

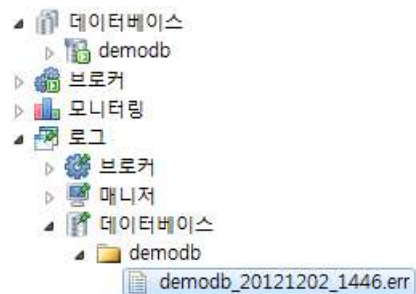
# 로그 확인

- 데이터베이스
  - \$CUBRID/log/server/<데이터베이스이름>\_<yyyymmdd>\_<pid>.err

```
% vi $CUBRID/log/server/mydb_20121201_4532.err
```

```
Time: 12/02/12 14:54:42.519 - ERROR *** ERROR CODE = -670, Tran = 1, CLIENT = me-PC:cub_cas(2596), EID = 1
Operation would have caused one or more unique constraint violations.
```

```
Time: 12/02/12 14:55:23.805 - ERROR *** ERROR CODE = -673, Tran = 0, CLIENT = (unknown):(unknown)(-1), EID = 2
Your connection to the server has been closed since the server is going down immediately.
```

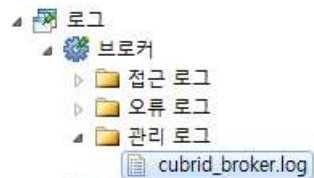
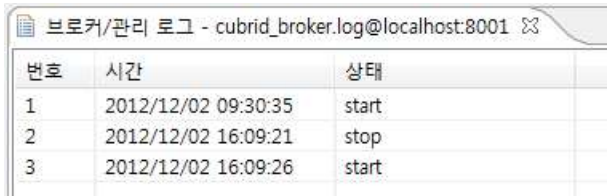


demodb - demodb_20121202_1446.err@localhost:8001						
번호	시간	오류 형식	오류 코드	트랜잭션 ID	오류 ID	오류 메시지
1	12/02/12 14:54:42.519	ERROR	-670	1	1	Operation would have caused one or more unique constraint violations.
2	12/02/12 14:55:23.805	ERROR	-673	0	2	Your connection to the server has been closed since the server is going down i...

## 로그 확인 - 계속

- 브로커
  - 관리 로그 : \$CUBRID/log/broker/cubrid\_broker.log

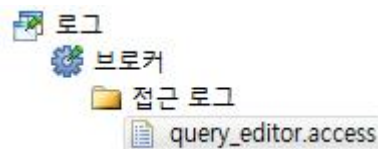
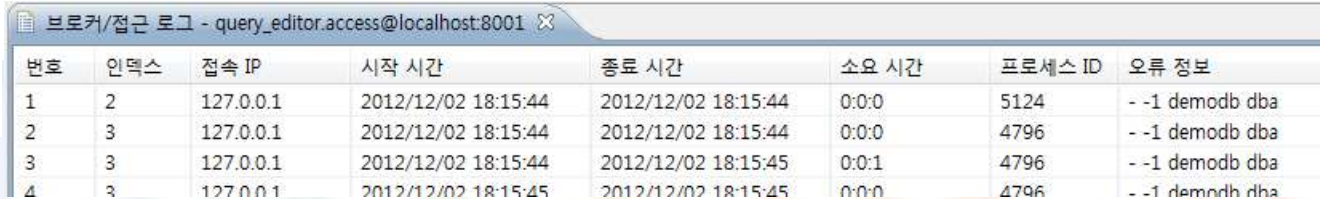
```
% vi $CUBRID/log/broker/cubrid_broker.log
2012/12/02 09:30:35 start
2012/12/02 16:09:21 stop
2012/12/02 16:09:26 start
```

번호	시간	상태
1	2012/12/02 09:30:35	start
2	2012/12/02 16:09:21	stop
3	2012/12/02 16:09:26	start

- 접근 로그 : \$CUBRID/log/broker/<브로커이름>.access

```
% vi $CUBRID/log/broker/query_editor.access
2 127.0.0.1 -- 1354439744.170 1354439744.391 2012/12/02 18:15:44 ~ 2012/12/02 18:15:44 5124 --1 demodb dba
3 127.0.0.1 -- 1354439744.635 1354439744.780 2012/12/02 18:15:44 ~ 2012/12/02 18:15:44 4796 --1 demodb dba
3 127.0.0.1 -- 1354439744.934 1354439745.011 2012/12/02 18:15:44 ~ 2012/12/02 18:15:45 4796 --1 demodb dba
```

번호	인덱스	접속 IP	시작 시간	종료 시간	소요 시간	프로세스 ID	오류 정보
1	2	127.0.0.1	2012/12/02 18:15:44	2012/12/02 18:15:44	0:0:0	5124	- -1 demodb dba
2	3	127.0.0.1	2012/12/02 18:15:44	2012/12/02 18:15:44	0:0:0	4796	- -1 demodb dba
3	3	127.0.0.1	2012/12/02 18:15:44	2012/12/02 18:15:45	0:0:1	4796	- -1 demodb dba
4	3	127.0.0.1	2012/12/02 18:15:45	2012/12/02 18:15:45	0:0:0	4796	- -1 demodb dba

## 로그 확인 - 계속

- 에러 로그 : \$CUBRID/log/broker/error\_log/<브로커이름>\_<cas번호>.err

```
% vi $CUBRID/log/broker/error_log/query_editor_1.err
Time: 12/02/12 14:54:27.109 - SYNTAX ERROR *** ERROR CODE = -493, Tran = 1, EID = 1
Syntax: Unknown class "mytable". insert into mytable values (1)

Time: 12/02/12 14:54:42.520 - ERROR *** ERROR CODE = -670, Tran = 1, EID = 2
Operation would have caused one or more unique constraint violations.
```



번호	시간	오류 형식	오류 코드	트랜잭...	오류 ID	오류 메시지
1	12/02/12 14:54:27.109	SYNTAX ERROR	-493	1	1	Syntax: Unknown class "mytable". insert into mytable values (1)
2	12/02/12 14:54:42.520	ERROR	-670	1	2	Operation would have caused one or more unique constraint violations.
3	12/02/12 19:01:57.969	SYNTAX ERROR	-493	1	1	Syntax: Unknown class "mytable". select * from mytable where (rownum

## 로그 확인 - 계속

- sql 로그 : \$CUBRID/log/broker/sql\_log/<브로커이름>\_<cas번호>.sql.log

```
% vi $CUBRID/log/broker/sql_log/query_editor_1.sql.log
12/02 14:54:27.108 (0) check_cas 0
12/02 14:54:27.108 (0) get_db_parameter isolation_level 3
12/02 14:54:27.109 (0) close_req_handle srv_h_id 1
12/02 14:54:27.109 (2) prepare 0 INSERT INTO mytable VALUES(1);
12/02 14:54:27.109 (2) prepare srv_h_id error:-493, EID = 1
12/02 14:54:27.109 (0) auto_rollback
12/02 14:54:27.109 (0) auto_rollback 0
12/02 14:54:27.109 (0) *** elapsed time 0.001

12/02 19:02:16.295 (0) check_cas 0
12/02 19:02:16.295 (0) get_db_parameter isolation_level 1
12/02 19:02:16.296 (0) close_req_handle srv_h_id 2
12/02 19:02:16.297 (8) prepare 0 SELECT * FROM mytbl where rownum between 1 and 5000;
12/02 19:02:16.300 (8) prepare srv_h_id 2 (PC)
12/02 19:02:16.301 (8) execute srv_h_id 2 SELECT * FROM mytbl where rownum between 1 and 5000;
12/02 19:02:16.302 (8) execute 0 tuple 1 time 0.000
12/02 19:02:16.389 (0) close_req_handle srv_h_id 2
12/02 19:02:16.482 (0) end_tran COMMIT
12/02 19:02:16.482 (0) end_tran 0 time 0.000
12/02 19:02:16.482 (0) *** elapsed time 0.188
```



SQL 로그 - query_editor_1.sql.log@localhost:8001	
번호	내용
1	12/02 09:30:34.820 (0) CAS STARTED pid 2596
2	12/02 14:54:00.125 (0) CLIENT IP 127.0.0.1
3	12/02 14:54:00.161 (0) connect db demodb user dba url jdbc:cubrid:localhost:30000:demodb:dba:: session id 2
4	12/02 14:54:00.161 (0) DEFAULT isolation_level 3, lock_timeout -1
5	12/02 14:54:00.161 (0) get_version
6	12/02 14:54:00.161 (0) auto_commit
7	12/02 14:54:00.162 (0) auto_commit 0
8	12/02 14:54:00.162 (0) *** elapsed time 0.001
9	

## 로그 확인 - 계속

- 서버 에러 관련 sql 찾기
  - 데이터베이스 에러

```
% vi $CUBRID/log/server/mydb_20121201_4532.err
Time: 12/02/12 14:54:42.519 - ERROR *** ERROR CODE = -670, Tran = 1, CLIENT = me-PC:cub_cas(2596), EID = 1
Operation would have caused one or more unique constraint violations.
```

```
% cubrid broker status
% query_editor - ...
```

ID	PID	QPS	LQS	PORT	PSIZE	STATUS	CPU
1	2596	3	0	30001	9596	IDLE	0.00
2	2597	2	0	30002	9596	IDLE	0.00
...							

```
C:\WCUBRID\log\broker\sql_log> find "CAS STARTED pid 2596" *.sql.log
----- QUERY_EDITOR_1.SQL.LOG
12/02 11:15:09.393 (0) CAS STARTED pid 2596
```

```
% vi $CUBRID/log/broker/sql_log/query_editor_1.sql.log
12/02 14:54:42.518 (0) check_cas 0
12/02 14:54:42.518 (0) get_db_parameter isolation_level 3
12/02 14:54:42.519 (0) close_req_handle srv_h_id 1
12/02 14:54:42.519 (2) prepare 0 INSERT INTO mytbl VALUES(1);
12/02 14:54:42.519 (2) prepare srv_h_id error:-670, EID = 1
12/02 14:54:42.519 (0) auto_rollback
12/02 14:54:42.519 (0) auto_rollback 0
12/02 14:54:42.519 (0) *** elapsed time 0.001
```

## 로그 확인 - 계속

- 브로커 에러 관련 sql 찾기

```
% vi $CUBRID/log/broker/error_log/query_editor_1.err
Time: 12/02/12 14:54:27.109 - SYNTAX ERROR *** ERROR CODE = -493, Tran = 1, EID = 1
Syntax: Unknown class "mytable". insert into mytable values (1)
```

```
Time: 12/02/12 14:54:42.520 - ERROR *** ERROR CODE = -670, Tran = 1, EID = 2
Operation would have caused one or more unique constraint violations.
```

```
% vi $CUBRID/log/broker/sql_log/query_editor_1.sql.log
12/02 14:54:27.108 (0) check_cas 0
12/02 14:54:27.108 (0) get_db_parameter isolation_level 3
12/02 14:54:27.109 (0) close_req_handle srv_h_id 1
12/02 14:54:27.109 (2) prepare 0 INSERT INTO mytable VALUES(1);
12/02 14:54:27.109 (2) prepare srv_h_id error:-493, EID = 1
12/02 14:54:27.109 (0) auto_rollback
12/02 14:54:27.109 (0) auto_rollback 0
12/02 14:54:27.109 (0) *** elapsed time 0.001
```

# slow 질의 확인

- Long busy 확인 및 조치

```
% cubrid broker status -b -f -s 1 -l 5
@ cubrid broker status
NAME      PID PSIZE PORT AS(T  W  B 5s-W 5s-B) JQ   REQ TPS QPS   LONG-T   LONG-Q   ERR-Q   CANCELED
ACCESS_MODE SQL_LOG
=====
=====
* query_editor 2588 89952 30000  5 0 0  0  1 0 13061 1 1  0/60.0  0/60.0  1    0    RW    ALL
* broker1      2656 89922 33000  5 0 0  0  0 0 13061 21 64  0/60.0  0/60.0  1    0    RW    ALL
```

```
% cubrid broker status query_editor -f
% query_editor - ...
-----
ID  PID  QPS  LQS  PORT PSIZE STATUS    CPU  LAST ACCESS TIME      DB
HOST  LAST CONNECT TIME    CLIENT IP  SQL_LOG_MODE TRANSACTION STIME # CONNECT # RESTART
-----
1  3172  3    0 30001 9596  BUSY      0.00 2012/12/02 19:02:16      demodb
localhost 2012/12/02 19:02:16 127.0.0.1 - 2012/12/02 19:02:16 3    0
SQL: select * from mytbl where ...
...
```

```
% vi $CUBRID/log/broker/sql_log/query_editor_1.sql.log
12/02 19:02:16.295 (0) check_cas 0
12/02 19:02:16.295 (0) get_db_parameter isolation_level 1
12/02 19:02:16.296 (0) close_req_handle srv_h_id 2
12/02 19:02:16.297 (8) prepare 0 SELECT * FROM mytbl where name='홍길동';
12/02 19:02:16.300 (8) prepare srv_h_id 2 (PC)
12/02 19:02:16.301 (8) execute srv_h_id 2 SELECT * FROM mytbl where name='홍길동';
```

## slow 질의 확인 - 계속

- slow 질의 로그
  - slow 질의 설정 시간 초과 질의 로그

```
% cd $CUBRID/log/broker/sql_log
% vi query_editor_1.slow.log
12/06 10:19:07.124 (2) execute srv_h_id 1 select t2.host_year, t2.medal, t2.cnt from      ( select * from olympic order by
opening_date ) t1,      ( select host_year, medal, count(*) cnt from record group by host_year,medal ) t2 where
t1.host_year = t2.host_year
12/06 10:20:07.124 (2) execute 0 tuple 15 time 60.105
```

```
% vi query_editor_1.sql.log
12/06 10:19:07.019 (2) prepare 2 select t2.host_year, t2.medal, t2.cnt from      ( select * from olympic order by
opening_date ) t1,      ( select host_year, medal, count(*) cnt from record group by host_year,medal ) t2 where
t1.host_year = t2.host_year
12/06 10:19:07.119 (2) prepare srv_h_id 1
12/06 10:19:07.119 (2) execute srv_h_id 1 select t2.host_year, t2.medal, t2.cnt from      ( select * from olympic order by
opening_date ) t1,      ( select host_year, medal, count(*) cnt from record group by host_year,medal ) t2 where
t1.host_year = t2.host_year
12/06 10:20:07.124 (2) execute 0 tuple 15 time 60.005
```



## slow 질의 확인 - 계속

- broker log top
  - sql log 상의 트랜잭션 기반 성능 분석

```
% cd $CUBRID/log/broker/sql_log
% broker_log_top -t query_editor*.sql.log
```

```
% vi log_top.t
query_editor_2.sql.log:25
12/06 13:42:25.440 (0) check_cas 0
12/06 13:42:25.442 (0) get_db_parameter isolation_level 3
12/06 13:42:25.444 (0) close_req_handle srv_h_id 1
12/06 13:42:25.444 (2) prepare 2 select t2.host_year, t2.medal, t2.cnt from (select * from olympic order by opening_date)
t1, (select host_year, medal, count(*) cnt from record group by host_year, medal) t2 where t1.host_year = t2.host_year;
12/06 13:42:25.446 (2) prepare srv_h_id 1
12/06 13:42:25.447 (2) execute srv_h_id 1 select t2.host_year, t2.medal, t2.cnt from (select * from olympic order by
opening_date) t1, (select host_year, medal, count(*) cnt from record group by host_year, medal) t2 where t1.host_year =
t2.host_year;
12/06 13:42:25.450 (2) execute 0 tuple 15 time 0.004
12/06 13:42:25.455 (0) close_req_handle srv_h_id 1
12/06 13:42:25.455 (3) prepare 2 select * from olympic where rownum between 1 and 5000;
12/06 13:42:25.455 (3) prepare srv_h_id 1 (PC)
12/06 13:42:25.459 (3) execute srv_h_id 1 select * from olympic where rownum between 1 and 5000;
12/06 13:42:25.459 (3) execute 0 tuple 25 time 0.001
12/06 13:42:25.473 (0) end_tran COMMIT
12/06 13:42:25.473 (0) end_tran 0 time 0.000
12/06 13:42:25.473 (0) *** elapsed time 0.018

query_editor_1.sql.log:25
12/06 13:42:25.440 (0) check_cas 0
12/06 13:42:25.442 (0) get_db_parameter isolation_level 3
12/06 13:42:25.444 (0) close_req_handle srv_h_id 1
...
```

## slow 질의 확인 - 계속

- sql log 상의 질의 기반 성능 분석

```
% cd $CUBRID/log/broker/sql_log
% broker_log_top query_editor*.sql.log
```

```
% vi log_top.res
      max      min      avg  cnt(err)
-----
[Q1]   0.004   0.004   0.004    2 (0)
[Q2]   0.001   0.001   0.001    4 (0)
```

```
% vi log_top.q
[Q1]-----
query_editor_1.sql.log:31
12/06 13:42:25.447 (2) execute srv_h_id 1 select t2.host_year, t2.medal, t2.cnt from (select * from olympic order by
opening_date ) t1, (select host_year, medal, count(*) cnt from record group by host_year,medal ) t2 where t1.host_year =
t2.host_year;
12/06 13:42:25.450 (2) execute 0 tuple 15 time 0.004

[Q2]-----
query_editor_1.sql.log:20
12/06 13:29:57.188 (1) execute srv_h_id 1 select * from olympic where rownum between 1 and 5000;
12/06 13:29:57.189 (1) execute 0 tuple 25 time 0.001
```

# lock 확인

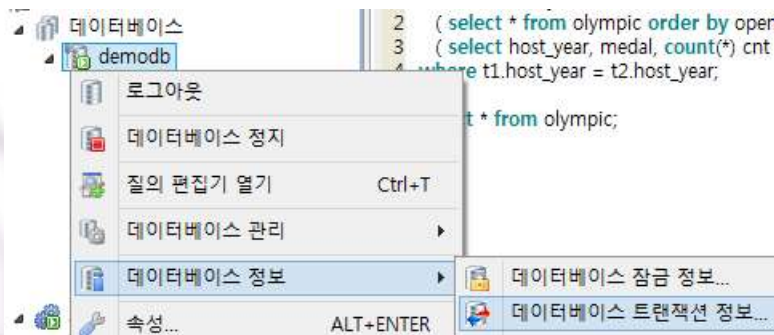
- 접속 client 확인

```
% cubrid lockdb demodb
...
Transaction (index 0, (unknown), (unknown)|(unknown))|-1)
Isolation REPEATABLE CLASSES AND READ UNCOMMITTED INSTANCES
State TRAN_ACTIVE
Timeout_period -1

Transaction (index 1, cub_cas, dba@me-PC|8132)
Isolation READ COMMITTED CLASSES AND READ UNCOMMITTED INSTANCES
State TRAN_ACTIVE
Timeout_period 1000

Transaction (index 2, cub_cas, dba@me-PC|5740)
Isolation READ COMMITTED CLASSES AND READ UNCOMMITTED INSTANCES
State TRAN_ACTIVE
Timeout_period 1000

Transaction (index 3, csqj, dba@me-PC|4400)
Isolation REPEATABLE CLASSES AND READ UNCOMMITTED INSTANCES
State TRAN_ACTIVE
Timeout_period -1
```



접속자 정보

잠금자 정보

데이터베이스 잠금 설정 정보

잠금 에스컬레이션 : 100000 교착 상태 점검 주기 : 1

데이터베이스 현재 상태 정보

인덱스	프로그램 이름	사용자 이름	호스트	프로세스 ID
0	(unknown)	(unknown)	(unknown)	-1
1	cub_cas	dba	jwnam-PC	8132
2	cub_cas	dba	jwnam-PC	5740
3	csqj	dba	jwnam-PC	4400

# lock 확인 - 계속

- lock 상태 확인

```
% cubrid lockdb demodb -o lockdb.log
...
Transaction (index 1, cub_cas, dba@me-PC|8132)

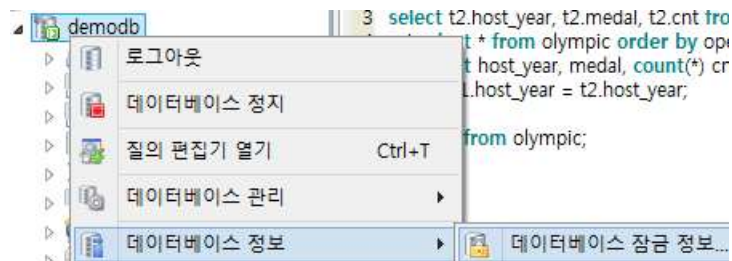
Transaction (index 3, csq|, dba@me-PC|4400)
...
OID = 0| 530| 6
Object type: Instance of class ( 0| 319| 7) = code.
Total mode of holders = X_LOCK, Total mode of waiters = U_LOCK.
Num holders= 1, Num blocked-holders= 0, Num waiters= 1
LOCK HOLDERS:
  Tran_index = 1, Granted_mode = X_LOCK, Count = 2
LOCK WAITERS:
  Tran_index = 3, Blocked_mode = U_LOCK
                        Start_waiting_at = Sat Dec 08 13:13:24 2012
                        Wait_for_nsecs = -1
```

```
% cubrid broker status query_editor
-----
ID  PID  QPS  LQS  PORT PSIZE  STATUS    CPU
-----
1  8132   3    0 30001 9596   IDLE     0.00
...
```

```
% vi query_editor_1.sql.log
...12/08 13:13:19.739 (18) prepare 2 update code set f_name='GOLD' where s_name='G';
12/08 13:13:19.739 (18) prepare srv_h_id 1
12/08 13:13:19.739 (18) execute srv_h_id 1 update code set f_name='GOLD' where s_name='G';
12/08 13:13:19.739 (18) execute 0 tuple 1 time 0.000
```

# lock 확인 - 계속

- lock 상태 확인 - 매니저 이용



접속자 정보    잠금자 정보

객체 잠금 정보

잠겨진 객체의 현재 개수 = 5  
잠겨진 객체의 최대 개수 = 10000

데이터베이스 현재 상태 정보

OID	객체 형식	소유자 수	차단된 수	대기자 수
-872 530 3	Instance of class ( 0  319  7) = code	1	0	0
-872 530 6	Instance of class ( 0  319  7) = code	1	0	0
0 319 7	Class = code	2	0	0
0 530 6	Instance of class ( 0  319  7) = code	1	0	1
0 60 1	Root class	2	0	0

상세(D)

잠금 상세 정보입니다.

객체 ID:0|530|6

객체 형식:Instance of class ( 0| 319| 7) = code

잠금 소유자

트랜잭션 인덱스	허가된 잠금 모드	개수	잠긴 하위 행 수
1	X_LOCK	2	0

차단된 잠금 소유자

트랜잭션 인덱스	허가된 잠금 모드	개수	차단된 잠금 모드	대기 시작 시간

잠금 대기자

트랜잭션 인덱스	차단된 잠금 모드	대기 시작 시간	대기 설정 시간
3	U_LOCK	Sat Dec 08 13:13:24 2012	-1