



ZHT Hands-on tutorial

How to install, configure and run ZHT on a multi-nodes cluster

- Linux:
 - kernel version 2.6.0 or later
 - How to check: **uname -a**
- GCC
 - Version 4.5.0 or later
- Google Protocol Buffers:
 - Version 2.4.1 <https://protobuf.googlecode.com/files/protobuf-2.4.1.tar.gz>
 - Latest version not work!
- Google Protocol Buffers C-binding 0.15 or later
- Git

Requirements and Dependencies

- `tar -zxvf protobuf-2.4.1.tar.gz`
- `cd protobuf-2.4.1`
- `./configure --prefix=/to_where_to_install`
- `make`
- `make install`

Install Google Protocol Buffers

- `wget https://protobuf-c.googlecode.com/files/protobuf-c-0.15.tar.gz`
- `tar -zxvf protobuf-c-0.15.tar.gz`
- Add environment variables to your `.bashrc` file:
 - `export PATH= $PATH:/to_where_to_install/bin`
 - `export LD_LIBRARY_PATH=$LD_LIBRARY_PATH :/to_where_to_install/lib`
- `source ~/.bashrc`
- `./configure --prefix=/home/tony/Installed/built CXXFLAGS=-I/to_where_to_install/include LDFLAGS=-L/to_where_to_install/lib`
- `make`
- `make install`

Install Google Protocol Buffers C-binding

- `git clone`
<https://bitbucket.org/xiaobingo/iit.datasys.zht-mpi.git>
- In src/ directory:
 - `make`

Download and Install ZHT

- <https://bitbucket.org/xiaobingo/iit.datasys.zht-mpi>
- See details in the README
- Server side:
 - `./zhtserver -z zht.conf -n neighbor.conf`
- Client side:
 - `./zht_ben -z zht.conf -n neighbor.conf -o 1000`

Run a simple benchmark

- `ZHTClient(const string &zhtConf, const string &neighborConf);`
- `int init(const string &zhtConf, const string &neighborConf);`
- `int lookup(const string &key, string &result);`
- `int remove(const string &key);`
- `int insert(const string &key, const string &val);`
- `int append(const string &key, const string &val);`
- `int compare_swap(const string &key, const string &seen_val, const string &new_val, string &result);`
- `int teardown();`

- See `cpp_zhtclient_test.cpp` for an example of using ZHT client.

ZHT client API
