

# SQLite

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2022-04-20

This paper will using r programing to connect to database via sqlite3 and do a process to create, insert and join each table table to one table

**first connect to database server via PostgreSQL. for this code will be hide due to hidden access password**

```
## Loading required package: DBI
```

**check the current table in database**

```
dbListTables(conn)
```

```
## [1] "houseprice_train" "houseprice_test" "restaurants"      "rest_type_food"
## [5] "food_type"        "food_manu"        "chef"             "province"
## [9] "administator"     "rest_address"     "delivery_driver"
```

**remove exist table**

```
dbRemoveTable(conn, "restaurants")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "rest_type_food")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "food_type")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "food_manu")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "chef")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "province")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "administator")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "rest_address")
```

```
## [1] TRUE
```

```
dbRemoveTable(conn, "delivery_driver")
```

```
## [1] TRUE
```

**create table name Restaurants and input each columnne name and data type of each columnne**

```
dbGetQuery(conn,"create table Restaurants (  
Restaurants_ID int unique,  
Chef_ID int,  
Province_ID int,  
Admin_ID int,  
Address_ID int,  
Driver_ID int,  
Restaurants_name TEXT,  
Rest_Description TEXT  
);")
```

```
## data frame with 0 columns and 0 rows
```

**create table name Rest\_Type\_Food and input each columnne name and data type of each columnne**

```
dbGetQuery(conn,"create table Rest_Type_Food (  
Restaurants_ID int,  
Food_Type_ID int);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Food\_Type and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Food_Type (  
Food_Type_ID int unique,  
Food_Types text);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Food\_Manu and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Food_Manu (  
Food_Type_ID int,  
manu text);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Chef and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Chef (  
Chef_ID int unique,  
name text,  
address text,  
tel text);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Province and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Province (  
Province_ID int unique,  
Province text);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Administator and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Administator (
Admin_ID int unique,
name text,
address text,
tel text);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Rest\_Address and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Rest_Address (
Address_ID int unique,
address text);")
```

```
## data frame with 0 columns and 0 rows
```

create table name Delivery\_Driver and input each columnne name and data type of each columnne

```
dbGetQuery(conn,"create table Delivery_Driver (
Driver_ID int unique,
name text,
address text,
tel text);")
```

```
## data frame with 0 columns and 0 rows
```

insert data into Restaurants table

```
dbGetQuery(conn,"insert into Restaurants values
(111,221,331,441,551,661,'Alpha','Thai restaurant locate in Khonkaen province');")
```

```
## data frame with 0 columns and 0 rows
```

```
dbGetQuery(conn,"insert into Restaurants values
(112,222,332,442,552,662,'Bravo','Japaness restaurant locate in Bangkok');")
```

```
## data frame with 0 columns and 0 rows
```

```
dbGetQuery(conn,"insert into Restaurants values
(113,223,333,443,553,663,'Charli','Chiness restaurant locate in Hatyai');")
```

```
## data frame with 0 columns and 0 rows
```

```
dbGetQuery(conn,"insert into Restaurants values
(114,224,334,444,554,664,'Delta','Thai restaurant locate in Chiangmai');")
```

```
## data frame with 0 columns and 0 rows
```

```
dbGetQuery(conn,"insert into Restaurants values
(115,225,335,445,555,665,'Echoo','Italain restaurant locate in Samutprakarn');")
```

```
## data frame with 0 columns and 0 rows
```

```
dbGetQuery(conn,"insert into Restaurants values
(116,226,336,446,556,666,'Foxtrot','Japaness restaurant locate in Mukdahan');")
```

```
## data frame with 0 columns and 0 rows
```

### insert data into Rest\_Type\_Food table

```
dbGetQuery(conn,"insert into Rest_Type_Food values
(111,771),
(112,772),
(113,773),
(114,771),
(115,774),
(116,772);")
```

```
## data frame with 0 columns and 0 rows
```

### insert data into Food\_Type table

```
dbGetQuery(conn,"insert into Food_Type values
(771,'Thai Food'),
(772,'Japaness Food'),
(773,'Chiness Food'),
(774,'Italain Food');")
```

```
## data frame with 0 columns and 0 rows
```

### insert data into Food\_Manu table

```
dbGetQuery(conn,"insert into Food_Manu values
(771,'Somtum'),
(771,'Pingkai'),
(771,'Lab'),
(772,'Sushi'),
```

```
(772,'Sashimi'),
(772,'Ramen'),
(773,'Noodles'),
(773,'Peking Duck'),
(773,'Dim Sum'),
(774,'Pizza'),
(774,'Pasta Carbonara'),
(774,'Mushroom Risotto');")
```

```
## data frame with 0 columns and 0 rows
```

### insert data into Chef table

```
dbGetQuery(conn,"insert into Chef values
(221,'Tom','532 x street d condo','0984576347'),
(222,'Tim','233 y street e condo','0997349075'),
(223,'John','764 z street f condo','0891257540'),
(224,'Anna','113 a street g condo','0965438769'),
(225,'Bill','864 f street h condo','0976213456'),
(226,'Teerasak','674 h street i condo','0965645544');")
```

```
## data frame with 0 columns and 0 rows
```

### insert data into Province table

```
dbGetQuery(conn,"insert into Province values
(331,'Khonkaen'),
(332,'Bangkok'),
(333,'Hatyai'),
(334,'Chiangmai'),
(335,'Samutprakarn'),
(336,'Mukdahan');")
```

```
## data frame with 0 columns and 0 rows
```

### insert data into Administator table

```
dbGetQuery(conn,"insert into Administator values
(441,'Jane','764 hj street yu condo','0894399007'),
(442,'Bee','227 yd street ey condo','0997397676'),
(443,'Cherry','787 zs street fu condo','0891890940'),
(444,'Joy','456 ad street gi condo','0986545567'),
(445,'Boss','275 fh street ho condo','0982223778'),
(446,'Som','555 hfg street iu condo','0989997766');")
```

```
## data frame with 0 columns and 0 rows
```

insert data into Rest\_Address table

```
dbGetQuery(conn,"insert into Rest_Address values
(551,'Central Khonkaen'),
(552,'Central bangna'),
(553,'Central Hatyai'),
(554,'Central Chiangmai'),
(555,'Mega Bangna'),
(556,'Robinson Mukdahan');")
```

```
## data frame with 0 columns and 0 rows
```

insert data into Delivery\_Driver table

```
dbGetQuery(conn,"insert into Delivery_Driver values
(661,'Ken','532 xd street po condo','0997764433'),
(662,'Kan','233 ygf street eo condo','0991126666'),
(663,'Golf','764 zg street fr condo','0997774433'),
(664,'Wee','113 adg street gh condo','0998881122'),
(665,'Thee','864 fjj street hh condo','0985554433'),
(666,'Sak','674 hd street ir condo','0995554433');")
```

```
## data frame with 0 columns and 0 rows
```

join tabel by using primary key and forieon key of each table and show the joined table

```
df<- dbGetQuery(conn,"Select R.Restaurants_ID,
R.Restaurants_name,
R.Rest_Description,
T.Food_Types,
M.manu,
C.name as Chef_name,
C.address,
C.tel,
Ad.name as Admin,
Ad.address,
Ad.tel,
A.address as Restaurants_Address,
P.Province,
D.name as DeliveryDriver,
D.address,
D.tel

from Restaurants R
join Rest_Type_Food RT on R.Restaurants_ID=RT.Restaurants_ID
join Food_Type T on RT.Food_Type_ID=T.Food_Type_ID
join Food_Manu M on T.Food_Type_ID=M.food_type_id
```

```

join Chef C on R.Chef_ID=C.Chef_ID
join Rest_Address A on R.Address_ID=A.Address_ID
join Province P on R.Province_ID=P.Province_ID
join Administator Ad on R.Admin_ID=Ad.Admin_ID
join Delivery_Driver D on R.Driver_ID=D.Driver_ID;")

```

## Disconnect from database

```
dbDisconnect(conn)
```

```
## [1] TRUE
```

## import package tidyverse for basic explore data

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5      v purrr  0.3.4
## v tibble  3.1.6      v dplyr  1.0.8
## v tidyr   1.2.0      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.1
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

## Explore dataset

```
glimpse(df)
```

```
## Rows: 18
## Columns: 16
## $ restaurants_id      <int> 111, 111, 111, 112, 112, 112, 113, 113, 113, 114, ~
## $ restaurants_name    <chr> "Alpha", "Alpha", "Alpha", "Bravo", "Bravo", "Brav~
## $ rest_description    <chr> "Thai restaurant locate in Khonkaen province", "Th~
## $ food_types          <chr> "Thai Food", "Thai Food", "Thai Food", "Japaness F~
## $ manu                <chr> "Lab", "Pingkai", "Somtum", "Ramen", "Sashimi", "S~
## $ chef_name           <chr> "Tom", "Tom", "Tom", "Tim", "Tim", "Tim", "John", ~
## $ address             <chr> "532 x street d condo", "532 x street d condo", "5~
## $ tel                 <chr> "0984576347", "0984576347", "0984576347", "0997349~
## $ admin               <chr> "Jane", "Jane", "Jane", "Bee", "Bee", "Bee", "Cher~
## $ address             <chr> "764 hj street yu condo", "764 hj street yu condo"~
## $ tel                 <chr> "0894399007", "0894399007", "0894399007", "0997397~
## $ restaurants_address <chr> "Central Khonkaen", "Central Khonkaen", "Central K~

```



```
## $ province      <chr> "Khonkaen", "Khonkaen", "Khonkaen", "Bangkok", "Ba~
## $ deliverydriver <chr> "Ken", "Ken", "Ken", "Kan", "Kan", "Kan", "Golf", ~
## $ address       <chr> "532 xd street po condo", "532 xd street po condo"~
## $ tel           <chr> "0997764433", "0997764433", "0997764433", "0991126~
```

```
head(df)
```

```
##   restaurants_id restaurants_name      rest_description
## 1             111      Alpha Thai restaurant locate in Khonkaen province
## 2             111      Alpha Thai restaurant locate in Khonkaen province
## 3             111      Alpha Thai restaurant locate in Khonkaen province
## 4             112      Bravo      Japaness restaurant locate in Bangkok
## 5             112      Bravo      Japaness restaurant locate in Bangkok
## 6             112      Bravo      Japaness restaurant locate in Bangkok
##   food_types   manu chef_name      address      tel admin
## 1   Thai Food   Lab      Tom 532 x street d condo 0984576347 Jane
## 2   Thai Food Pingkai      Tom 532 x street d condo 0984576347 Jane
## 3   Thai Food Somtum      Tom 532 x street d condo 0984576347 Jane
## 4 Japaness Food Ramen      Tim 233 y street e condo 0997349075 Bee
## 5 Japaness Food Sashimi      Tim 233 y street e condo 0997349075 Bee
## 6 Japaness Food Sushi      Tim 233 y street e condo 0997349075 Bee
##           address      tel restaurants_address province deliverydriver
## 1 764 hj street yu condo 0894399007      Central Khonkaen Khonkaen      Ken
## 2 764 hj street yu condo 0894399007      Central Khonkaen Khonkaen      Ken
## 3 764 hj street yu condo 0894399007      Central Khonkaen Khonkaen      Ken
## 4 227 yd street ey condo 0997397676      Central bangna Bangkok      Kan
## 5 227 yd street ey condo 0997397676      Central bangna Bangkok      Kan
## 6 227 yd street ey condo 0997397676      Central bangna Bangkok      Kan
##           address      tel
## 1 532 xd street po condo 0997764433
## 2 532 xd street po condo 0997764433
## 3 532 xd street po condo 0997764433
## 4 233 ygf street eo condo 0991126666
## 5 233 ygf street eo condo 0991126666
## 6 233 ygf street eo condo 0991126666
```