



EDB

EDB PgBouncer

Release 1.17.0

EnterpriseDB Corporation

Dec 22, 2022

CONTENTS

- 1 Release notes 3**
 - 1.1 Version 1.17.0.0 3
 - 1.2 Version 1.16.1.0 3
 - 1.3 Version 1.16.0.1 4
- 2 Supported platforms 5**
- 3 Installing EDB PgBouncer 7**
 - 3.1 Installing on EDB PgBouncer Linux 7
 - 3.1.1 Installing EDB PgBouncer on x86 8
 - 3.2 Installing EDB PgBouncer on a Windows host 16
 - 3.3 Upgrading 25
 - 3.4 Uninstalling 25
 - 3.4.1 Uninstalling EDB PgBouncer on a RHEL/Rocky Linux/AlmaLinux host 25
 - 3.4.2 Uninstalling EDB PgBouncer on a Debian or Ubuntu host 26
 - 3.4.3 Uninstalling EDB PgBouncer on an SLES 12 host 26
 - 3.4.4 Uninstalling EDB PgBouncer on a Windows host 26
- 4 Configuring and usage 29**
 - 4.1 Configuring EDB PgBouncer 29
 - 4.2 Using the EDB PgBouncer Admin console 31
- 5 SHOW CLIENTS; 33**

EDB PgBouncer is a lightweight connection pooling utility for Postgres and EDB Postgres Advanced Server installations that is based on the open-source PgBouncer project.

When a client application connects to a Postgres server, it negotiates a connection, which takes time. PgBouncer saves time by maintaining a pool of preestablished connections to the server. Instead of connecting directly to the server, the client connects to PgBouncer, minimizing the connection negotiation time by using a previously established connection made available to the client in the PgBouncer pool.

EnterpriseDB enhancements for the PgBouncer project are available via RPM Packages, deb packages, or a graphical installer that you can download with StackBuilder Plus. The enhancements allow EDB PgBouncer to service clients that are using EDB connectors that require compatible out parameter handling.

For more information about PgBouncer, including reference and usage information, see the [PgBouncer project site](#) .

RELEASE NOTES

The EDB PgBouncer documentation describes the latest version of EDB PgBouncer 1.16, including minor releases and patches. The release notes provide information on what was new in each release. For new functionality introduced in a minor or patch release, the content also indicates the release that introduced the feature.

Version	Release date	Upstream merges
<i>Version 1.17.0.0</i>	2022 Aug 04	Upstream <i>Version 1.17.0.0</i>
<i>Version 1.16.1.0</i>	2021 Dec 11	Upstream <i>Version 1.16.1.0</i>
<i>Version 1.16.0.1</i>	2021 Jun 10	Upstream <i>Version 1.16.0.1</i>

1.1 Version 1.17.0.0

EDB PgBouncer 1.17.0.0 includes the following upstream merge and security fix:

Type	Description
Upstream merge	Merged with community PgBouncer 1.17.0.0. See the community Release notes for details.

1.2 Version 1.16.1.0

EDB PgBouncer 1.16.1.0 includes the following upstream merge and security fix:

Type	Description
Upstream merge	Merged with community PgBouncer 1.16.1.0. See the community Release notes for details.
Security fix	Make PgBouncer acting as a server reject extraneous data after an SSL or GSS encryption handshake. A man-in-the-middle with the ability to inject data into the TCP connection could stuff some cleartext data into the start of a supposedly encryption-protected database session. This could be abused to send faked SQL commands to the server, although that would only work if PgBouncer did not demand any authentication data. However, a PgBouncer setup relying on SSL certificate authentication might well not do so.

1.3 Version 1.16.0.1

New features, enhancements, bug fixes, and other changes in EDB PgBouncer 1.16.0.1 include the following:

Type	Description
Upstream merge	Merged with community PgBouncer 1.16.0.1. See the community Release notes for details.
Feature	Support hot reloading of TLS settings. When the configuration file is reloaded, updated TLS settings are automatically enforced.
Feature	Add support for abstract Unix-domain sockets. Prefix a Unix-domain socket path with @ to use a socket in the abstract namespace.
Feature	The maximum length of passwords and user names have been increased to 996 and 128, respectively. Various cloud services require this.
Feature	The minimum pool size can now be set per database, similar to the regular pool size and the reserve pool size.
Feature	The number of pending query cancellations is shown in SHOW POOLS.
Bug fix	Configuration parsing now has tighter error handling in many places. Previously, it might have logged an error and proceeded. Those configuration errors would now result in startup failures.
Bug fix	Query cancel handling has been fixed. Under some circumstances, cancel requests would seemingly get stuck for a long time.
Bug fix	Mixed use of md5 and scram via hba has been fixed.
Bug fix	The “FIXME: query end, but query_start == 0” messages have been fixed. The cause of these messages is now known.
Bug fix	Fix reloading of default_pool_size, min_pool_size, and res_pool_size. Previously when these properties were reloaded, it didn’t work.

SUPPORTED PLATFORMS

This table lists the latest EDB PgBouncer versions and their supported corresponding EDB Postgres Advanced Server (EPAS) versions. EDB PgBouncer is supported on the same platforms as EDB Postgres Advanced Server. See [Product Compatibility](#) for details.

EDB PgBouncer	EPAS 14	EPAS 13	EPAS 12	EPAS 11	EPAS 10
1.17	Y	Y	Y	Y	Y
1.16	Y	Y	Y	Y	Y
1.15	N	Y	Y	Y	Y
1.14	N	Y	Y	Y	Y
1.13	N	N	Y	N	N
1.12	N	N	Y	N	N
1.9	N	N	N	Y	Y
1.7	N	N	N	N	Y

The documented and supported functionality of each version of EDB PgBouncer is the same. The information in this documentation applies to all supported versions of EDB PgBouncer.

INSTALLING EDB PGBOUNCER

You can install EDB PgBouncer on:

- Linux x86-64 (amd64) and IBM Power (ppc64le)
- Windows x86-64

3.1 Installing on EDB PgBouncer Linux

To install EDB PgBouncer, you must have credentials that allow access to the EnterpriseDB repository. To request credentials that allow you to access an EnterpriseDB repository, see the [EDB Repository Access instructions](#).

For platform-specific install instructions, see:

Linux x86-64 (amd64):

- RHEL 8/OL 8
- Rocky Linux 8/AlmaLinux 8
- RHEL 7/OL 7
- *Installing EDB pgBouncer on CentOS 7 x86_64*
- *Installing EDB pgBouncer on SLES 15 x86_64*
- *Installing EDB pgBouncer on SLES 12 x86_64*
- *Installing EDB pgBouncer on Ubuntu 20.04 x86_64*
- *Installing EDB pgBouncer on Ubuntu 18.04 x86_64*
- *Installing EDB pgBouncer on Debian 11 x86_64*
- *Installing EDB pgBouncer on Debian 10 x86_64*

Linux on IBM Power (ppc64le):

- *Installing EDB pgBouncer on RHEL 8 or OL 8 x86_64*
- *Installing EDB pgBouncer on SLES 15 x86_64*
- *Installing EDB pgBouncer on SLES 12 x86_64*

3.1.1 Installing EDB PgBouncer on x86

For operating system-specific install instructions, see:

- RHEL 8/OL 8
- Rocky Linux 8/AlmaLinux 8
- RHEL 7/OL 7
- *Installing EDB pgBouncer on CentOS 7 x86_64*
- *Installing EDB pgBouncer on SLES 15 x86_64*
- *Installing EDB pgBouncer on SLES 12 x86_64*
- *Installing EDB pgBouncer on Ubuntu 20.04 x86_64*
- *Installing EDB pgBouncer on Ubuntu 18.04 x86_64*
- *Installing EDB pgBouncer on Debian 11 x86_64*
- *Installing EDB pgBouncer on Debian 10 x86_64*

Installing EDB pgBouncer on RHEL 8 or OL 8 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host.** See [Installing EDB Postgres Advanced Server](#) .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Install the EPEL repository:
sudo dnf -y install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.
↪rpm

# Enable additional repositories to resolve dependencies:
ARCH=$( /bin/arch ) subscription-manager repos --enable "codeready-builder-for-rhel-8-$
↪{ARCH}-rpms"

# Disable the built-in PostgreSQL module:
sudo dnf -qy module disable postgresql
```

Install the package

```
sudo dnf -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on AlmaLinux 8 or Rocky Linux 8 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Install the EPEL repository:
sudo dnf -y install epel-release
# Enable additional repositories to resolve dependencies:
sudo dnf config-manager --set-enabled PowerTools
# Disable the built-in PostgreSQL module:
sudo dnf -qy module disable postgresql
```

Install the package

```
sudo dnf -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on RHEL 7 or OL 7 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Install the EPEL repository:
sudo yum -y install https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.
↪rpm
# Enable additional repositories to resolve dependencies:
subscription-manager repos --enable "rhel-*-optional-rpms" --enable "rhel-*-extras-rpms"
↪ --enable "rhel-ha-for-rhel-*-server-rpms"
```

Install the package

```
sudo yum -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on CentOS 7 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Install the EPEL repository:
sudo yum -y install https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.
↪rpm
```

Install the package

```
sudo yum -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on SLES 15 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Activate the required SUSE module
sudo SUSEConnect -p PackageHub/15.3/x86_64

# Refresh the metadata
sudo zypper refresh
```

Install the package

```
sudo zypper -n install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on SLES 12 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Activate the required SUSE module
sudo SUSEConnect -p PackageHub/12.5/x86_64
sudo SUSEConnect -p sle-sdk/12.5/x86_64

# Refresh the metadata
sudo zypper refresh
```

Install the package

```
sudo zypper -n install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on Ubuntu 20.04 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

Install the package

```
sudo apt-get -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on Ubuntu 18.04 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

Install the package

```
sudo apt-get -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on Debian 11 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

Install the package

```
sudo apt-get -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on Debian 10 x86_64

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

Install the package

```
sudo apt-get -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be `edb-pgbouncer117` .

Installing EDB PgBouncer on ppc64le

For operating system-specific install instructions, see:

- *Installing EDB pgBouncer on RHEL 8 or OL 8 x86_64*
- *Installing EDB pgBouncer on SLES 15 x86_64*
- *Installing EDB pgBouncer on SLES 12 x86_64*

Installing EDB pgBouncer on RHEL 8 ppc64le

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Install the EPEL repository:
sudo dnf -y install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.
↪rpm

# Refresh the cache:
sudo dnf makecache

# Enable additional repositories to resolve dependencies:
ARCH=$( /bin/arch ) subscription-manager repos --enable "codeready-builder-for-rhel-8-$
↪{ARCH}-rpms"

# Disable the built-in PostgreSQL module:
sudo dnf -qy module disable postgresql
```

Install the package

```
sudo dnf -y install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on SLES 15 ppc64le

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Activate the required SUSE module
sudo SUSEConnect -p PackageHub/15.3/ppc64le

# Refresh the metadata
sudo zypper refresh
```

Install the package

```
sudo zypper -n install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be edb-pgbouncer117 .

Installing EDB pgBouncer on SLES 12 ppc64le

Prerequisites

Before you begin the installation process:

- **Install EDB Postgres Advanced Server on the same host. See**
Installing EDB Postgres Advanced Server .
- Set up the repository

Setting up the repository is a one-time task. If you have already set up your repository, you do not need to perform this step.

To set up the repository, go to [EDB repositories](#) and follow the instructions provided there.

- Address other prerequisites

```
# Activate the required SUSE module
sudo SUSEConnect -p PackageHub/12.5/ppc64le
sudo SUSEConnect -p sle-sdk/12.5/ppc64le

# Refresh the metadata
sudo zypper refresh
```

Install the package

```
sudo zypper -n install edb-pgbouncer<xx>
```

Where <xx> is the version of EDB PgBouncer you are installing. For example, if you are installing version 1.17, the package name would be `edb-pgbouncer117`.

3.2 Installing EDB PgBouncer on a Windows host

Graphical installers for EDB PgBouncer are available via StackBuilder Plus (for EDB Postgres Advanced Server hosts) or Stack Builder (for PostgreSQL hosts).

The following steps walk you through installing EDB PgBouncer 1.16 by accessing StackBuilder Plus through Windows start menu

1. Access StackBuilder Plus through the Windows start menu; on the **Welcome** window, select your **Advanced Server** installation from the drop-down list. Click **Next** to continue to the application selection page.

Fig. 1: The StackBuilder Plus Welcome window

2. Expand the **Add-ons**, **tools** and **utilities** node, and check the box next to the **PgBouncer v1.16.0.1-1**. Click **Next** to continue.

Fig. 2: Expand Add-ons, Tools and Utilities

3. The selected packages and the default download directory where the package will be installed are displayed; change the download directory location if required. Click **Next**.

Fig. 3: Installation Directory

4. Once you have downloaded the installation files, a confirmation message is displayed. Click **Next** to start the EDB PgBouncer installation.

Fig. 4: Installing EDB PgBouncer

5. Select an installation language and click **OK**.

Fig. 5: The Language Selection window

6. The installer welcomes you to the setup wizard. Click **Next**.

Fig. 6: The EDB PgBouncer Welcome window

7. Use the **Installation Directory** field to specify the directory in which you wish to install EDB PgBouncer (the default installation directory is `C:\Program Files\edb`) Then, click **Next** to continue.
8. Use fields on the **EDB Postgres Advanced Server Installation Details** window to provide connection information for the Advanced Server host:
 - Use the **Host** field to identify the system on which Advanced Server resides.

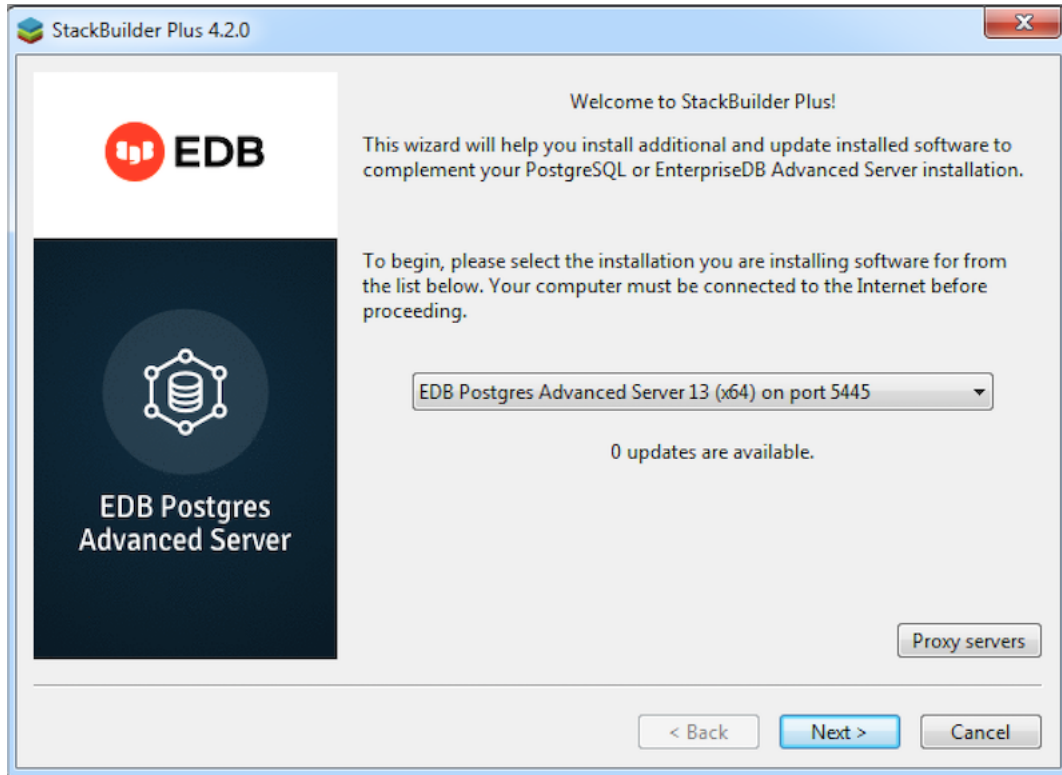


Fig. 1: The StackBuilder Plus Welcome window

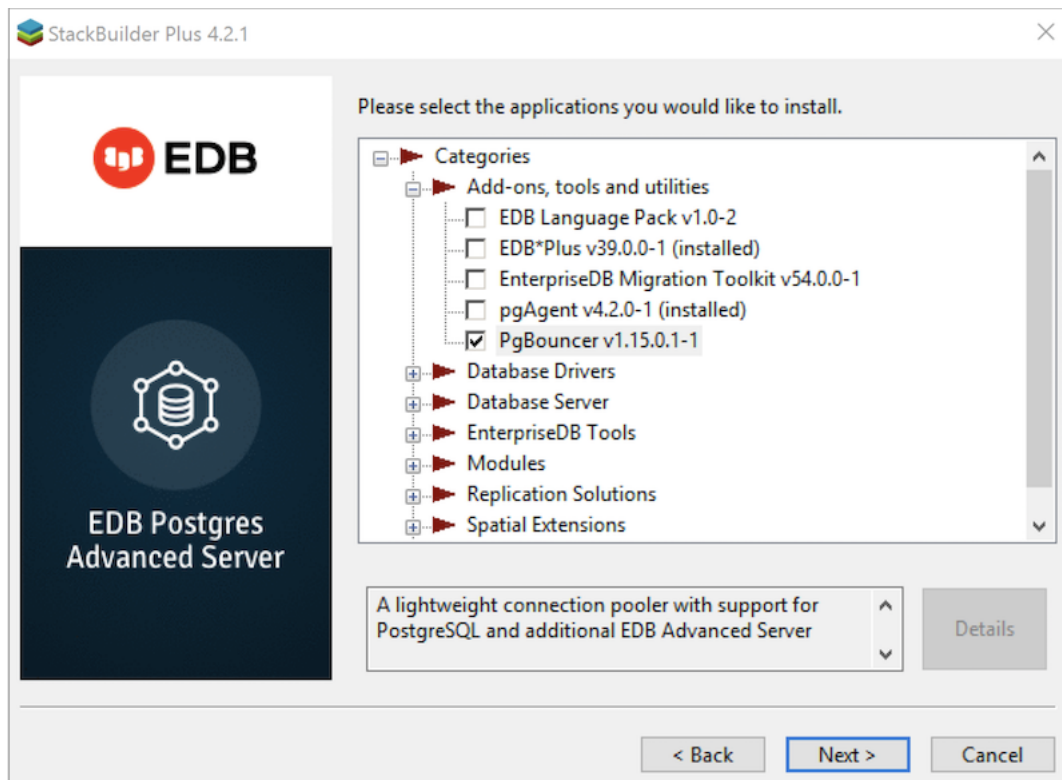


Fig. 2: Expand Add-ons, Tools and Utilities

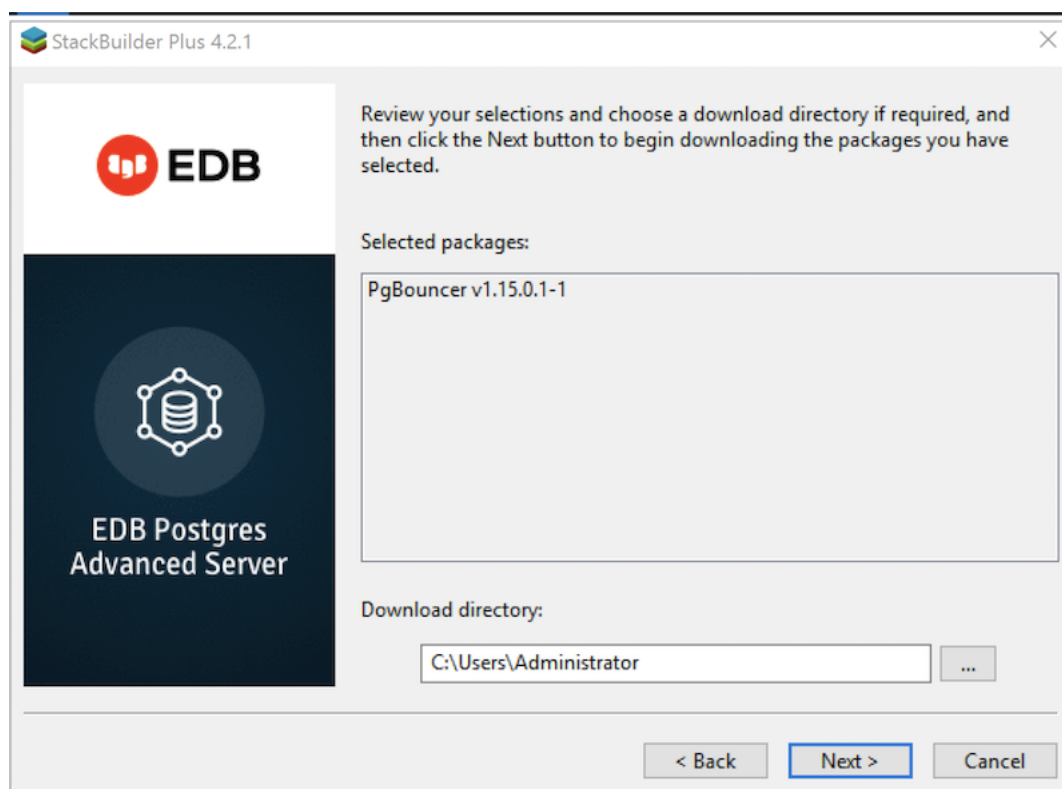


Fig. 3: Installation Directory

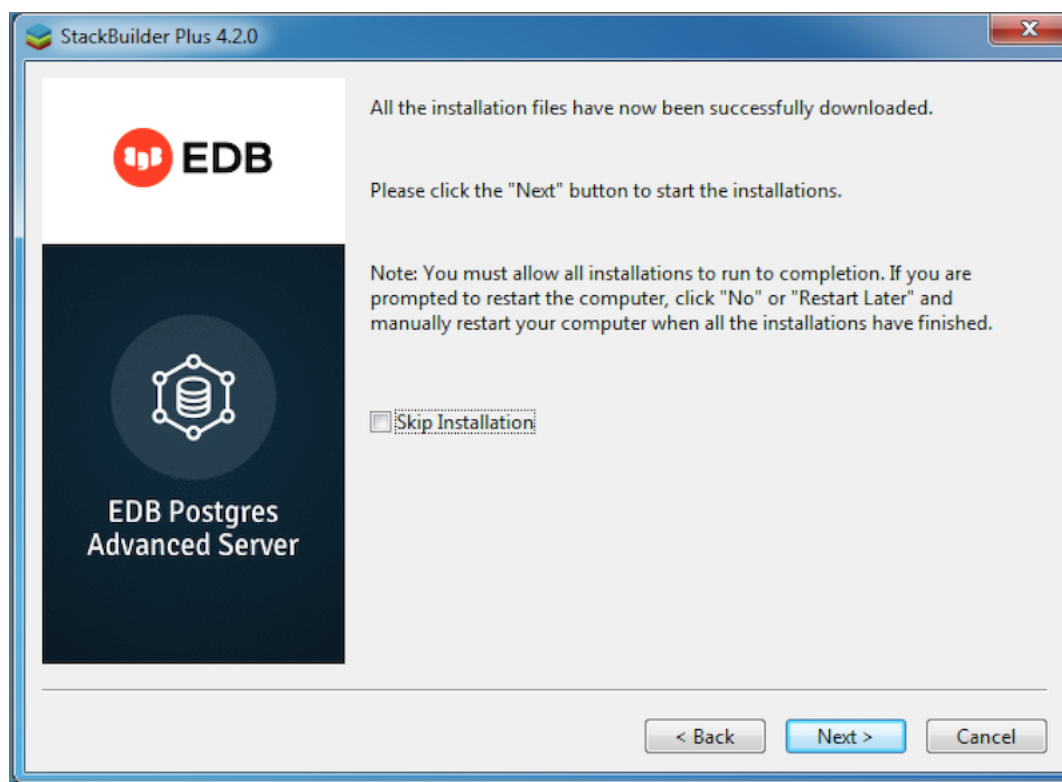


Fig. 4: Installing EDB PgBouncer

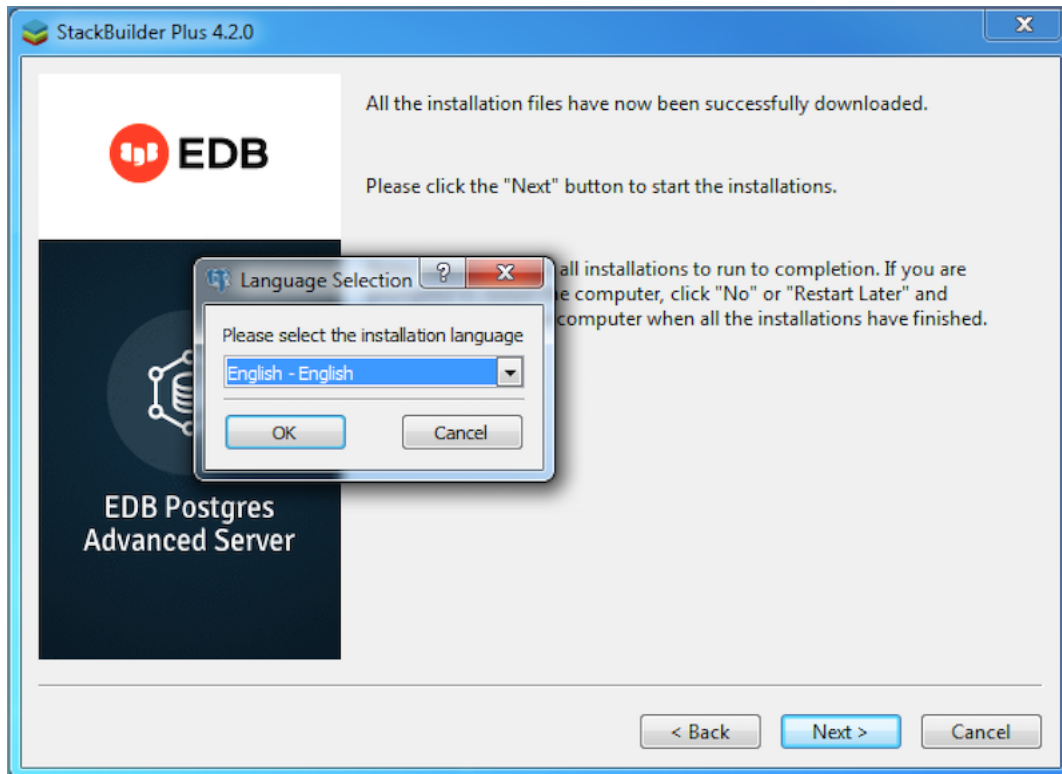


Fig. 5: The Language Selection window

- Provide the name of the role that EDB PgBouncer will use for connections to the server in the **User Name** field.
- Provide the password associated with the role in the **Password** field.
- Use the **Port** field to identify the listener port that Advanced Server monitors for client connections.

Then, click **Next** to continue.

Fig. 7: The Advanced Server Installation Details window

9. Use fields on the **PgBouncer Configurations** window to provide your preferences for the PgBouncer installation:
 - Use the **Listening Port** field to specify the port that PgBouncer monitors for connections.
 - Use the **Operating System User** field to specify the name of the Linux operating system user that EDB PgBouncer will change to after startup. This option is not supported on Windows hosts.

Fig. 8: The EDB PgBouncer Configuration window

10. The **Ready to Install** window notifies you when the installer has all of the information needed to install EDB PgBouncer on your system. Click **Next** to install EDB PgBouncer. Progress bars inform you as the installation progresses.

Fig. 9: The Ready to Install window

11. The installer notifies you when the setup wizard has completed the installation. Click **Finish** to exit the installer.

Fig. 10: The installation is complete

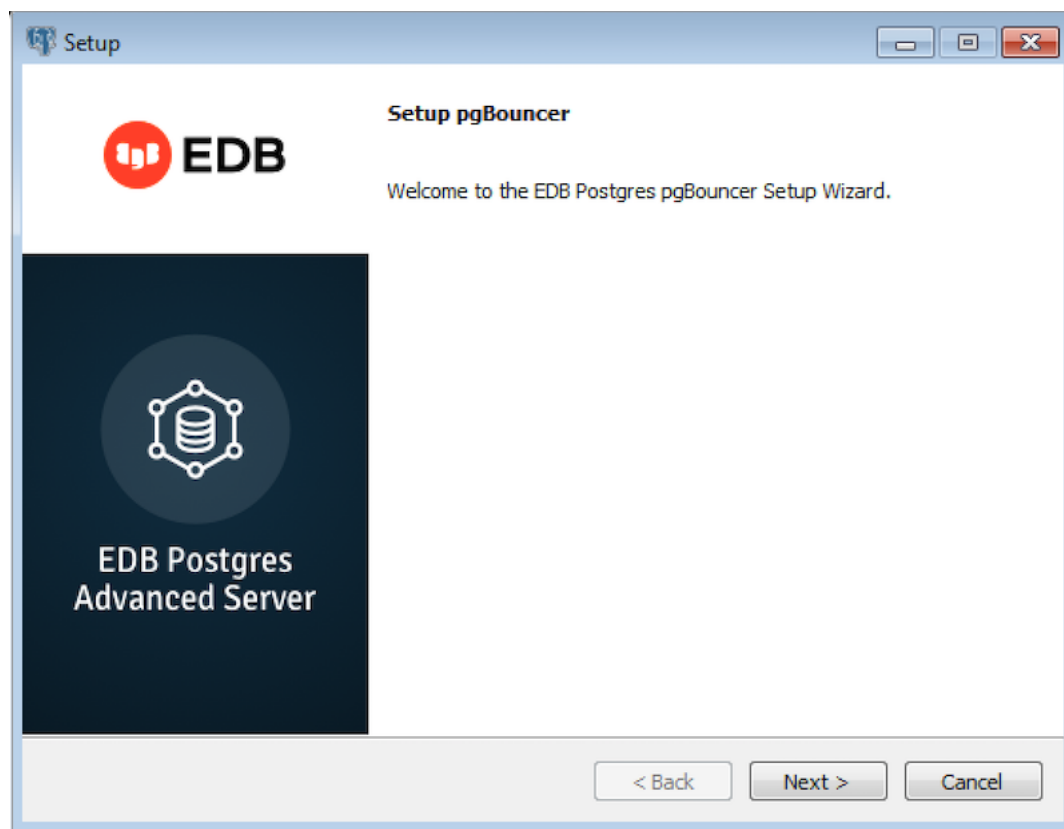


Fig. 6: The EDB PgBouncer Welcome window

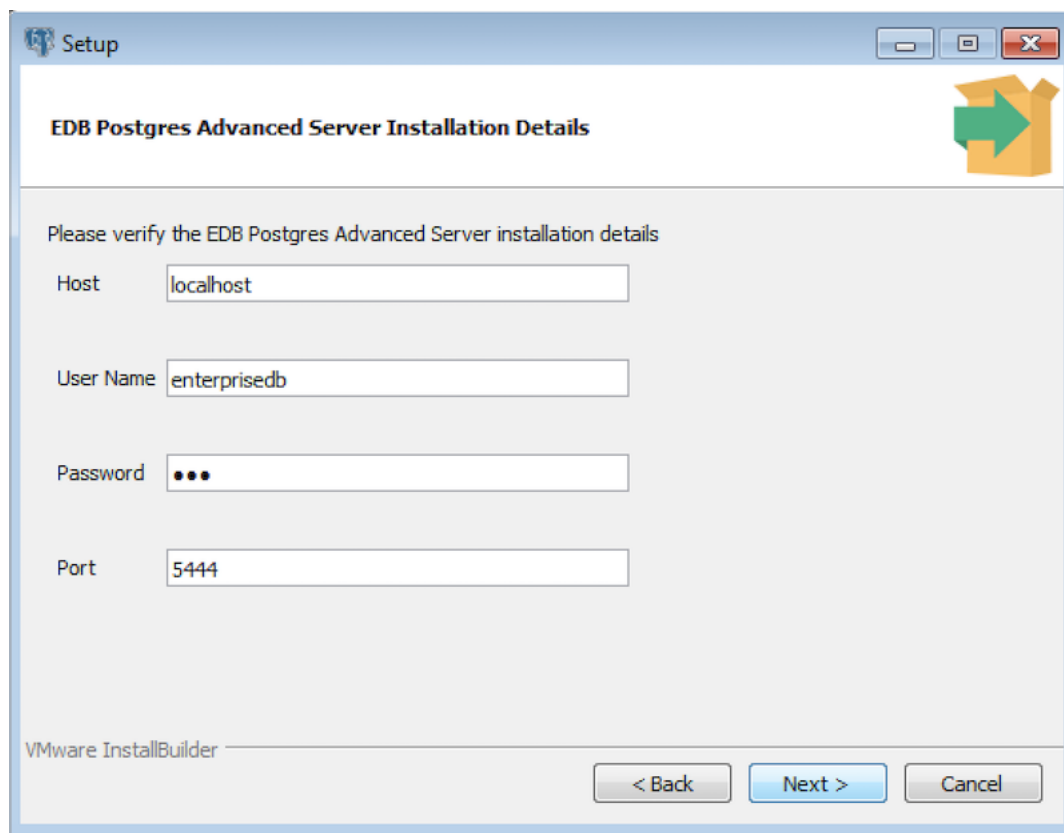


Fig. 7: The Advanced Server Installation Details window

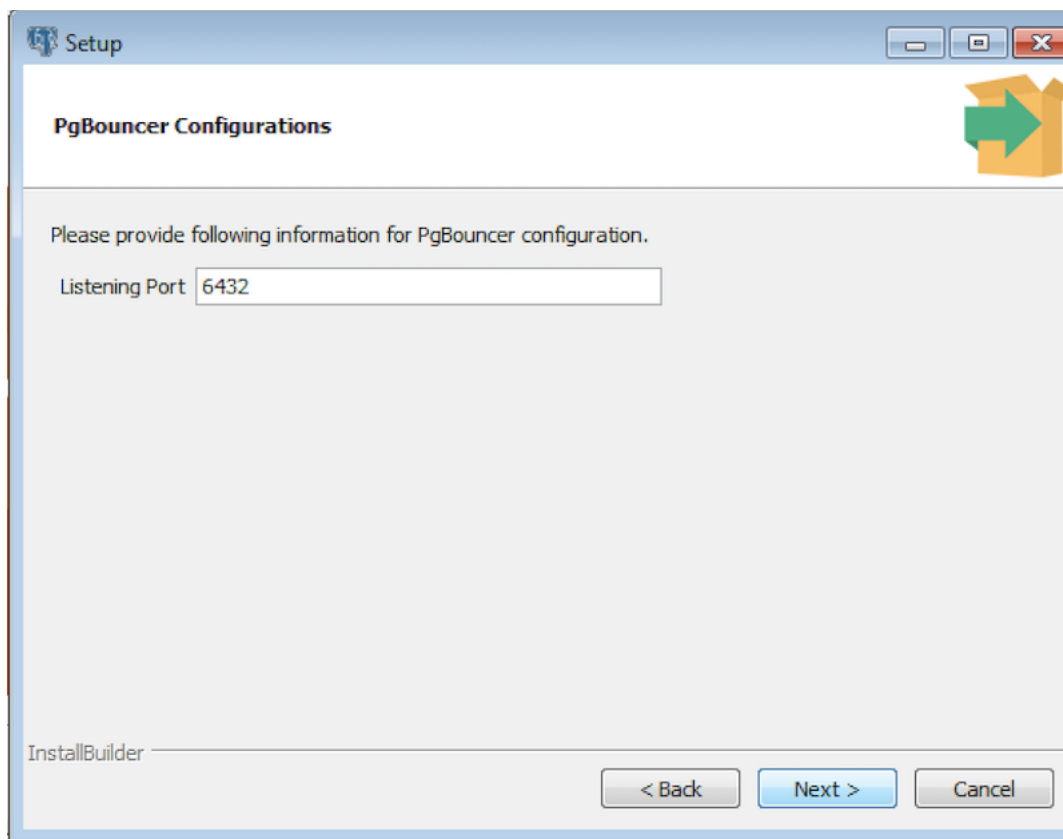


Fig. 8: The EDB PgBouncer Configuration window

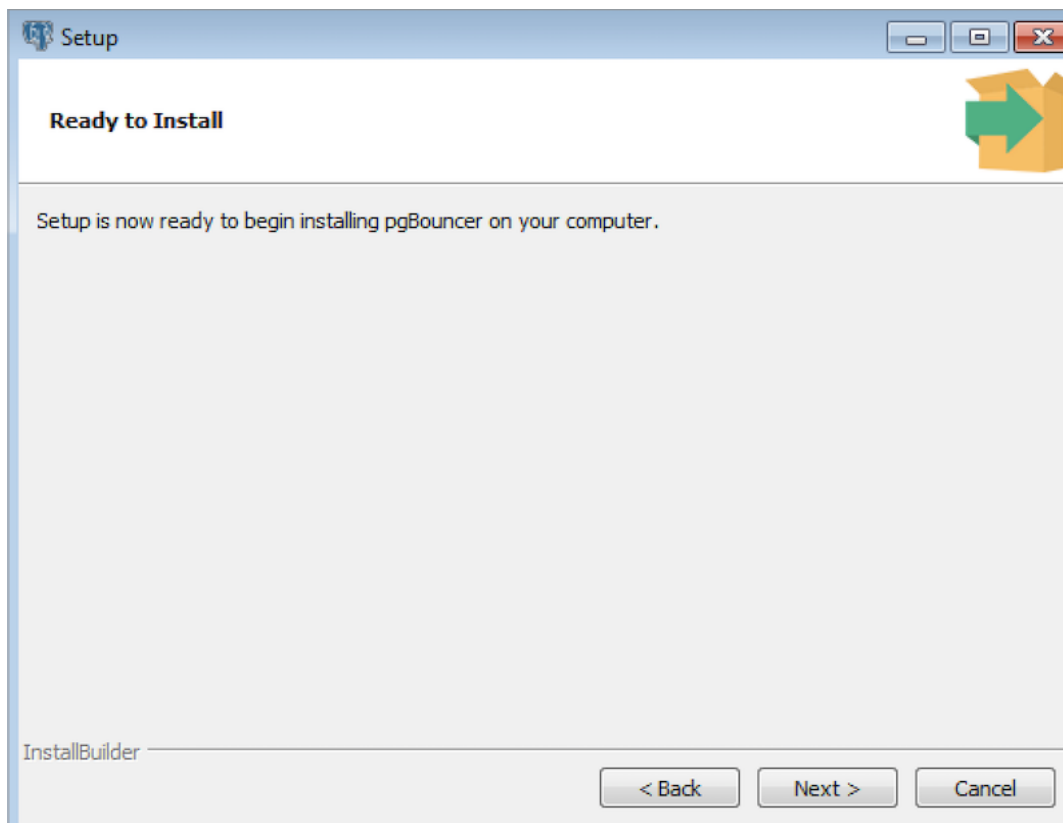


Fig. 9: The Ready to Install window

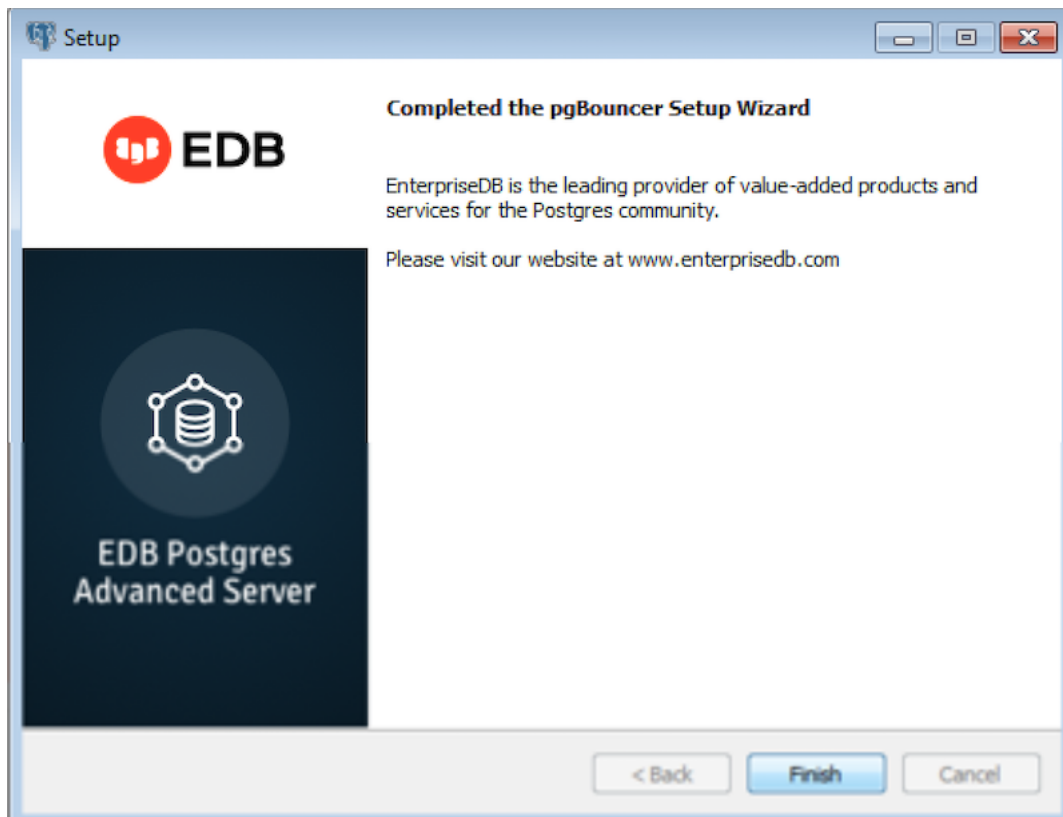


Fig. 10: The installation is complete

3.3 Upgrading

You can upgrade to a patch release with a simple in place upgrade. A minor release upgrade such as upgrading from 1.15 to 1.16 requires additional steps.

To upgrade to a new minor release:

1. Stop the service for the currently installed version.
2. Install the new release.

For Rocky Linux/AlmaLinux 8 on x86_64:

```
dnf -y upgrade edb-pgbouncer<xx>
```

For RHEL/CentOS 7 on ppc64le:

```
yum -y upgrade edb-pgbouncer<xx>
``` For SLES:

``` shell
zypper -n update edb-pgbouncer<xx>
```

For Ubuntu/Debian:

```
apt-get -y upgrade edb-pgbouncer<xx>
```

Where <xx> is the EDB PgBouncer minor version you want to upgrade to.

3. If you have any custom configurations in the `edb-pgbouncer.ini` and `userlist.txt` files for the previously installed version, copy them from the versions of those files where the customization were made and paste them to the corresponding files for the release you just installed.

3.4 Uninstalling

This section walks you through uninstalling EDB PgBouncer.

3.4.1 Uninstalling EDB PgBouncer on a RHEL/Rocky Linux/AlmaLinux host

To uninstall EDB PgBouncer on a CentOS host, assume the identity of the root user and invoke the following command:

On RHEL/CentOS 7:

```
yum -y erase edb-pgbouncer<xx>
```

On RHEL/Rocky Linux/AlmaLinux 8:

```
dnf -y erase edb-pgbouncer<xx>
```

Where <xx> is the EDB PgBouncer version.

3.4.2 Uninstalling EDB PgBouncer on a Debian or Ubuntu host

To uninstall EDB PgBouncer on a Debian or Ubuntu host, invoke the following command:

```
apt-get remove edb-pgbouncer<xx>
```

Where <xx> is the version you want to uninstall.

3.4.3 Uninstalling EDB PgBouncer on an SLES 12 host

To uninstall PgBouncer on an SLES 12 host, assume the identity of the root user and invoke the following command:

```
zypper remove edb-pgbouncer<xx>
```

Where <xx> is the version you want to uninstall.

For example, to uninstall EDB PgBouncer 1.16, invoke the following command:

```
zypper remove edb-pgbouncer116
```

3.4.4 Uninstalling EDB PgBouncer on a Windows host

To uninstall EDB PgBouncer on a Windows Host, perform the following steps:

1. The EDB PgBouncer graphical installer creates an uninstaller in the installation directory. Navigate into the installation directory and assume superuser privileges. Open the uninstaller and click Yes to begin uninstalling EDB PgBouncer:

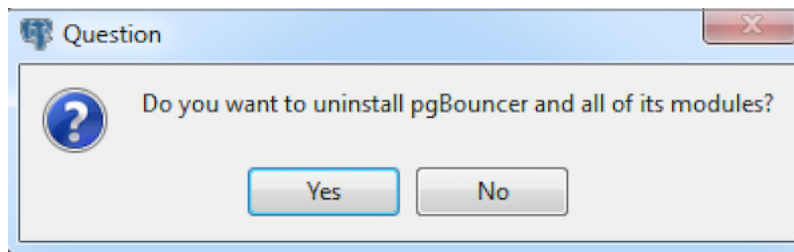


Fig. 11: The EDB PgBouncer Uninstaller

Fig. 1: The EDB PgBouncer Uninstaller

2. The uninstallation process begins. Click OK when the uninstallation completes:

Fig. 2: Uninstallation completes

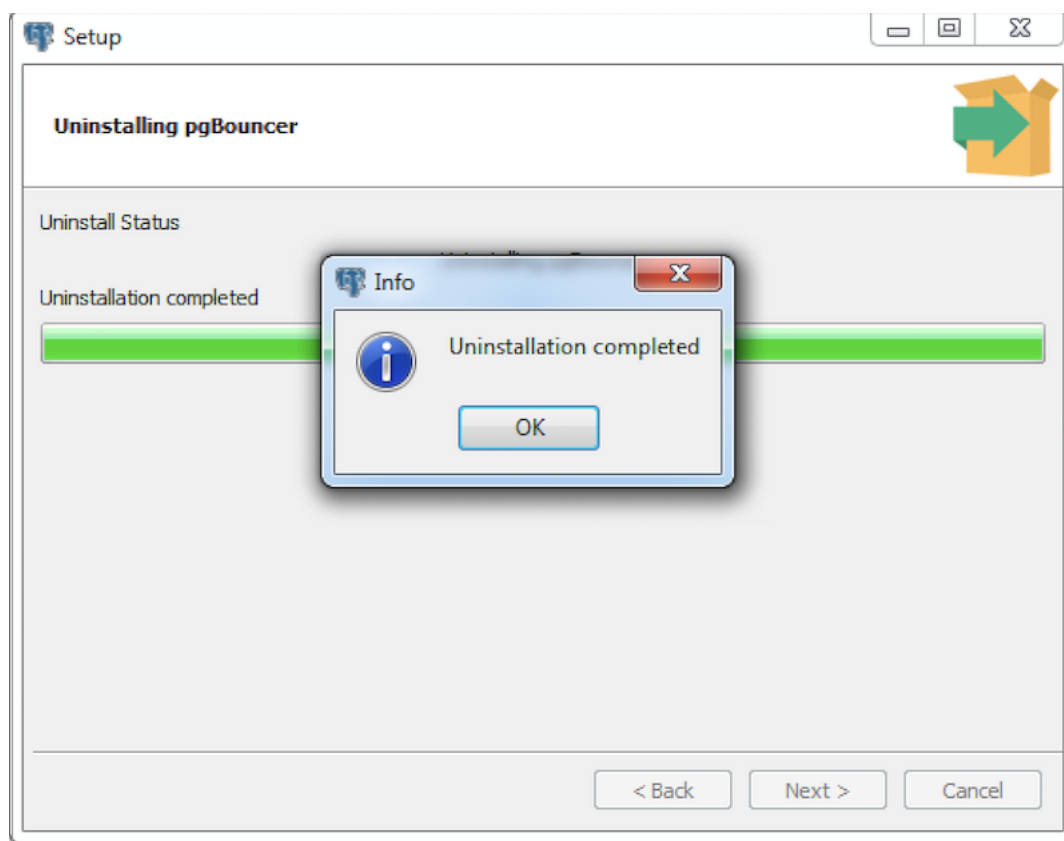


Fig. 12: Uninstallation completes

CONFIGURING AND USAGE

Configure EDB PgBouncer before you use it.

4.1 Configuring EDB PgBouncer

When the EDB PgBouncer service is running, any Postgres client connecting to the EDB PgBouncer listener port specified in the configuration file uses connection pooling. EDB PgBouncer connection and configuration information is stored in the `.ini` file.

On RedHat/Centos, Debian, and SLES 12 SP5, the `.ini` file is located in the following directory:

```
/etc/edb/pgbouncer<x.x>/
```

<x.x> is the EDB PgBouncer version.

On Windows, the `.ini` file is located in the following directory:

```
C:\Program Files\edb\pgbouncer<x.x>\share\
```

<x.x> is the EDB PgBouncer version.

The EDB PgBouncer configuration file is divided into two sections: `[databases]` and `[pgbouncer]`.

The `[databases]` section of the configuration file contains a list of databases and the associated connection information. The configuration file includes an entry for the installation of EDB Postgres Advanced Server that installed EDB PgBouncer:

```
edb = host=127.0.0.1 port=5444
```

For PostgreSQL Server, you need to enter PostgreSQL server details, such as those shown in the following example.

```
postgres = host=127.0.0.1 port=5432
```

You can specify more database connection information in the configuration file in the form of `keyword=value` pairs. You can include the parameters shown in the table.

Parameter	Description
<i>host</i>	The IP address of the host
<i>port</i>	The port on which the host is listening
<i>dbname</i>	The (optional) database name
<i>user</i>	A user name (if different from the information specified by the connecting client)
<i>password</i>	A password (if different from the information specified by the connecting client)

The following example shows the syntax allowed in the `[databases]` section of the configuration file:

[databases]

```
edb = host=127.0.0.1 port=5444
postgres = host=127.0.0.1 port=5432
acctg = host=192.168.10.101 port=5432 user=bob password=XXXXXX
```

Include the `dbname` parameter to map the connection name to an alternative database name. For example:

```
hr = host=127.0.0.1 port=5445 dbname=humanresources
```

When the client provides authentication information, that information is used to connect to EDB PgBouncer. EDB PgBouncer then uses the information specified in the EDB PgBouncer configuration file to connect to the database server. The user information provided in the configuration file must match a role defined in the Postgres database cluster.

Note: If you don't specify user details in `pgbouncer.ini`, the user name and password are authenticated by the database server and EDB PgBouncer. As such, include the user name and password in the `userlist.txt` file and the database cluster.

The `[pgbouncer]` section of the configuration file contains configuration details specific to EDB PgBouncer:

Parameter	Description
<code>admin_users</code>	A comma-delimited list of users that are allowed to access the Admin console (for management and monitoring purposes). By default, EDB PgBouncer is installed with <code>admin_users = enterprisedb</code> . For the PostgreSQL server, set this value as <code>admin_users = postgres</code> .
<code>auth_file</code>	The path to the authentication file that contains user name and passwords of clients that can connect to EDB PgBouncer. The authentication file (<code>userlist.txt</code>) is located in <code>/etc/edb/pgbouncer<x.x>/</code> , and contains <code>username/password</code> pairs that specify the identities that clients can use to access EDB PgBouncer. In the authentication file, specify the user name and password in double quotes. To make changes to the identities that can access EDB PgBouncer, you can edit the existing authentication file or specify an alternative authentication file with the <code>auth_file</code> parameter.
<code>auth_type</code>	The authentication method used by EDB PgBouncer. Can be: <code>md5</code> , <code>crypt</code> , <code>plain</code> , <code>trust</code> , or <code>any</code> . The default value is <code>md5</code> .
<code>default_pool_size</code>	The amount of user connections that are allowed to access the server. The default is 20 active connections.
<code>ignore_startup_parameters</code>	A comma-delimited list of application startup packets for EDB PgBouncer to ignore. The default is <code>application_name</code> .
<code>listen_addr</code>	The IP address on which EDB PgBouncer listens for client connections. If omitted, only Unix socket connections are allowed. The client must also reside on the same host as EDB PgBouncer and can't specify a host IP address when connecting to EDB PgBouncer.
<code>listen_port</code>	The port that EDB PgBouncer monitors for client connections. By default, EDB PgBouncer listens on port 6432.
<code>logfile</code>	The path to the EDB PgBouncer log file.
<code>max_client_conn</code>	The maximum number of connections allowed. The default is 100.
<code>pidfile</code>	The path to the process ID file.
<code>pool_mode</code>	The value of <code>pool_mode</code> specifies when the server connection can be made available to the connection pool. Can be <code>session</code> , <code>transaction</code> , or <code>statement</code> . The default value is <code>session</code> .
<code>server_reset_query</code>	The default is <code>DISCARD ALL</code> , which instructs EDB PgBouncer to clean any changes made to a database session.

continues on next page

Table 2 – continued from previous page

Parameter	Description
<i>stats_users</i>	A comma-delimited list of users who are allowed to connect and run read-only queries. The default is <i>stats_users = enterprisedb</i> . For the PostgreSQL server, set this value as <i>stats_users = postgres</i> .

The following example shows the syntax allowed in the [pgbouncer] section of the configuration file for EDB PgBouncer 1.16 for EDB Postgres Advanced Server:

```
[pgbouncer]
logfile = /var/log/edb/pgbouncer1.16/edb-pgbouncer-1.16.log
pidfile = /var/run/edb/pgbouncer1.16/edb-pgbouncer-1.16.pid
listen_addr = *
listen_port = 6432
auth_type = md5
auth_file = /etc/edb/pgbouncer-1.16/userlist.txt
admin_users = enterprisedb
stats_users = enterprisedb
pool_mode = session
server_reset_query = DISCARD ALL
ignore_startup_parameters = application_name
max_client_conn = 100
default_pool_size = 20
```

For more information about the settings used in the `pgbouncer.ini` file, see `pgbouncer.ini`.

After editing the EDB PgBouncer configuration file for your environment, restart the EDB PgBouncer service to make the changes take effect. For CentOS, Rocky Linux, AlmaLinux, RHEL, SUSE, and Windows platforms, the EDB PgBouncer service name is `edb-pgbouncer-1.16`. For Deb packages, the EDB PgBouncer service name is `edb-pgbouncer116`. Use platform-specific commands to stop, start, or restart the service as needed.

4.2 Using the EDB PgBouncer Admin console

The Admin console allows you to retrieve statistical information about EDB PgBouncer activity and to control the EDB PgBouncer process. You can use the `edb-psql` client to access the EDB PgBouncer Admin console by connecting to the `pgbouncer` database.

The following example connects to the `pgbouncer` database with the `edb-psql` client on a Linux system. EDB PgBouncer is listening on port 6432 with a user name of `enterprisedb`:

Enter following command after navigating to the `bin` directory under your EDB Postgres Advanced Server installation. That the required connection information varies according to the connecting client, platform, and authentication information required by the server.

```
$ ./edb-psql -p 6432 -U enterprisedb pgbouncer
```

For PostgreSQL server, the command is:

```
$ ./edb-psql -p 6432 -h /tmp -U postgres pgbouncer
```

After connecting to the `pgbouncer` database, you can use the `SHOW CLIENTS` command to retrieve client-related information:

SHOW CLIENTS;

The SHOW CLIENTS command returns:

```
__OUTPUT__
- -[ RECORD 1 ]--+-----
type           | C
user           | enterprisedb
database       | pgbouncer
state          | active
addr           | unix
port           | 6432
local_addr     | unix
local_port     | 6432
connect_time   | 2010-05-25 05:26:20
request_time   | 2010-05-25 05:39:46
ptr            | 0x8655d20
link           |
```

You can use other variations of the SHOW command to retrieve information about EDB PgBouncer:

SHOW STATS SHOW SERVERS SHOW POOLS SHOW LISTS SHOW USERS SHOW DATABASES SHOW FDS SHOW CONFIG

You can use the following commands to control the EDB PgBouncer process. For more information about using PgBouncer, see the [PgBouncer project site](#).

PAUSE

Use the PAUSE command to disconnect all servers after waiting for current queries to complete.

SUSPEND

Use the SUSPEND command to flush the socket buffers and suspend the EDB PgBouncer process.

RESUME

Use the RESUME command to resume work after a PAUSE or SUSPEND command.

SHUTDOWN

Use the SHUTDOWN command to stop the EDB PgBouncer process and exit.

RELOAD

Use the RELOAD command to reload the EDB PgBouncer configuration files.