dolphinDB安装与使用【2.00版】

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【可实际使用部分 开始 2023-11-13】

1. 【股票数据导入完整版】

1.1. 建库建分区表

```
heaven@mozart:~/DolphinDB.200/server$ rlwrap -r ./dolphindb -remoteHost 192.168.1.25 -remotePort 8848
DolphinDB Terminal 2.00.10.5 (Build:2023.11.06). Copyright (c) 2011~2023 DolphinDB, Inc.

login(userId=`admin, password=`123456);
>
 dbTime = database("", RANGE,1990.01.01  1991.01.01  1992.01.01  1993.01.01  1994.01.01  1995.01.01  1996.01.01  1997.01.01  1998.01.01  1999.01.01  2000.01.01  2001.01.01  2002.01.01  2003.01.01  2004.01.01  2005.01.01  2006.01.01  2007.01.01  2008.01.01  2009.01.01  2010.01.01  2011.01.01  2012.01.01  2013.01.01  2014.01.01  2015.01.01  2016.01.01  2017.01.01  2018.01.01  2019.01.01  2020.01.01  2021.01.01  2022.01.01  2023.01.01  2024.01.01  2025.01.01  2026.01.01  2027.01.01  2028.01.01  2029.01.01  2030.01.01  2031.01.01  2032.01.01  2033.01.01  2034.01.01  2035.01.01  2036.01.01  2037.01.01  2038.01.01  2039.01.01  2040.01.01  2041.01.01  2042.01.01  2043.01.01  2044.01.01  2045.01.01  2046.01.01  2047.01.01  2048.01.01  2049.01.01  2050.01.01)
dbStockID = database("", HASH, [SYMBOL, 100])
db = database(directory="dfs://stock1f",partitionType=COMPO,partitionScheme=[dbTime,dbStockID],engine="TSDB")
schema = table(1:0, `stockid`market`date`time`open`high`low`close`turnover_volume`turnover_value, [SYMBOL,SYMBOL,DATE,MINUTE,DOUBLE,DOUBLE,DOUBLE,DOUBLE,INT,DOUBLE])
pt = db.createPartitionedTable(table=schema, tableName=`stock1f, partitionColumns=`date`stockid, sortColumns=`stockid`date`time,keepDuplicates=FIRST);
>
schema(pt);
engineType->TSDB
keepDuplicates->FIRST
chunkGranularity->TABLE
sortColumns->["stockid","date","time"]
colDefs->name           typeString typeInt extra comment
--------------- ---------- ------- ----- -------
stockid         SYMBOL     17
market          SYMBOL     17
date            DATE       6
time            MINUTE     9
open            DOUBLE     16
high            DOUBLE     16
low             DOUBLE     16
close           DOUBLE     16
turnover_volume INT        4
turnover_value  DOUBLE     16

```

```
chunkPath->
partitionColumnIndex->[2,0]
partitionColumnName->["date","stockid"]
partitionColumnType->[6,17]
partitionType->[2,5]
partitionTypeName->["RANGE","HASH"]
partitionSchema->([1990.01.01,1991.01.01,1992.01.01,1993.01.01,1994.01.01,
1995.01.01,1996.01.01,1997.01.01,1998.01.01,1999.01.01,2000.01.01,2001.01.
01,2002.01.01,2003.01.01,2004.01.01,2005.01.01,2006.01.01,2007.01.01,2008.
01.01,2009.01.01,2010.01.01,2011.01.01,2012.01.01,2013.01.01,2014.01.01,20
15.01.01,2016.01.01,2017.01.01,2018.01.01,2019.01.01...],100)
partitionSites->

>
```

1.2. 股票数据准备：

目录：

```
[rabbit @ mozart ~/udata] $ pwd
/home/rabbit/udata
[rabbit @ mozart ~/udata] $
drwxrwxrwx 2 rabbit rabbit 200704 Jun 26 10:32 x_201708
drwxrwxrwx 2 rabbit rabbit 229376 Jun 26 10:38 x_201709
drwxrwxrwx 2 rabbit rabbit 212992 Jun 26 10:48 x_201710
drwxrwxrwx 2 rabbit rabbit 208896 Jun 26 15:29 x_201711
drwxrwxrwx 2 rabbit rabbit 229376 Jun 26 15:42 x_201712
drwxrwxrwx 2 rabbit rabbit 262144 Jun 26 15:24 x_202101
drwxrwxrwx 2 rabbit rabbit 274432 Jun 26 19:14 x_202102
drwxrwxrwx 2 rabbit rabbit 270336 Jun 26 19:01 x_202103
drwxrwxrwx 2 rabbit rabbit 278528 Jun 26 18:48 x_202104
drwxrwxrwx 2 rabbit rabbit 282624 Jun 26 15:48 x_202105
drwxrwxrwx 2 rabbit rabbit 262144 Jun 26 16:31 x_202106
drwxrwxrwx 2 rabbit rabbit 290816 Jun 26 16:11 x_202107
drwxrwxrwx 2 rabbit rabbit 282624 Jun 26 19:09 x_202108
drwxrwxrwx 2 rabbit rabbit 294912 Jun 26 16:45 x_202109
drwxrwxrwx 2 rabbit rabbit 307200 Jun 26 16:17 x_202110
drwxrwxrwx 2 rabbit rabbit 290816 Jun 26 16:24 x_202111
drwxrwxrwx 2 rabbit rabbit 282624 Jun 26 16:38 x_202112
drwxrwxrwx 2 rabbit rabbit 237568 Jun 26 19:55 x_202201
drwxrwxrwx 2 rabbit rabbit 241664 Jun 26 18:54 x_202202
drwxrwxrwx 2 rabbit rabbit 233472 Jun 26 15:56 x_202203
drwxrwxrwx 2 rabbit rabbit 225280 Jun 26 19:49 x_202204
drwxrwxrwx 2 rabbit rabbit 245760 Jun 26 19:42 x_202205
drwxrwxrwx 2 rabbit rabbit 225280 Jun 26 17:01 x_202206
drwxrwxrwx 2 rabbit rabbit 294912 Jun 26 15:37 x_202207
drwxrwxrwx 2 rabbit rabbit 311296 Jun 26 16:54 x_202208
drwxrwxrwx 2 rabbit rabbit 237568 Jun 26 15:18 x_202209
drwxrwxrwx 2 rabbit rabbit 245760 Jun 26 19:20 x_202210
drwxrwxrwx 2 rabbit rabbit 229376 Jun 26 16:04 x_202211
drwxrwxrwx 2 rabbit rabbit 253952 Jun 26 17:08 x_202212
drwxrwxrwx 2 rabbit rabbit 319488 Jun 26 17:15 x_202301
drwxrwxrwx 2 rabbit rabbit 299008 Jun 26 20:03 x_202302
drwxrwxrwx 2 rabbit rabbit 307200 Jun 26 18:42 x_202303
drwxrwxrwx 2 rabbit rabbit 311296 Jun 26 19:27 x_202304
drwxrwxrwx 2 rabbit rabbit 307200 Jun 26 19:35 x_202305

```

文件：

```
[rabbit @ mozart ~/udata/x_201708] $ ll | more
total 1279968
-rwxrwxrwx 1 rabbit rabbit 437546 Jun 26 10:31 x_000001.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 433827 Jun 26 10:30 x_000002.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 413599 Jun 26 10:31 x_000004.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 396244 Jun 26 10:32 x_000005.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 403195 Jun 26 10:29 x_000006.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 415056 Jun 26 10:29 x_000007.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 401142 Jun 26 10:31 x_000008.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 409786 Jun 26 10:29 x_000009.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 396348 Jun 26 10:30 x_000010.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 425444 Jun 26 10:31 x_000011.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 404981 Jun 26 10:29 x_000012.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 412489 Jun 26 10:29 x_000014.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 403311 Jun 26 10:31 x_000016.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 391619 Jun 26 10:30 x_000017.SZ_20170801_20170831.csv
-rwxrwxrwx 1 rabbit rabbit 410164 Jun 26 10:30 x_000019.SZ_20170801_20170831.csv
```

文件样式：

```
[rabbit @ mozart ~/udata/x_201708] $ head x_603999.SH_20170801_20170831.csv
stockid,market,date,time,open,high,low,close,turnover_volume,turnover_value
603999,SH,2017-08-01,09:31,9.6200,9.6300,9.6100,9.6300,12200,117442.0000
603999,SH,2017-08-01,09:32,9.6300,9.7000,9.6300,9.7000,7000,67885.0000
603999,SH,2017-08-01,09:33,9.7000,9.7000,9.6800,9.6800,600,5816.0000
603999,SH,2017-08-01,09:34,9.6800,9.6800,9.6400,9.6800,5200,50229.0000
603999,SH,2017-08-01,09:35,9.6800,9.6800,9.6700,9.6800,104500,1010560.0000
603999,SH,2017-08-01,09:36,9.6800,9.7000,9.6800,9.7000,14700,142525.0000
603999,SH,2017-08-01,09:37,9.7300,9.7300,9.7000,9.7300,35700,347122.0000
603999,SH,2017-08-01,09:38,9.7300,9.7800,9.7300,9.7800,70500,687467.0000
603999,SH,2017-08-01,09:39,9.7800,9.8900,9.7800,9.8900,163200,1608674.0000
[rabbit @ mozart ~/udata/x_201708] $
```

导入的程序内容：

```
heaven@mozart:~/rundos$ cat import.dos
db = database("dfs://stock1f")

//请注意更换目录dataDir
dataDir="/home/rabbit/udata/x_201708"

xxy=extractTextSchema("/home/rabbit/udata/x_201708/x_603999.SH_20170801_20170831.csv")
update xxy set type=`SYMBOL where name=`stockid;

def importTxtFiles(dataDir, db,sch){
    dataFiles = exec filename from files(dataDir) where isDir=false
    for(f in dataFiles){
        loadTextEx(db, `stock1f, `date`stockid, dataDir + "/" + f, schema=sch, sortColumns=`stockid`date`time)
    }
}
importTxtFiles(dataDir, db,xxy);
heaven@mozart:~/rundos$
```

1.3. 程序执行：

```
heaven@mozart:~/DolphinDB.200/server$ rlwrap -r ./dolphindb -remoteHost 192.168.1.25 -remotePort 8848 -uid admin -pwd 123456  -run ~/rundos/import.dos
```

1.4. 查询

1.4.1. 命令行查询

```
login(userId=`admin, password=`123456);
db = database("dfs://stock1f");
pt=loadTable(db,"stock1f");
select count(*) from pt;
count
--------
17529555

>
select * from pt where stockid="000007";
stockid market date       time   open              high              low               close             ...
------- ------ ---------- ------ ----------------- ----------------- ----------------- ----------------- ---
000007  SZ     2017.08.01 09:31m 16.879999999999999 17                16.769999999999999 16.949999999999999 ...
000007  SZ     2017.08.01 09:32m 16.949999999999999 17.039999999999999 16.949999999999999 17.010000000000001 ...
000007  SZ     2017.08.01 09:33m 17.059999999999998 17.07              16.989999999999998 16.989999999999998 ...
000007  SZ     2017.08.01 09:34m 16.949999999999999 16.989999999999998 16.899999999999998 16.899999999999998 ...
000007  SZ     2017.08.01 09:35m 16.949999999999999 16.949999999999999 16.780000000000001 16.8               ...
000007  SZ     2017.08.01 09:36m 16.8               16.969999999999998 16.8              16.96              ...
000007  SZ     2017.08.01 09:37m 16.96              17.030000000000001 16.96             17                 ...
000007  SZ     2017.08.01 09:38m 17                 17.010000000000001 16.839999999999999 16.949999999999999 ...
000007  SZ     2017.08.01 09:39m 16.949999999999999 17.120000000000001 16.949999999999999 17.109999999999999 ...
000007  SZ     2017.08.01 09:40m 17.100000000000001 17.149999999999998 17.100000000000001 17.149999999999998 ...
000007  SZ     2017.08.01 09:41m 17.199999999999999 17.199999999999999 17.109999999999999 17.179999999999999 ...
000007  SZ     2017.08.01 09:42m 17.170000000000001 17.25              17.170000000000001 17.25              ...
000007  SZ     2017.08.01 09:43m 17.25              17.309999999999998 17.25             17.3               ...
000007  SZ     2017.08.01 09:44m 17.3               17.309999999999998 17.25             17.25              ...
000007  SZ     2017.08.01 09:45m 17.25              17.25              17.149999999999998 17.149999999999998 ...
000007  SZ     2017.08.01 09:46m 17.149999999999998 17.199999999999999 17.129999999999998 17.149999999999998 ...
```

```
29   000007  SZ     2017.08.01 09:47m 17.149999999999998 17.199999999999999 17.
     14              17.149999999999998 ...
30   000007  SZ     2017.08.01 09:48m 17.149999999999998 17.199999999999999 17.
     149999999999998 17.190000000000001 ...
31   000007  SZ     2017.08.01 09:49m 17.190000000000001 17.21              17.
     190000000000001 17.199999999999999 ...
32   000007  SZ     2017.08.01 09:50m 17.199999999999999 17.199999999999999 17.
     129999999999998 17.129999999999998 ...
33   000007  SZ     2017.08.01 09:51m 17.149999999999998 17.149999999999998 17.
     100000000000001 17.100000000000001 ...
34   000007  SZ     2017.08.01 09:52m 17.079999999999998 17.079999999999998 17.
     059999999999998 17.07              ...
35   000007  SZ     2017.08.01 09:53m 17.07              17.109999999999999 17.
     059999999999998 17.089999999999999 ...
36   000007  SZ     2017.08.01 09:54m 17.089999999999999 17.109999999999999 17.
     05              17.05              ...
37   000007  SZ     2017.08.01 09:55m 17.05              17.05              17.
     010000000000001 17.05              ...
38   000007  SZ     2017.08.01 09:56m 17.05              17.129999999999998 17.
     05              17.100000000000001 ...
39   000007  SZ     2017.08.01 09:57m 17.100000000000001 17.100000000000001 17.
     07              17.07              ...
40   000007  SZ     2017.08.01 09:58m 17.07              17.089999999999999 17.
     059999999999998 17.059999999999998 ...
41   000007  SZ     2017.08.01 09:59m 17.059999999999998 17.059999999999998 17.
     019999999999999 17.019999999999999 ...
42   000007  SZ     2017.08.01 10:00m 17.019999999999999 17.100000000000001 17.
     019999999999999 17.100000000000001 ...
43   ...
44
45   >
```

1.4.2. python查询

```
heaven@mozart:~/rundos/dolphindb_py$
heaven@mozart:~/rundos/dolphindb_py$ python d2.py
5542
             name typeString  typeInt  extra comment
0         stockid     SYMBOL       17    NaN
1          market     SYMBOL       17    NaN
2            date       DATE        6    NaN
3            time     MINUTE        9    NaN
4            open     DOUBLE       16    NaN
5            high     DOUBLE       16    NaN
6             low     DOUBLE       16    NaN
7           close     DOUBLE       16    NaN
8  turnover_volume        INT        4    NaN
9   turnover_value     DOUBLE       16    NaN
     stockid market       date                time   open   high    low  c
lose  turnover_volume  turnover_value
0     000007     SZ 2017-08-01 1970-01-01 09:31:00  16.88  17.00  16.77  1
6.95           69650       1174936.5
1     000007     SZ 2017-08-01 1970-01-01 09:32:00  16.95  17.04  16.95  1
7.01          136700       2324139.0
2     000007     SZ 2017-08-01 1970-01-01 09:33:00  17.06  17.07  16.99  1
6.99           93300       1590953.0
3     000007     SZ 2017-08-01 1970-01-01 09:34:00  16.95  16.99  16.90  1
6.90           41900        710476.0
4     000007     SZ 2017-08-01 1970-01-01 09:35:00  16.95  16.95  16.78  1
6.80          111000       1875972.0
...      ...    ...        ...                 ...    ...    ...    ...
 ...              ...             ...
5537  000007     SZ 2017-08-31 1970-01-01 14:56:00  15.73  15.73  15.70  1
5.70           36000        565499.0
5538  000007     SZ 2017-08-31 1970-01-01 14:57:00  15.70  15.73  15.70  1
5.70           23900        375486.0
5539  000007     SZ 2017-08-31 1970-01-01 14:58:00  15.70  15.70  15.70  1
5.70               0             0.0
5540  000007     SZ 2017-08-31 1970-01-01 14:59:00  15.70  15.70  15.70  1
5.70               0             0.0
5541  000007     SZ 2017-08-31 1970-01-01 15:00:00  15.70  15.72  15.70  1
5.72           32750        514830.0

[5542 rows x 10 columns]
<dolphindb.session.BlockReader object at 0x7f02cebf3e50>
     stockid market       date                time   open   high    low  c
lose  turnover_volume  turnover_value
0     000007     SZ 2017-08-01 1970-01-01 09:31:00  16.88  17.00  16.77  1
6.95           69650       1174936.5

```

```
1     000007     SZ 2017-08-01 1970-01-01 09:32:00  16.95  17.04  16.95  17.01          136700       2324139.0
2     000007     SZ 2017-08-01 1970-01-01 09:33:00  17.06  17.07  16.99  16.99           93300       1590953.0
3     000007     SZ 2017-08-01 1970-01-01 09:34:00  16.95  16.99  16.90  16.90           41900        710476.0
4     000007     SZ 2017-08-01 1970-01-01 09:35:00  16.95  16.95  16.78  16.80          111000       1875972.0
...      ...    ...        ...                 ...    ...    ...    ...     ...             ...             ...
5537  000007     SZ 2017-08-31 1970-01-01 14:56:00  15.73  15.73  15.70  15.70           36000        565499.0
5538  000007     SZ 2017-08-31 1970-01-01 14:57:00  15.70  15.73  15.70  15.70           23900        375486.0
5539  000007     SZ 2017-08-31 1970-01-01 14:58:00  15.70  15.70  15.70  15.70               0             0.0
5540  000007     SZ 2017-08-31 1970-01-01 14:59:00  15.70  15.70  15.70  15.70               0             0.0
5541  000007     SZ 2017-08-31 1970-01-01 15:00:00  15.70  15.72  15.70  15.72           32750        514830.0

[5542 rows x 10 columns]
total= 5542
heaven@mozart:~/rundos/dolphindb_py$
heaven@mozart:~/rundos/dolphindb_py$ cat d2.py
import os
import dolphindb.settings as keys
import dolphindb as db
s = db.session()
s.connect("localhost", 8848)
s.login("admin","123456")
s.database(dbPath="dfs://stock1f")
#trade = s.loadTable(tableName="stock1f",dbPath="dfs://stock1f")
#trade = s.loadTable(tableName="stock1f",dbPath="dfs://stock1f",sql="select count(*) from stock1f")
trade = s.loadTableBySQL(tableName="stock1f", dbPath="dfs://stock1f", sql="select * from stock1f where stockid='000007' and  date>2010.01.01")
print(trade.rows)
print(trade.schema)
print(trade.toDF())

script1='''
db=database("dfs://stock1f");
pt=loadTable(db,"stock1f");
select * from pt where stockid="000007";
'''
block= s.run(script1, fetchSize = 8192)
```

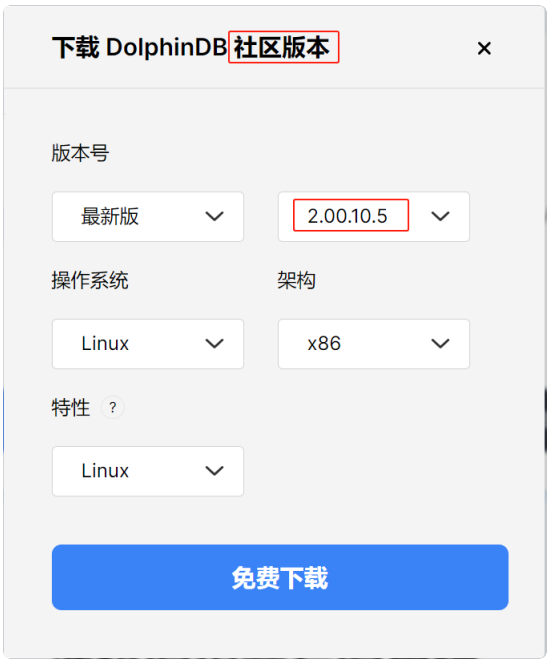
```
69   total = 0
70   while block.hasNext():
71       print(block)
72       tem = block.read()
73       print(tem)
74       total+=len(tem)
75
```

【可实际使用部分 结束】

2. dolphinDB安装与使用下载安装

2.1. 下载安装

首页 – DolphinDB 【下载地址】



```
heaven@mozart:~/DolphinDB.200/server$ ll
total 134852
drwxrwxr-x  7 heaven heaven     4096 Nov 13 14:38 ./
drwxrwxr-x  3 heaven heaven     4096 Nov 13 14:38 ../
drwxrwxr-x  5 heaven heaven     4096 Nov 13 14:38 clusterDemo/
-rwxrwxr-x  1 heaven heaven 33728128 Nov 13 14:38 dolphindb*
-rw-rw-r--  1 heaven heaven      280 Nov 13 14:38 dolphindb.cfg
-rw-rw-r--  1 heaven heaven     3212 Nov 13 14:38 dolphindb.dos
-rw-rw-r--  1 heaven heaven      387 Nov 13 14:38 dolphindb.lic
-rw-rw-r--  1 heaven heaven 61995220 Nov 13 14:38 libDolphinDB.so
-rw-rw-r--  1 heaven heaven  5620077 Nov 13 14:38 libgfortran.so.3
-rw-rw-r--  1 heaven heaven 28902143 Nov 13 14:38 libopenblas.so.0
-rw-rw-r--  1 heaven heaven   925835 Nov 13 14:38 libquadmath.so.0
-rw-rw-r--  1 heaven heaven  6635846 Nov 13 14:38 libstdc++.so.6
-rw-rw-r--  1 heaven heaven   214993 Nov 13 14:38 libtcmalloc_minimal.so.4
drwxrwxr-x  2 heaven heaven     4096 Nov 13 14:38 marketHoliday/
drwxrwxr-x  3 heaven heaven     4096 Nov 13 14:38 modules/
drwxrwxr-x  8 heaven heaven     4096 Nov 13 14:38 plugins/
-rwxrwxr-x  1 heaven heaven       74 Nov 13 14:38 startSingle.sh*
drwxrwxr-x 14 heaven heaven     4096 Nov 13 14:38 web/
heaven@mozart:~/DolphinDB.200/server$
```

```
chmod +x dolphindb
chmod +x startSingle.sh
```

2.2. 开启数据库

```
$ ./startSingle.sh
```

检查：

```
heaven@mozart:~/DolphinDB.200/server$ ps -ef | grep dolphindb
heaven     59896       1  2 14:44 pts/0    00:00:00 ./dolphindb -console 0 -mo
de single
heaven     60289   58332  0 14:44 pts/0    00:00:00 grep --color=auto dolphind
b
heaven@mozart:~/DolphinDB.200/server$
```

2.3. 关闭数据库

```
pkill -15 dolphindb
```

安全关机 — DolphinDB 2.0 documentation

2.4. 连接数据库

IP地址需要使用实际的IP，不能是127.0.0.1

```
~/DolphinDB.200/server$ rlwrap -r ./dolphindb -remoteHost 192.168.1.25 -remote
Port 8848
DolphinDB Terminal 2.00.10.5 (Build:2023.11.06). Copyright (c) 2011~2023 Dolph
inDB, Inc.

>login(userId=`admin, password=`123456);
>quit
~/DolphinDB.200/server$
```

standalone_server.md · 浙江智臾科技有限公司/Tutorials_CN – Gitee.com

管理员身份（默认账号：admin，默认密码：123456）

```
heaven@mozart:~/DolphinDB.200/server$  cat dolphindb.cfg
localSite=localhost:8848:local8848
mode=single
maxMemSize=32
maxConnections=512
workerNum=4
localExecutors=3
maxBatchJobWorker=4
dataSync=1
OLAPCacheEngineSize=2
TSDBCacheEngineSize=1
newValuePartitionPolicy=add
maxPubConnections=64
subExecutors=4
perfMonitoring=true
lanCluster=0heaven@mozart:~/DolphinDB.200/server$
```

2.4.1. web连接

`http://192.168.1.25:8848/` 管理员身份（默认账号：admin，默认密码：123456）

必须使用 实际IP，不能使用127.0.0.1

2.5. 内存表

```
>
n=1000000
ID=rand(10, n)
x=rand(1.0, n)
t=table(ID, x)
select * from t;
select count(*) from t;
```

```
heaven@mozart:~/DolphinDB.200/server$ rlwrap -r ./dolphindb -remoteHost 192.16
8.1.25 -remotePort 8848
DolphinDB Terminal 2.00.10.5 (Build:2023.11.06). Copyright (c) 2011~2023 Dolph
inDB, Inc.

login(userId=`admin, password=`123456);
>
n=1000000
ID=rand(10, n)
x=rand(1.0, n)
t=table(ID, x)
select * from t;
ID x
-- -----------------
7  0.554596869042143
3  0.162759877974167
5  0.041018647374585
3  0.438487786334008
1  0.061486455844715
9  0.859343684511259

select count(*) from t;
count
-------
1000000

>
```

2.6. 建库建分区表

创建数据库和表 — DolphinDB 2.0 documentation

一个库，多个分区表

- 连接数据库：`rlwrap -r ./dolphindb -remoteHost 192.168.1.25 -remotePort 8848`
- admin用户登录：`login(userId=`admin, password=`123456)`
- 创建**内存表**：`t=table(ID, x)`
- 创建**数据库**：`db=database("dfs://rangedb", RANGE,  0 5 10)`

  会在`/local8848/storage/CHUNKS`目录下创建一个`rangedb`的目录

  分为`[0,5) [5,10)`两个`range`
- 创建**数据库**：`db=database("dfs://rangedb", RANGE,  0..10)`
- 创建**分区表**：`pt=db.createPartitionedTable(t, `pttt, `ID)`以表`t`按`RANGE`方式建分区表，以`ID`进行`range`区分，分区表名在磁盘上为`pttt`.

```
>
n=10
ID=rand(10, n)
x=rand(1.0, n)
t=table(ID, x)
db=database("dfs://rangedb", RANGE,  0..10)
pt=db.createPartitionedTable(t, `ptbbbb, `ID)
pt.append!(t)
select * from pt;
```

```
heaven@mozart:~/DolphinDB.200/server/local8848/storage/CHUNKS/rangedb$ ll
total 68
drwxrwxr-x 11 heaven heaven 4096 Nov 13 17:13 ./
drwxrwxr-x  3 heaven heaven 4096 Nov 13 16:58 ../
drwxrwxr-x  7 heaven heaven 4096 Nov 13 17:13 0_1/
drwxrwxr-x  4 heaven heaven 4096 Nov 13 17:05 1_2/
drwxrwxr-x  4 heaven heaven 4096 Nov 13 17:05 2_3/
drwxrwxr-x  7 heaven heaven 4096 Nov 13 17:13 3_4/
drwxrwxr-x  7 heaven heaven 4096 Nov 13 17:13 4_5/
drwxrwxr-x  5 heaven heaven 4096 Nov 13 17:13 6_7/
drwxrwxr-x  7 heaven heaven 4096 Nov 13 17:13 7_8/
drwxrwxr-x  7 heaven heaven 4096 Nov 13 17:13 8_9/
drwxrwxr-x  5 heaven heaven 4096 Nov 13 17:13 9_10/
-rw-rw-r--  1 heaven heaven    0 Nov 13 17:13 dolphindb.lock
-rw-rw-r--  1 heaven heaven  105 Nov 13 16:58 domain
-rw-rw-r--  1 heaven heaven   48 Nov 13 17:12 ptaaaa.tbl
-rw-rw-r--  1 heaven heaven   48 Nov 13 17:13 ptbbbb.tbl
-rw-rw-r--  1 heaven heaven   48 Nov 13 17:13 ptcccc.tbl
-rw-rw-r--  1 heaven heaven   48 Nov 13 16:58 pt.tbl
-rw-rw-r--  1 heaven heaven   48 Nov 13 17:05 ptxxxx.tbl
heaven@mozart:~/DolphinDB.200/server/local8848/storage/CHUNKS/rangedb$
```

```
heaven@mozart:~/DolphinDB.200/server/local8848/storage/CHUNKS/rangedb$ tree
.
├── 0_1
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   ├── 5
│   │   └── ptxxxx_3
│   │       ├── ID.col
│   │       └── x.col
│   ├── 7
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── 1_2
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   └── 5
│       └── ptxxxx_3
│           ├── ID.col
│           └── x.col
├── 2_3
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   └── 5
│       └── ptxxxx_3
│           ├── ID.col
│           └── x.col
├── 3_4
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   │
```

```
│   ├── 5
│   │   └── ptxxxx_3
│   │       ├── ID.col
│   │       └── x.col
│   ├── 7
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── 4_5
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   ├── 5
│   │   └── ptxxxx_3
│   │       ├── ID.col
│   │       └── x.col
│   ├── 7
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── 6_7
│   ├── 7
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
```

```
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── 7_8
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   ├── 5
│   │   └── ptxxxx_3
│   │       ├── ID.col
│   │       └── x.col
│   ├── 7
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── 8_9
│   ├── 2
│   │   └── pt_2
│   │       ├── ID.col
│   │       └── x.col
│   ├── 5
│   │   └── ptxxxx_3
│   │       ├── ID.col
│   │       └── x.col
│   ├── 7
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── 9_10
│   ├── 7
```

```
│   │   └── ptaaaa_4
│   │       ├── ID.col
│   │       └── x.col
│   ├── 9
│   │   └── ptbbbb_5
│   │       ├── ID.col
│   │       └── x.col
│   └── b
│       └── ptcccc_6
│           ├── ID.col
│           └── x.col
├── dolphindb.lock
├── domain
├── ptaaaa.tbl
├── ptbbbb.tbl
├── ptcccc.tbl
├── pt.tbl
└── ptxxxx.tbl

79 directories, 77 files
```

```
db = database("dfs://rangedb", VALUE, 2000.01M .. 2016.12M) => It is not allow
ed to overwrite an existing database.
```

2.7. table用法

table命令用法： table — DolphinDB 2.0 documentation

写法一：

```
id=`XOM`GS`AAPL
x=102.1 33.4 73.6
tt=table(id, x);
```

写法二：

```
tt=table(`XOM`GS`AAPL as id, 102.1 33.4 73.6 as x);
```

```
select * from tt;
id   x
---- ------------------
XOM  102.099999999999994
GS   33.399999999999998
AAPL 73.599999999999994
```

2.7.1. 写法三：

`table(capacity:size, colNames, colTypes)`

第二种用法中：

capacity 是正整数，表示建表时系统为该表分配的内存（以记录数为单位）。当记录数超过 capacity 时，系统首先会分配 capacity 1.2~2倍的新的内存空间，然后复制数据到新的内存空间，最后释放原来的内存。对于规模较大的表，此类操作的内存占用会很高。因此，建议创建内存表时预先分配一个合理的 capacity。

size 是正整数，表示该表新建时的行数。若 size =0，创建一个空表。 注意如果 colTypes 指定为数组向量， size 必须为0。

colNames 是一个向量，表示列名。

colTypes 是一个向量，表示每列的数据类型。可使用表示数据类型的系统保留字或相应的字符串。

```
tt=table(100:5, `name`id`value, [STRING,INT,DOUBLE]);
```

```
select * from tt;
name id value
---- -- -----
     0  0
     0  0
     0  0
     0  0
     0  0

select count(id) from tt;
count_id
--------
5
```

数据类型：数据类型 — DolphinDB 2.0 documentation

`SYMBOL` 是特殊的字符串类型。某个表字段定义为 SYMBOL 类型时，必须保证该字段的不同取值小于2097152(2^21)个，否则会报错“One symbase’s size can’t exceed 2097152”。

可以用 `SYMBOL` 来表示**股票代码。**

```
colNames=`stockid`date`time`open`high`low`close`turnover_volume`turnover_value
colTypes=[SYMBOL,DATE,MINUTE,DOUBLE,DOUBLE,DOUBLE,DOUBLE,INT,DOUBLE]
t=table(1:0,colNames,colTypes)
```