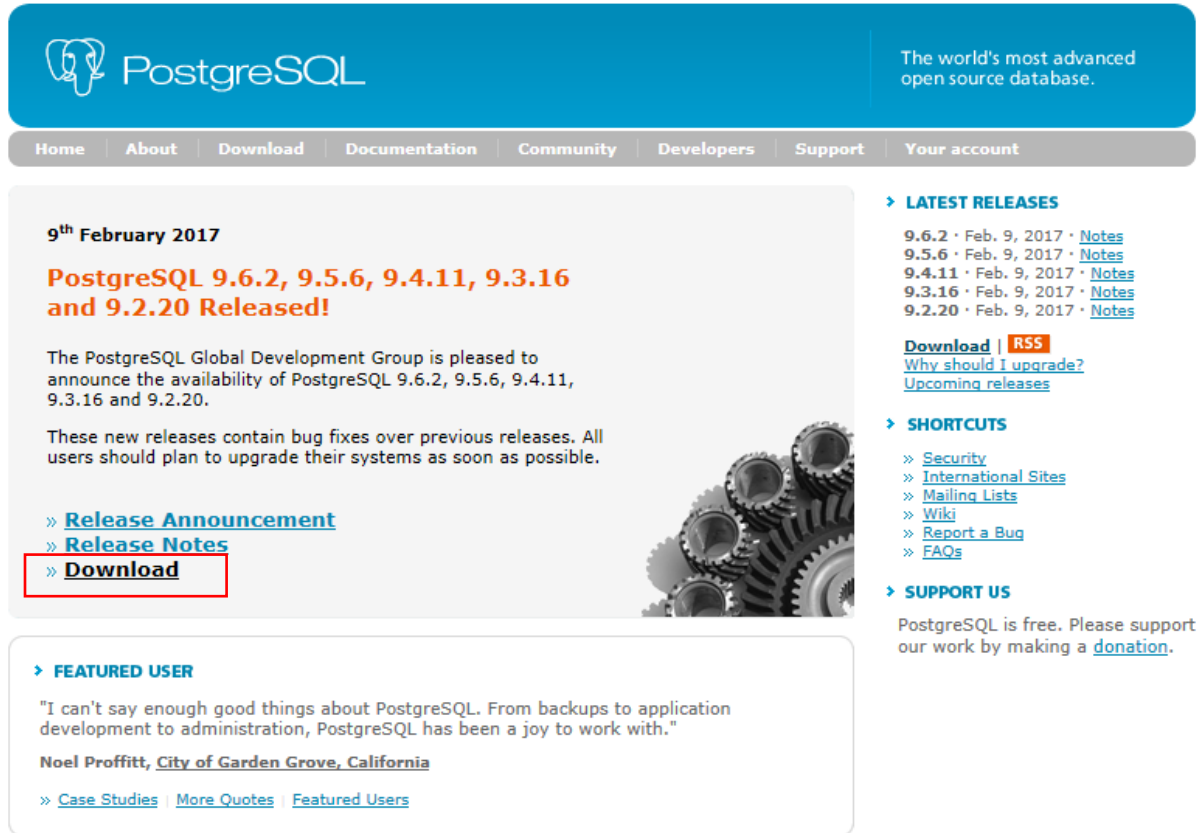


Installing PostgreSQL on local machine

1. Go to <https://www.postgresql.org/> and press download



The screenshot shows the PostgreSQL website homepage. The header is blue with the PostgreSQL logo and the tagline "The world's most advanced open source database." Below the header is a navigation bar with links: Home, About, Download, Documentation, Community, Developers, Support, and Your account. The main content area features a large announcement for PostgreSQL 9.6.2, 9.5.6, 9.4.11, 9.3.16, and 9.2.20, released on February 9, 2017. The announcement text states that the PostgreSQL Global Development Group is pleased to announce the availability of these versions and that they contain bug fixes. A list of links is provided: Release Announcement, Release Notes, and Download (which is highlighted with a red box). To the right of the announcement is a sidebar with sections: LATEST RELEASES (listing versions 9.6.2, 9.5.6, 9.4.11, 9.3.16, and 9.2.20 with links to Notes and Download), SHORTCUTS (listing links to Security, International Sites, Mailing Lists, Wiki, Report a Bug, and FAQs), and SUPPORT US (with a link to a donation page). Below the announcement is a section for a featured user, Noel Proffitt, with a quote and links to Case Studies, More Quotes, and Featured Users.

2. Choose OS (for example: windows)

Downloads

PostgreSQL Core Distribution

The core of the PostgreSQL object-relational database management system is available in several source and binary formats.

Binary packages

Pre-built binary packages are available for a number of different operating systems:

- BSD
 - [FreeBSD](#)
 - [OpenBSD](#)
- Linux
 - [Red Hat](#) family Linux (including CentOS/Fedora/Scientific/Oracle variants)
 - [Debian](#) GNU/Linux and derivatives
 - [Ubuntu](#) Linux and derivatives
 - [SuSE](#) and OpenSuSE
 - [Other](#) Linux
- [macOS](#)
- [Solaris](#)
- [Windows](#)

- Download EnterpriseDB installer

Windows installers

Interactive installer by EnterpriseDB

[Download the installer](#) certified by EnterpriseDB for all supported PostgreSQL versions.

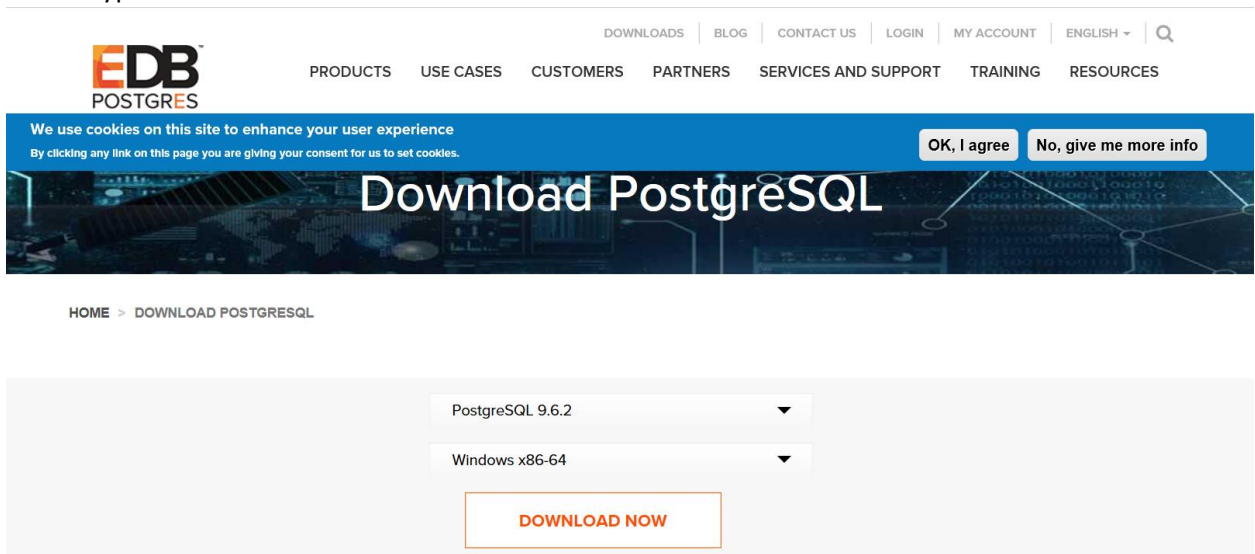
This installer includes the PostgreSQL server, pgAdmin; a graphical tool for managing and developing your databases, and StackBuilder; a package manager that can be used to download and install additional PostgreSQL tools and drivers. Stackbuilder includes management, integration, migration, replication, geospatial, connectors and other tools.

This installer can run in graphical or silent install modes.

The installer is designed to be a straightforward, fast way to get up and running with PostgreSQL on Windows.

Advanced users can also download a [zip archive](#) of the binaries, without the installer. This download is intended for users who wish to include PostgreSQL as part of another application installer.

- You'll be transferred to [EnterpriseDB](#) download site where you should choose the server version and the OS type



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Download PostgreSQL

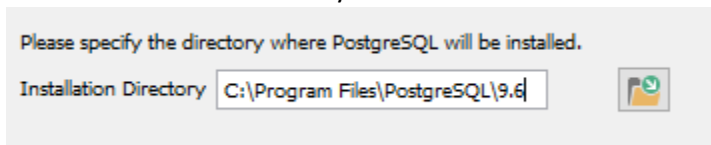
HOME > DOWNLOAD POSTGRESQL

PostgreSQL 9.6.2

Windows x86-64

DOWNLOAD NOW

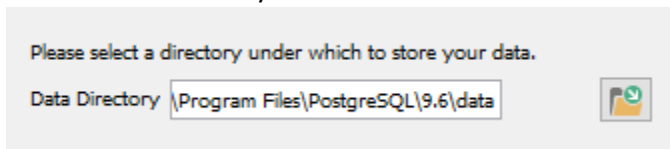
- Download and run installer
- Choose installation directory



Please specify the directory where PostgreSQL will be installed.

Installation Directory C:\Program Files\PostgreSQL\9.6\

- Choose data directory



Please select a directory under which to store your data.

Data Directory \Program Files\PostgreSQL\9.6\data

8. Provide a password for superuser postgres

Please provide a password for the database superuser (postgres).

Password

Retype password

9. Select the port the server listens on (default is 5432)

Please select the port number the server should listen on.

Port

10. Select the locale for DB cluster as “default locale”

Select the locale to be used by the new database cluster.

Locale

11. Install the software

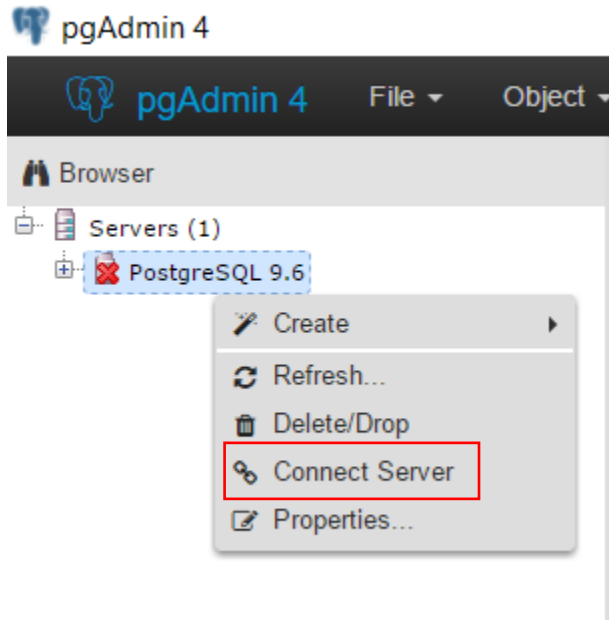
Setup is now ready to begin installing PostgreSQL on your computer.

12. No need to Run Stack Builder, finish installation



First sign in (as superuser)

1. Run pgAdmin (located under {installation directory}\pgAdmin 4\bin)
2. Connect to your server (right click on “PostgreSQL 9.6” and click “Connect Server”). Enter password for postgres user if prompted.



Create Database

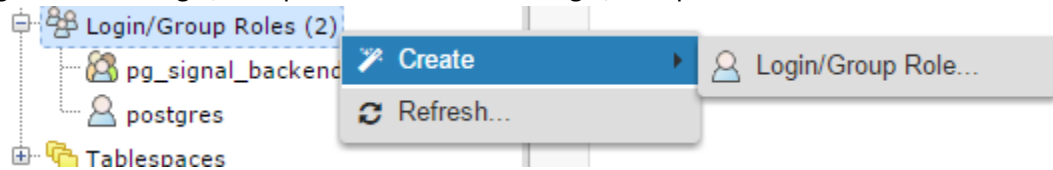
1. Right click on “databases” and choose “create”->“database”
2. Call the database “cs236363”

The screenshot shows a 'Create - Database' dialog box with the following fields and controls:

- Database:** A text input field containing 'cs236363'.
- Owner:** A dropdown menu showing 'postgres' with a user icon.
- Comment:** A large text area for additional notes.
- Buttons:** At the bottom, there are buttons for 'Save' (blue), 'Cancel' (red), and 'Reset' (orange), along with information and help icons.

Create user (for HW1 and HW2)

1. Right click on “Login/Group Roles” -> “create” -> “Login/Group Role”.



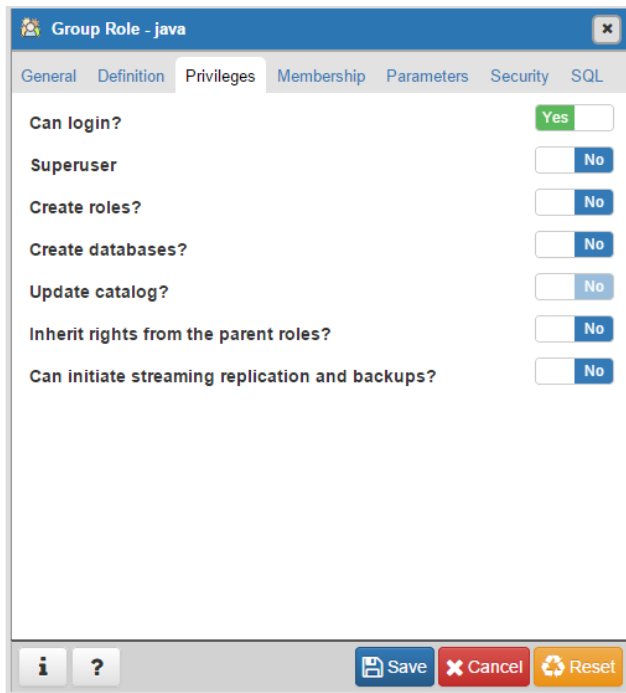
2. In the “general” tab, give your user a name (I used the name “java”, for example)

A screenshot of the 'Create - Login/Group Role' dialog box. The 'General' tab is selected. The 'Name' field contains the text 'java'. Below it is a larger 'Comments' text area. The dialog has a title bar with a close button and a tabbed interface with 'General', 'Definition', 'Privileges', 'Membership', 'Parameters', 'Security', and 'SQL'.A screenshot of the toolbar at the bottom of the dialog. It contains three buttons: 'Save' (with a floppy disk icon), 'Cancel' (with a red X icon), and 'Reset' (with a circular arrow icon).

3. In the “definition” tab, give your user a password

A screenshot of the 'Create - Login/Group Role' dialog box, now on the 'Definition' tab. The 'Password' field is filled with dots. Below it are fields for 'Account expires' (with a date/time format 'YYYY-MM-DD HH:mm:ss Z' and a calendar icon) and 'Connection limit' (with the value '-1').A screenshot of the toolbar at the bottom of the dialog, identical to the one above, showing 'Save', 'Cancel', and 'Reset' buttons.

4. In “previliges” tab mark “can login” and umark “inherit rights from the parent roles?” and click save

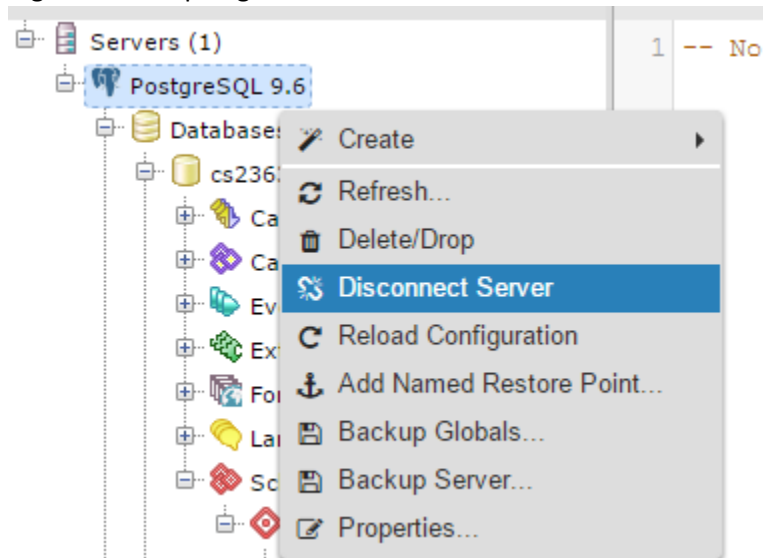


5.

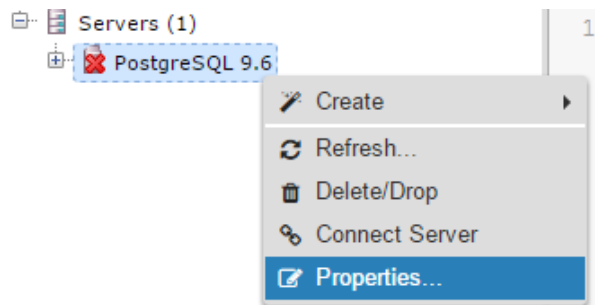
Sign in as your user

Please sign in as your user to prevent any unnecessary mistakes, caused by superuser privileges.

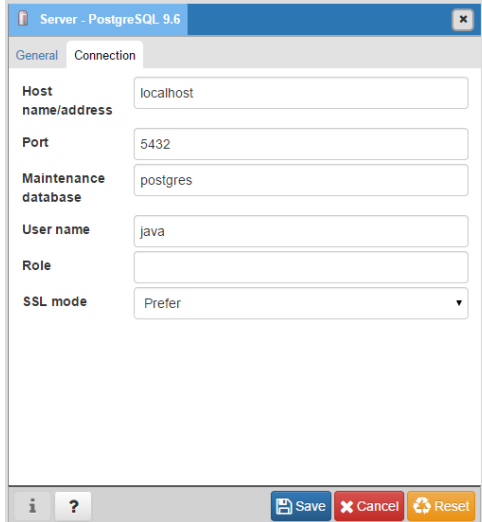
1. Right click on "postgreSQL 9.6" server and choose "disconnect server".



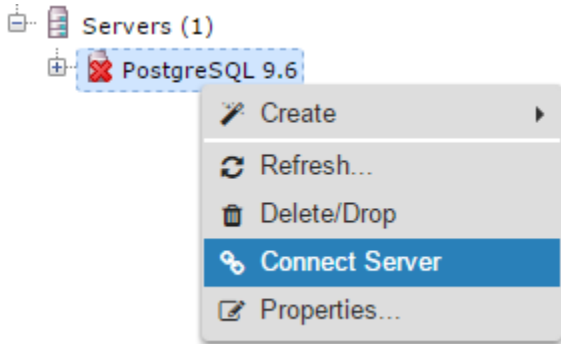
2. Right click on "PostgreSQL 9.6" server and choose "properties"



3. On the "connection" tab, change the user from "postgres" to your user name and save

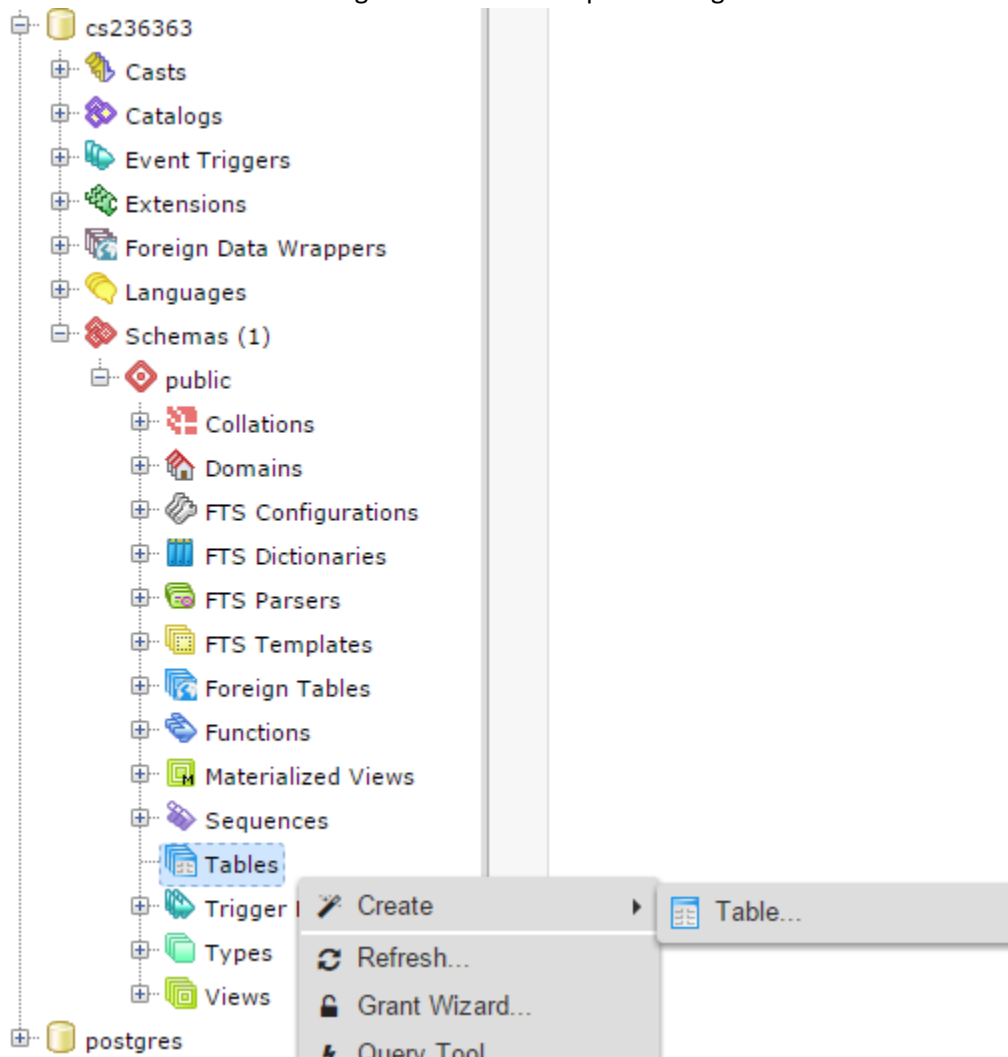


4. Connect to server and enter password if prompted

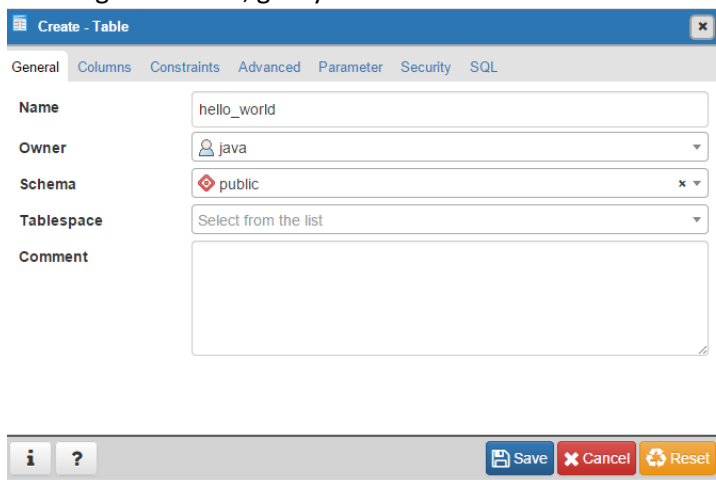


Hello world

1. On the database “cs236363” go to “schemas”->“public”->right click on “tables”->“create table”



2. In the “general” tab, give your table a name



3. Create the columns you like with the “+” button

The screenshot shows the 'Create - Table' dialog box with the 'Columns' tab selected. The 'Inherited from table(s)' field is empty. The 'Columns' table has the following data:

	Name	Data type	Length	Precision	Not NULL?	Primary key?
<input checked="" type="checkbox"/>	id	integer			<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes
<input checked="" type="checkbox"/>	short_text	text			<input type="checkbox"/> No	<input type="checkbox"/> No

At the bottom right, there are buttons for 'Save', 'Cancel', and 'Reset'.

- Notice that in the "Constraints" tab you can set everything we talked about in tutorial 1 (foreign keys, unique, check etc..)

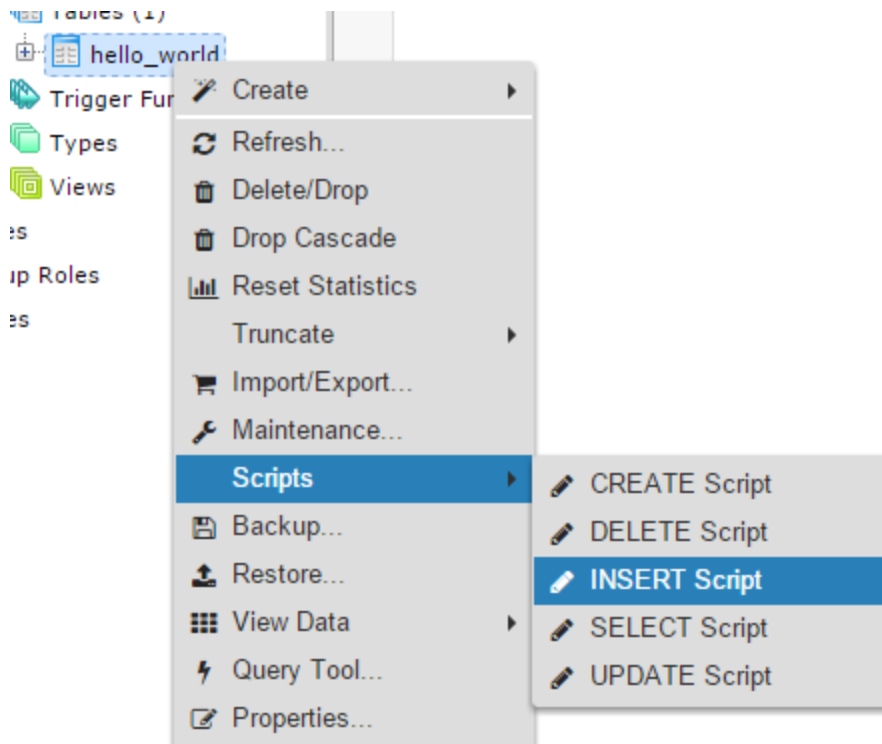
The screenshot shows the 'Table - hello_world' dialog box with the 'Constraints' tab selected. The 'Check' sub-tab is active. The 'Check constraint' table has the following data:

	Name	Check
<input checked="" type="checkbox"/>	pos_id	id > 0

Below the table, there are tabs for 'General' and 'Definition'. The 'Definition' tab is selected, showing the 'Check' field with the expression 'id > 0'. There are also checkboxes for 'No inherit?' and 'Don't validate?', both set to 'No'.

At the bottom right, there are buttons for 'Save', 'Cancel', and 'Reset'.

- When done, click save
- Hint: right click on the table, and choosing scripts, will auto generate a script for you, for example, and insert script



Result:

```
cs236363 on java@PostgreSQL 9.6
1  INSERT INTO public.hello_world(
2      id, short_text)
3      VALUES (?, ?);|
```

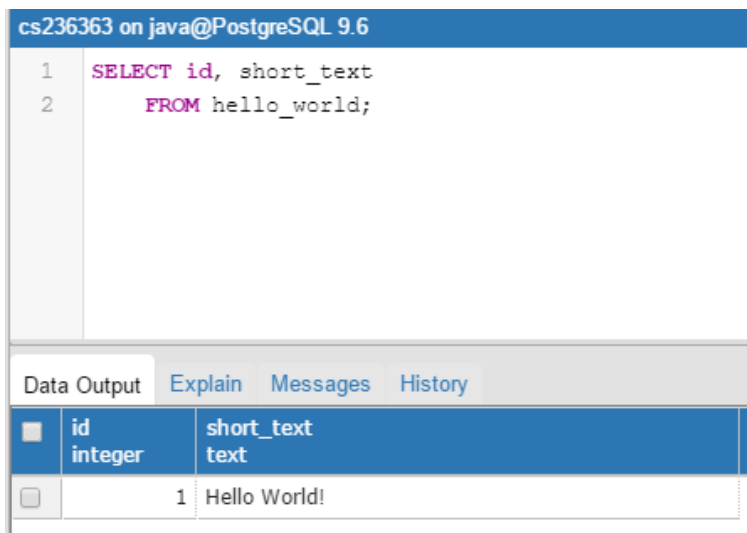
You just need to replace the “?” placeholders with valid values, and click the flash button



to execute.

```
cs236363 on java@PostgreSQL 9.6
1  INSERT INTO public.hello_world(
2      id, short_text)
3      VALUES (1, 'Hello World!');|
```

Running a select script will yield the results



The screenshot shows a PostgreSQL query editor window titled "cs236363 on java@PostgreSQL 9.6". The query editor contains two lines of SQL code: "1 SELECT id, short_text" and "2 FROM hello_world;". Below the query editor, there is a tabbed interface with "Data Output", "Explain", "Messages", and "History" tabs. The "Data Output" tab is selected, showing a table with two columns: "id" (integer) and "short_text" (text). The table contains one row with the value "1" in the "id" column and "Hello World!" in the "short_text" column.

	id integer	short_text text
<input type="checkbox"/>	1	Hello World!

Troubleshooting

1. In any case, do not waste your time. The course has a pool of virtual machines for your disposal already setup with the right environment for the HW.
 - a. Follow the instructions on <http://cswp.cs.technion.ac.il/vdi-services/> install VMWare horizon and get access to your virtual machines, provided by the faculty. For students registered to the course there is a machine called "PostgreSQL".
 - b. Once you are in the machine and activated PGAdmin you can follow this manual, starting with **First sign in (as superuser)** with the superuser password: CS236363.
2. In rare cases some windows 10 users will encounter some difficulties in installation due to permissions error. Please contact the TA in charge in this case.