

Web Based Dashboards

Module # 5 (Create Tables and Load Data)

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Uploading Data to DataBase

At this point, we are ready to start uploading our data to our virtual database. The dashboard we will be making, will be using the NFL 2020 Salary data and performance data for football players (American football, not soccer), to analyze how successful teams are at training and utilizing their players. (For those using their own data, feel free to use your data-sets.)

Before we connect to the database, make sure that our [okteto](#) application is awake and running:

The screenshot shows the Okteto dashboard interface. At the top, it displays the namespace `profgilani79`, a [Deploy](#) button, and a [Share](#) button. To the right, it shows `Pods 0 / 10` and `Storage 3GB / 5GB`. A white arrow points from the text "make sure that our okteto application is awake and running:" to the [Upgrade Now](#) button in the notification bar.

Namespaces

Namespace `profgilani79` ✓ Deploy Share

Some resources in your namespace were put to [sleep](#) after 24h of inactivity. Upgrade to [Developer Pro Plan](#) now and keep them running 24/7. [Upgrade Now](#) [Wake all](#)

website Pipeline Sleeping ⚡ [Redeploy](#) [Destroy](#) Sleeping ⚡

fastapi Deployment Sleeping ⚡ Repository: <https://github.com/profgilani79/website.git> Branch: main Created: 13 days ago Last updated: 6 days ago

postgresql StatefulSet Sleeping ⚡ [Logs](#) [YAML](#)

data Volume Unused ⚡ Deploying service 'fastapi'...

Settings

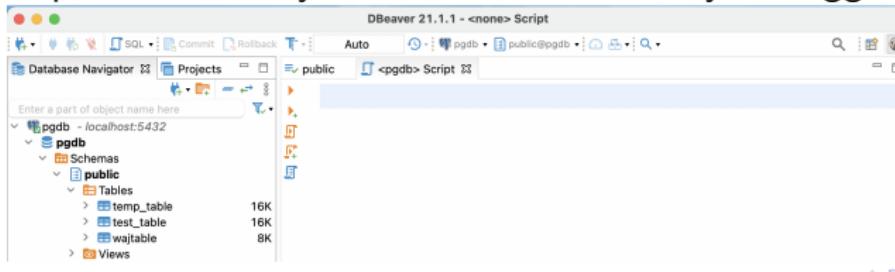
Connect to database

With the web application running, forward the [Okteto](#) database to your computer:

```
wajgilani@1053macbooks-MacBook-Pro website % kubectl port-forward service/postgresql 5432:5432
Forwarding from 127.0.0.1:5432 -> 5432
Forwarding from [::1]:5432 -> 5432
```



Open [DBeaver](#), you should automatically be logged in:



Notice the tables that you created are still there.

Upload Data into DBeaver

The website: <https://www.pro-football-reference.com/players/salary.htm> has the initial data that we want to load into our database:

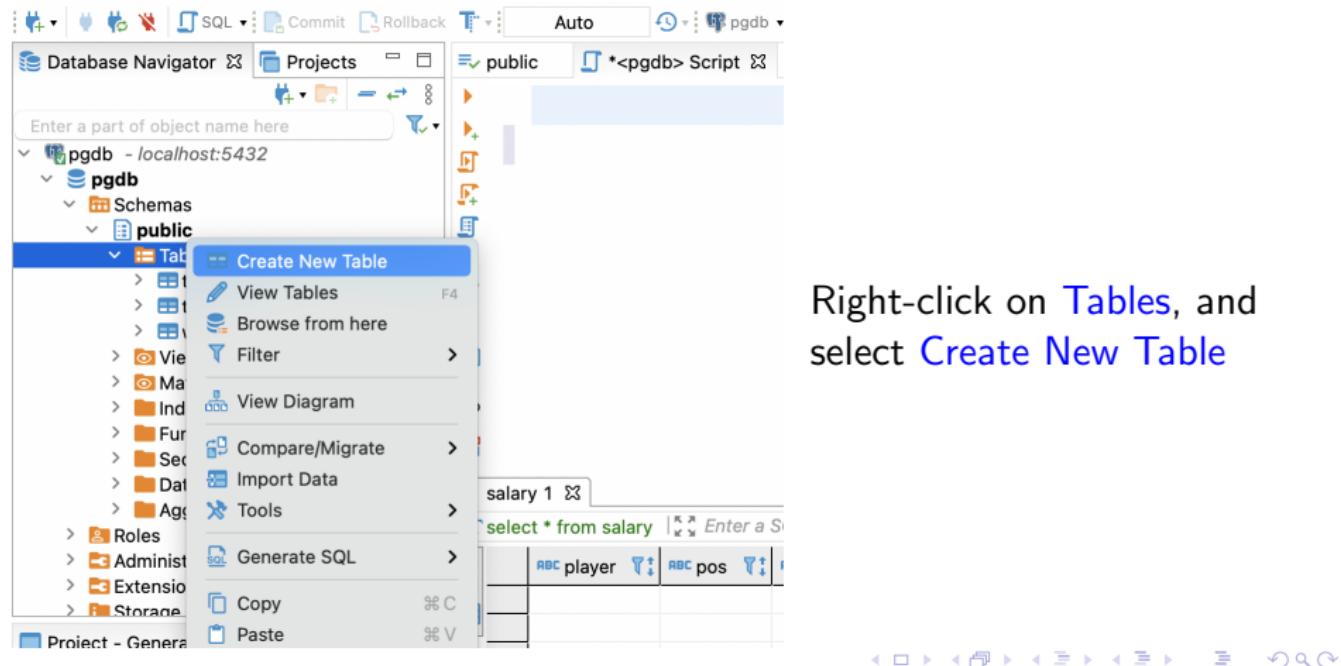
The following reflect player salaries for the 2020 season. Note that players traded mid-season are not broken down between the two teams and we do not have data for all players. This number reflects the player's salary plus any bonuses that may count for this year.

Rk	Player	Pos	Tm	Salary
1	Dak Prescott	QB	DAL	\$31,409,000
2	Jimmy Garoppolo	QB	SFO	\$23,800,000
3	Trent Brown	OT	LVR	\$21,250,000
4	Derek Carr	QB	LVR	\$18,900,000
5	Russell Wilson	QB	SEA	\$18,000,000
6	A.J. Green	WR	CIN	\$17,971,000
7	Ryan Tannehill	QB	TEN	\$17,500,000
8	Aaron Donald	DT	LAR	\$17,000,000

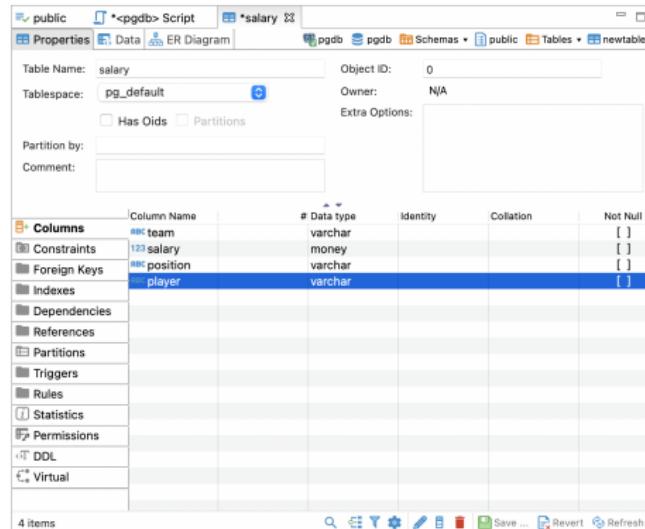
On canvas the csv file, [salary.csv](#), has already been created for use (in an appendix module I show you how I did it).

Upload Data into DBeaver (Continued)

You can create a new table from a new data source, but if the data is not uniform, then **DBeaver**, might have a difficult time using the right data-type for each column, this is why we will create our table first, then we will upload the csv file into it.

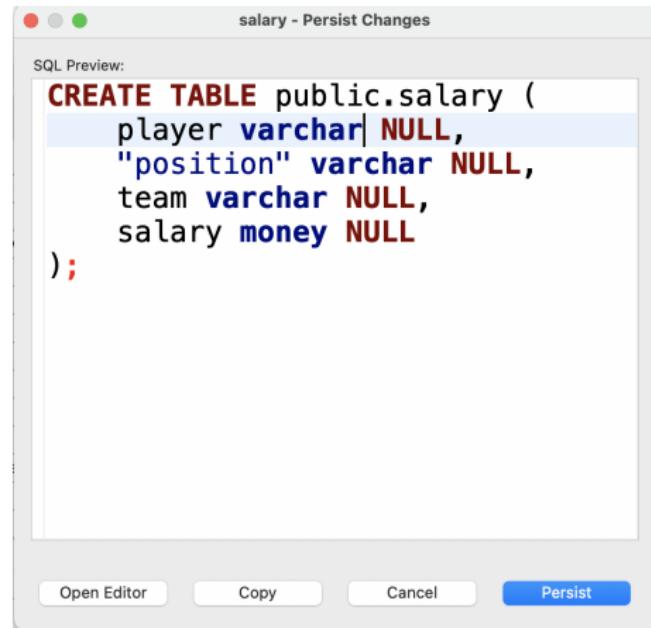


Upload Data into DBeaver (Continued)



The screenshot shows the DBeaver interface with the 'Properties' tab selected for a table named 'salary'. The table is located in the 'public' schema and has an object ID of 0. It is owned by 'N/A'. The 'Table Name' is 'salary' and it is part of the 'pg_default' Tablespace. The 'Extra Options' section is empty. Below the table properties, there is a table structure with columns: 'team' (varchar), 'salary' (money), 'position' (varchar), and 'player' (varchar). The 'player' column is currently selected. On the left side, there is a sidebar with various tabs: Columns, Constraints, Foreign Keys, Indexes, Dependencies, References, Partitions, Triggers, Rules, Statistics, Permissions, DDL, and Virtual. The 'Columns' tab is selected. At the bottom, there are several icons for search, export, import, save, revert, and refresh.

Write the names of the columns and select the corresponding data-types, then click on Save.



When the SQL Preview comes up, select Persist

Upload Data into DBeaver (Continued)

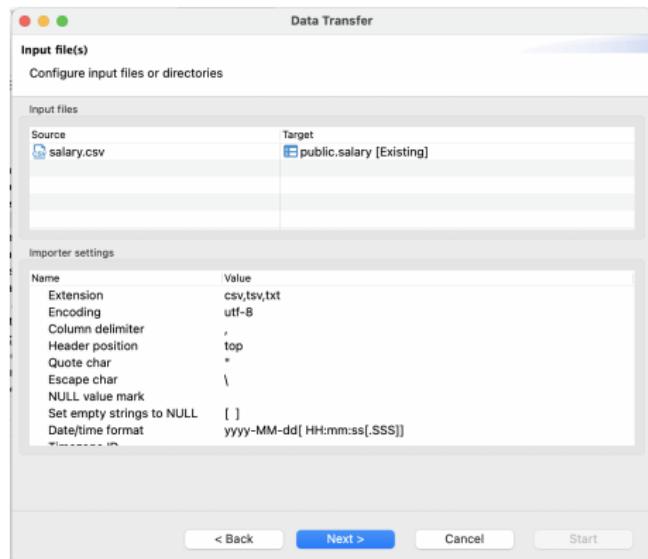
The screenshot shows the DBeaver interface with the 'salary' table selected in the Database Navigator. The table properties pane is open, showing columns: team (varchar), salary (money), position (varchar), and player (varchar). A context menu is open over the table, with 'Import Data' highlighted. A blue arrow points from the text 'Right-click on salary, and select Import Data.' to the 'Import Data' option in the menu.

Right-click on [salary](#), and select [Import Data](#). The [Data Transfer](#) will pop-up (bottom-left), make sure [CSV](#) is selected and then click [Next](#). The file founder will open up (bottom-right), select the file [salary.csv](#) and then click [Open](#).

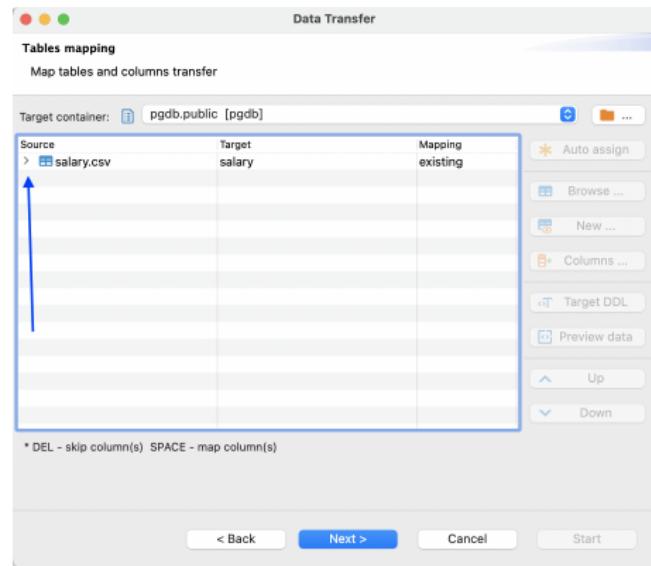
The screenshot shows the 'Data Transfer' wizard. The current step is 'Source type and format'. It shows a table named 'public.salary' selected as the source. A blue arrow points from the text 'make sure CSV is selected' to the 'Source type and format' section.

The screenshot shows a file explorer window with 'salary.csv' selected. The file is described as a 'CSV Document - 57 KB'. A blue arrow points from the text 'select the file salary.csv and then click Open' to the 'salary.csv' file entry.

Upload Data into DBeaver (Continued)



The Data Transfer window will now look like this. Click [Next](#), and the [Tables mapping](#) will pop-up (top-right image).



[Tables mapping](#) is showing the source of the data ([salary.csv](#)) and the destination table [salary](#). Click on the arrow to the left of the [salary.csv](#).

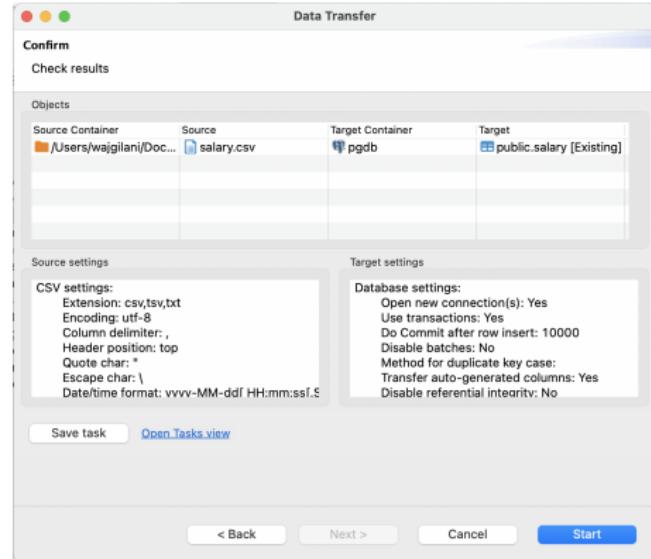
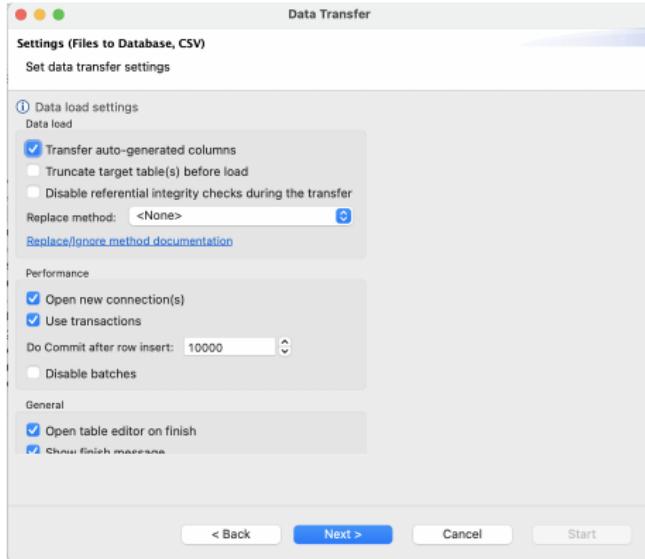
Upload Data into DBeaver (Continued)

The screenshot shows the 'Data Transfer' window in DBeaver. The 'Tables mapping' tab is selected. The 'Target container' is set to 'pgdb.public [pgdb]'. On the left, under 'Source', there is a tree view with 'salary.csv' expanded, showing 'REC Player', 'REC Pos', 'REC Tm', and '123 Salary'. On the right, under 'Target', there is a list of columns: 'salary', 'player', 'pos', 'tm', and 'salary'. The 'Mapping' column shows 'existing' for all except 'pos', which is 'create'. A blue double-headed arrow points between the 'pos' row in the source and the 'salary' row in the target. Below the tables, there is a note: '* DEL - skip column(s) SPACE - map column(s)'. At the bottom are buttons for '< Back', 'Next >', 'Cancel', and 'Start'.

This screenshot shows the same 'Data Transfer' window after changes have been made. The 'Tables mapping' tab is still selected. The 'Target container' remains 'pgdb.public [pgdb]'. The 'Source' tree view is identical to the first screenshot. The 'Target' list now includes 'salary', 'player', 'position', 'team', and 'salary'. The 'Mapping' column shows 'existing' for 'salary', 'player', 'team', and 'salary', and 'create' for 'position'. The blue double-headed arrow is no longer present. The note at the bottom is the same: '* DEL - skip column(s) SPACE - map column(s)'. The bottom buttons are the same: '< Back', 'Next >', 'Cancel', and 'Start'.

Recall that we named our table columns: salary, player, position, and team. We need to select the correct column names. In my screen, DBeaver was being a little buggy as **position** should not be in quotes, as it is already created, but when **Next** is clicked it will fix itself.

Upload Data into DBeaver (Continued)



Click **Next** for the left window, and then click **Start**, for the window on the right, to start the upload.

Upload Data into DBeaver (Continued)

The screenshot shows the DBeaver Database Navigator interface. At the top, there are icons for connecting, disconnecting, saving, committing, and rolling back. Below that is a toolbar with a search bar containing 'Enter a part of object name here'. The main pane displays the database structure:

- pgdb - localhost:5432
 - pgdb
 - Schemas
 - public
 - Tables
 - salary 152K
 - temp_table 16K
 - test_table 16K
 - wajtable 8K
 - Views

A blue arrow points from the text 'If everything worked correctly, you should see an increase in size of the table, in my case, 152k.' to the 'salary' table entry in the list.

If everything worked correctly, you should see an increase in size of the table, in my case, 152k.

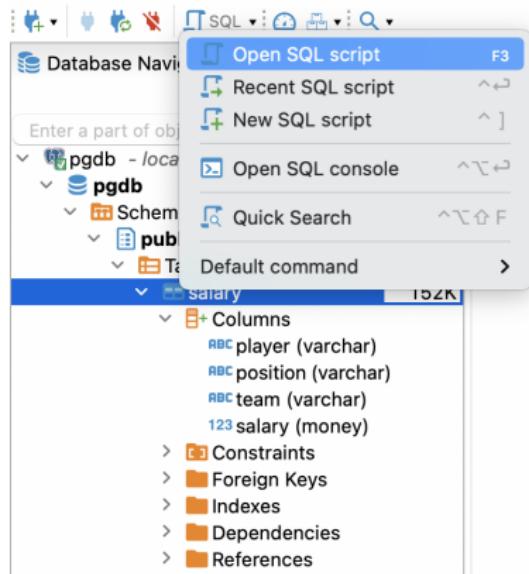
Upload Data into DBeaver (Continued)

The screenshot shows the DBeaver Database Navigator interface. At the top, there are several icons: a plus sign, a blue circle, a green circle, a red circle, a magnifying glass, a SQL icon, a Commit icon, and a Rollback icon. Below the toolbar is the Database Navigator panel with a search bar containing "Enter a part of object name here". Under the "Projects" section, there is a "pgdb" entry. Expanding "pgdb" reveals "Schemas", which contains "public". Under "public", there are "Tables" and "Views". A blue arrow points from the text "If everything worked correctly, you should see an increase in size of the table, in my case, 152k." to the "salary" table entry. The "salary" table is highlighted with a blue selection bar and has a size of "152K". Other tables listed are "temp_table" (16K), "test_table" (16K), and "wajitable" (8K). The "Views" item is also visible.

Table	Size
salary	152K
temp_table	16K
test_table	16K
wajitable	8K

If everything worked correctly, you should see an increase in size of the table, in my case, 152k.

Verify The Data



We will now verify that the data has been loaded up, open up a new [SQL script](#) file.

Verify The Data

DBBeaver 21.1.2 - <none> Script-1

```
select * from salary
```

salary 1

select * from salary | Enter a SQL expression to filter results (use Ctrl+Space)

	player	position	team	salary
1	Dak Prescott	QB	DAL	\$31,409,000.00
2	Jimmy Garoppolo	QB	SFO	\$23,800,000.00
3	Trent Brown	OT	LVA	\$21,250,000.00
4	Derek Carr	QB	LVA	\$18,000,000.00
5	Russell Wilson	QB	SEA	\$18,000,000.00
6	A.J. Green	WR	CIN	\$17,971,000.00
7	Ryan Tannehill	QB	TEN	\$17,500,000.00
8	Aaron Donald	DT	LAR	\$17,000,000.00
9	Matt Judon	DE	BAL	\$16,808,000.00
10	Bernard Williams	DT	NYG	\$16,126,000.00
11	Chris Jones	DT	KAN	\$16,126,000.00
12	Taylor Lewan	OT	TEN	\$16,000,000.00
13	Chandler Jones	DE	ARI	\$16,000,000.00
14	Alex Smith	QB	WAS	\$16,000,000.00
15	DeShawn Wadood	OLB	TAM	\$16,000,000.00
16	Bud Dupree	DE	PIT	\$15,826,000.00
17	J.J. Watt	DE	HOU	\$15,500,000.00
18	Brandon Scherff	G	WAS	\$15,030,000.00
19	Tom Brady	QB	TAM	\$15,000,000.00

Record

Save Cancel Script Back Forward Home [F5] [F6] [F7] [F8] [F9] [F10] 200 200+ Rows: 1 200 row(s) fetched - 40ms

Type in:

```
select * from salary
```

Then press **control + enter**

You should now see the data from the csv file in the table.