

Audience

This training is targeted for participants using a SQL reporting system (e.g., Relevant, Microsoft SSRS) with intermediate to advanced knowledge of PostgreSQL and common EHR database tables (Data analysts/programmers with more than 9 months of experience).

Prerequisites

Participants must have access to a PostgreSQL database (e.g., Relevant) and software for interacting with databases (e.g., DataGrip, DBeaver). Participants should know how to connect to databases and run queries in their software environment.

Download Materials

Follow the link <u>here</u> and click $\stackrel{\downarrow}{=}$ Download at the top left of the webpage to download the training materials. Keep track of where the zip file is saved and unzip. It will contain the following files. <u>The link is set to expire 5/13/22</u>.

Data Files

SQL Scripts

Hands-On Files

- demo_breast_imaging.csv
- CREATE-DEMO-TABLES.sql
- Code-Along.sql

Hands-On SQL Exercise.pdf

demo_breast_imaging
 demo_clinics.csv

• DROP-DEMO-TABLES.sql

- demo_doctors.csv
- demo_external_breast_imaging.csv
- demo_patients.csv

Importing Data Files (~ 5 minutes)

- 1. Connect to your PostgreSQL database with your software editor.
- 2. Open the SQL script CREATE-DEMO-TABLES.sql.
- 3. Execute CREATE-DEMO-TABLES.sql with your software editor. This will create the demo tables for the data in your database.

Below are 3 different methods provided for importing the CSV files into your database. For any other software, follow the documentation on how CSV files can be imported.

Relevant

Use the <u>CSV Upload Tool</u> option 2:

"Append the contents of the CSV file to an existing table in the Staging database."



DataGrip 2022.1.1

Use the "Import Data from file..." feature:

- 1. <u>Navigate</u> to the **Database Explorer Pane**.
- 2. <u>Highlight</u> one table at a time. You may need to refresh your database if the tables are not visible.

/		tal	oles 5
		▦	demo_breast_imagings
	>	Ħ	demo_clinics
	>	▦	demo_doctors
	>	▦	demo_external_breast_imagings
	>		demo_patients

3. <u>Right-click</u> the highlighted table and choose "*Import Data from File...*" - the **File Explorer** will open.

Ŧ	Export Data to File
	Export with 'pg_dump'
Ť	Import Data from File

- 4. Choose the CSV file associated with the highlighted table chosen the Import Dialog will open.
- 5. <u>Select</u> "CSV" under Formats, <u>check</u> "First row is header", and then <u>click</u> "Import". The data will be loaded into

the table in your database.

Formats: + - 🖻 🛱	Target schema: 🛛 👎 po	stgres@localhost / RCHC-2022-	SQL-Training.public			
CSV*	Table: demo	breast imagings		xisting 👻		
TSV Bine-constant						
ripe-separated	Comment:					
	Columns (7) Keys (1)					
value separator: Comma						
Row separator: Newline -						
Null value texts						
Null value text: Empty string +						
	followup_date date					
Quote values: When needed 💌	I≣id ≎ I≣p	atient_id ≎ 💵 clinic_id		🔳 date 🗘		I∄ followup_date ÷
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Header Format				2020-01-20	BI-RADS 1	2022-01-19
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			00 Bilateral			2022-01-01
Row separator: Newline 👻				2020-01-14	BI-RADS 1	2022-01-13
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			00 Unilateral Left	2020-01-11	BI-RADS 2	2021-01-10
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' ' Escape: duplicate						
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	Write errors to file	/Users/diversifyds/demo_breas	imagings 2022-04-29	22 28 31 tyt		
Quote values: When needed -	Insert inconvertible	values as null				
Trim whitespaces	Disable indexes and	triggers, lock table (may be fast	er)			
						Cancel Import

6. Repeat Steps 1-5 for the other tables.



DBeaver 22.0.3

Use the "Import Data" feature:

- 1. <u>Navigate</u> to the **Database Navigator** pane.
- 2. <u>Highlight</u> all the tables created in your database.



3. <u>Right-click</u> all the highlighted tables and <u>select</u> "Import Data" - the **Data Transfer Dialog** will open.

🗸 🔚 Tables	
 > demo_breast_imagings > demo_clinics > demo_doctors > demo_external_breast_imagings > demo_patients 	View Objects F4 Tilter > Image: State of the stat
 > > > > Materialized Views > Indexes > = Functions 	Compare/Migrate > Export Data Import Data

4. <u>Highlight</u> "Import from CSV File(s)" and then <u>click</u> "Next >".

•••		Data Transfer	
Transfer targets Configure data transfer s	ource type and format		
Import source Input file(s) Tables mapping Data load settings Confirm	CSV Table	Import from CSV file(s) Database table(s)	Exported public.demo_breast_imagings public.demo_clinics public.demo_doctors public.demo_external_breast_imagings public.demo_patients
			Cancel Next >



5. <u>Click</u> through each "Source: <none>" under Input Files one at a time - the **File Explorer** will open and prompt you to choose a CSV file associated with the Target table. Choose the CSV file associated with the target table.

		Data Transfer		
Input file(s)				
Configure input files or d	lirectories			
 Import source Input file(s) 	Input files:			
Tables mapping	Source	Target		
Data load settings	<none></none>	🔚 public.demo_breast_imagings [Existing]		
Confirm	<none></none>	E public.demo_clinics [Existing]		
	<none></none>	🔚 public.demo_doctors [Existing]		
	<none></none>	🔚 public.demo_external_breast_imagings [Existing]		
	<none></none>	E public.demo_patients [Existing]		
	Importer settings:			
	Name	Value		
Såve task	PropertiesSampling			
	< Back	Proceed Cancel Next >		

6. Once all CSV files are selected, <u>click</u> "Next >".

🔍 🌢 Data Transfer				
Input file(s) Configure input files or d	lirectories			
✓ Import source ✓ Input file(s)	Input files: Source	lTaroet		
Data load settings Confirm	demo_breast_imagings.csv demo_clinics.csv demo_doctors.csv demo_external_breast_imagings demo_patients.csv	 public.demo_breast_imagings [Existing] public.demo_clinics [Existing] public.demo_doctors [Existing] csv = public.demo_external_breast_imagings [Existing] public.demo_patients [Existing] 		
	Importer settings: Name	Value		
Save task	 > Properties > Sampling 			
(< Back Procee	d Cancel Next >		



7. <u>Click</u> "Next >".

•••	Data Transfer					
Tables mapping Map tables and columns tra	ansfer					
✓ Import source ✓ Input file(s)	Target container: 📋 postgres.public [pos	stgres]		Choose		
✓ Tables mapping Data load settings Confirm	Source Source Carlot and the set of the se	Target demo_breast_imagings demo_clinics demo_doctors demo_external_breast_in demo_patients	Mapping existing existing existing existing existing	 Auto assign Browse New Columns Target DDL Preview data Up 		
Save task	* DEL - skip column(s) SPACE - map column(s)	_	Down		
	< Back Proceed	Cancel		Next >		

8. <u>Click</u> "Proceed".



9. The data will be loaded into all the tables in your database.



Hands-On

On the day of the training, open the Code-Along.sql in your software environment. This is where you will write your queries.

There will also be the *Hands-On SQL Exercise.pdf* which will be used for the training.

Data Clean Up

After the training is over, be sure to delete the demo tables from your database.

- 1. Open the SQL script DROP-DEMO-TABLES.sql.
- 2. Execute DROP-DEMO-TABLES.sql.