Important Database Administrator Commands

In this post, I am sharing few important and basic commands for Database Administrator of PostgreSQL and PSQL Console.

**Below are the important PSQL command:**

**# \l :** to list all databases  
**# \? :** to list help for all commands  
**# \h create table :** show help with topics  
**# \d :** to list all tables  
**# \df :** to list all functions  
**# \da :** to list all aggregate functions  
**# \dn :** to list all schemas  
**# \du :** to list all users  
**# \r :** to reset the query buffer  
**# \db :** to list all table space

**To show current data directory.**

|  |  |
| --- | --- |
| 1 | SHOW data\_directory; |

**To change current data directory and it requires a server restart.**

|  |  |
| --- | --- |
| 1 | SET data\_directory TO NewPath; |

**To show current server configuration setting.**

|  |  |
| --- | --- |
| 1 | SHOW ALL; |
| 1 | SELECT name, setting, unit, context FROM pg\_settings; |

**Get PostgreSQL Version name:**

SELECT VERSION();

# How to find size of Database and Table in PostgreSQL

In this post, I am sharing few important function for finding the size of database, table and index in PostgreSQL.

**Script 1 : Find a total size of the database.**

|  |  |
| --- | --- |
| 1 | SELECT pg\_size\_pr etty(pg\_database\_size('db\_employee')); |

**Script 2: Find a total size of the table with an index.**

|  |  |
| --- | --- |
| 1 | SELECT pg\_size\_pretty(pg\_total\_relation\_size('Employee\_Table')); |

**Script 3: Find a total size of the table without an index.**

|  |  |
| --- | --- |
| 1 | SELECT pg\_size\_pretty(pg\_relation\_size('Employee\_table')); |

**Script 4: Find a total size of the index.**

|  |  |
| --- | --- |
| 1 | SELECT pg\_size\_pretty(pg\_indexes\_size('index\_empid')); |

**Script 5: Find a total number of rows in a table.**

|  |  |
| --- | --- |
| 1 | SELECT COUNT(1) FROM Employee\_table; |

**Script 6 : Find all the table and index size in the current database.**

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11 | SELECT  TableName  ,pg\_size\_pretty(pg\_table\_size(TableName)) AS TableSize  ,pg\_size\_pretty(pg\_indexes\_size(TableName)) AS IndexSize  ,pg\_size\_pretty(pg\_total\_relation\_size(TableName)) AS TotalSize  FROM  (  SELECT ('"' || table\_schema || '"."' || table\_name || '"') AS TableName  FROM information\_schema.tables  ) AS Tables  ORDER BY 4 DESC |

# Copy Database to another Server in Windows (pg\_dump – backup & restore)

In our organization, junior database developers are learning PostgreSQL, and they require a sample database from our Validation Database Server.

In this scenario, Database Administrator takes PostgreSQL backup using pg\_dump utility and restore that dump into the development environment.

A pg\_dump is a PostgreSQL utility which is used for PostgreSQL database backup and restore.

Another option is, directly copy the database from one server to another server using pg\_dump + psql. In this scenario, Database Administrator does not require any intermediate database backup file.

**Copy database, Using pg\_dump utility for backup and restore:**

**Take full database backup:**

|  |  |
| --- | --- |
| 1 | pg\_dump -U username database\_name > filepath\backup.sql |

**Restore database backup:**

|  |  |
| --- | --- |
| 1 | pg\_dump -U username database\_name < filepath\backup.sql |

Or

psql -U postgres -d <hr\_restore> < backup\_file\_name.sql

# Script to find the count of objects for each Database Schema

In this post, I am sharing a script to find the total count of objects for each database schemas of PostgreSQL.  
If you Postgres DBA and want to do accounting on a number of total objects per schemas, you can use this script.

Using this script, you can find different types of objects count like table, view, index, sequence

**SELECT**

n.nspname **as** schema\_name

,**CASE** c.relkind

**WHEN** 'r' **THEN** 'table'

**WHEN** 'v' **THEN** 'view'

**WHEN** 'i' **THEN** 'index'

**WHEN** 'S' **THEN** 'sequence'

**WHEN** 's' **THEN** 'special'

**END** **as** object\_type

,**count**(1) **as** object\_count

**FROM** pg\_catalog.pg\_class c

**LEFT** **JOIN** pg\_catalog.pg\_namespace n **ON** n.**oid** = c.relnamespace

**WHERE** c.relkind **IN** ('r','v','i','S','s')

**GROUP** **BY** n.nspname,

**CASE** c.relkind

**WHEN** 'r' **THEN** 'table'

**WHEN** 'v' **THEN** 'view'

**WHEN** 'i' **THEN** 'index'

**WHEN** 'S' **THEN** 'sequence'

**WHEN** 's' **THEN** 'special'

**END**

**ORDER** **BY** n.nspname,

**CASE** c.relkind

**WHEN** 'r' **THEN** 'table'

**WHEN** 'v' **THEN** 'view'

**WHEN** 'i' **THEN** 'index'

**WHEN** 'S' **THEN** 'sequence'

**WHEN** 's' **THEN** 'special'

**END**;