

## Trac Installation Guide for 0.11

Trac is written in the Python programming language and needs a database, [SQLite](#), [PostgreSQL](#), [MySQL](#). For HTML rendering, Trac uses the [Genshi](#) templating system.

What follows are generic instructions for installing and setting up Trac and its requirements. While you can find instructions for installing Trac on specific systems at [TracInstallPlatforms](#) on the main Trac site, please be sure to **first read through these general instructions** to get a good understanding of the tasks involved.

See [TracUpgrade](#) for instructions on how to upgrade an existing installation.

### Quick Install a Released Version

For a quick install, first make sure you have [Python](#) (2.3-2.6) and [easy\\_install](#).

Then enter (*omitting 'sudo' if not applicable*)

```
sudo easy_install Trac
```

to install Trac, SQLite, and Genshi.

### Requirements

The hardware requirements for running Trac obviously depend on the expected data volume (number of wiki pages, tickets, revisions) and traffic. Very small projects will run fine with a 500MHz processor and 128MB RAM using SQLite. In general, the more RAM, the better. A fast hard disk also helps.

To install Trac, the following software packages must be installed:

- [Python](#), version  $\geq 2.3$  ( $< 3.0$ )
  - if using `mod_python` together with xml-related things, use `python-2.5`. `expat` is namespaced there and does not cause apache to crash any more (see [here](#) for details).
  - For RPM-based systems you might also need the `python-devel` and `python-xml` packages.
  - See instructions in [TracOnWindows/Python2.5](#)
- [setuptools?](#), version  $\geq 0.6$
- [Genshi](#), version  $\geq 0.5$  (was version  $\geq 0.4.1$  on previous 0.11 release candidates)
- You also need a database system and the corresponding python drivers for it. The database can be either SQLite, PostgreSQL or MySQL.
- Optional if some plugins require it: [ClearSilver](#)

#### For SQLite

If you're using Python 2.5 or 2.6, you already have everything you need.

If you're using Python 2.3 or 2.4 and need pysqlite, you can download from [google code](#) the Windows installers or the tar.gz archive for building from source:

```
$ tar xvfz <version>.tar.gz
$ cd <version>
$ python setup.py build_static install
```

That way, the latest SQLite version will be downloaded and built into the bindings.

If you're still using SQLite 2.x, you'll need pysqlite 1.0.x, although this package is not easy to find anymore. For SQLite 3.x, try not to use pysqlite 1.1.x, which has been deprecated in favor of pysqlite 2.x.

See additional information in [PySqlite](#).

#### For PostgreSQL

- [PostgreSQL](#)
- [psycopg2](#)

- See [DatabaseBackend](#)

**Warning:** PostgreSQL 8.3 uses a strict type checking mechanism. To use Trac with the 8.3 Version of PostgreSQL, you will need [trac-0.11](#) or later.

#### For MySQL

- [MySQL](#), version 4.1 or later ([MariaDB](#) might work as well)
- [MySQLdb](#), version 1.2.1 or later

See [MySQLDb](#) for more detailed information. It is very important to read carefully that page before creating the database.

## Optional Requirements

### Version Control System

**Please note:** if using Subversion, Trac must be installed on the **same machine**. Remote repositories are currently not supported (although Windows UNC paths such as `\\machine_name\path\to\svn` do work).

[Subversion](#), version  $\geq 1.0$ . (versions recommended: 1.2.4, 1.3.2 or 1.4.2) and the **corresponding** Python bindings. For troubleshooting, check [TracSubversion](#)

- Trac uses the [SWIG](#) bindings included in the Subversion distribution, **not** [PySVN](#) (which is sometimes confused with the standard SWIG bindings).
- If Subversion was already installed without the SWIG bindings, on Unix you'll need to re-configure Subversion and `make swig-py, make install-swig-py`.
- There are [pre-compiled bindings](#) available for win32.
- Support for other version control systems is provided via third-parties. See [PluginList](#) and [VersioningSystemBackend](#).

### Web Server

- A CGI-capable web server (see [TracCgi](#)), or
- a [FastCGI](#)-capable web server (see [TracFastCgi](#)), or
- an [AJP](#)-capable web server (see [TracOnWindowsIisAjp](#)), or  
[Apache](#) with [mod\\_wsgi](#) (see [TracModWSGI](#) or <http://code.google.com/p/modwsgi/wiki/IntegrationWithTrac>) or
  - This should work with Apache 1.3, 2.0 or 2.2 and promises to deliver more performance than using `mod_python`. A little less mature than `mod_python`.
- [Apache](#) with [mod\\_python 3.1.3+](#) (see [TracModPython](#))
  - When installing `mod_python` the development versions of Python and Apache are required (actually the libraries and header files)

For those stuck with Apache 1.3, it is also possible to get Trac working with [mod\\_python 2.7](#) (see [TracModPython2.7](#)). This guide hasn't been updated since 0.84, so it may or may not work.

### Other Python Utilities

- [docutils](#), version  $\geq 0.3.9$  for [WikiRestructuredText](#).
- [Pygments](#) for **syntax highlighting**, although [SilverCity](#)  $\geq 0.9.7$  and/or [GNU Enscript](#) are also possible. Refer to [TracSyntaxColoring](#) for details.
- [pytz](#) to get a complete list of time zones, otherwise Trac will fall back on a shorter list from an internal time zone implementation.

**Attention:** The various available versions of these dependencies are not necessarily interchangeable, so please pay attention to the version numbers above. If you are having trouble getting Trac to work please double-check all the dependencies before asking for help on the [MailingList](#) or [IrcChannel](#).

Please refer to the documentation of these packages to find out how they are best installed. In addition, most of the [platform-specific instructions](#) also describe the installation of the dependencies. Keep in mind however that the information there *probably concern older versions of Trac than the one you're installing* (there are even some pages that are still talking about Trac 0.8!).

## Installing Trac

One way to install Trac is using `setuptools`. With `setuptools` you can install Trac from the subversion repository; for example, to install release version 0.11 do:

```
easy_install http://svn.edgewall.org/repos/trac/tags/trac-0.11
```

But of course the python-typical setup at the top of the source directory also works:

```
$ python ./setup.py install
```

*Note: you'll need root permissions or equivalent for this step.*

This will byte-compile the python source code and install it as an .egg file or folder in the `site-packages` directory of your Python installation. The .egg will also contain all other resources needed by standard Trac, such as htdocs and templates.

The script will also install the [trac-admin](#) command-line tool, used to create and maintain [project environments](#), as well as the [tracd](#) standalone server.

### Advanced Options

To install Trac to a custom location, or find out about other advanced installation options, run:

```
easy_install --help
```

Also see [Installing Python Modules](#) for detailed information.

Specifically, you might be interested in:

```
easy_install --prefix=/path/to/installdir
```

or, if installing Trac to a Mac OS X system:

```
easy_install --prefix=/usr/local --install-dir=/Library/Python/2.5/site-packages
```

The above will place your `tracd` and `trac-admin` commands into `/usr/local/bin` and will install the Trac libraries and dependencies into `/Library/Python/2.5/site-packages`, which is Apple's preferred location for third-party Python application installations.

### Creating a Project Environment

A [Trac environment](#) is the backend storage where Trac stores information like wiki pages, tickets, reports, settings, etc. An environment is basically a directory that contains a human-readable configuration file and various other files and directories.

A new environment is created using [trac-admin](#):

```
$ trac-admin /path/to/myproject initenv
```

[trac-admin](#) will prompt you for the information it needs to create the environment, such as the name of the project, the type and the path to an existing [source code repository](#), the [database connection string](#), and so on. If you're not sure what to specify for one of these options, just leave it blank to use the default value. The database connection string in particular will always work as long as you have SQLite installed. Leaving the path to the source code repository empty will disable any functionality related to version control, but you can always add that back when the basic system is running.

Also note that the values you specify here can be changed later by directly editing the [Trac.ini](#) configuration file.

*Note: The user account under which the web server runs will require write permissions to the environment directory and all the files inside. On Linux, with the web server running as user `apache` and group `apache`, enter:*

```
chown -R apache.apache /path/to/myproject
```

### Running the Standalone Server

After having created a Trac environment, you can easily try the web interface by running the standalone server [tracd](#):

```
$ tracd --port 8000 /path/to/myproject
```

Then, fire up a browser and visit `http://localhost:8000/`. You should get a simple listing of all environments that `tracd` knows about. Follow the link to the environment you just created, and you should see Trac in action. If you only plan on managing a single project with `trac` you can have the standalone server skip the environment list by starting it like this:

```
$ tracd -s --port 8000 /path/to/myproject
```

## Running Trac on a Web Server

Trac provides three options for connecting to a "real" web server: [CGI](#), [FastCGI](#) and [mod\\_python](#). For decent performance, it is recommended that you use either FastCGI or mod\_python.

If you're not afraid of running newer code, you can also try running Trac on [mod\\_wsgi](#). This should deliver even better performance than mod\_python, but the module isn't as extensively tested as mod\_python.

Trac also supports [AJP](#) which may be your choice if you want to connect to IIS.

### Generating the Trac cgi-bin directory

In order for Trac to function properly with FastCGI or mod\_python, you need to have a trac.cgi file. This is an executable which loads the appropriate Python code. It can be generated using the `deploy` option of [trac-admin](#).

There is, however, a bit of a chicken-and-egg problem. The [trac-admin](#) command requires an existing environment to function, but complains if the deploy directory already exists. This is a problem, because environments are often stored in a subdirectory of the deploy. The solution is to do something like this:

```
mkdir -p /usr/share/trac/projects/my-project
trac-admin /usr/share/trac/projects/my-project initenv
trac-admin /usr/share/trac/projects/my-project deploy /tmp/deploy
mv /tmp/deploy/* /usr/share/trac
```

### Setting up the Plugin Cache

Some Python plugins need to be extracted to a cache directory. By default the cache resides in the home directory of the current user. When running Trac on a Web Server as a dedicated user (which is highly recommended) who has no home directory, this might prevent the plugins from starting. To override the cache location you can set the `PYTHON_EGG_CACHE` environment variable. Refer to your server documentation for detailed instructions.

## Configuring Authentication

The process of adding, removing, and configuring user accounts for authentication depends on the specific way you run Trac. The basic procedure is described in the [Adding Authentication](#) section on the [TracCgi](#) page. To learn how to setup authentication for the frontend you're using, please refer to one of the following pages:

- [TracStandalone](#) if you use the standalone server, `tracd`.
- [TracCgi](#) if you use the CGI or FastCGI methods.
- [TracModPython](#) if you use the `mod_python` method.

## Automatic reference to the SVN changesets in Trac tickets

You can configure SVN to automatically add a reference to the changeset into the ticket comments, whenever files are committed to the repository. The description of the commit needs to contain one of the following formulas:

- **Refs #123** - to reference this changeset in [#123](#) ticket
- **Fixes #123** - to reference this changeset and close [#123](#) ticket with the default status *fixed*

All you have to do is to edit the `post-commit` hook in your SVN repository and make it execute `trac-post-commit-hook` coming with Trac.

If you are editing the `post-commit` hook for the first time you need to navigate to your SVN repository's hooks subfolder and rename existing there `post-commit` template:

```
$ cd /path/to/svn/repository/hooks
$ mv post-commit.tpl post-commit
$ chmod 755 post-commit
```

Next open it in any text editor and add a line with path to the Trac environment connected with this SVN repository and another line executing the `trac-post-commit-hook` script:

```
REPOS="$1"  
REV="$2"  
TRAC_ENV="/path/to/your/trac/project"  
  
/usr/bin/python /usr/local/bin/trac-post-commit-hook -p "$TRAC_ENV" -r "$REV"
```

Make sure that *trac-post-commit-hook* exists in above path with execution permissions for the same user which SVN is running from. This script can be found in contrib subfolder of your Trac distribution and the latest version can be always downloaded from [trunk/contrib/trac-post-commit-hook](http://trac.edgewall.org/trunk/contrib/trac-post-commit-hook).

## Platform-specifics installations

- See [TracInstallPlatforms](#)

## Using Trac

Once you have your Trac site up and running, you should be able to browse your subversion repository, create tickets, view the timeline, etc.

Keep in mind that anonymous (not logged in) users can by default access most but not all of the features. You will need to configure authentication and grant additional [permissions](#) to authenticated users to see the full set of features.

*Enjoy!*

[The Trac Team](#)

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See also: [TracInstallPlatforms](#), [TracGuide](#), [TracCgi](#), [TracFastCgi](#), [TracModPython](#), [TracModWSGI](#), [TracUpgrade](#), [TracPermissions](#)