raw	0.00

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```
ANALYZE dilab_student1500.dim_customers_scd_analyzedcomp;
analyze compression dilab_student1500.dim_customers_scd_analyzedcomp;

   -- Insert data from the original table into the newly created table
   INSERT INTO dilab_student1500.dim_customers_scd_analyzedcomp
   SELECT * FROM dilab_student1500.dim_customers_scd_withoutcomp;

CREATE TABLE dilab_student1500.dim_customers_scd_analyzedcomp (
    customer_surr_id INT ENCODE AZ64,           -- Replace with recommended encoding
    f_name VARCHAR(50) ENCODE ZSTD,             -- Replace with recommended encoding
    l_name VARCHAR(50) ENCODE ZSTD,             -- Replace with recommended encoding
    email VARCHAR(100) ENCODE LZO,              -- Replace with recommended encoding
    cust_phone VARCHAR(20) ENCODE ZSTD,         -- Replace with recommended encoding
    start_dt DATE ENCODE ZSTD,                  -- Replace with recommended encoding
    end_dt DATE ENCODE ZSTD,                    -- Replace with recommended encoding
    is_active BOOLEAN ENCODE RAW,               -- Replace with recommended encoding
    insert_dt TIMESTAMP ENCODE ZSTD,            -- Replace with recommended encoding
    source_id INT ENCODE AZ64,                  -- Replace with recommended encoding
    source_system VARCHAR(50) ENCODE ZSTD,      -- Replace with recommended encoding
```

Results 1   **Statistics 0**

analyze compression dilab_student1500.dim *Enter a SQL expression to filter results (use Ctrl+Space)*

	Table	Column	Encoding	Est_reduction_pct
1	dim_customers_scd_analyzedcomp	customer_surr_id	raw	0.00
2	dim_customers_scd_analyzedcomp	f_name	zstd	0.00
3	dim_customers_scd_analyzedcomp	l_name	raw	0.00
4	dim_customers_scd_analyzedcomp	email	raw	0.00
5	dim_customers_scd_analyzedcomp	cust_phone	raw	0.00
6	dim_customers_scd_analyzedcomp	start_dt	raw	0.00
7	dim_customers_scd_analyzedcomp	end_dt	raw	0.00
8	dim_customers_scd_analyzedcomp	is_active	raw	0.00
9	dim_customers_scd_analyzedcomp	insert_dt	raw	0.00
10	dim_customers_scd_analyzedcomp	source_id	raw	0.00
11	dim_customers_scd_analyzedcomp	source_system	raw	0.00
12	dim_customers_scd_analyzedcomp	source_entity	raw	0.00

Refresh · Save · Cancel · K < > >I · Export data · 200 · 12

```
t_name VARCHAR(50) ENCODE raw,              -- Replace with recommended encoding
email VARCHAR(100) ENCODE raw,               -- Replace with recommended encoding
cust_phone VARCHAR(20) ENCODE raw,          -- Replace with recommended encoding
start_dt DATE ENCODE raw,                   -- Replace with recommended encoding
end_dt DATE ENCODE raw,                     -- Replace with recommended encoding
is_active BOOLEAN ENCODE raw,                -- Replace with recommended encoding
insert_dt TIMESTAMP ENCODE raw,             -- Replace with recommended encoding
source_id INT ENCODE raw,                   -- Replace with recommended encoding
source_system VARCHAR(50) ENCODE raw,       -- Replace with recommended encoding
source_entity VARCHAR(50) ENCODE raw        -- Replace with recommended encoding
);

-- Query to get the size of each table in the schema
SELECT
    "table" AS table_name,
    size AS size_mb
FROM
    SVV_TABLE_INFO
WHERE
    "table" IN ('dim_customers_scd_analyzedcomp', 'dim_customers_scd_defaultcomp', 'dim_
    AND schema = 'dilab_student1500';
```

Results 1 ✕

SELECT "table" AS table_name, size AS size_i ⛶ Enter a SQL expression to filter results (use Ctrl+Space)

table_name	size_mb
dim_customers_scd_analyzedcomp	60
dim_customers_scd_withoutcomp	60