

# EyeDB Installation Guide

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# Introduction

This manual describes how to compile and install EyeDB from the source code distribution. If you are using a packaged distribution such as a RPM or a Debian package, please refer to the distribution instructions instead of this manual.

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# Chapter 1

## Compiling EyeDB

### 1.1 Getting EyeDB sources

The EyeDB sources can be downloaded from project page on sourceforge (<http://sourceforge.net/projects/eyedb>). By following the "download" link, you will get to the list of releases available for downloads. Source archives are provided under .tar.bz2 and .tar.gz format.

After downloading the source archive, unpack it using **tar**. This will create a directory named `eyedb-VERSION` where `VERSION` is the version number of EyeDB, for example `eyedb-2.8.7`.

### 1.2 Compilation prerequisites

For building EyeDB the following software packages are required:

- GNU make; other make programs will *not* work.
- ANSI C++ compiler. Most platforms use GNU C++ compiler.
- flex lexical analyzer generator
- bison parser generator
- GNU readline library will be used if available for command line editing in the OQL monitor
- Python and the `pexpect` python module, if running EyeDB test suites
- Java Development Kit, if building the Java binding
- `xsltproc` and XSL manpages stylesheet, if building the man pages
- `xsltproc` and XSL stylesheet, if building the HTML version of docbook manuals
- `dblatex`, if building PDF version of docbook manuals
- LaTeX, if building the documentation
- `doxygen`, if building the documentation for the C++ binding
- `javadoc`, if building the documentation for the Java binding

These software packages are available on all the platforms supported by EyeDB. For more information on how to install these packages, refer to the documentation of your operating system distribution.

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## 1.3 Configuring EyeDB

EyeDB use GNU autotools (autoconf, automake, libtool) to ease compilation.

First step is to configure the source tree by running the **configure** script located at the root of the source tree.

The **configure** script accepts many options that allow fine grain control of the compilation and installation. For full help on options, run **configure --help**.

The following options of the **configure** script are the most usefull:

- `--prefix=prefix` install all files and directories under directory *prefix* instead of default (`/usr/local/eyedb`)
- `--srcdir=DIR` find the sources in *DIR* (default is `configure dir` or `..`)
- `--enable-debug` compile with debug (default is no)
- `--enable-optimize=flag` compile with given optimization flag (default is no)
- `--enable-profile` compile with profile (default is no)
- `--enable-java` enable Java code compilation (default is yes)
- `--enable-doc` enable documentation generation (default is yes)
- `--enable-swig` enable SWIG bindings generation (default is no)
- `--with-semaphore-policy=posix|sysv_ipc` force semaphore implementation (if none given, the semaphore implementation is guessed by the **configure** script)
- `--with-databasedir=DIRECTORY` give databases directory (default is `LOCALSTATEDIR/lib/eyedb/db`)
- `--with-pipedir=DIRECTORY` give pipes directory (default is `LOCALSTATEDIR/lib/eyedb/pipes`)
- `--with-tmpdir=DIRECTORY` give temporary directory (default is `LOCALSTATEDIR/lib/eyedb/tmp`)
- `--with-eyedb-user=USERNAME` give user the EyeDB server shall be run as (default is `eyedb`)
- `--with-readline=readline|editline` use GNU readline or BSD editline for line editing (default is readline if available)

## 1.4 Building EyeDB

Building EyeDB is simply done by running **make**. Remember that the **make** utility must be GNU make, which on some systems may be called **gmake**.

EyeDB supports compiling in a separate build directory, which can be usefull if the source tree must be kept clean, is shared between several architecture or several compilation options (for instance debug and profile), is mounted read-only... To compile in a separate build directory, run **configure** with options `--srcdir`.

## Chapter 2

# Installing EyeDB

### 2.1 Different types of installation

Two types of installation will be described:

- the *single user* installation, that will be used by a single user only, and is usefull for a first try, for testing, for debugging...
- the *shared* installation, that can be used by several user and that is the prefered installation for a production environment

### 2.2 The single user installation

This type of installation is the simplest one and does not require superuser rights; it can be done immediately after compiling EyeDB and require no extra steps. However, it cannot support multiple users accessing EyeDb databases and automatically starting EyeDB on machine boot is less easy to seup.

This installation is done by selecting, when configuring EyeDB, a *prefix* directory where the user compiling EyeDB has write permission, for instance:

```
./configure --prefix=$HOME/eyedb
```

#### 2.2.1 Installing EyeDB

After building, install EyeDB by running **make install**. This will install the files in the directories specified when [configuring](#) EyeDB.

Installing requires having write permission in the specified directory.

Uninstalling can be done by running **make uninstall**. Note that this command will not remove created directories.

#### 2.2.2 Post-installation setup

After installing EyeDB, a post-installation setup script must be run *once*, to initialize the system. This script is located in subdirectory `share/eyedb/tools` under the `prefix` directory and is named `eyedb-postinstall.sh`.

The script must be run under the user compiling EyeDB, as in:

```
./eyedb-postinstall.sh
==== Starting EyeDB server
Starting EyeDB Server
Version      V2.8.8
```



```
Compiled      Aug 13 2009 20:24:11
Architecture x86_64-unknown-linux-gnu
Program Pid   9388
==== Creating EYEDBDBM database
==== Stopping EyeDB server
Killing EyeDB Server Pid 9388
```

## 2.3 The shared installation

This type of installation requires more steps than the single user installation, requires superuser access to the installation host. However, it supports multiple users accessing EyeDB databases and can start automatically EyeDB on machine boot.

### 2.3.1 Preliminary steps

The first step of the shared installation is to select, when configuring EyeDB, a *prefix* directory, usually empty, whose ownership will be given to a special user. It is a good practice to select a filename ending with `eyedb`. For instance:

```
./configure --prefix=/opt/eyedb
```

The default prefix (`/usr/local/eyedb`) can perfectly be used.

The second step is to create a special Unix user that will own the installation directory and who will be used to run the EyeDB server. It is recommended that this user is a *system* user and has a disabled account that does not authorize to login. It is convenient to use `'eyedb'` as user name.

On Debian distributions, this can be done using the **adduser** command, as in:

```
adduser --system --group --no-create-home eyedb
Adding system user `eyedb' (UID 115) ...
Adding new group `eyedb' (GID 129) ...
Adding new user `eyedb' (UID 115) with group `eyedb' ...
Not creating home directory `/home/eyedb'.
```

After creating this Unix user, the third step is to create the installation directory and give it the right permissions:

```
mkdir /usr/local/eyedb
chown eyedb.eyedb /usr/local/eyedb
```

### 2.3.2 Installing EyeDB

After building, install EyeDB by running **make install**. This will install the files in the directories specified when [configuring](#) EyeDB (here `/usr/local/eyedb`, the default prefix).

Running **make install** *must* be done under the created Unix user. This can be done using for instance the **su** or **sudo** commands:

```
sudo -u eyedb make install
```

### 2.3.3 Post-installation setup

After installing EyeDB, a post-installation setup script must be run, as in the single user installation. This script is located in subdirectory `share/eyedb/tools` under the *prefix* directory and is named `eyedb-postinstall.sh`.

Running this script *must* be done under the created Unix user, using for instance the **su** or **sudo** commands:

```
sudo -u eyedb /usr/local/eyedb/share/eyedb/tools/eyedb-postinstall.sh
==== Starting EyeDB server
Starting EyeDB Server
Version      V2.8.8
Compiled     Aug 17 2009 16:40:17
Architecture x86_64-unknown-linux-gnu
Program Pid  31589
==== Creating EYEDBDBM database
==== Stopping EyeDB server
Killing EyeDB Server Pid 31589
```

The last step is to create EyeDB users to perform standard EyeDB tasks (creating databases, inserting and querying data...). Creating a EyeDB user and assigning this user permissions must be done under the created Unix user, using for instance the **su** or **sudo** commands:

```
sudo -u eyedb /usr/local/eyedb/sbin/eyedbctl start
Starting EyeDB Server
Version      V2.8.8
Compiled     Aug 17 2009 16:40:17
Architecture x86_64-unknown-linux-gnu
Program Pid  31727
      sudo -u eyedb /usr/local/eyedb/bin/eyedbadmin user add --strict-unix francois
      sudo -u eyedb /usr/local/eyedb/bin/eyedbadmin user sysaccess francois dbcreate
      /usr/local/eyedb/bin/eyedbadmin database create foo
      /usr/local/eyedb/bin/eyedbadmin database list foo
```

Note that the last two commands are not run using **sudo**, as the created EyeDB user (here 'francois') has permission to create EyeDB databases.

The final step is to allow, on Linux systems, EyeDB to start automatically at boot time. A System-V init script is provided to start and stop EyeDB; this script is located after installation in `/usr/local/eyedb/share/eyedb/eyedb.rc` (if prefix was `/usr/local/eyedb`). This script uses only LSB logging function and can therefore be used on any Linux distribution. The following steps are needed:

- copy the given script to the init scripts directory (for instance `/etc/init.d`, but this may vary depending on your distribution)
- update the system init scripts configuration by making the appropriate links between the runlevel directories and the init script (this is usually done by a distribution specific command such as **update-rc.d** or **chkconfig**)