Set up a private package index

Overview

At this writing our current practise is to generate versioned tarballs and to 'pip install' from those.

This describes setting up a private package index as a more convenient alternative to using tarballs directly.

Our python software needs to be kept compatible with the standard python package index for when we desire to offer it to the general public.

To ensure we are staying compatible with pypi, we need to run it through the process, but with a conforming private packaging index.

devpi to the rescue ('https://www.devpi.net/') .

It is a conforming package index system we can use to serve our private packages whithout releasing them to the public.

Configuring the SW for devpi

This information is derived from the following tutorial:

<https://devpi.net/docs/devpi/devpi/stable/+doc/quickstart-releaseprocess.html>_

We start by creating a virtual environment called "venv_devpi" by following the steps described in the document virtualenv.

Then we activate that environment and continue with the steps below.

Set up devpi server on our laptop

Install a devpi client and web server

```
pip install -U devpi-web devpi-client
```

Note:

```
The non-web server - devpi-server - is also installed as a side effect.
```

We must avoid needing sudo to access the index, so instead we change ownership from root to the logged in user. We also need to make sure supervisor runs our server as that user.

First manually do this:

```
sudo mkdir -p /var/devpi-server
sudo chown -R $(logname):$(logname) /var/devpi-server
ls -ld /var/devpi-server
```

Initialize an empty index (at /var/devpi-server by default)

```
devpi-init
```

Make a place to put our configuration data files:

```
mkdir -p ${HOME}/devpi_setup
```

The following will generate a bunch of config files, one of which we will need, under the current directory. Putting that stuff in ${HOME}/devpi_setup.

```
pushd . >/dev/null
cd ${HOME}/devpi_setup
devpi-gen-config
popd  >/dev/null
```

Note:

```
This gave us the file  ${HOME}/devpi_setup/gen-config/supervisor-devpi.conf
as a config file to start up our pypi server.  Start by editing
it manually to say autostart=False so that it will need to be
started up manually.
```

Append a line like "user = username" to the configuration so it launches as that user, the same user as above.

```
echo user = $(logname) >>${HOME}/devpi_setup/gen-config/supervisor-devpi.conf
```

Copy the config where where it needs to be, then start our server.

```
sudo cp ${HOME}/devpi_setup/gen-config/supervisor-devpi.conf /etc/supervisor/conf.d/supervisor-devpi.conf
sudo supervisorctl update
sudo supervisorctl start devpi-server
```

Create a user (within the server), login as that user and create the 'bzdev' index

```
devpi use http://localhost:3141
devpi user -c pbernatchez password=dummy
devpi login pbernatchez --password=dummy
devpi index -c bzdev bases=root/pypi
```

Use our bzdev index

```
devpi use pbernatchez/bzdev
```

Now we can make use of our private index.

We are using flit to publish to our index and it relies on the file : ~/.pypirc.

For pip I named it 'bzdevpi'. So we make an entry there for our index:

```
[distutils]
index-servers =
   bzdevpi
   testpypi

[bzdevpi]
repository = http://localhost:3141/pbernatchez/bzdev
username = pbernatchez
```

```
[testpypi]
repository = https://test.pypi.org/legacy/
username = pbernatchez
```

From here on, using flit,

To publish,
flit publish --repository bzdevpi
To install,
pip install -i http://localhost:3141/pbernatchez/bzdev foobar

Example:

```
deactivate
cd /home/ubuntu/allrepos/wait_ssh
source ${HOME}/venv_generic/bin/activate
flit build
flit publish --repository bzdevpi
pip uninstall wait_ssh
pip install -i http://localhost:3141/pbernatchez/bzdev wait_ssh
```