

## Launching BigchainDB on Cloud9 Dev Environment

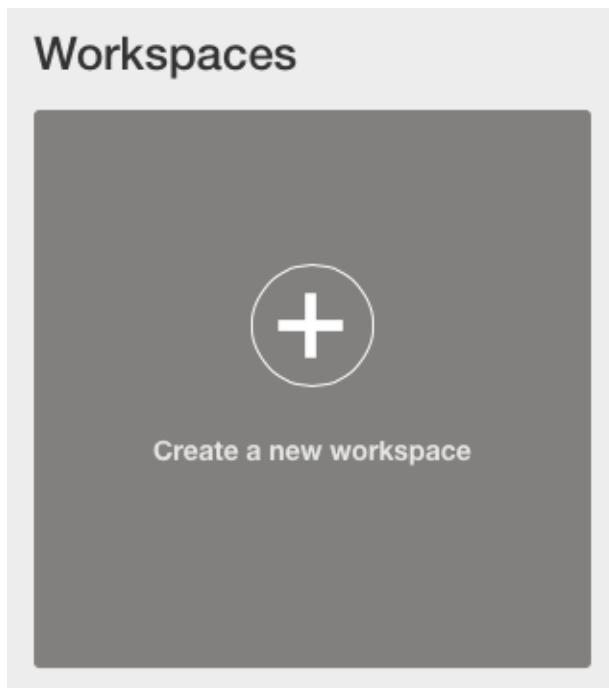
The following documentation will walk you through rapidly deploying and testing Bigchaindb on a pre-configured Cloud development environment.

Technologies:

- Cloud 9 IDE (Development Environment)
- RethinkDB (Distributed Database)
- BigchainDB (Enterprise Blockchain Database)

### Part 1 - Configure Cloud 9 IDE

- 1) Go to <https://c9.io>
- 2) Create a Free Account & log-in
- 3) From my Account click create a new workspace



Creating the workspace:

- 1) Name your workspace
- 2) Add a short description (optional)
- 3) Leave Github blank for now, you can add that later
- 4) Choose Node.JS
- 5) Click create workspace

## Create a new workspace

Workspace name:

Description:












[Hosted workspace](#) [Clone workspace](#) [Remote SSH workspace](#) [Salesforce](#)

**Private**  
This is a workspace for your eyes only

**Public**  
This will create a workspace for everybody to see

Clone from Git or Mercurial URL (optional)

Choose a template

 HTML5	 Node.js	 PHP, Apache ...	 Python	 Django	 Ruby
 C++	 Wordpress	 Rails Tutorial	 Blank	 Harvard's CS50	

[Create workspace](#)

Your dev environment is being created with all the necessary dependencies



Cloud 9 offers a tutorial to walk you through the different features

## Part 2 - Install Rethinkdb Server (<https://rethinkdb.com/docs/install/ubuntu/>)

With Binaries

```
source /etc/lsb-release && echo "deb http://download.rethinkdb.com/apt
$DISTRIB_CODENAME main" | sudo tee /etc/apt/sources.list.d/rethinkdb.list
```

```
wget -qO- https://download.rethinkdb.com/apt/pubkey.gpg | sudo apt-key add -
```

```
sudo apt-get update
```

```
sudo apt-get install rethinkdb
```

### Start RethinkDB server

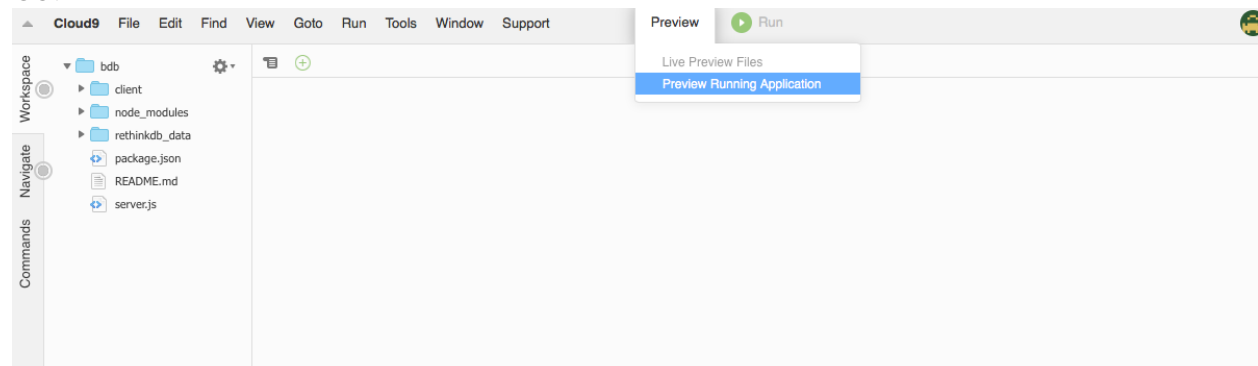
```
rethinkdb - -bind all
```

```
warzi117:~/workspace $ rethinkdb --bind all
Running rethinkdb 2.3.5~0trusty (GCC 4.8.2)...
Running on Linux 4.2.0-c9 x86_64
Loading data from directory /home/ubuntu/workspace/rethinkdb_data
Listening for intracluster connections on port 29015
Listening for client driver connections on port 28015
Listening for administrative HTTP connections on port 8080
Listening on cluster addresses: 127.0.0.1, 172.17.127.150, ::1, fe80::42:acff:fe11:7f96%65324
Listening on driver addresses: 127.0.0.1, 172.17.127.150, ::1, fe80::42:acff:fe11:7f96%65324
Listening on http addresses: 127.0.0.1, 172.17.127.150, ::1, fe80::42:acff:fe11:7f96%65324
Server ready, "warzi117_bdb_3823959_640" 5d6d998a-8b02-4781-83dd-2b68504e6a03
```

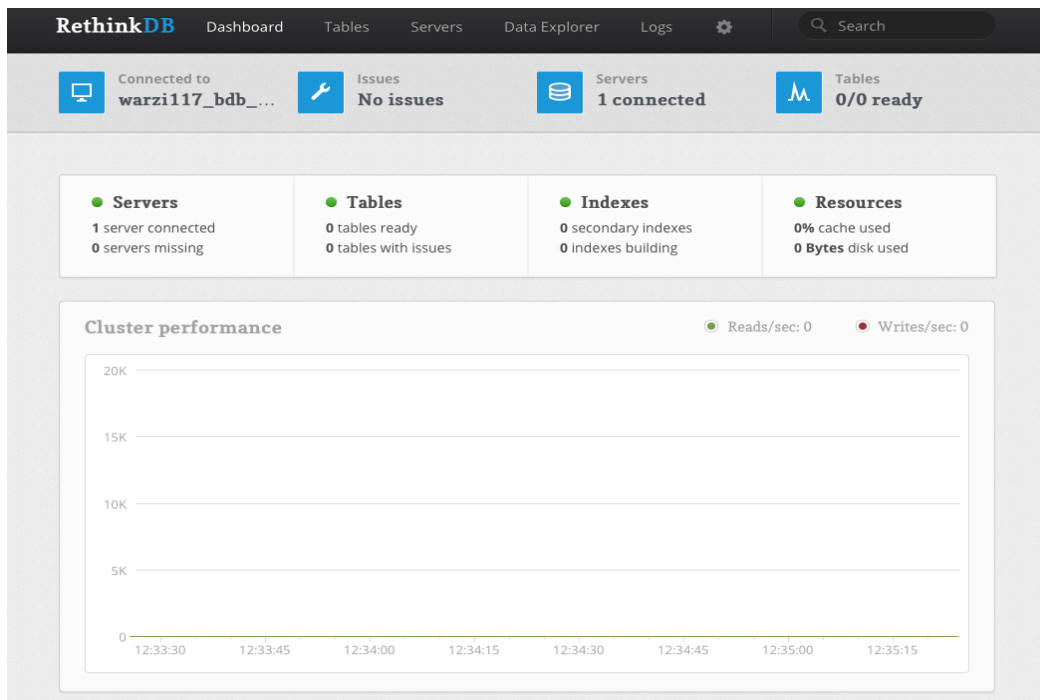
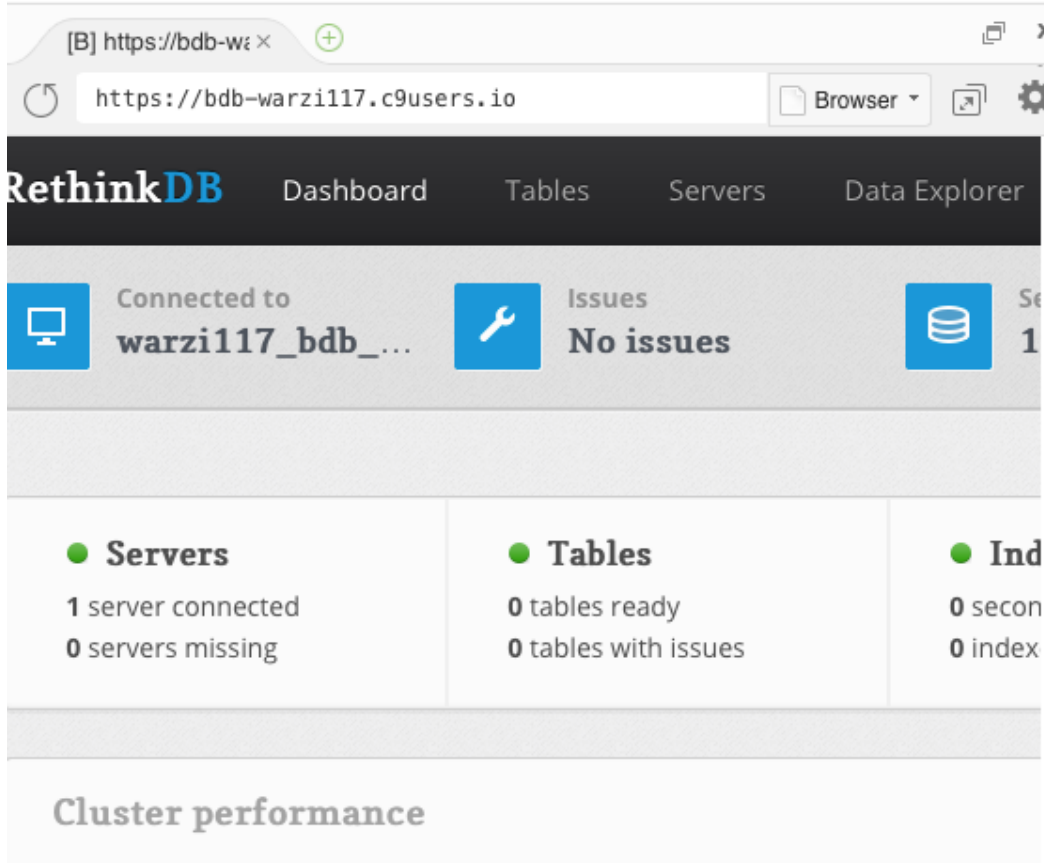
### To view in Browser:

Click on Preview at the top (center) of the page

Chose Preview running application option & new window should appear with rethinkdb server GUI



You can copy the URL and paste in browser outside of Cloud9 to keep your dev environment clean and free.



## Part 3 - Install BigchainDB

Keep rethinkdb running (terminal open) and open another terminal. Here are two (2) different ways to install BigchainDB.

If you would like to set up a Development Node to contribute to bigchaindb or run unit tests Follow Option 2 installation instructions as you must compile from source.

### Option 1

(Simple) Install Python package from PyPI:

#### Install and update pip3

Sudo apt-get install python3-pip

Sudo pip3 install --upgrade pip setuptools

#### Install BigchainDB

Sudo pip3 install bigchaindb

#### Write the configuration file

Bigchaindb -y configure

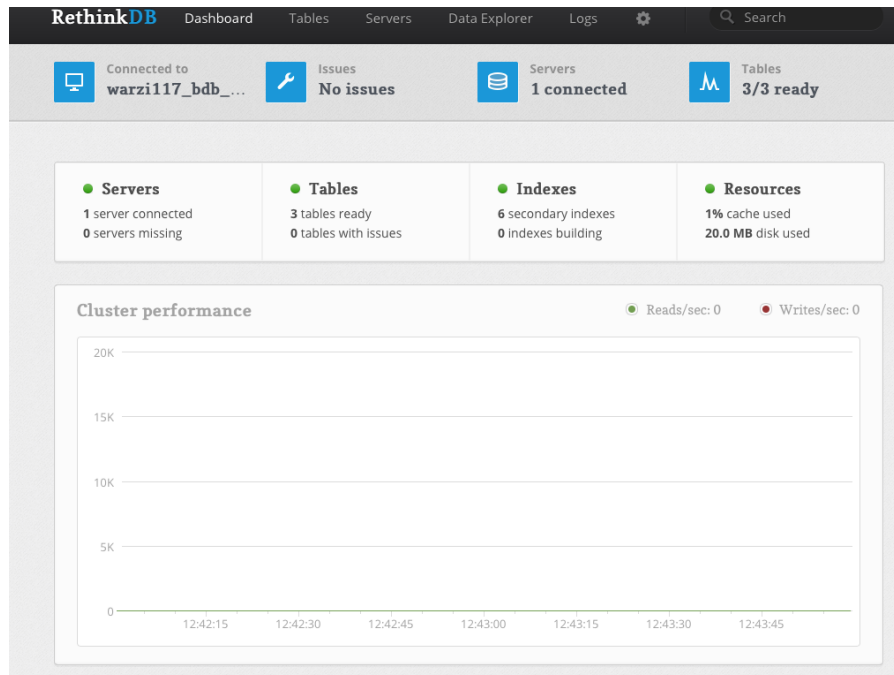
#### Start bigchaindb

Bigchaindb start

```
warzil17:~/workspace $ bigchaindb start
INFO:bigchaindb.commands.bigchain:BigchainDB Version 0.6.0
INFO:bigchaindb.db.utils:Create genesis block.
INFO:bigchaindb.db.utils:Done, have fun!
INFO:bigchaindb.commands.bigchain:Starting BigchainDB main process
INFO:bigchaindb.processes:Initializing BigchainDB...
INFO:bigchaindb.processes:Starting block
INFO:bigchaindb.processes:Starting voter
INFO:bigchaindb.processes:Starting election
INFO:bigchaindb.processes:
*****
*
*   Initialization complete. BigchainDB is ready and waiting for events.
*   You can send events through the API documented at:
*   - http://docs.bigchaindb.apiary.io/
*
*   Listening to client connections on: localhost:9984
*
*****

[2016-09-27 16:42:48 +0000] [3293] [INFO] Starting gunicorn 19.6.0
[2016-09-27 16:42:48 +0000] [3293] [INFO] Listening at: http://127.0.0.1:9984 (3293)
[2016-09-27 16:42:48 +0000] [3293] [INFO] Using worker: threads
[2016-09-27 16:42:48 +0000] [3294] [INFO] Booting worker with pid: 3294
[2016-09-27 16:42:48 +0000] [3295] [INFO] Booting worker with pid: 3295
[2016-09-27 16:42:48 +0000] [3296] [INFO] Booting worker with pid: 3296
[2016-09-27 16:42:48 +0000] [3297] [INFO] Booting worker with pid: 3297
[2016-09-27 16:42:48 +0000] [3298] [INFO] Booting worker with pid: 3298
[2016-09-27 16:42:48 +0000] [3299] [INFO] Booting worker with pid: 3299
[2016-09-27 16:42:48 +0000] [3300] [INFO] Booting worker with pid: 3300
[2016-09-27 16:42:48 +0000] [3301] [INFO] Booting worker with pid: 3301
[2016-09-27 16:42:48 +0000] [3302] [INFO] Booting worker with pid: 3302
[2016-09-27 16:42:48 +0000] [3303] [INFO] Booting worker with pid: 3303
[2016-09-27 16:42:48 +0000] [3304] [INFO] Booting worker with pid: 3304
[2016-09-27 16:42:48 +0000] [3305] [INFO] Booting worker with pid: 3305
[2016-09-27 16:42:48 +0000] [3306] [INFO] Booting worker with pid: 3306
[2016-09-27 16:42:48 +0000] [3307] [INFO] Booting worker with pid: 3307
[2016-09-27 16:42:48 +0000] [3308] [INFO] Booting worker with pid: 3308
[2016-09-27 16:42:49 +0000] [3309] [INFO] Booting worker with pid: 3309
[2016-09-27 16:42:49 +0000] [3310] [INFO] Booting worker with pid: 3310
```

On the rethinkdb GUI you will see tables and indexes have connected (as in below image)



Now you can run some of the examples on the Python Server API  
(Note: open a python3 shell instead of python if you receive an error message “bigchaindb not found” and that will solve the issue.

### Option 2 (Installing from source):

#### Fork Bigchaindb on Github

#### Clone your fork

```
git clone https://github.com/your-user-name/bigchaindb.git
```

```
cd bigchaindb
```

```
git remote add upstream https://github.com/bigchaindb/bigchaindb.git
```

```
git checkout master
```

```
git fetch upstream
```

```
git merge upstream/master
```

```

warzi117:~/workspace/bigchaindb (master) $ git merge upstream/master
Updating 404f3a1..434797c
Fast-forward
 Dockerfile | 2 +-
 bigchaindb/commands/bigchain.py | 31 ++++++-----
 bigchaindb/commands/utills.py | 17 +++++-----
 bigchaindb/core.py | 124 ++++++-----
 bigchaindb/db/utills.py | 56 ++++++-----
 bigchaindb/pipelines/block.py | 16 +++++-----
 bigchaindb/pipelines/election.py | 7 ++--
 bigchaindb/pipelines/utills.py | 20 ++++++-----
 docs/source/drivers-clients/python-driver-api-examples.md | 52 +-----
 docs/source/server-reference/bigchaindb-cli.md | 5 ++-
 tests/db/test_utills.py | 1 -
 tests/pipelines/test_utills.py | 13 +++++-----
 tests/test_commands.py | 110 ++++++-----
 tests/test_run_query_util.py | 105 ++++++-----
 14 files changed, 416 insertions(+), 143 deletions(-)
 create mode 100644 tests/test_run_query_util.py

```

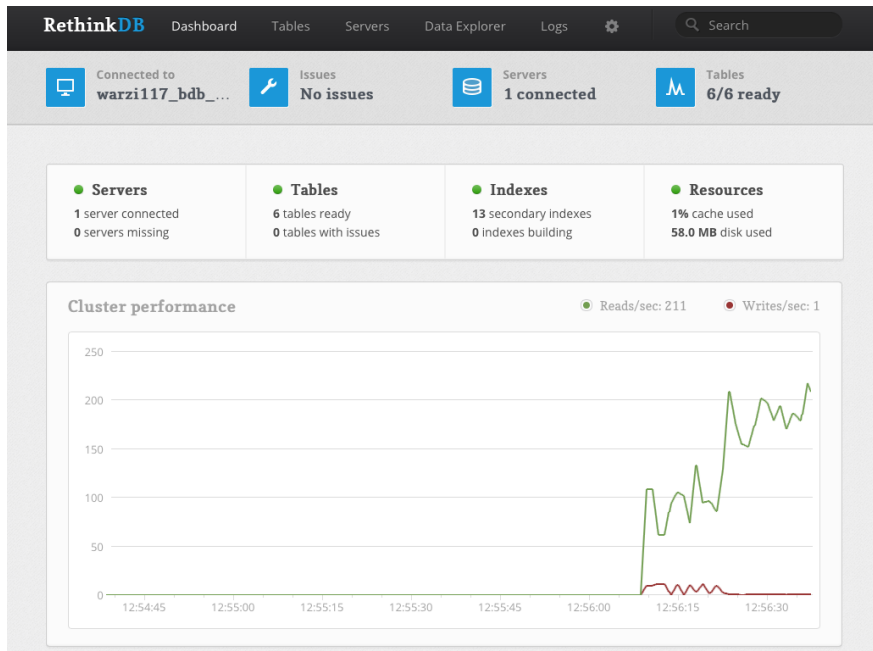
sudo pip install -e .[dev]

### Now you can run unit tests

#### Open another terminal

python3 setup.py test

On your rethinkdb GUI you can see performance and unit tests running. They will run for a few minutes and automatically end.



When exiting Cloud9 IDE make sure to kill rethinkdb and bigchaindb by either closing out of the terminals or shortcut command control + c (on Mac).

