Untitled

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Connect R to postgresql

```
con <- dbConnect(RPostgres::Postgres(),
                 host = "localhost",port="5432",
                 user = "postgres", dbname ="Northwind",
                 password =my_pass )
tables<-dbListTables(con)
data.frame(tables=tables)
```

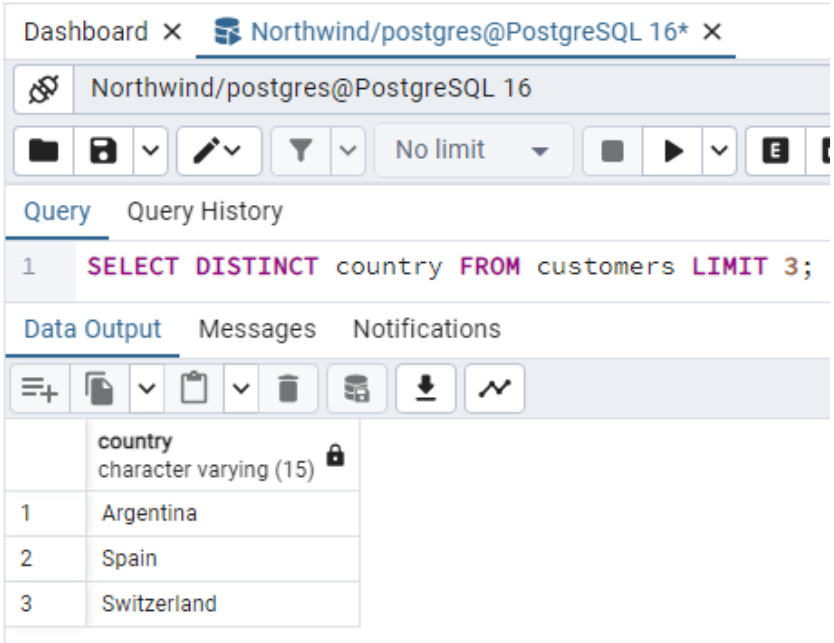
```
       tables
1   categories
2     products
3    suppliers
4    employees
5       orders
6    customers
7     shippers
8 orderdetails
```

Database Used: Northwind https://en.wikiversity.org/wiki/Database_Examples/Northwind/PostgreSQL

You can practice with this dataset here https://www.w3schools.com/sql/

I installed PostgreSQL and then use pgAdmin to create Northwind dataset.

SELECT DISTINCT country FROM customers LIMIT 3;




```
tbl(con,"customers") %>%
  distinct(country) %>% head(3)
```

```
# Source:   SQL [3 x 1]
# Database: postgres  [postgres@localhost:5432/Northwind]
  country
  <chr>
1 Argentina
2 Spain
3 Switzerland
```

show_query() function: Generate SQL Query using R code

```
tbl(con,"customers") %>%
  select(customerid, customername) %>% head(5)
```

```
# Source:   SQL [5 x 2]
# Database: postgres  [postgres@localhost:5432/Northwind]
  customerid customername
       <int> <chr>
1          1 Alfreds Futterkiste
2          2 Ana Trujillo Emparedados y helados
3          3 Antonio Moreno Taquería
4          4 Around the Horn
5          5 Berglunds snabbköp
```

```
tbl(con,"customers") %>%
  select(customerid, customername) %>% show_query()
```

```
<SQL>
SELECT "customerid", "customername"
FROM "customers"
```

SELECT customername FROM Customers WHERE Country='Mexico';

```
tbl(con,"customers") %>%
  filter(country=="Mexico") %>%  select(customername)
```

```
# Source:   SQL [5 x 1]
# Database: postgres  [postgres@localhost:5432/Northwind]
  customername
  <chr>
1 Ana Trujillo Emparedados y helados
2 Antonio Moreno Taquería
3 Centro comercial Moctezuma
4 Pericles Comidas clásicas
5 Tortuga Restaurante
```

```
tbl(con,"customers") %>%
  filter(country=="Mexico") %>%
  select(customername) %>%   show_query()
```

```
<SQL>
SELECT "customername"
FROM "customers"
WHERE ("country" = 'Mexico')
```

SELECT * FROM Customers WHERE (Country = 'Germany') AND (city = 'Berlin');

```
tbl(con,"customers") %>%
  select(country,city, address) %>%
  filter(country=="Germany",city=="Berlin")
```

```
# Source:   SQL [1 x 3]
# Database: postgres  [postgres@localhost:5432/Northwind]
  country city   address
  <chr>   <chr>  <chr>
1 Germany Berlin Obere Str. 57
```

```
tbl(con,"customers") %>%
  select(country,city, address) %>%
  filter(country=="Germany",city=="Berlin")  %>% show_query()
```

```
<SQL>
SELECT "country", "city", "address"
FROM "customers"
WHERE ("country" = 'Germany') AND ("city" = 'Berlin')
```

SELECT productname, price FROM products WHERE (price > 80.0)

```
tbl(con,"products") %>%
  select(productname,price) %>%
  filter(price> 80)
```

```
# Source:   SQL [4 x 2]
# Database: postgres  [postgres@localhost:5432/Northwind]
  productname              price
  <chr>                    <dbl>
1 Mishi Kobe Niku            97
2 Sir Rodney's Marmalade     81
3 Thüringer Rostbratwurst   124.
4 Côte de Blaye             264.
```

```
tbl(con,"products") %>%
  select(productname,price) %>%
  filter(price> 80)  %>% show_query()
```

```
<SQL>
SELECT "productname", "price"
FROM "products"
WHERE ("price" > 80.0)
```

```r
tbl(con,"products") %>%
  select(productname,price) %>%
  filter(price> 3*mean(price,na.rm = TRUE))
```

```
# Source:   SQL [3 x 2]
# Database: postgres  [postgres@localhost:5432/Northwind]
  productname                price
  <chr>                      <dbl>
1 Mishi Kobe Niku             97
2 Thüringer Rostbratwurst    124.
3 Côte de Blaye              264.
```

```sql
SELECT productname, price FROM products
    WHERE price > 3 * (SELECT AVG(price) FROM products);
```

Table 1: 3 records

productname	price
Mishi Kobe Niku	97.00
Thüringer Rostbratwurst	123.79
Côte de Blaye	263.50

END

```
dbDisconnect(con)
```

```
#
```