

LightDB22.2 版本 patch1 和 patch2 升级步骤

详细读 patch 包中的 readme

```
1. In high availability, disable auto failover.
   ltcluster -f $LTHOME/etc/ltcluster/ltcluster.conf service pause
2. stop lightdb
   lt_ctl -D $LTDATA stop
3. lt_patch install
4. Start lightdb
   lt_ctl -D $LTDATA start
5. execute sql "ALTER EXTENSION orafce UPDATE" on every database expect
   templte0
6. In high availability or distributed environment, do steps 2-5 for every
   node.
7. In high availability, enable auto failover
   ltcluster -f $LTHOME/etc/ltcluster/ltcluster.conf service unpause
```

一、登录 22.2 任意业务库确认

结果为 false 表示 coalesce 为 postgresql 数据库默认的函数特征, 非 Oracle 特征说明需要升级

```
select coalesce(trim(' '), ' ') = ' ';
?column?
-----
f
(1 row)
```

二、正式升级步骤, 打 patch1

如果是高可用环境,需要先停止高可用的自动切换

```
$ ltcluster -f $LTHOME/etc/ltcluster/ltcluster.conf service pause
```

首先确认 \$LTDATA \$LTHOME 环境变量正确, 使用 lightdb 操作系统用户可以正确执行 ltsql 和 lt_patch 命令

将 patch1 和 patch2 安装包分别解压到 lightdb 操作系统用户下的任意有权限目录中，比如 /home/lightdb，下图为 root 操作，lightdb 系统用户操作同样可以

```
[root@p3-gm6xctadbl lightdb]# chown lightdb:lightdb 1-  
[root@p3-gm6xctadbl lightdb]# ll  
总用量 36056  
-rw-r--r-- 1 lightdb lightdb 918708 12月 1 10:02 1-lightdb-x-13.3-22.2-kylinv10spl.x86_64-patch-1.0-8302.zip  
-rw-r--r-- 1 lightdb lightdb 35999342 12月 1 10:03 1-lightdb-x-13.3-22.2-kylinv10spl.x86_64-patch-2.0-8319.zip  
drwxrwxr-x 7 lightdb lightdb 175 11月 29 14:00 lightdb-x-13.3-22.2-5950-kylinv10spl.x86_64  
drwxrwxr-x 5 lightdb lightdb 51 11月 29 14:24 stage
```

先执行 `lt_ctl -D $LTDATA stop` 停掉数据库

patch1 解压后 cd 到解压目录然后执行 `lt_patch install` 命令
使用 lightdb 系统用户执行

```
$ lt_patch install
```

```
[lightdb@p3-gm6xctadbl ~]$ cd 1.0-8302/  
[lightdb@p3-gm6xctadbl 1.0-8302]$ lt_patch install  
==== Installation - parse config ====  
attempting to read file patchinfo.conf  
- Patch ID : '1.0-8302'  
- DB Version : '13.3-22.2'  
- Platform : 'kylinv10spl.x86_64'  
- File List : 'lthome/bin/lt_probackup;lthome/bin/lightdb_service.py;lthome/bin/switchover.sh;lthome/lib/lt_cron.so;lthome/share/extension/orafce--3.18--3.18.1.sql;lthome/share/extension/orafce.control'  
Finished parsing patchinfo.conf (10 lines)  
continue to install? (y or n)  
y  
==== Installation - check lthome/ consistency ====  
- checking for lthome/bin/lt_probackup... yes  
- checking for lthome/bin/lightdb_service.py... yes  
- checking for lthome/bin/switchover.sh... yes  
- checking for lthome/lib/lt_cron.so... yes  
- checking for lthome/share/extension/orafce--3.18--3.18.1.sql... yes  
- checking for lthome/share/extension/orafce.control... yes  
finished check (6 files)  
==== Installation - check sql/ consistency ====  
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch... done  
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302... done  
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source... done  
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore... done  
==== Installation - check directory ====  
- LTHOME is /home/lightdb/stage/lightdb-x/13.3-22.2  
- patch root is /home/lightdb/stage/lightdb-x/13.3-22.2/patch  
- current patch directory is /home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302  
- source directory is /home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source  
- restore directory is /home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore  
==== Installation - cache patch files ====  
- copy 'lthome/bin/lt_probackup' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/bin/lt_probackup'... yes  
- copy 'lthome/bin/lightdb_service.py' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/bin/lightdb_service.py'... yes  
- copy 'lthome/bin/switchover.sh' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/bin/switchover.sh'... yes  
- copy 'lthome/lib/lt_cron.so' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/lib/lt_cron.so'... yes  
- copy 'lthome/share/extension/orafce--3.18--3.18.1.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/share/extension/orafce--3.18--3.18.1.sql'... yes  
- copy 'lthome/share/extension/orafce.control' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/share/extension/orafce.control'... yes  
finished caching (8 files)  
==== Installation - backup ====  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/lt_probackup' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore/lthome/bin/lt_probackup'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/lightdb_service.py' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore/lthome/bin/lightdb_service.py'... yes  
- skip new file /home/lightdb/stage/lightdb-x/13.3-22.2/bin/switchover.sh  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/lib/lt_cron.so' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore/lthome/lib/lt_cron.so'... yes  
- skip new file /home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce--3.18--3.18.1.sql  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce--3.18--3.18.1.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore/lthome/share/extension/orafce--3.18--3.18.1.sql'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce.control' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/restore/lthome/share/extension/orafce.control'... yes  
finished backup (4 files)  
==== Installation - upgrade ====  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/bin/lt_probackup' to '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/lt_probackup'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/bin/lightdb_service.py' to '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/lightdb_service.py'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/bin/switchover.sh' to '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/switchover.sh'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/lib/lt_cron.so' to '/home/lightdb/stage/lightdb-x/13.3-22.2/lib/lt_cron.so'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/share/extension/orafce--3.18--3.18.1.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce--3.18--3.18.1.sql'... yes  
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/1.0-8302/source/lthome/share/extension/orafce.control' to '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce.control'... yes  
finished upgrading (6 files)  
result: successfully!
```

2.3 启动数据库

```
lt_ctl -D $LTDATA start
```

2.4 使用 lightdb 数据库用户登录到每个库中 (**template0 除外**) 执行 ALTER EXTENSION orafce UPDATE

- 1)、执行 `ltsql` 登录 postgres 库中执行
- 2)、然后执行 `ALTER EXTENSION orafce UPDATE;`
- 3)、然后切换到 `template1` 中执行 `\c template1`
- 4)、执行 `ALTER EXTENSION orafce UPDATE;`

```

[lightdb@p3-gmwbxctadb1 1.0-8302]$ ltsql
ltsql (13.3-22.2)
Type "help" for help.

lightdb@postgres=# ALTER EXTENSION orafce UPDATE;
ERROR: syntax error at or near "ALTER EXTENSION orafce UPDATE"
LINE 1: ALTER EXTENSION orafce UPDATE;
      ^
lightdb@postgres=# ALTER EXTENSION orafce UPDATE;
ALTER EXTENSION
lightdb@postgres=# \c template1
You are now connected to database "template1" as user "lightdb".
lightdb@template1=# ALTER EXTENSION orafce UPDATE;
ALTER EXTENSION
lightdb@template1=#

```

三、正式升级步骤，打 patch2

3.1 然后再停掉数据库打 patch2

```
lt_ctl -D $LTDATA stop
```

```

[lightdb@p3-gmwbxctadb1 ~]$ cd 2.0-8319/
[lightdb@p3-gmwbxctadb1 2.0-8319]$ lt_patch install
==== Installation - parse config ====
attempting to read file patchinfo.conf
- Patch ID : '2.0-8319'
- DB Version : '13.3-22.2'
- Platform : 'kylinv10sp1_x86_64'
- File List : 'lthome/bin/lightdb:lthome/bin/postmaster:lthome/share/extension/orafce--3.18.1--3.18.2.sql:lthome/share/extension/orafce.control'
finished parsing patchinfo.conf (10 lines)

continue to install? (y or n)
y

==== Installation - check lthome/ consistency ====
- checking for lthome/bin/lightdb... yes
- checking for lthome/bin/postmaster... yes
- checking for lthome/share/extension/orafce--3.18.1--3.18.2.sql... yes
- checking for lthome/share/extension/orafce.control... yes
finished check (4 files)

==== Installation - check sql/ consistency ====
==== Installation - create directory ====
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319... done
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source... done
- create directory /home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/restore... done

==== Installation - check directory ====
- LTHOME is /home/lightdb/stage/lightdb-x/13.3-22.2
- patch root is /home/lightdb/stage/lightdb-x/13.3-22.2/patch
- current patch directory is /home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319
- source directory is /home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source
- restore directory is /home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/restore

==== Installation - cache patch files ====
- copy 'lthome/bin/lightdb' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/bin/lightdb'... yes
- copy 'lthome/bin/postmaster' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/bin/postmaster'... yes
- copy 'lthome/share/extension/orafce--3.18.1--3.18.2.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/share/extension/orafce--3.18.1--3.18.2.sql'... yes
- copy 'lthome/share/extension/orafce.control' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/share/extension/orafce.control'... yes
- copy 'readme.txt' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/readme.txt'... yes
- copy 'patchinfo.conf' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/patchinfo.conf'... yes
finished caching (6 files)

==== Installation - backup ====
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/lightdb' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/restore/lthome/bin/lightdb'... yes
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/postmaster' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/restore/lthome/bin/postmaster'... yes
- skip new file /home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce--3.18.1--3.18.2.sql
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce--3.18.1--3.18.2.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/restore/lthome/share/extension/orafce.control'... yes
finished backup (3 files)

==== Installation - upgrade ====
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/bin/lightdb' to '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/lightdb'... yes
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/bin/postmaster' to '/home/lightdb/stage/lightdb-x/13.3-22.2/bin/postmaster'... yes
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/share/extension/orafce--3.18.1--3.18.2.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce--3.18.1--3.18.2.sql'... yes
- copy '/home/lightdb/stage/lightdb-x/13.3-22.2/patch/2.0-8319/source/lthome/share/extension/orafce--3.18.1--3.18.2.sql' to '/home/lightdb/stage/lightdb-x/13.3-22.2/share/extension/orafce.control'... yes
finished upgrading (4 files)
result: successfully!

```

3.2 启动数据库

lightdb 操作系统用户执行

```
lt_ctl -D $LTDATA start
```

四、确认升级正确

登录到每个业务数据库中去确认 coalesce 函数结果为 true，说明升级成功

```

select coalesce(trim(' '), ' ') = ' ';
?column?

```

t

(1 row)