

mydb SQL Support

December 8, 2015

1 Keywords

DATABASE	DATABASES	TABLE	TABLES	SHOW	CREATE
DROP	USE	CHECK	PRIMARY	KEY	UNIQUE
NOT	NULL	AUTO_INCREMENT	INSERT	INTO	VALUES
DELETE	FROM	WHERE	UPDATE	SET	SELECT
GROUP	BY	IS	IN	BETWEEN	LIKE
AND	OR	SUM	AVG	MAX	MIN
INT	SMALLINT	BIGINT	FLOAT	REAL	DOUBLE
VARCHAR	STRING	CHAR	BOOLEAN	DATETIME	

These keywords are **NOT** case-sensitive.

2 Syntax

$\langle program \rangle$	$::= \langle stmt \rangle [\langle stmt \rangle]^*$
$\langle ident \rangle$	$::= [A-Za-z_][A-Za-z0-9_]^*$
$\langle integer \rangle$	$::= 0 \mid [1-9][0-9]^*$
$\langle stmt \rangle$	$::= \langle sysStmt \rangle ;$ $\mid \langle dbStmt \rangle ;$ $\mid \langle tbStmt \rangle ;$
$\langle sysStmt \rangle$	$::= \text{SHOW DATABASES}$
$\langle dbStmt \rangle$	$::= \text{CREATE DATABASE } \langle dbName \rangle$ $\mid \text{DROP DATABASE } \langle dbName \rangle$ $\mid \text{USE } \langle dbName \rangle$ $\mid \text{SHOW TABLES}$
$\langle tbStmt \rangle$	$::= \text{CREATE TABLE } \langle tbName \rangle (\langle field \rangle [, \langle field \rangle]^* [, \text{CHECK } ($ $\langle constraints \rangle)] [, \text{PRIMARY KEY } (\langle colName \rangle)])$

	DROP TABLE $\langle tbName \rangle$
	SHOW TABLE $\langle tbName \rangle$
	INSERT INTO $\langle tbName \rangle$ [($\langle colName \rangle$ [, $\langle colName \rangle$]*)]
	VALUES ($\langle value \rangle$ [, $\langle value \rangle$]*)
	DELETE FROM $\langle tbName \rangle$ WHERE $\langle whereClause \rangle$
	UPDATE $\langle tbName \rangle$ SET $\langle colName \rangle$ = $\langle value \rangle$ [, $\langle colName \rangle$
	= $\langle value \rangle$]* WHERE $\langle whereClause \rangle$
	SELECT $\langle columns \rangle$ FROM $\langle tbName \rangle$ [WHERE $\langle whereClause \rangle$]
	[GROUP BY $\langle colName \rangle$]
$\langle tbName \rangle$::= $\langle ident \rangle$
$\langle colName \rangle$::= $\langle ident \rangle$
$\langle value \rangle$::= $\langle ident \rangle$
$\langle field \rangle$::= $\langle colName \rangle$ $\langle type \rangle$ [($\langle attr \rangle$)]*
$\langle type \rangle$::= INT [($\langle integer \rangle$)]
	SMALLINT
	BIGINT
	FLOAT REAL
	DOUBLE
	VARCHAR ($\langle integer \rangle$)
	STRING
	CHAR
	BOOLEAN
	DATETIME
$\langle attr \rangle$::= NOT NULL UNIQUE AUTO_INCREMENT
$\langle atomExpr \rangle$::= $\langle colName \rangle$ $\langle op \rangle$ $\langle value \rangle$
	$\langle colName \rangle$ IS [NOT] NULL
	$\langle colName \rangle$ [NOT] IN ($\langle value \rangle$ [, $\langle value \rangle$]*)
	$\langle colName \rangle$ [NOT] BETWEEN $\langle value \rangle$ AND $\langle value \rangle$
$\langle op \rangle$::= '=' '<>' '<=' '>=' '<' '>'
$\langle constraint \rangle$::= $\langle atomExpr \rangle$
	($\langle constraint \rangle$)
	$\langle constraint \rangle$ AND $\langle constraint \rangle$
	$\langle constraint \rangle$ OR $\langle constraint \rangle$
$\langle whereClause \rangle$::= $\langle atomExpr \rangle$
	$\langle colName \rangle$ [NOT] LIKE $\langle pattern \rangle$
	($\langle whereClause \rangle$)

$$\begin{array}{l}
| \quad \langle whereClause \rangle \textbf{AND} \langle whereClause \rangle \\
| \quad \langle whereClause \rangle \textbf{OR} \langle whereClause \rangle \\
\\
\langle columns \rangle \quad ::= * | \langle column \rangle [, \langle column \rangle]^* \\
\\
\langle column \rangle \quad ::= [\langle tbName \rangle .] \langle colName \rangle \\
| \quad \textbf{SUM} (\langle colName \rangle) \\
| \quad \textbf{AVG} (\langle colName \rangle) \\
| \quad \textbf{MAX} (\langle colName \rangle) \\
| \quad \textbf{MIN} (\langle colName \rangle)
\end{array}$$

3 Priority

- $()$ *prior to* **AND** *prior to* **OR**
- **left** association

4 Semantics