PostgreSQL 12.0 Installation Guide

October 3, 2019

PostgreSQL 12.0 Installation Guide
by EnterpriseDB® Corporation

EnterpriseDB Corporation, 34 Crosby Drive Suite 100, Bedford, MA 01730, USA
T +1 781 357 3390 **F** +1 978 589 5701 **E** info@enterprisedb.com **www**.enterprisedb.com

Table of Contents

1 Introduction

The PostgreSQL installers created by EnterpriseDB are designed to make it quick and simple to install PostgreSQL on your computer. The installer provides:

- a distribution-independent PostgreSQL installation.
- the popular open-source PostgreSQL administration tool, pgAdmin.
- the Stack Builder package manager (used to download and install drivers, tools and applications to complement your PostgreSQL installation).

The sections that follow provide information about using the PostgreSQL 12.0 installer:

- How to satisfy hardware requirements and software prerequisites before installing PostgreSQL.
- Step-by-step instructions explaining the installation options available with the setup wizard.
- How to use Stack Builder to install modules that provide enhanced functionality for PostgreSQL 12.0.
- Detailed information about uninstalling PostgreSQL.

1.1 Typographical Conventions Used in this Guide

Certain typographical conventions are used in this manual to clarify the meaning and usage of various commands, statements, programs, examples, etc. This section provides a summary of these conventions.

In the following descriptions a *term* refers to any word or group of words that are language keywords, user-supplied values, literals, etc. A term's exact meaning depends upon the context in which it is used.

- *Italic font* introduces a new term, typically, in the sentence that defines it for the first time.
- `Fixed-width (mono-spaced) font` is used for terms that must be given literally such as SQL commands, specific table and column names used in the examples, programming language keywords, etc. For example, `SELECT * FROM emp;`
- *`Italic fixed-width font`* is used for terms for which the user must substitute values in actual usage. For example, `DELETE FROM` *`table_name`*;
- A vertical pipe | denotes a choice between the terms on either side of the pipe. A vertical pipe is used to separate two or more alternative terms within square brackets (optional choices) or braces (one mandatory choice).
- Square brackets [ ] denote that one or none of the enclosed term(s) may be substituted. For example, `[ a | b ]`, means choose one of "`a`" or "`b`" or neither of the two.
- Braces {} denote that exactly one of the enclosed alternatives must be specified. For example, `{ a | b }`, means exactly one of "`a`" or "`b`" must be specified.
- Ellipses ... denote that the proceeding term may be repeated. For example, `[ a | b ] ...` means that you may have the sequence, "`b a a b a`".

2 Requirements Overview

2.1 Supported Platforms

PostgreSQL 12.0 is certified on the following platforms:

64 bit Windows:

Windows 2012R2

Windows 2016

Windows 2019

MAC OS X:

OS X Server 10.12, 10.13, and 10.14

2.2 Hardware Requirements

The following installation requirements assume you have selected the default options during the installation process. The minimum hardware required to install and run PostgreSQL are:

- a 1 GHz processor
- 2 GB of RAM
- 512 MB of HDD

Please note that additional disk space is required for data or supporting components.

2.3 Software Prerequisites

User Privileges

On a Mac system, you must have superuser privileges to perform a PostgreSQL installation. To perform an installation on a Windows system, you must have administrator privileges.

If you are installing PostgreSQL into a Windows system that is configured with User Account Control (UAC) enabled, you can assume sufficient privileges to invoke the graphical installer by right clicking on the name of the installer and selecting `Run as administrator` from the context menu. If prompted, enter an administrator password to continue.

Windows-specific Software Requirements

Be sure to apply Windows operating system updates before invoking the PostgreSQL installer. If (during the installation process) the installer encounters errors, exit the installation, and ensure that your version of Windows is up-to-date before restarting the installer.

Mac OS X-specific Software Requirements

PostgreSQL installation on Mac OS X differs slightly from other platforms as the distribution is in a different format, and some additional configuration may be required.

The Mac OS X installer is an App Bundle (a set of files and directories in a prescribed format). The installer is available as a disk image (`.dmg`) file from the website or as an archive (`.zip`) from Stack Builder. To extract the installer, simply mount the disk image and copy the installer to the desired location, or run it directly from the disk image.

3 Installing PostgreSQL with the Graphical Installation Wizard

The graphical installation wizard provides a quick and easy way to install PostgreSQL on a Mac or Windows system. As the installation wizard's easy-to-follow dialogs lead you through the installation process, specify information about your system. When the dialogs are complete, the setup wizard will perform an installation based on the selections made during the setup process.

Note that if you are invoking the graphical installer to perform a system upgrade, the installer will preserve the configuration options specified during the previous installation.

When the PostgreSQL installation finishes, you will be offered the option to invoke the Stack Builder package manager. Stack Builder provides an easy-to-use graphical interface that downloads and installs applications, drivers and utilities and their dependencies. See Section 4 for more information about using Stack Builder.

The graphical PostgreSQL installer is available from the EnterpriseDB website at:

http://www.enterprisedb.com/downloads/postgres-postgresql-downloads

After navigating to the `Product Downloads` page, select the PostgreSQL tab, and then choose the PostgreSQL installer that corresponds to your platform. When the download completes, extract the files using a system-specific file extractor.

3.1 Invoking the Graphical Installer

To perform an installation using the graphical installation wizard, you must have superuser or administrator privileges. To start the installation wizard, assume sufficient privileges and double-click the installer icon; if prompted, provide a password.

Note that in some versions of Windows, you can invoke the installer with `Administrator` privileges by right clicking on the installer icon and selecting `Run as Administrator` from the context menu.

The PostgreSQL setup wizard (shown in Figure 3.1) opens:

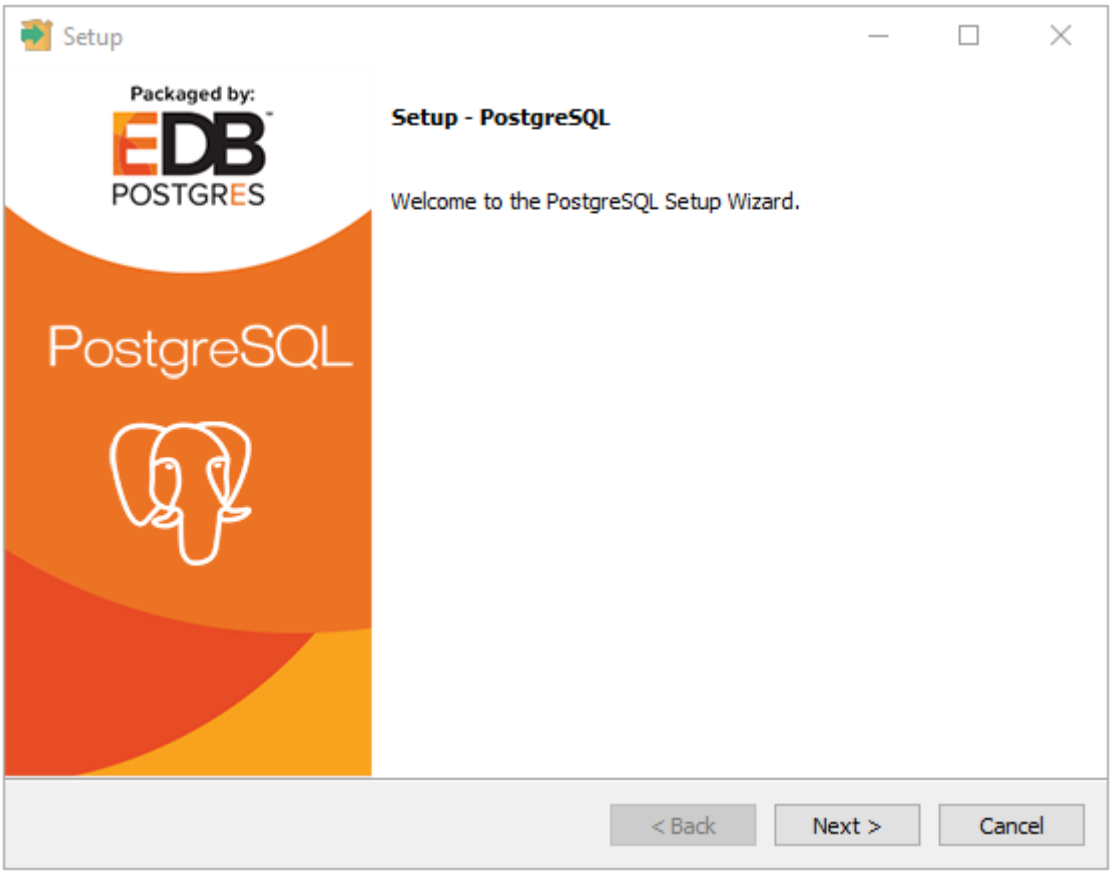

Figure 3.1 - The PostgreSQL setup wizard welcome dialog.

Click `Next` to continue. The `Installation Directory` window (Figure 3.2) opens.

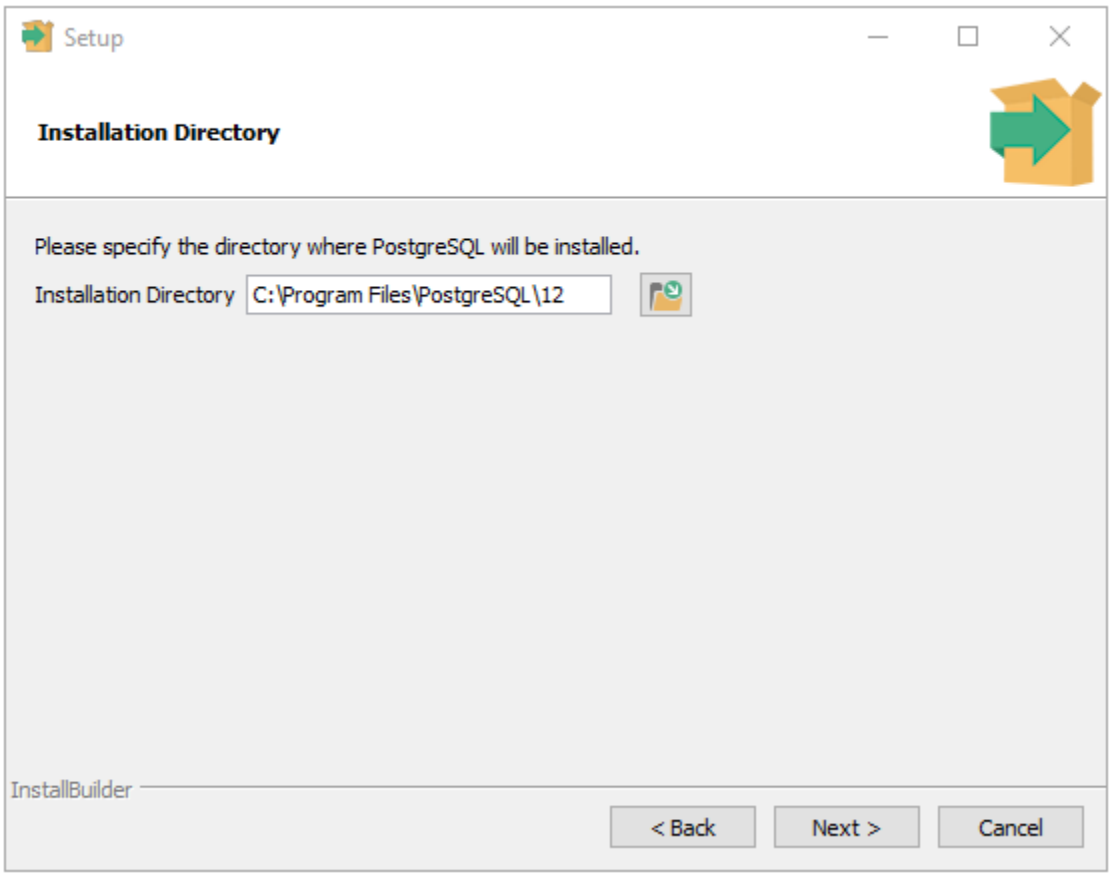

Figure 3.2 - The Installation Directory dialog.

Accept the default installation directory, or specify an alternate location and click `Next` to continue.

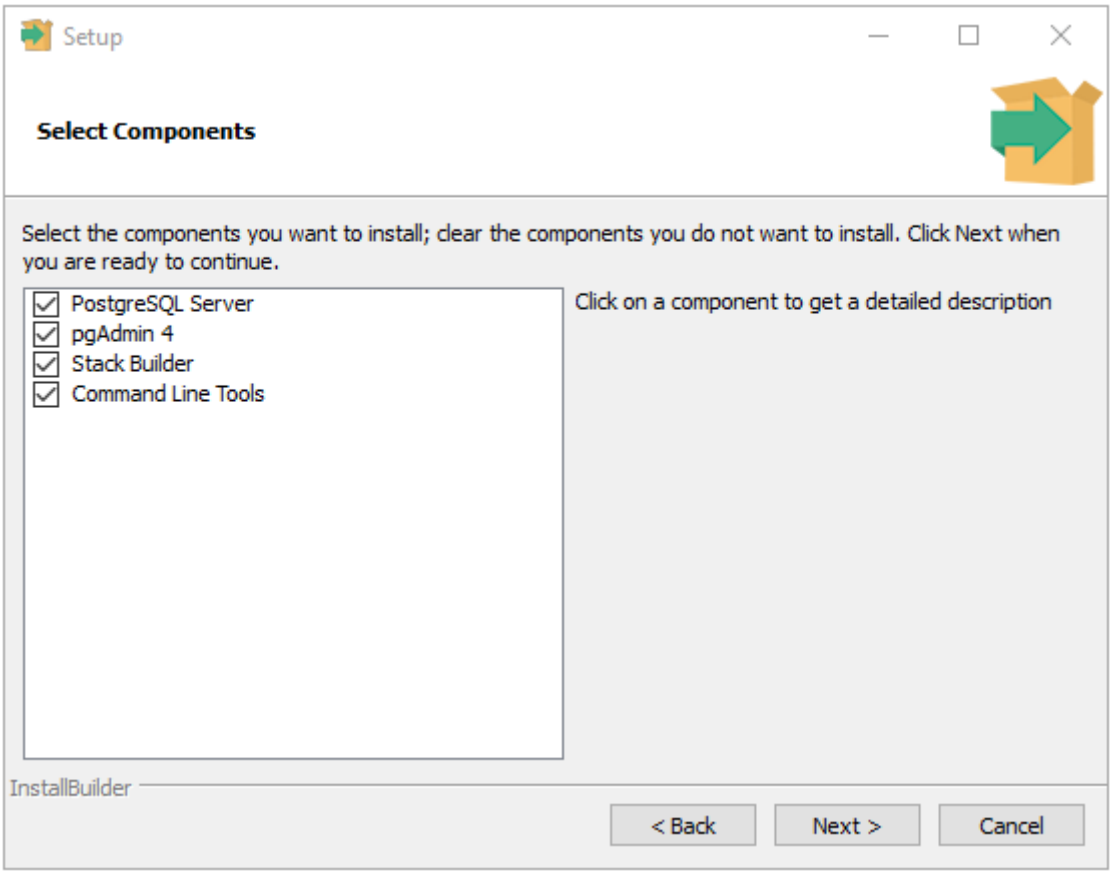

Figure 3.3 – The Select Components dialog.

Use options on the `Select Components` dialog (see Figure 3.3) to select which software components will be installed; select:

- `PostgreSQL Server` to install the PostgreSQL database server.
- `pgAdmin 4` is available for PostgreSQL version 12.0.
- `Stack Builder` to install the Stack Builder utility; for more information about the Stack Builder utility, see Section 4.
- `Command Line Tools` to install PostgreSQL tools such as:

  `psql`, `pg_isready`, and `pgbench`
  `clusterdb`, `createdb`, and `dropdb`
  `createuser` and `dropuser`
  `pg_basebackup`, `pg_dump`, `pg_dumpall`, and `pg_restore`
  `reindexdb`, `vacuumdb`, and `vacuumlo`

  Please note this is not a comprehensive list; the command line tools installed may vary by platform.

Click `Next` to continue. The `Data Directory` window opens, as shown in Figure 3.4.

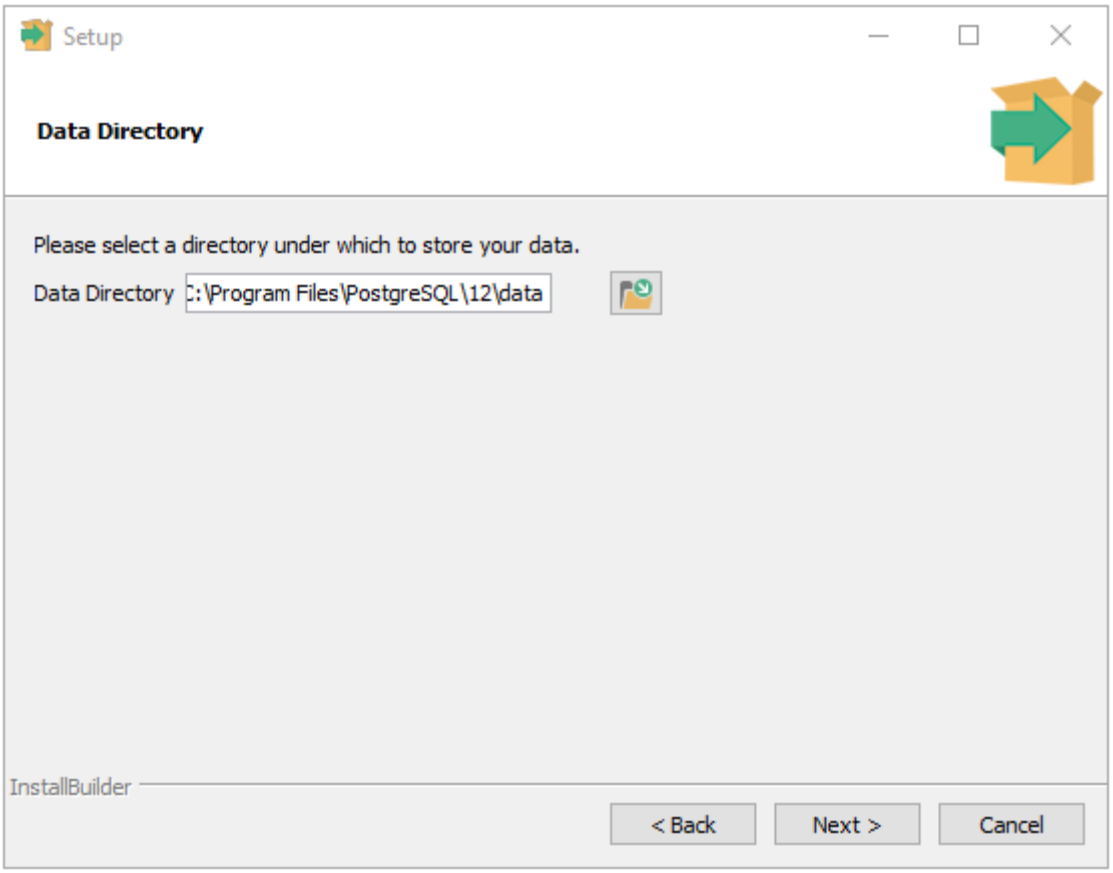

Figure 3.4 - The Data Directory dialog.

Accept the default location or specify the name of the alternate directory in which you wish to store the data files, and click `Next` to continue.

The Password window opens, as shown in Figure 3.5.

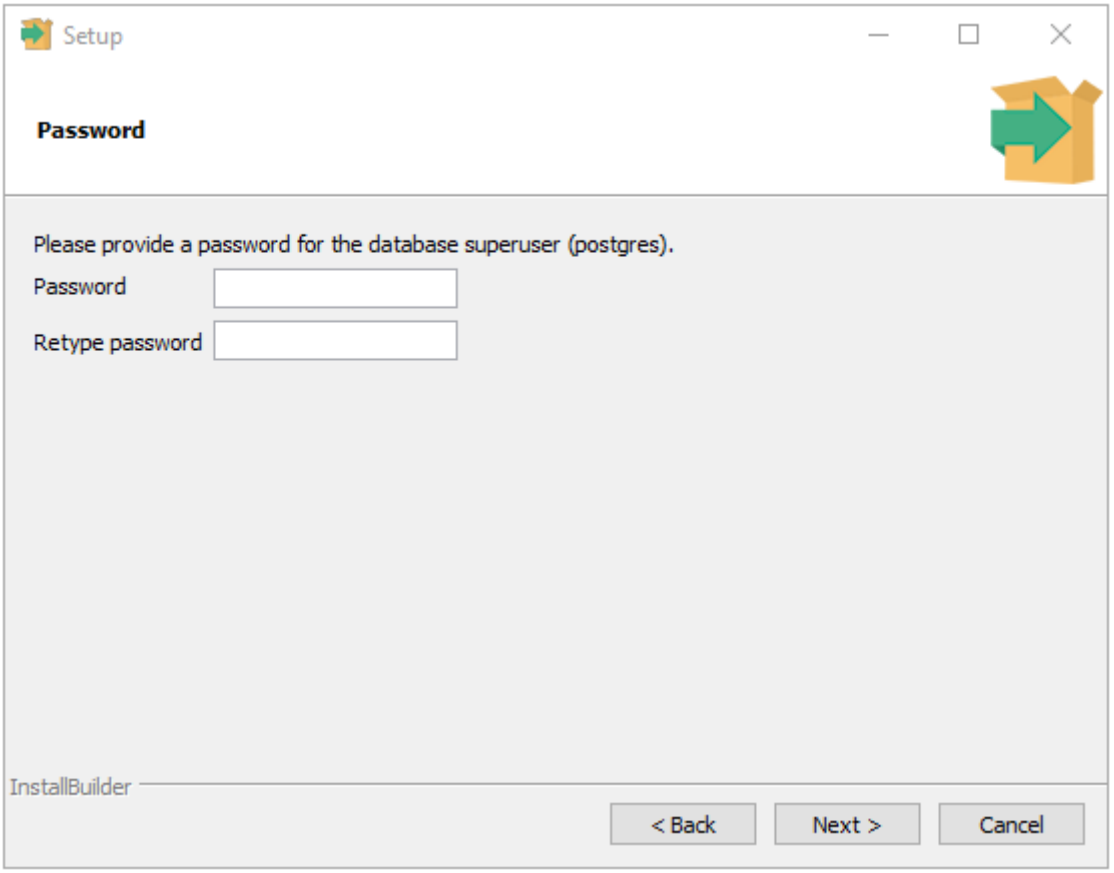

Figure 3.5 - The Password dialog.

PostgreSQL uses the password specified on the Password window for both the database superuser and the PostgreSQL service account.

PostgreSQL runs as a service in the background; the PostgreSQL service account is named postgres. If you have already created a service account with the name postgres, you must specify same password as the existing password for the postgres service account.

The specified password must conform to any security policies existing on the PostgreSQL host. After entering a password in the Password field, and confirming the password in the Retype Password field, click Next to continue.

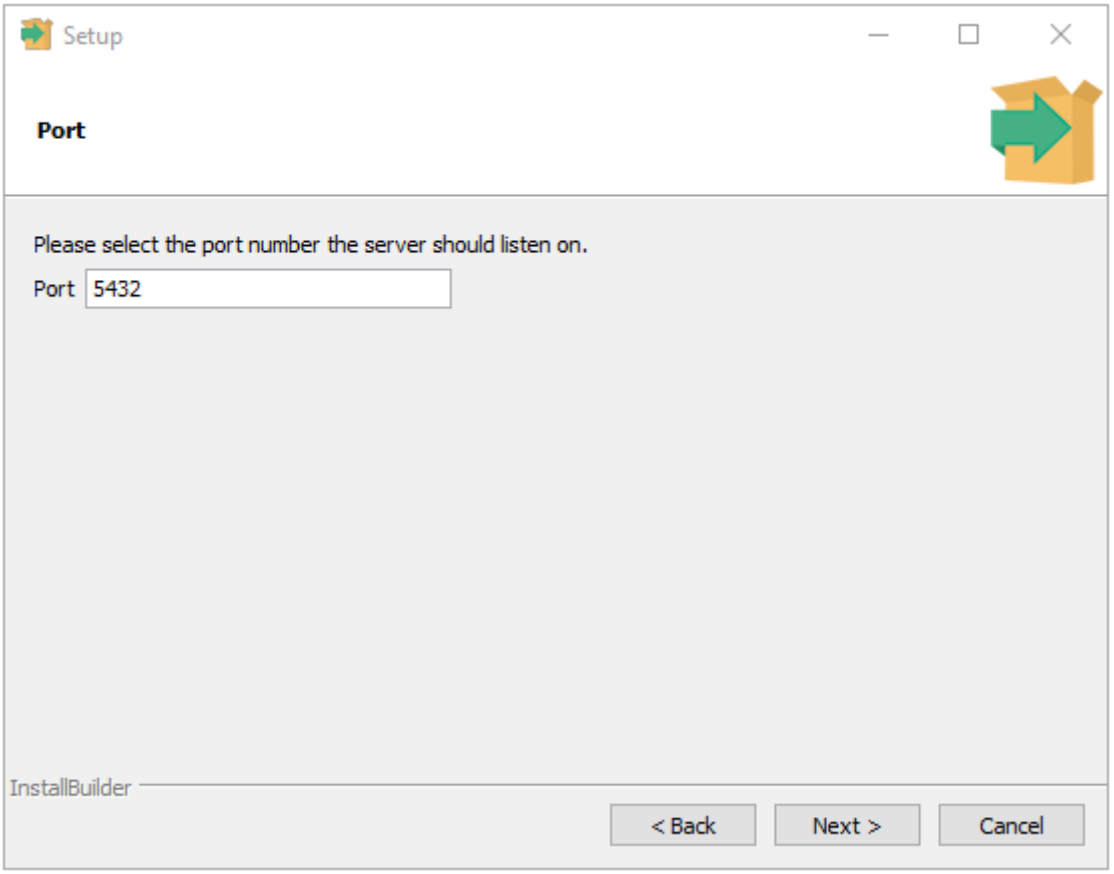

Figure 3.6 - The `Port` dialog.

Use the `Port` field to specify the port number on which the server should listen. The default listener port is `5432` (shown in Figure 3.6). Click `Next` to continue.

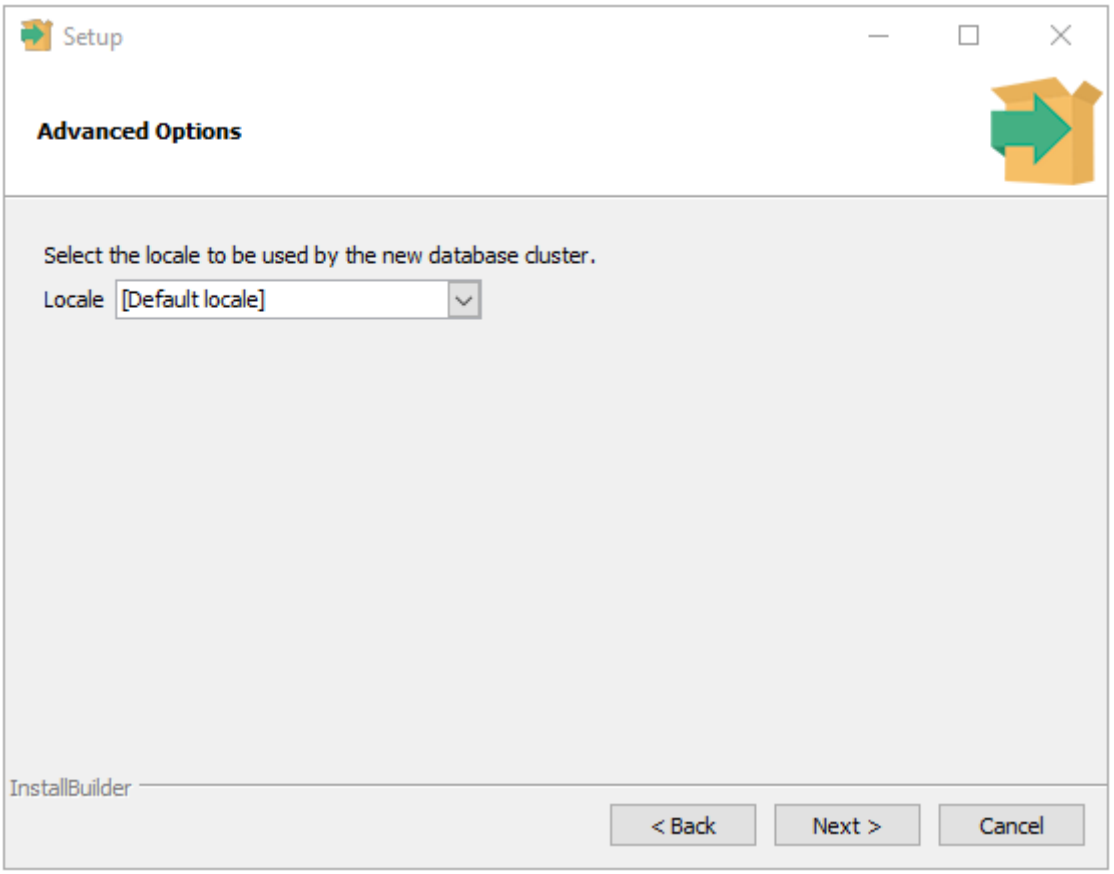

Figure 3.7 - The Advanced Options dialog.

Use the `Locale` field to specify the locale that will be used by the new database cluster. The `Default locale` is the operating system locale (shown in Figure 3.7). Click `Next` to continue.

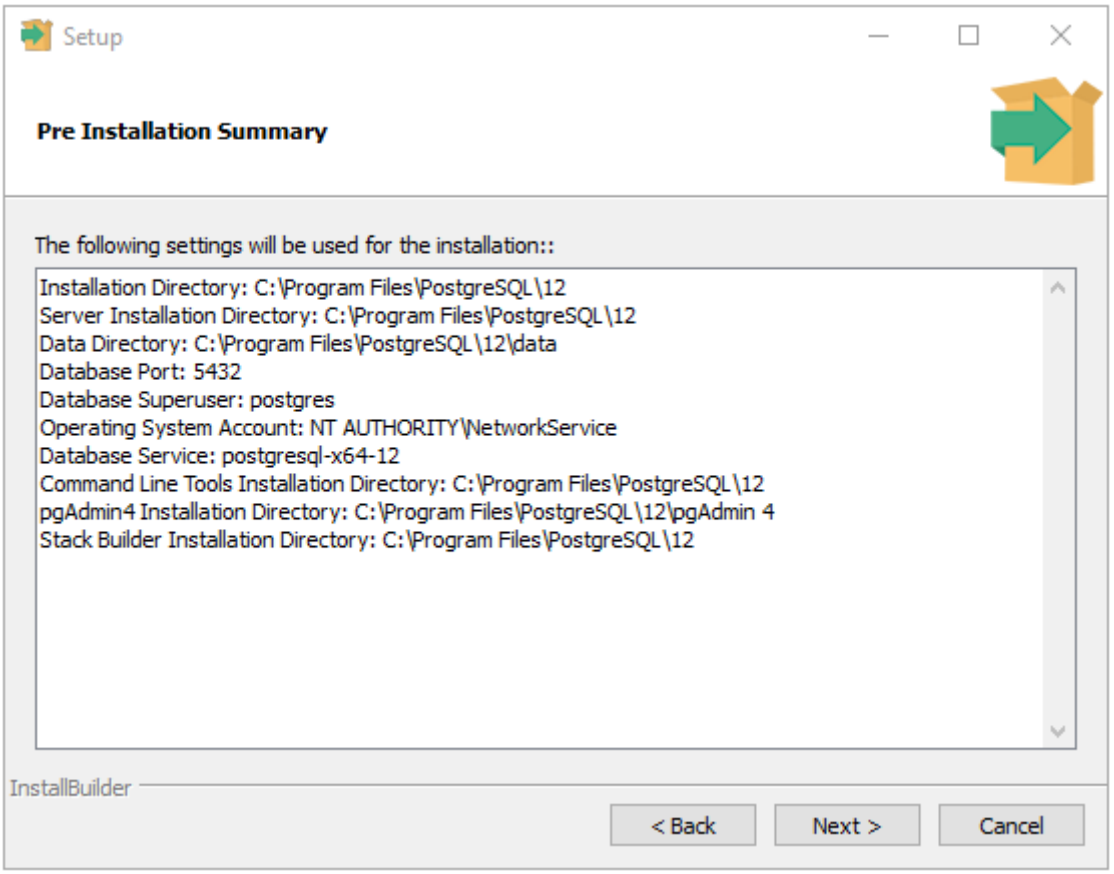

Figure 3.8 - The Pre Installation Summary dialog.

The `Pre Installation Summary` dialog (see Figure 3.8) displays the installation preferences that you have specified with the installation wizard. Review the settings; you can use the `Back` button to return to a previous dialog to modify a setting, or click `Next` to continue.

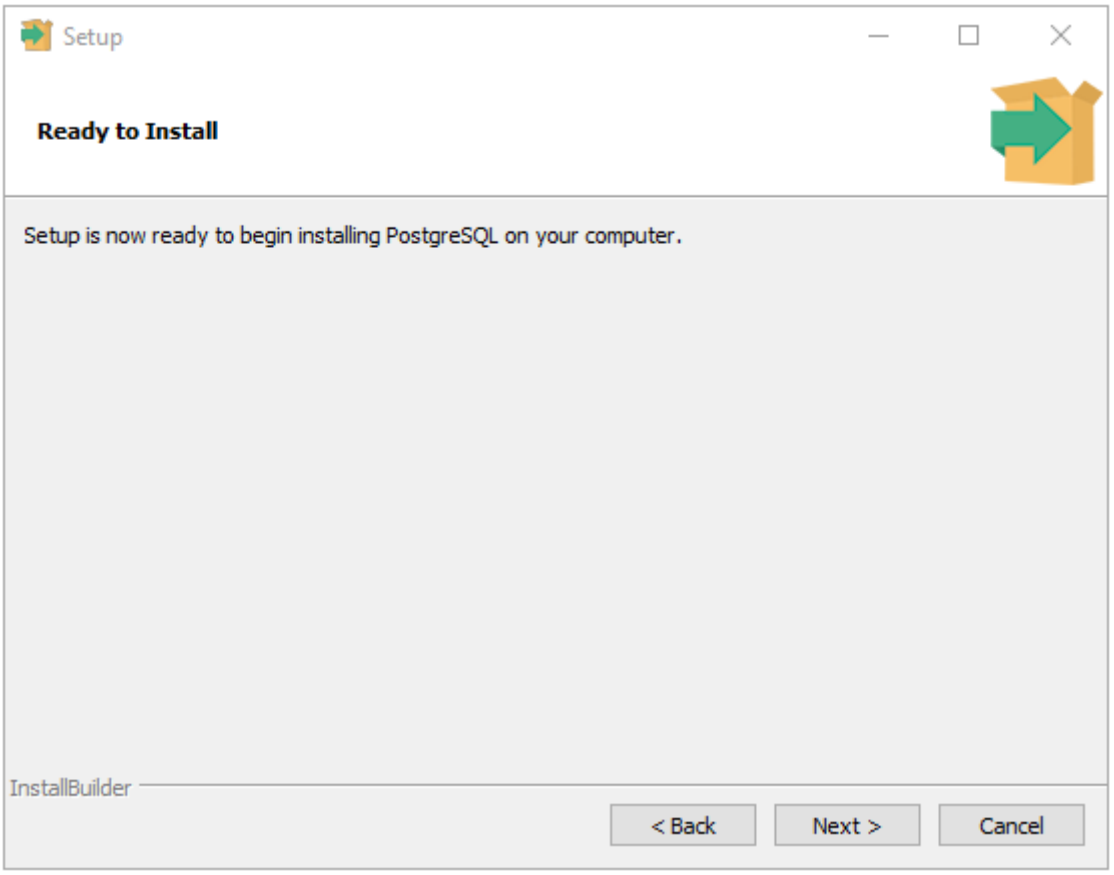

Figure 3.9 - The Ready to Install dialog.

The wizard will inform you that it has the information required to install PostgreSQL (see Figure 3.9); click `Next` to continue.

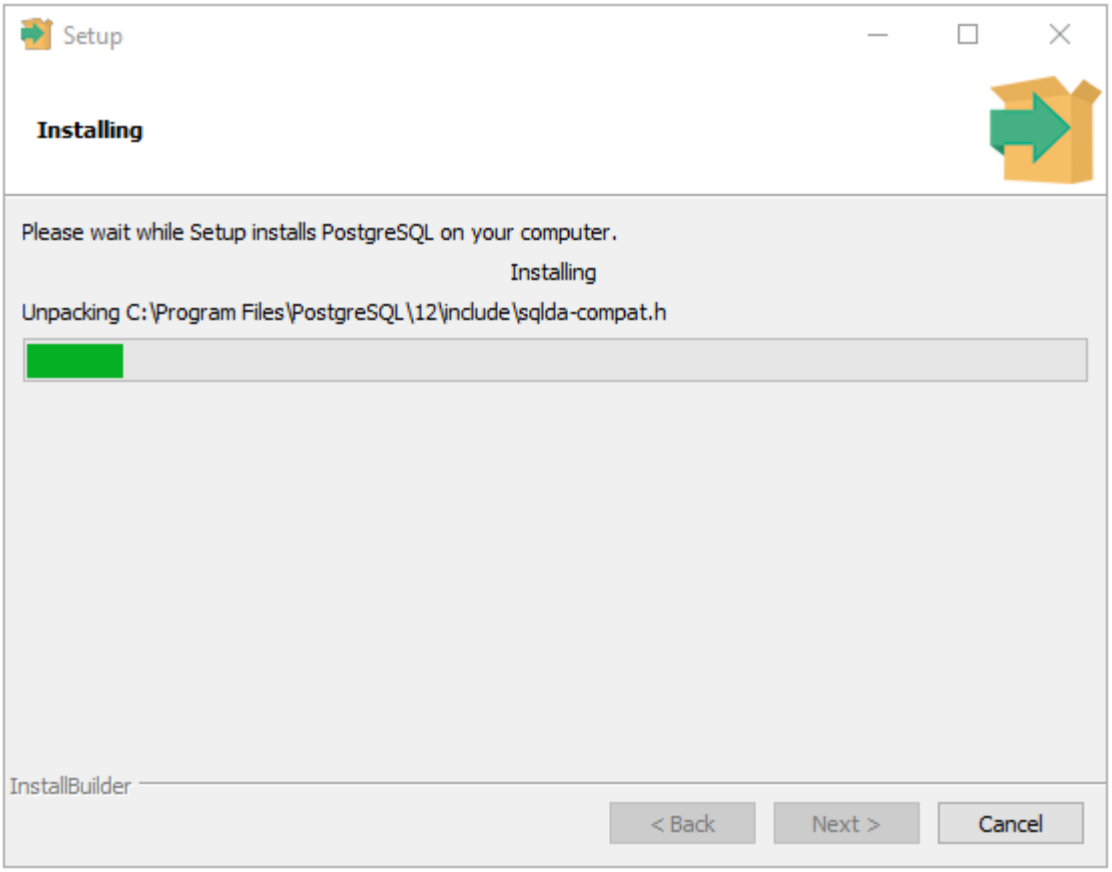

Figure 3.10 - The Installing dialog.

During the installation, the setup wizard confirms the installation progress of PostgreSQL via a series of progress bars (see Figure 3.10).

Figure 3.11 - The installation wizard offers to Launch Stack Builder at exit.

Before the setup wizard completes the PostgreSQL installation, it offers to launch Stack Builder at exit (see Figure 3.11).

The Stack Builder utility provides a graphical interface that downloads and installs applications and drivers that work with PostgreSQL. You can optionally uncheck the `Stack Builder` box and click `Finish` to complete the PostgreSQL installation or accept the default and proceed to Stack Builder.

4 Using Stack Builder

The Stack Builder utility provides a graphical interface that simplifies the process of downloading and installing modules that complement your PostgreSQL installation. When you install a module with Stack Builder, Stack Builder automatically resolves any software dependencies.

Stack Builder requires Internet access; if your installation of PostgreSQL resides behind a firewall (with restricted Internet access), Stack Builder can download program installers through a proxy server. The module provider determines if the module can be accessed through an HTTP proxy or an FTP proxy; currently, all updates are transferred via an HTTP proxy and the FTP proxy information is not used.

You can invoke Stack Builder at any time after the installation has completed by selecting the `Application Stack Builder` menu option from the `PostgreSQL 12` menu. Enter your system password (if prompted), and the Stack Builder welcome window opens (shown in Figure 4.1).

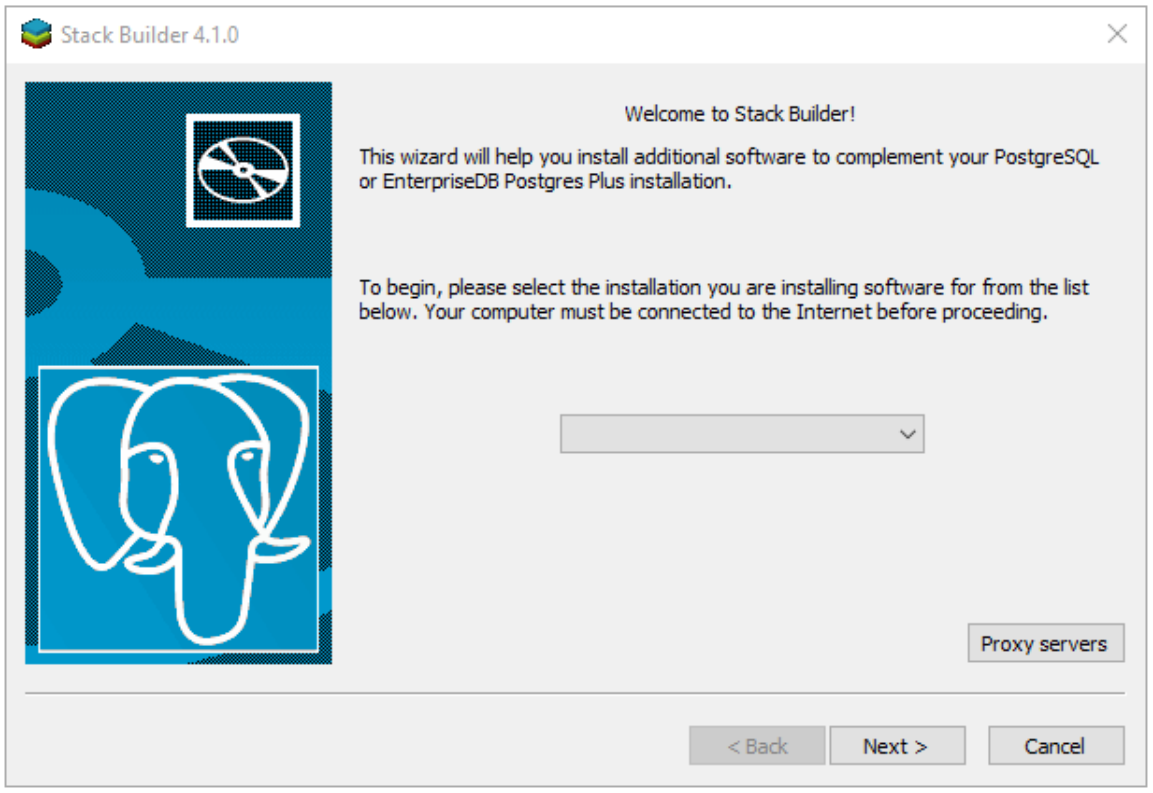

Figure 4.1 - The Stack Builder welcome window.

Use the drop-down listbox on the welcome window to select your PostgreSQL installation.

If the selected PostgreSQL installation has restricted Internet access, use the `Proxy Servers` button on the `Welcome` window to open the `Proxy servers` dialog (shown in Figure 4.2).

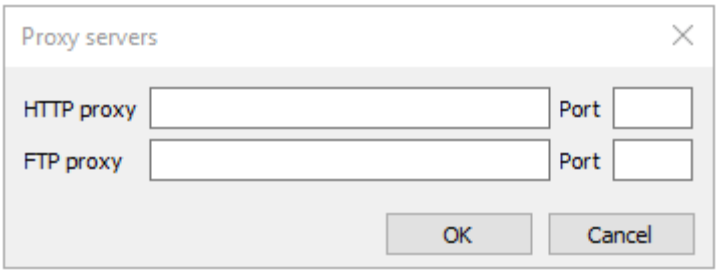

Figure 4.2 - The Proxy servers dialog.

Enter the IP address and port number of the proxy server in the `HTTP proxy` or `FTP proxy` fields on the `Proxy servers` dialog. Currently, all Stack Builder modules are distributed via HTTP proxy (FTP proxy information is ignored). Click `OK` to continue.

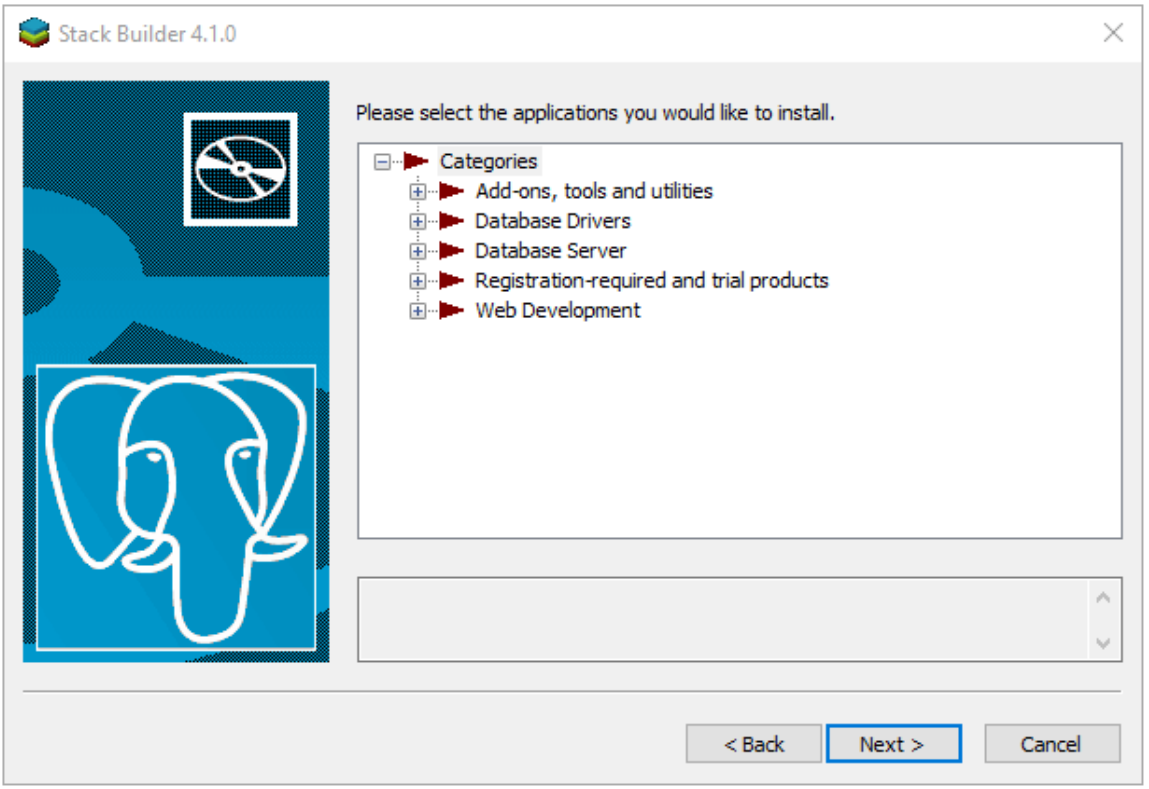

Figure 4.3 - The Stack Builder module selection window.

The tree control on the Stack Builder module selection window (shown in Figure 4.3) contains a node for each module category; click on a category heading to expose the modules within that category.

Each entry within the tree control is the name of a module that can be installed with Stack Builder.

- If the module is installed, you will see the word `(installed)` to the right of the module name.
- Boxes next to the modules that are already installed, but eligible for update are automatically checked.
- To add new modules to the selected PostgreSQL installation, check the box to the left of the module name (shown in Figure 4.4) and click `Next`.

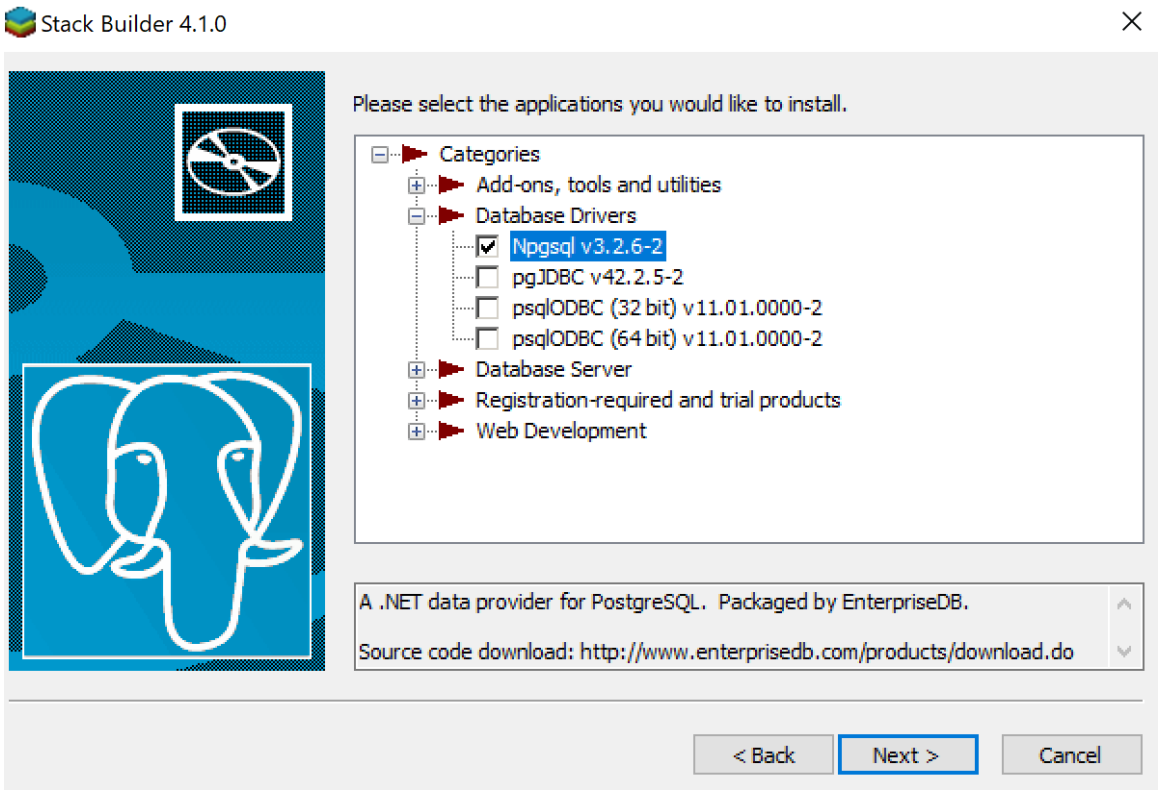

Figure 4.4 - Check the box to add new module

The `Selected packages` window confirms the packages selected (shown in Figure 4.5)

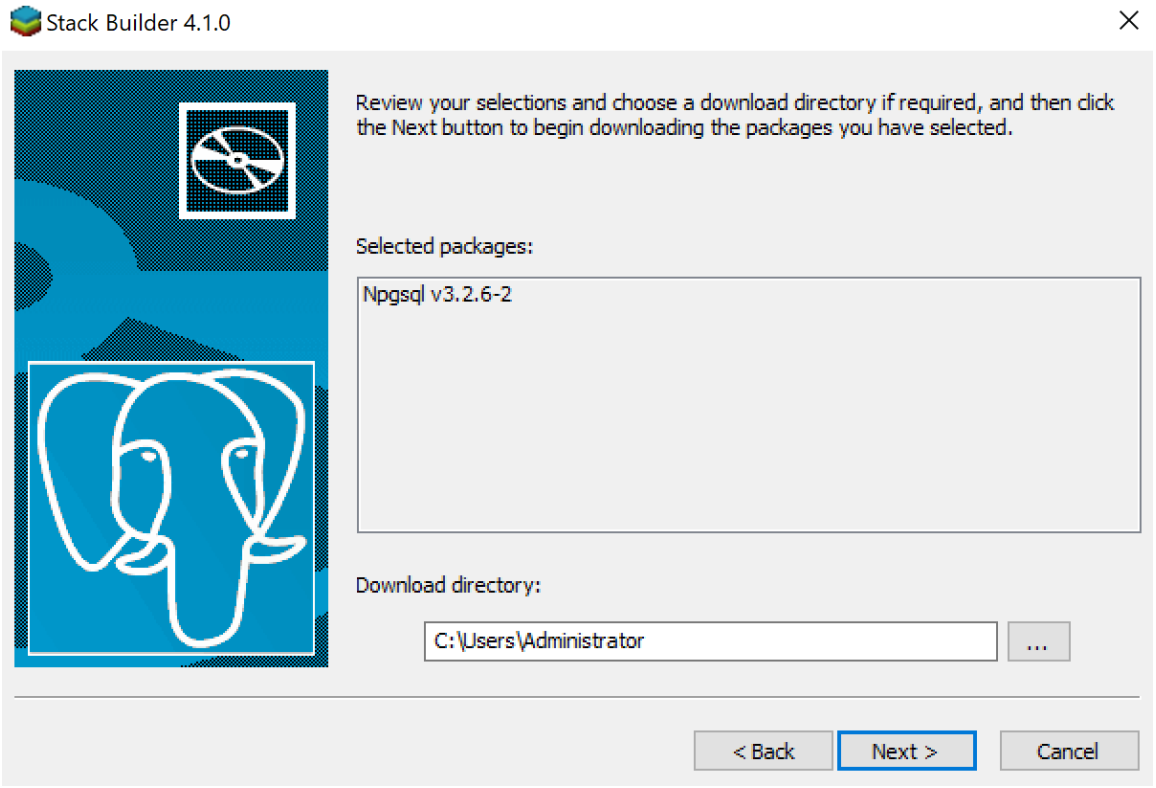

Figure 4.5 - A summary window displays a list of selected packages.

The package installers are downloaded to the directory specified in the `Download directory` field. Use the button to the right of the `Download directory` field to open a file selector, and choose an alternate location to store the downloaded installers.

Click `Next` to connect to the server and download the required installation files. When the downloads complete, a window opens confirming that the installation files have been downloaded and are ready for installation.

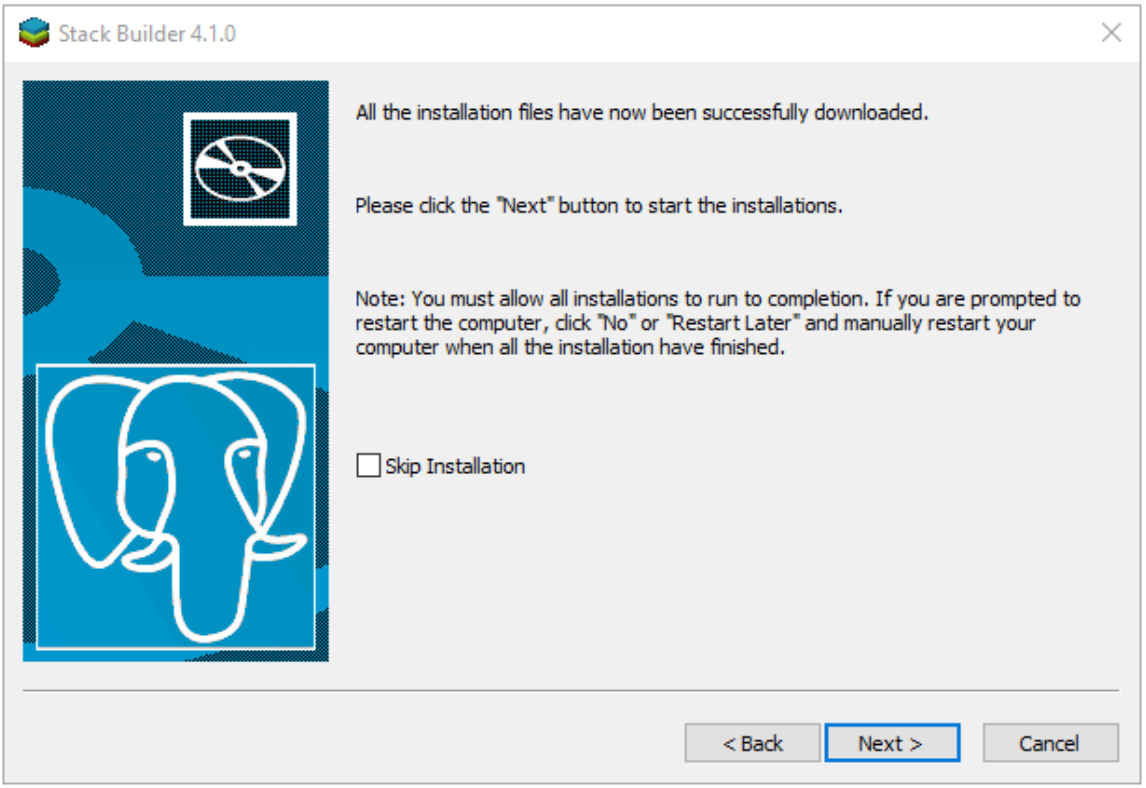

Figure - 4.6 - Confirmation that the download process is complete.

You can check the box next to `Skip Installation` and select `Next` to exit Stack Builder without installing the downloaded files, or leave the box unchecked and click `Next` to start the installation process (see Figure 4.6).

Each downloaded installer has different requirements. As the installers execute, they may prompt you to confirm acceptance of license agreements, to enter passwords, and enter configuration information.

During the installation process, you may be prompted by one (or more) of the installers to restart your system. Select `No` or `Restart Later` until all installations are completed. When the last installation has completed, re-boot the system to apply all of the updates.

You may occasionally encounter packages that don't install successfully. If a package fails to install, Stack Builder will alert you to the installation error with a popup dialog, and write a message to the log file at stored in `%TEMP%`.

When the installation is complete, the installer will alert you to the success or failure of the installations of the requested packages. If you were prompted by an installer to restart your computer, re-boot now.

Please note: The modules supported by Stack Builder are subject to change and vary by platform.

5 Uninstalling PostgreSQL

The PostgreSQL installer creates an uninstaller in the PostgreSQL installation directory.

5.1 Uninstalling PostgreSQL on a Windows System

You can use the graphical interface provided by Windows to uninstall PostgreSQL. Navigate through the Windows `Control Panel` to open the Windows `Uninstall or change a program` dialog (shown in Figure 5.1).

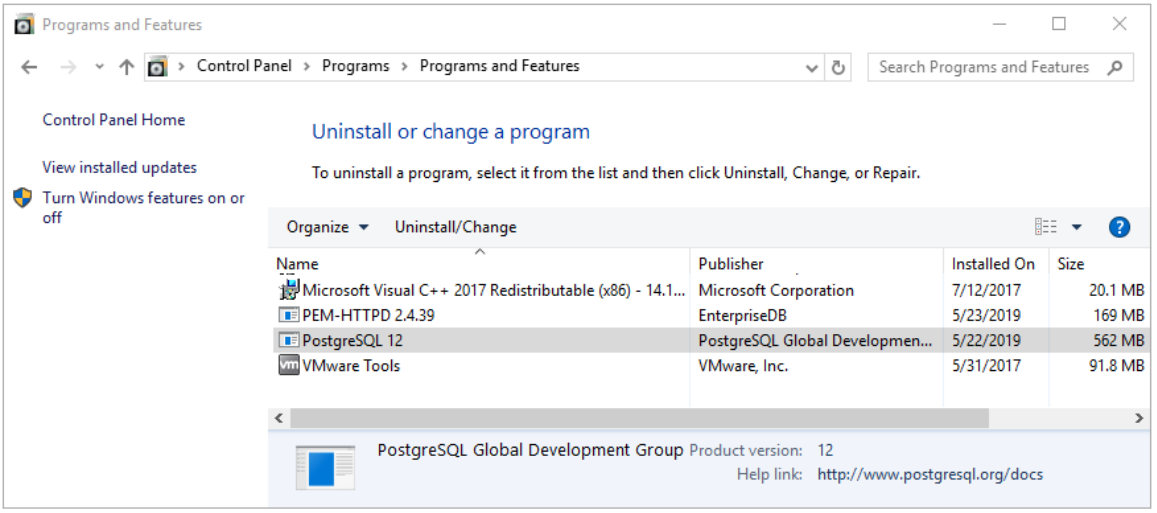

Figure 5.1 - The Uninstall or change a program dialog.

Right click on `PostgreSQL 12`, and select `Uninstall/Change` from the context menu.

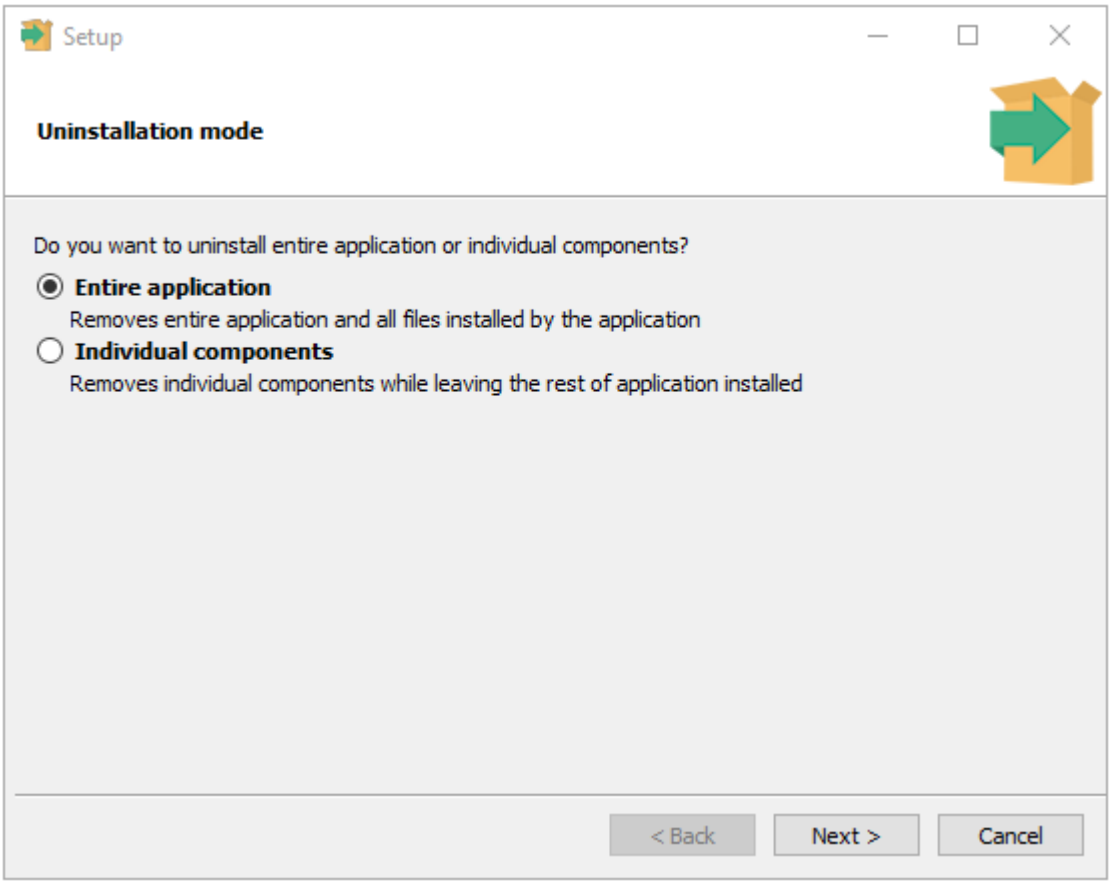

Figure 5.2 - Confirm that you wish to uninstall PostgreSQL.

If you wish to remove the `Entire application`, click `Next` to continue. If you choose to remove `Individual components`, a selection screen opens, allowing you to select which components you wish to uninstall.

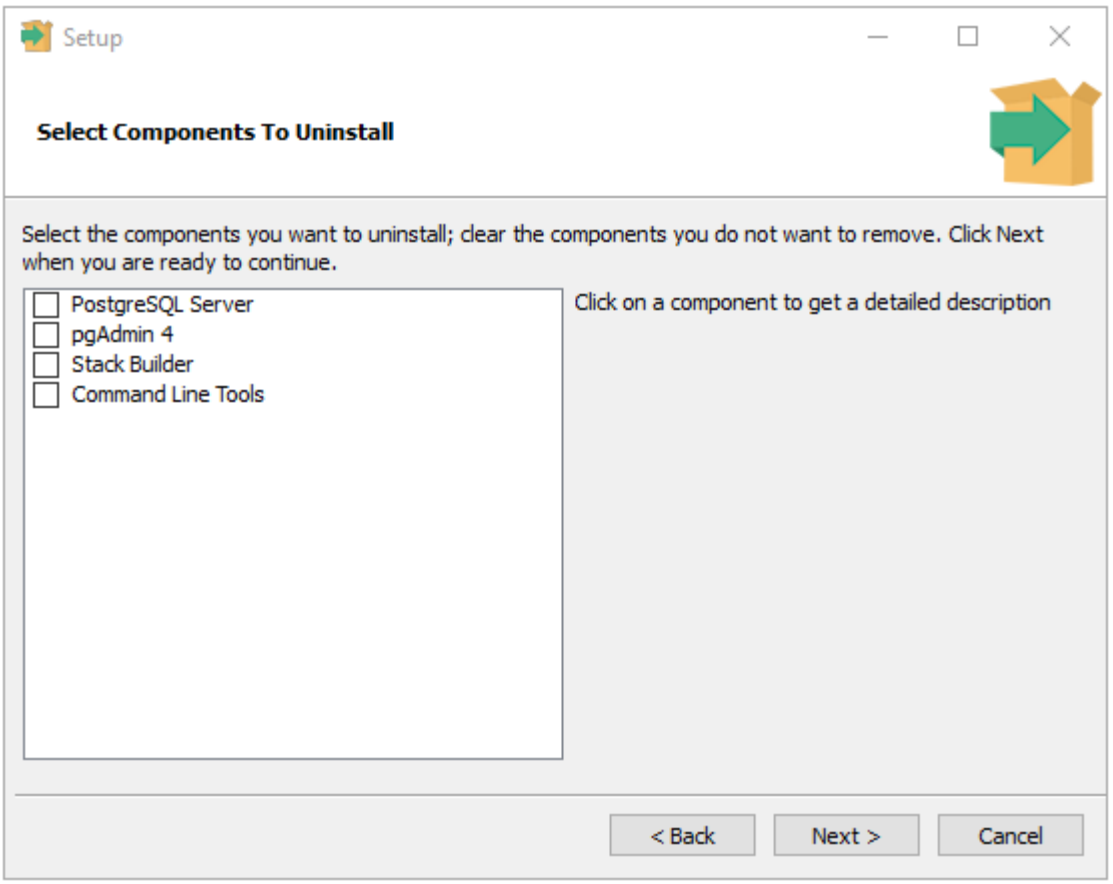

Figure 5.3 - Select the components to uninstall.

Select the components you wish to uninstall, and click `Next` to start uninstalling components (see Figure 5.3).

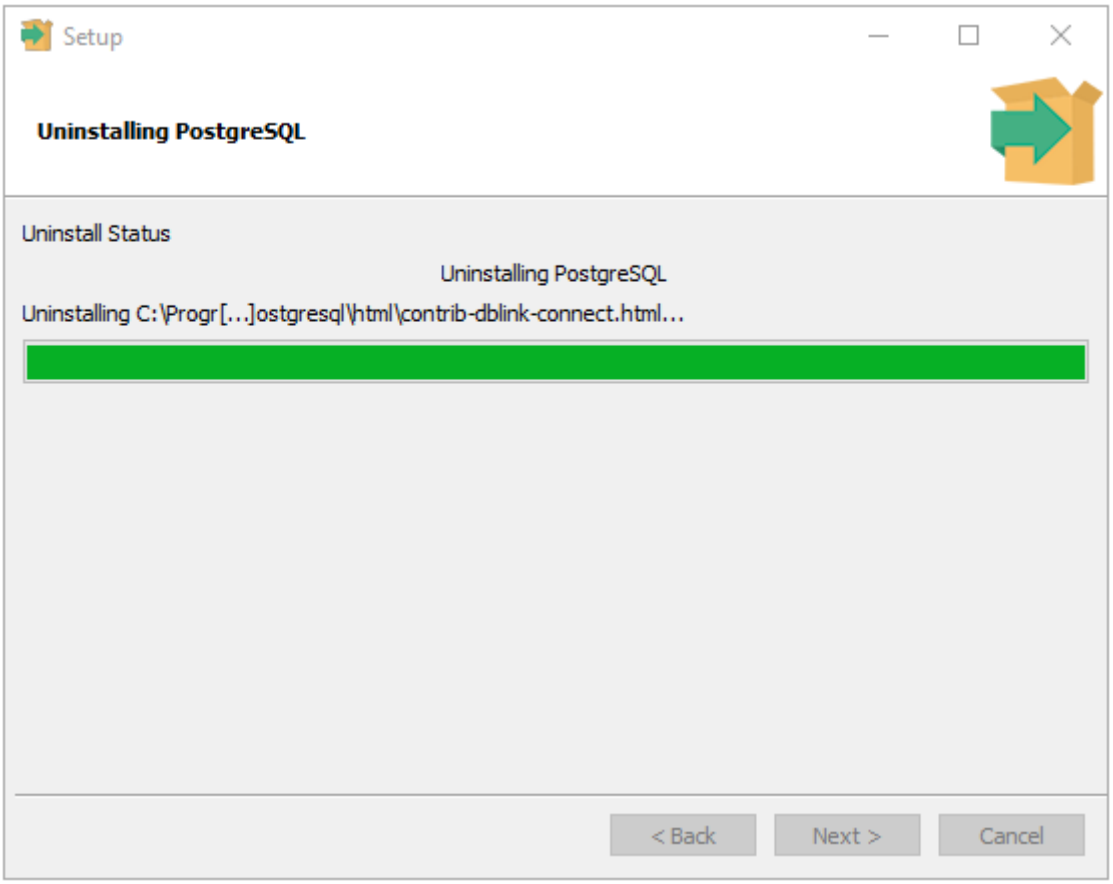

Figure 5.4 - Uninstalling PostgreSQL.

A progress bar will keep you informed as PostgreSQL is removed (see Figure 5.4).

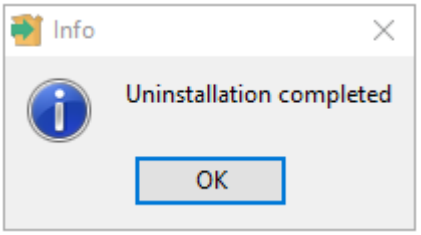

Figure 5.5 - An Info dialog confirms the uninstallation.

When the uninstaller completes, an `Info` dialog opens to confirm (as shown in Figure 5.5). Click `OK` to exit.

5.2 Uninstalling PostgreSQL on a Mac System

To uninstall PostgreSQL on a Mac system, assume the identity of an operating system superuser, and navigate into the folder in which the uninstaller resides:

```
/Library/PostgreSQL/12
```

Then, invoke the uninstaller with the command:

```
open uninstall-postgres.app
```

If prompted, provide a password that allows the uninstaller to make changes to your system. The uninstaller will open, asking you if you wish to uninstall the `Entire application` or `Individual components` (see Figure 5.6).

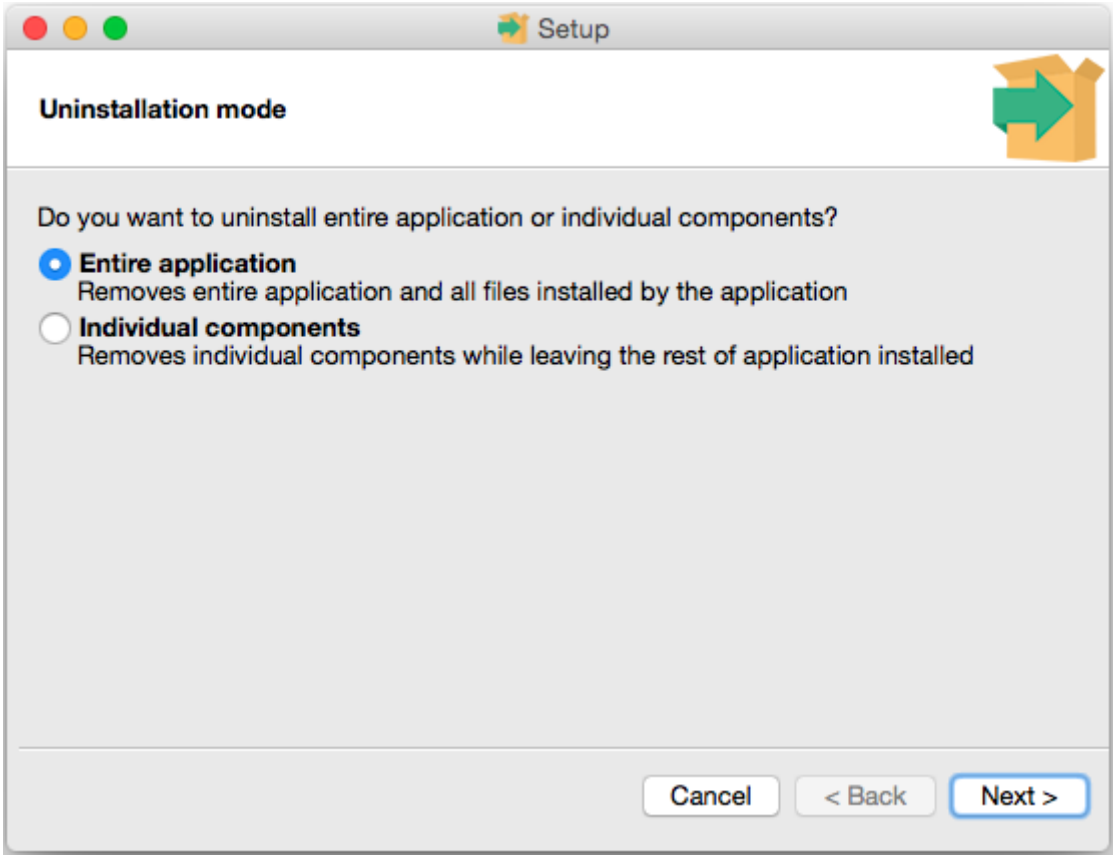

Figure 5.6 – Remove the entire application or components.

If you wish to remove the `Entire application`, click `Next` to continue. If you choose to remove `Individual components`, a selection screen opens, allowing you to select which components you wish to uninstall.

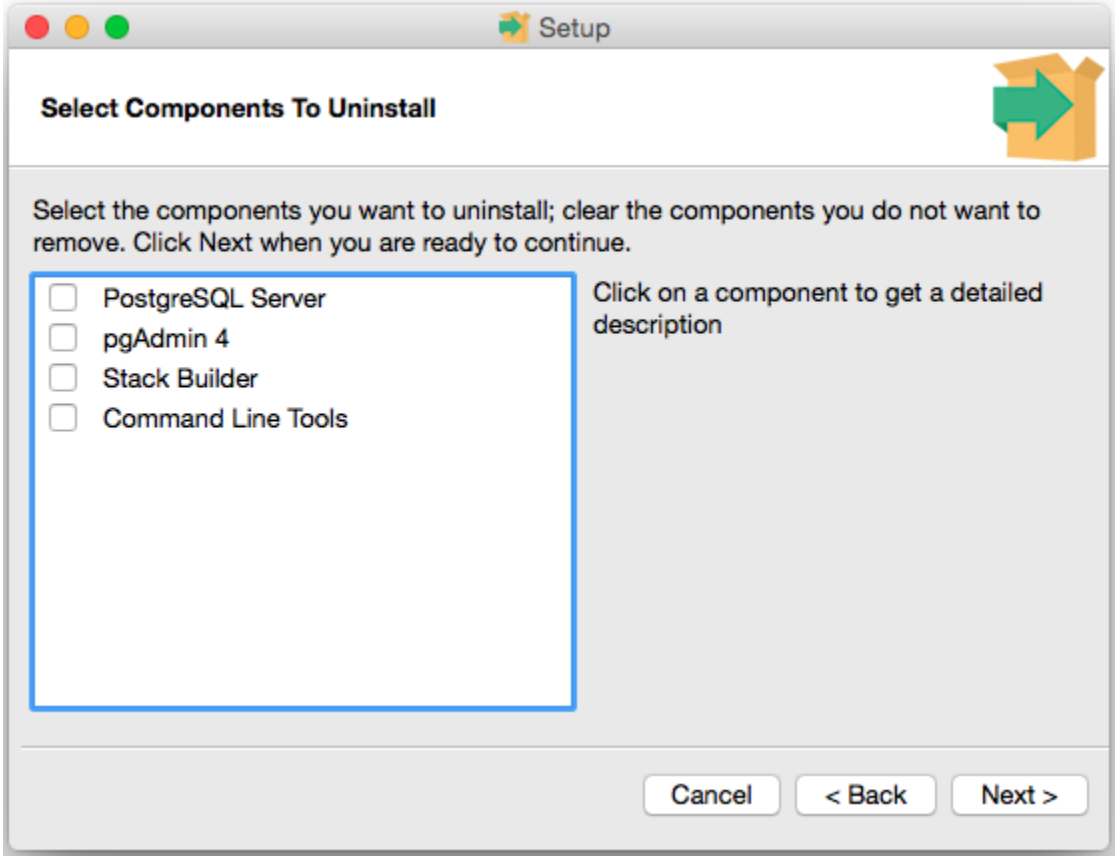

Figure 5.7 - Selecting the components to uninstall.

Select the components you wish to uninstall (see Figure 5.7), and click `Next` to start uninstalling components. Progress bars are displayed as each component is removed; an `Info` popup informs you when the uninstallation is complete (see Figure 5.8)

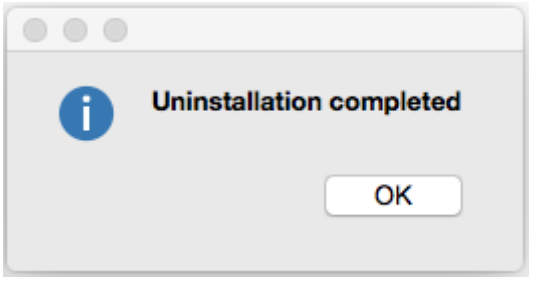

Figure 5.8 - The Uninstallation is completed.

Click `OK` to exit the uninstaller.

6 Installation Troubleshooting

If you encounter any problems during installation, please consult the installation logfile. The log file is created in:

- `/tmp` on Mac OS X
- `%TEMP%` on Windows

The installation log file is called `install-postgresql.log`. The logfile may contain the superuser password specified during the installation, which should be replaced before sharing the log with anyone.

If you are unable to resolve the problem after reviewing the logfile, please search the EnterpriseDB forums or your favourite search engine for a solution. If you still cannot resolve the issue, please post details of the problem, along with system details and any appropriate parts of the installation logfile to the installer forum.