Install - Web

OMERO.web Install and Configuration

OMERO.web is the web application component of the OMERO platform which allows for the management, viewing (a fully multi-dimensional image viewer), attachment and association of files to images, datasets, and projects from one or more OMERO.server's. It also includes webadmin for managing users and groups. With one or two commands, OMERO.web can be started with the Django lightweight development Web server bound to port 8000 on 127.0.0.1 when you deploy your OMERO.server instance.

We **do not** recommend using this server in a production setting. It has not gone through security audits or performance tests. Apache with mod_python is the preferred setup for deploying a Django application on a production server. You can find more information on the Django site here.

Prerequisites

- OMERO 4 and its prerequisites

- If you are using Python 2.4, you will need pysqlite. Use version 2.0.3 or higher. Python 2.5 ships with an SQLite wrapper in the standard library, so you do not need to install anything extra in that case.

- Python Imaging Library and Matplot Lib

    PIL and Matplot Lib are an optional requirement for drive space utilization graphs

- Apache with mod_python

PYTHONPATH

on non-Windows platform:

```
$ export PYTHONPATH=$PYTHONPATH:/home/omero/omero_dist/lib/python/
$ echo $PYTHONPATH
/opt/local/share/ice/python:/home/omero/omero_dist/lib/python/:
```

on Windows platform:

```
C:\>set PYTHONPATH=%PYTHONPATH%;C:\OMERO\lib\python
C:\>echo %PYTHONPATH%
C:\Ice-3.3.0\python;C:\omero-Beta4.0.0\lib\python
```

Configuration for Django Web server (non-production)

On **non-Windows*** platforms, OMERO.web is configured to be started with a single command

- Use:

    Start up OMERO.web manually:

```
$ cd /home/omero/omero-dist/
$ bin/omero admin ice
Ice 3.3.0  Copyright 2003-2008 ZeroC, Inc.
>>> server enable Web
>>> server start Web
>>> exit
```

    Shut down OMERO.web manually:

```
$ cd /home/omero/omero-dist/
$ bin/omero admin ice
Ice 3.3.0  Copyright 2003-2008 ZeroC, Inc.
>>> server disable Web
>>> server stop Web
>>> exit
```

- Or have it started automatically:

    If you wish to have the server always on, configure the following in /home/omero/omero_dist/etc/grid/default.xml:

```
<server-instance template="ShellTemplate" id="Web" act="always"/>
```

- If you require to configure the out of the box setup to listen for webadmin and webclient connections on different host configure the following:

    Configure the following in /home/omero/omero_dist/etc/grid/templates.xml by adding after --noreload:

```
<server-template id="WebTemplate">
  <parameter name="act" default="on-demand"/>
  <server id="Web" exe="python" activation="${act}" pwd="${OMEROPY_HOME}omeroweb">
    <option>manage.py</option>
    <option>runserver</option>
    <option>--noreload</option>
    <option>10.0.0.1:8000</option><!-- your ip & port here -->
    <env>${PYTHONPATH}</env>
    <adapter name="WebAdapter" register-process="true" endpoints="tcp" server-lifetime="false"/>
  </server>
</server-template>
```

    In your /home/omero/omero_dist/lib/python/omero/plugins/ directory configure the following in server.py:

```
django = ["python","manage.py","runserver","0.0.0.0:8080","--noreload"]+list(args)
```

    On **Windows*** platforms, please follow the instruction on OMERO install - windows

Configuration Guide for mod_python (production)

- If you've enabled the OMERO.web instance that is using the Django lightweight development web server, you will need to shut it down:

    Shut down the OMERO.web manually:

```
$ cd /home/omero/omero_dist/
$ bin/omero admin ice
Ice 3.3.0  Copyright 2003-2008 ZeroC, Inc.
>>> server disable Web
>>> server stop Web
```

    In your /home/omero/omero_dist/etc/grid/ directory re-configure the Web server in default.xml to be on-demand:

```
<server-instance template="ShellTemplate" id="Web" act="on-demand"/>
```

- In your `/home/omero/omero_dist/lib/python/omeroweb/` directory configure the following in `settings.py`:

  - DATABASE_NAME

    ```
    DATABASE_NAME = '/home/omero/webdb/db.sqlite3'
    ```

  - LOGDIR

    ```
    # LOGS
    # to change the log place, please specify new path for LOGDIR.
    # LOGDIR = os.path.join(os.path.dirname(__file__), 'log')
    # LOGDIR = os.path.join(os.path.join(os.path.join(os.path.join(os.path.dirname(__file__), '../'), '../'), 'var'), 'log')
    LOGDIR = '/home/omero/weblog/'
    ```

  - Notification options: EMAIL_NOTIFICATION, EMAIL_SENDER_ADDRESS and EMAIL_SMTP_SERVER

    ```
    # Notification
    # Application allows to notify user about new shares
    EMAIL_NOTIFICATION = True
    EMAIL_SENDER_ADDRESS = 'omero-admin@example.com'
    EMAIL_SMTP_SERVER = 'smtp.example.com'
    # Optional settings
    # EMAIL_SMTP_PORT = 25
    # EMAIL_SMTP_USER = 'login'
    # EMAIL_SMTP_PASSWORD = 'password'
    # EMAIL_SMTP_TLS = True
    ```

  - Notification option for sharing:

    ```
    # If web server is running behind a proxy server please set the host.
    # That option is required by share notification sendere.
    APPLICATION_HOST='http://www.domain.com:80'
    ```

- Create log and database directories with `apache_user:apache_group` ownership:

  ```
  mkdir /home/omero/weblog
  chown apache_user:apache_group /home/omero/weblog
  mkdir /home/omero/webdb
  chown apache_user:apache_group /home/omero/webdb
  ```

- Initialize the Django settings database, specifying an OMERO.web superuser username, password and e-mail address:

  ```
  # cd /home/omero/omero_dist/lib/python/omeroweb/
  # sudo -u apache_user PYTHONPATH=/home/omero/omero_dist/lib/python/ python manage.py syncdb

  Creating table django_admin_log
  Creating table auth_permission
  Creating table auth_group
  Creating table auth_user
  Creating table auth_message
  Creating table django_content_type
  Creating table django_session
  Creating table django_site
  Creating table webadmin_gateway

  You just installed Django's auth system, which means you don't have any superusers defined.
  Would you like to create one now? (yes/no): yes
  Username (Leave blank to use 'omero'): omero
  E-mail address: omero-admin@example.com
  Password:
  Password (again):
  Superuser created successfully.
  Installing custom SQL for webadmin.Gateway model
  Installing index for admin.LogEntry model
  Installing index for auth.Permission model
  Installing index for auth.Message model
  ```

- Configure `mod_python`:

  ```
  <Location "/">
      SetHandler python-program
      PythonHandler django.core.handlers.modpython
      SetEnv DJANGO_SETTINGS_MODULE omeroweb.settings
      PythonDebug On

      (for 4.0.0) PythonPath "['/home/omero/omero_dist/lib', '/home/omero/omero_dist/lib/python', '/home/omero/omero_dist/lib/omeroweb'] + sys.path"

      (as of 4.0.1) PythonPath "['/home/omero/omero_dist/lib/python', '/home/omero/omero_dist/lib/python/omeroweb'] + sys.path"

  </Location>
  ```

- Go to the link **http://your_host/webclient/** or **http://your_host/webadmin/**

- If you wish to modify the predefined list of the OMERO.servers please go to admin panel: **http://your_host/admin/webadmin/gateway/**. To login, use the user superuser username and password created you created when initializing the Django settings database above.

Once you have deployed and started the server you can use your browser to access the OMERO.webadmin or OMERO.webclient:

- **http://your_host/webadmin**

- **http://your_host/webclient**

Troubleshooting

My OMERO install doesn't work! What do I do now!?! Examine the Troubleshooting page and if all else fails post a message to our `ome-users` mailing list discussed on the Community page.