

# Writing SQL with R

[https://en.wikiversity.org/wiki/Database\\_Examples/Northwind/PostgreSQL](https://en.wikiversity.org/wiki/Database_Examples/Northwind/PostgreSQL)

<https://www.w3schools.com/sql/>

Masoud Faridi

## Connect R to postgresql

```
library(DBI,quietly = TRUE)
library(RPostgres,quietly = TRUE)
library(dplyr,quietly = TRUE)
library(dbplyr,quietly = TRUE)
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
```

SQL SELECT Statement [https://www.w3schools.com/sql/sql\\_select.asp](https://www.w3schools.com/sql/sql_select.asp)

```
SELECT CustomerName, City FROM Customers LIMIT 3;
```

Table 1: 3 records

customername	city
Alfreds Futterkiste	Berlin
Ana Trujillo Emparedados y helados	México D.F.
Antonio Moreno Taquería	México D.F.

```
tbl(con,"customers") %>% select(customername, city) %>%  
  head(3)
```

```
# Source:   SQL [3 x 2]
```

```
# Database: postgres [postgres@localhost:5432/Northwind]
```

	customername	city
	<chr>	<chr>
1	Alfreds Futterkiste	Berlin
2	Ana Trujillo Emparedados y helados	México D.F.
3	Antonio Moreno Taquería	México D.F.

## show\_query()

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

<SQL>

```
SELECT "customername", "city"  
FROM "customers"
```

SQL QUERY	dplyr CODE
SELECT * FROM customers	tbl(con, "customers")
SELECT customername FROM customers	tbl(con, "customers") %>% select(customername)
SELECT customername, city FROM customers	tbl(con, "customers") %>% select(customername, city)

# SQL SELECT DISTINCT Statement

[https://www.w3schools.com/sql/sql\\_distinct.asp](https://www.w3schools.com/sql/sql_distinct.asp)

```
SELECT DISTINCT Country FROM Customers LIMIT 3;
```

Table 2: 3 records

country
Argentina
Spain
Switzerland

```
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
```

END

```
dbDisconnect(con)
```