

ABC4GSD: User Manual

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Summary

This document is meant to provide a users of the ABC4GSD system a manual intended to be a compendium to the thesis. This supplemental material provides guidance on how to install both the server and the client side of the ABC4GSD system.

The material herein included describes step-by-step the installation performed on the crest server and on a OsX 10.8 machine.

pate:
missing
the user
interface

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1 Installation: Server Side

The following section contains the step-by-step description of the installation that was performed on the crest server¹. The operative system

¹crest server: 46.22.129.68

installed on such machine at the time of installation was an Ubuntu 11.04 (GNU/Linux 2.6.38-8-generic-pae i686). The version of the server tested is 130925-ABC-ROUTER-DEALER.tar.

Required packages

The installation was missing some essential packages which are required but may already be present on a clean installation. The following commands are meant to install such essential packages.

```
1 | sudo apt-get install build-essential
   | sudo apt-get install autotools-dev
3 | sudo apt-get install uuid-dev
   | sudo apt-get install python-dev
```

Listing 1: Required packages

ZeroMQ

The communication between the server and the clients is mediated by the ZeroMQ² library.

```
1 | wget http://download.zeromq.org/zeromq-2.1.11.tar.gz
2 | tar -zxvf zeromq-2.1.11.tar.gz
   | cd zeromq-2.1.11/
4 | ./configure
   | make && sudo make install
```

Listing 2: 0mq

```
1 | wget --no-check-certificate
   | https://pypi.python.org/packages/source/p/pyzmq/pyzmq-13.0.2.tar.gz
   | tar -zxvf pyzmq-13.0.2.tar.gz
3 | cd pyzmq-13.0.2/
   | python setup.py configure
5 | sudo python setup.py install
```

Listing 3: 0mq bindings for Python

Test

Below, a brief test run also providing a usage example is shown.

²<http://zeromq.org/>

```

1 | pate@crest:~/ABC v3$ python LoaderServer.py
   | 30372 30373 30374
3 | pate@crest:~/ABC v3$ !ps
   | ps faxu | grep python
5 | pate      30382  0.0  0.0    4316    572 pts/0    S+   11:39    0:00      \_
   |     grep --color=auto python
   | pate      30372  2.0  0.5   30596   5780 pts/0    Sl   11:39    0:00 python
   |     Logger.py 5541 server.log
7 | pate      30373  2.3  0.6   31064   6480 pts/0    Sl   11:39    0:00 python
   |     library/data/PersistencyInterface.py 5540 tcp://localhost:5541
   | pate      30374  2.3  0.6   31148   6500 pts/0    Sl   11:39    0:00 python
   |     Server.py
9 | pate@crest:~/ABC v3$

```

Listing 4: Test

Final notes

The installation herein described does not provide details regarding the git repository that needs to be available for the artifacts to be stored. It has been avoided as the server runs even without, and also because it does not necessarily have to be deployed on the same machine.

Furthermore, depending on the version of the server utilized, the version of the 0mq library, and the Python bindings, it might be necessary to update the instances of XREQ to DEALER and XREP to ROUTER for XREQ and XREP are deprecated in the later version of with 0mq version 3.2.

2 Installation: Client Side

The following section contains the step-by-step description of the installation that was performed on a MacBook Pro. The operative system installed on such machine at the time of installation was an OsX.10.8.5. The version of the client tested is 130925-ABC-ClientPy.tar.gz. Tested with zeromq-2.1.11.tar.gz³. Several ways exist to install this combination of software seem to exist; however, the one which I found easier and working always is the one through brew and is hereafter described. It is important to note that the version of the java bindings of 0mq need to be the one provided.

³For manual installation of zeromq-2.1.11.tar.gz, the package can be downloaded from <http://download.zeromq.org/>.

Required packages

You will need the the software below. However, for their installation you should refer to online guides.

- java 6,
- python 2.7,
- xcode,
- command line tools⁴.

On top of the above, the following are requirements for the installation. The following commands are meant to install essential packages, which you might already have.

```
1 | ruby -e "$(curl -fsSL https://raw.githubusercontent.com/mxcl/homebrew/go/install)"
  | brew doctor
3 | brew update
  | brew tap homebrew/versions
5 | brew update
```

Listing 5: Brew installation

```
1 | brew install autoconf automake
  | brew install libtool
3 | brew install pkg-config
```

Listing 6: Required packages

ZeroMQ

The communication between the server and the clients is mediated by the ZeroMQ⁵ library. Download and unpack the zeromq-2.1.11 package.

```
1 | cd zeromq-2.1.11
  | ./autogen.sh
3 | ./configure
  | make && sudo make install
```

Listing 7: 0mq version 2.1.11.

The python bindings can be downloaded at <https://pypi.python.org/packages/source/p/pyzmq/pyzmq-13.0.2.tar.gz>. After downloading follow as below.

⁴Either from the preferences of xCode or, with Maverick, from the command line with `xcode-select -install`

⁵<http://zeromq.org/>

```

1 | tar -zxvf pyzmq-13.0.2.tar.gz
2 | cd pyzmq-13.0.2
   | python setup.py configure
4 | sudo python setup.py install

```

Listing 8: 0mq bindings for Python (version 13.0.2).

For the java bindings you need to use the package provided jzmq.tar.gz. Follow the instructions below.

```

1 | tar -zxvf jzmq.tar.gz
2 | cd jzmq/jzmq/
   | ./autogen.sh
4 | ./configure
   | make && sudo make install

```

Listing 9: 0mq bindings for Java.

Test

Below, a brief test run also providing a usage example is shown. From outside the python bindings folder run the following. If no errors are shown, everything is good to go.

```

1 | python
   | import zmq

```

Listing 10: Test

After that, test the middleware by executing the following:

```

1 | cd ABC\ v3/
2 | python _LoaderClient.py
   | killall python

```

Listing 11: Test

Final notes

The installation herein described does not provide details regarding the installation of git, which needs to be available for the artifacts to be stored/retrieved. It has been avoided as the client runs even without.

Furthermore, depending on the version of the client utilized, the version of the 0mq library, and the Python bindings, it might be necessary to update in the file `library/client/Queue.py` the instances of XREQ to DEALER and XREP to ROUTER for XREQ and XREP are deprecated in the later version of with 0mq version 3.2.