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# Trac and mod\_python

Trac supports `mod_python`, which speeds up Trac's response times considerably, especially compared to CGI, and permits use of many Apache features not possible with `tracd/mod_proxy`.

## Simple configuration

If you just installed `mod_python`, you may have to add a line to load the module in the Apache configuration:

```
LoadModule python_module modules/mod_python.so
```

*Note: The exact path to the module depends on how the HTTPD installation is laid out.*

You can test your `mod_python` installation by adding the following to your `httpd.conf`. You should remove this when you are done testing for security reasons.

```
<Location /mpinfo>
    SetHandler mod_python
    PythonHandler mod_python.testhandler
</Location>
```

A simple setup of Trac on `mod_python` looks like this:

```
<Location /projects/myproject>
    SetHandler mod_python
    PythonHandler trac.web.modpython_frontend
    PythonOption TracEnv /var/trac/myproject
    PythonOption TracUriRoot /projects/myproject
</Location>
```

The option **TracUriRoot** may or may not be necessary in your setup. Try your configuration with out it, and if the URLs produced by Trac look wrong or if Trac does not seem to recognize the URLs correctly, add the **TracUriRoot** option. You will notice that the `Location` and **TracUriRoot** have the same path.

## Configuring Authentication

Configuring authentication works just like for CGI:

```
<Location "/projects/myproject/login">
    AuthType Basic
    AuthName "myproject"
    AuthUserFile /var/trac/myproject/.htpasswd
    Require valid-user
</Location>
```

## Setting the PythonPath

If the Trac installation isn't installed in your Python path, you'll have to tell Apache where to find the Trac `mod_python` handler using the `PythonPath` directive:

```
<Location /projects/myproject>
    ...
    PythonPath "sys.path + ['/path/to/trac']"
    ...
</Location>
```

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Be careful about using the PythonPath directive, and *not* SetEnv PYTHONPATH, as the latter won't work.

## Setting up multiple projects

The Trac mod\_python handler supports a configuration option similar to Subversion's SvnParentPath, called TracEnvParentDir:

```
<Location /projects>
  SetHandler mod_python
  PythonHandler trac.web.modpython_frontend
  PythonOption TracEnvParentDir /var/trac
  PythonOption TracUriRoot /projects
</Location>
```

When you request the /projects URL, you will get a listing of all subdirectories of the directory you set as TracEnvParentDir that look like Trac environment directories. Selecting any project in the list will bring you to the corresponding Trac environment.

If you don't want to have the subdirectory listing as your projects home page you can use a

```
<LocationMatch "/.+/">
```

This will instruct Apache to use mod\_python for all locations different from root while having the possibility of placing a custom home page for root in your DocumentRoot folder.

You can also use the same authentication realm for all of the projects using a <LocationMatch> directive:

```
<LocationMatch "/projects/[^/]+/login">
  AuthType Basic
  AuthName "Trac"
  AuthUserFile /var/trac/.htpasswd
  Require valid-user
</LocationMatch>
```

## Virtual Host Configuration

Below is the sample configuration required to set up your trac as a virtual server (i.e. when you access it at the URLs like http://trac.mycompany.com):

```
<VirtualHost * >
  DocumentRoot /var/trac/myproject
  ServerName trac.mycompany.com
  <Location />
    SetHandler mod_python
    PythonHandler trac.web.modpython_frontend
    PythonOption TracEnv /var/trac/myproject
    PythonOption TracUriRoot /
  </Location>
  <Location /login>
    AuthType Basic
    AuthName "MyCompany Trac Server"
    AuthUserFile /var/trac/myproject/.htpasswd
    Require valid-user
  </Location>
</VirtualHost>
```

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For a virtual host that supports multiple projects replace "TracEnv" /var/trac/myproject with "TracEnvParentDir" /var/trac/

## Troubleshooting

In general, if you get server error pages, you can either check the Apache error log, or enable the PythonDebug option:

```
<Location /projects/myproject>
...
PythonDebug on
</Location>
```

### Form submission problems

If you're experiencing problems submitting some of the forms in Trac (a common problem is that you get redirected to the start page after submission), check whether your DocumentRoot contains a folder or file with the same path that you mapped the mod\_python handler to. For some reason, mod\_python gets confused when it is mapped to a location that also matches a static resource.

### Problem with virtual host configuration

If the <Location /> directive is used, setting the DocumentRoot may result in a 403 (*Forbidden*) error. Either remove the DocumentRoot directive, or make sure that accessing the directory it points to is allowed (in a corresponding <Directory> block).

Using <Location /> together with SetHandler resulted in having everything handled by mod\_python, which leads to not being able to download any CSS or images/icons. I used <Location /trac> SetHandler None </Location> to circumvent the problem, though I do not know if this is the most elegant solution.

### Using .htaccess

Although it may seem trivial to rewrite the above configuration as a directory in your document root with a .htaccess file, this does not work. Apache will append a "/" to any Trac URLs, which interferes with its correct operation.

It may be possible to work around this with mod\_rewrite, but I failed to get this working. In all, it is more hassle than it is worth. Stick to the provided instructions. :)

### Win32 Issues

If you run trac with mod\_python < 3.2 on Windows, uploading attachments will **not** work. This problem is resolved in mod\_python 3.1.4 or later, so please upgrade mod\_python to fix this.

### OS X issues

When using mod\_python on OS X you will not be able to restart Apache using apachectl restart. This is apparently fixed in mod\_python 3.2, but there's also a patch available for earlier versions [here](#).

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## SELinux issues

If Trac reports something like: *Cannot get shared lock on db.lock* The security context on the repository may need to be set:

```
chcon -R -h -t httpd_sys_content_t PATH_TO_REPOSITORY
```

See also [ <http://subversion.tigris.org/faq.html#reposperms>]

## FreeBSD issues

Pay attention to the version of the installed `mod_python` and `sqlite` packages. Ports have both the new and old ones, but earlier versions of `pysqlite` and `mod_python` won't integrate as the former requires threaded support in python, and the latter requires a threadless install.

## Subversion issues

If you get the following Trac Error `Unsupported version control system "svn" only under mod_python`, though it works well on the command-line and even with TracStandalone, chances are that you forgot to add the path to the Python bindings with the `PythonPath` directive. (The better way is to add a link to the bindings in the Python `site-packages` directory, or create a `.pth` file in that directory.)

If this is not the case, it's possible that you're using Subversion libraries that are binary incompatible with the apache ones (an incompatibility of the `apr` libraries is usually the cause). In that case, you also won't be able to use the `svn` modules for Apache (`mod_dav_svn`).

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See also TracGuide, TracInstall, TracCgi, TracFastCgi