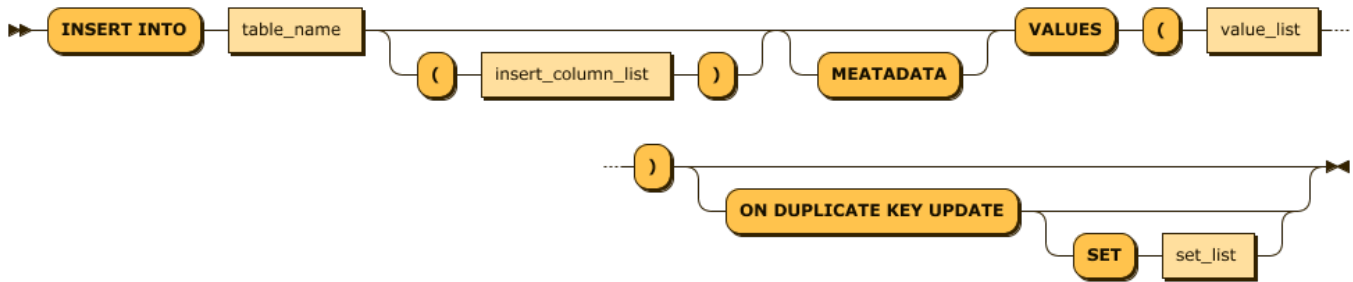


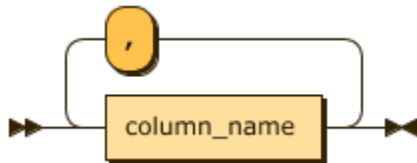
# DML

## INSERT

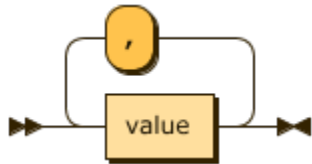
insert\_stmt:



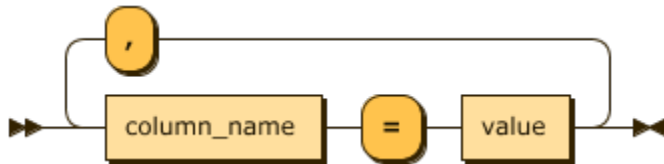
insert\_column\_list:



value\_list:



set\_list:



```
insert_stmt ::= 'INSERT INTO' table_name ( '(' insert_column_list ')' )?
'METADATA'? 'VALUES' '(' value_list ')' ( 'ON DUPLICATE KEY UPDATE' ( 'SET'
set_list )? )?
insert_column_list ::= column_name ( ',' column_name )*
value_list ::= value ( ',' value )*
set_list ::= column_name '=' value ( ',' column_name '=' value )*
```

```
create table test (number int,name varchar(20));
Created successfully.
insert into test values (1,"test");
1 row(s) inserted.
insert into test(name,number) values ("test",2);
1 row(s) inserted.
```

. Column\_List NULL .

METADATA tag table .

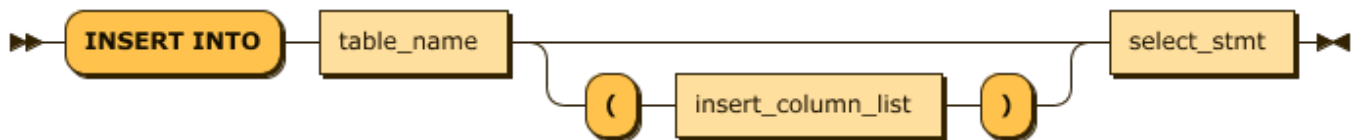
- INSERT
  - INSERT ON DUPLICATE KEY UPDATE
- INSERT SELECT
- UPDATE
  - UPDATE METADATA
- DELETE
- DELETE WHERE
- LOAD DATA INFILE

## INSERT ON DUPLICATE KEY UPDATE

```
, UPSERT  
Lookup/Volatile  
,  
,  
,  
SET  
• SET '='  
• SET
```

## INSERT SELECT

insert\_select\_stmt:



```
insert_select_stmt ::= 'INSERT INTO' table_name ( '(' insert_column_list ')' )? select_stmt
```

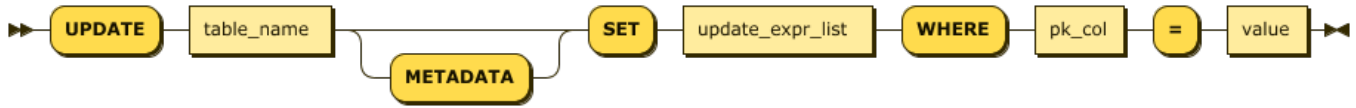
table SELECT . DBMS .

1. \_ARRIVAL\_TIME select INSERT INSERT SELECT .
2. VARCHAR , .
3. (->) .
4. ROLLBACK .
5. \_ARRIVAL\_TIME , .

```
create table t1 (i1 integer, i2 varchar(60), i3 varchar(5));  
Created successfully.  
  
insert into t1 values (1, 'a', 'ddd' );  
1 row(s) inserted.  
insert into t1 values (2, 'kkkkkkkkkkkkkkkkkkkkkk', 'c');  
1 row(s) inserted.  
  
insert into t1 select * from t1;  
2 row(s) inserted.  
create table t2 (i1 integer, i2 varchar(60), i3 varchar(5));  
  
insert into t2 (_arrival_time, i1, i2, i3) select _arrival_time, * from t1;  
4 row(s) inserted.
```

## UPDATE

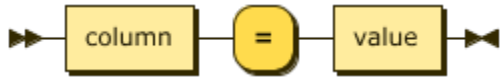
update\_stmt:



update\_expr\_list:



update\_expr:



```

update_stmt ::= 'UPDATE' table_name ( 'METADATA' )? 'SET' update_expr_list 'WHERE' primary_key_column '=' value
update_expr_list ::= update_expr ( ',' update_expr )*
update_expr ::= column '=' value

```

INSERT ON DUPLICATE KEY UPDATE UPSERT , UPDATE .

, (Primary Key) Lookup/Volatile . WHERE .

## UPDATE METADATA

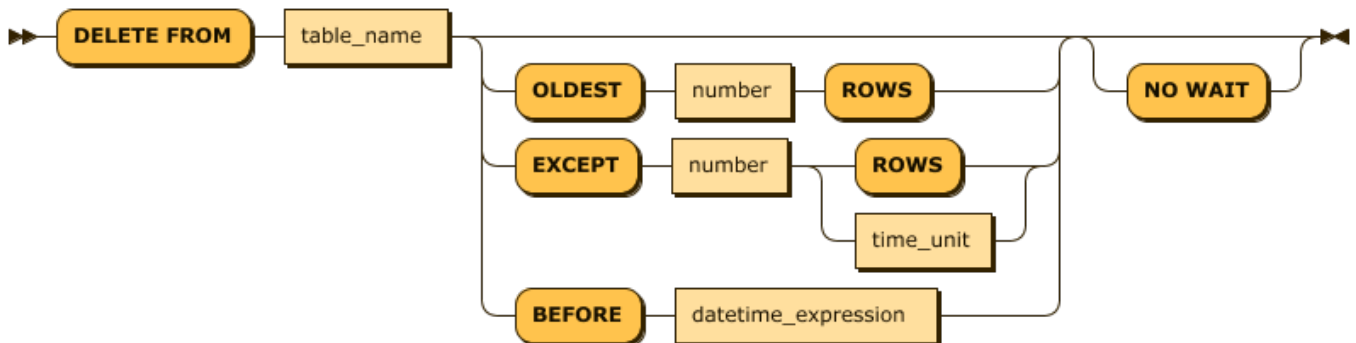
TAGDATA , .

```
UPDATE TAG METADATA SET ...
```

TAGDATA INSERT ON DUPLICATE KEY UPDATE / .

## DELETE

delete\_stmt:



time\_unit:



```
delete_stmt ::= 'DELETE FROM' table_name ( 'OLDEST' number 'ROWS' | 'EXCEPT' number ( 'ROWS' | time_unit ) |  
'BEFORE' datetime_expression )? 'NO WAIT'?  
time_unit ::= 'DURATION' number time_unit ( ( 'BEFORE' | 'AFTER' ) number time_unit )?
```

DELETE ., , ( ) .

, DB .

```
-- .  
DELETE FROM devices;  
  
-- N .  
DELETE FROM devices OLDEST N ROWS;  
  
-- N .  
DELETE FROM devices EXCEPT N ROWS;  
  
-- N .  
DELETE FROM devices EXCEPT N DAY;  
  
-- 2014 6 1 .  
DELETE FROM devices BEFORE TO_DATE('2014-06-01', 'YYYY-MM-DD');
```

## DELETE WHERE

delete\_where\_stmt:



```
delete_where_stmt ::= 'DELETE FROM' table_name 'WHERE' column_name '=' value
```

```

create volatile table t1 (i1 int primary key, i2 int);
Created successfully.
insert into t1 values (2,2);
1 row(s) inserted.
delete from t1 where i1 = 2;
1 row(s) deleted.

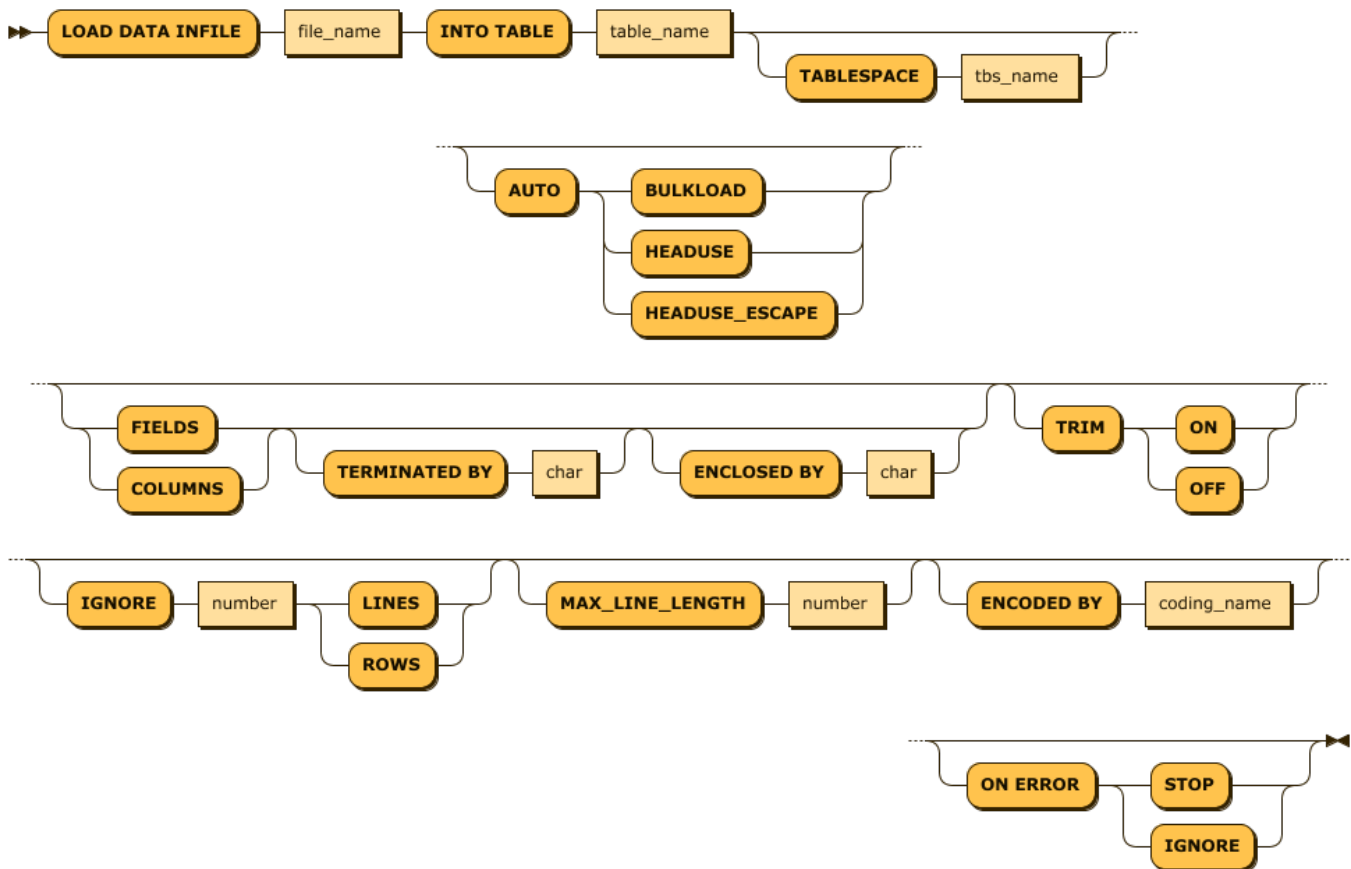
```

,WHERE .

- WHERE ( )=() , .

## LOAD DATA INFILE

load\_data\_infile\_stmt:



```

load_data_infile_stmt: 'LOAD DATA INFILE' file_name 'INTO TABLE' table_name ( 'TABLESPACE' tbs_name )? ( 'AUTO'
( 'BULKLOAD' | 'HEADUSE' | 'HEADUSE_ESCAPE' ) )? ( ( 'FIELDS' | 'COLUMNS' ) ( 'TERMINATED BY' char )? (
'ENCLOSED BY' char )? )? ( 'TRIM' ( 'ON' | 'OFF' ) )? ( 'IGNORE' number ( 'LINES' | 'ROWS' ) )? (
'MAX_LINE_LENGTH' number )? ( 'ENCODED BY' coding_name )? ( 'ON ERROR' ( 'STOP' | 'IGNORE' ) )?

```

CSV , .

--	--

AUTO mode_string mode_string = (BULKLOAD   HEADUSE   HEADUSE_ESCAPE)	( varchar type) . BULKLOAD: row . . . HEADUSE: , . HEADUSE_ESCAPE: HEADUSE , DB ' ', ' ' .
(FIELDS COLUMNS) TERMINATED BY 'term_char' ESCAPED BY 'escape_char'	(term_char) (escape_char) . CSV , ' .
ENCODED BY coding_name coding_name = { UTF8(default)   MS949   KSC5601   EUCJP   SHIFTJIS   BIG5   GB231280 }	. UTF-8.
TRIM (ON   OFF)	. ON.
IGNORE number (LINES   ROWS)	. CSV VCF .
MAX_LINE_LENGTH	. 512K, .
ON ERROR (STOP   IGNORE)	. STOP IGNORE . IGNORE.

```
-- default field delimiter(,) field encloser (") .
LOAD DATA INFILE '/tmp/aaa.csv' INTO TABLE Sample_data ;

-- NEWTABLE .
LOAD DATA INFILE '/tmp/bbb.csv' INTO TABLE NEWTABLE AUTO BULKLOAD;

-- csv NEWTABLE , .
LOAD DATA INFILE '/tmp/bbb.csv' INTO TABLE NEWTABLE AUTO HEADUSE;

-- ; enclosing ' .
LOAD DATA INFILE '/tmp/ccc.csv' INTO TABLE Sample_data FIELDS TERMINATED BY ';' ENCLOSED '\'' IGNORE 1 LINES
ON ERROR IGNORE;
```