پوهنتون کابل

پوهنځی کمپیوترساینس

دیپارتمنت سیستم های معلوماتی

Structured Query Language (SQL) Fundamentals

Lecture 08

تهیه کننده	:	پوهنیار محمد شعیب "زرین خیل"
سال	:	1389

Structured Query Language (SQL) 08

By: M Shuaib Zarinkhail   2010

Comments in MySQL

MySQL Server supports three comment styles:

2. From a "#" character to the end of line
3. From a "-- " sequence to the end of line
   - This style is supported as of MySQL 3.23.3
   - In MySQL, the "-- " (double-dash) comment style requires the second dash to be followed by at least one whitespace or control character (such as a space, tab, newline, and so on)

Comments in MySQL

MySQL Server supports three comment styles:

" From a /* *sequence to the following */* sequence
  ◦ This is the format using in standard SQL
  ◦ Similar to the C programming language
  ◦ This syntax allows a comment to extend over multiple lines
  ◦ The beginning and closing sequences need not be on the same line

Comments in MySQL

▸ The following example demonstrates all three styles for MySQL comments:

SELECT 1+1; # comment to the end of line
SELECT 1+1; -- comment to the end of line
SELECT 1 /* in-line comment */ + 1;
SELECT 1+
/* this is a
multiple-line comment
*/
  1;

SQL DDL (Alter Table)

‣ ALTER TABLE enables you to change the structure of an existing table

‣ For example you can
- add or delete columns
- create or destroy indexes
- change the type of existing columns
- rename columns or a table itself

‣ Also you can change the comment for a table and type of a table

SQL DDL (Alter Table)

- The syntax for many of the allowable alterations is similar to clauses of the CREATE TABLE statement
- Some operations may result in warnings when attempted on a table
  - This include operations which are not supported by the storage engine
  - In MySQL 4.1 and up, these warnings can display by SHOW WARNINGS command

SQL DDL (Alter Table)

- If you use ALTER TABLE to change a column specification but the DESCRIBE command indicates that the column was not changed, it is possible and MySQL Server ignored your modification

- This occur when altering an irregular update on the structure of a table

SQL DDL (Alter Table)

- In most cases, ALTER TABLE works by making a temporary copy of the original table
  - The alteration is performed on the copy, and then the original table is doped and the new table is renamed and replaced
  - While ALTER TABLE is executing, the original table is readable by other sessions
  - Updates and writes to the table are stalled until the new table is ready

SQL DDL (Alter Table)

RENAME TABLE

- We can rename an existing table in MySQL
- One way is using the Alter Table command
- To do:

  Type →ALTER TABLE TableOldName REANME TO TableNewName

  e.g. →alter table tOne rename to tTwo;

SQL DDL (Alter Table)

ADD COLUMN

- You can add a column to an existing table in a database

  → ALTER TABLE TableName ADD COLUMN ThreePartColumnDefinition

  e.g. → alter table tOne add column (salary integer(4) null);

SQL DDL (Alter Table)

ADD more than one COLUMN

▸ You can add more than one column to an existing table in MySQL

▸ This is possible by using the ALTER Table command

e.g. → alter table tOne add column (
Address1   char(12)   not null,
Address2   char(12)   null
);

SQL DDL (Alter Table)

ADD COLUMN

▸ As stated earlier, you can add a column to an existing table

▸ By default new column is added to the end of other columns

→ ALTER TABLE TableName ADD COLUMN ThreePartColumnDefinition

e.g. → alter table tOne add column (salary integer(4) null);

SQL DDL (Alter Table)

ADD COLUMN
- You can add a column in a specific place at the beginning or among the columns
  - For this purpose one of the FIRST or AFTER keywords is used

  e.g. → alter table tOne add column (ID   int) first;

  e.g. → alter table tOne add column (salary int) after address;

SQL DDL (Alter Table)

ADD INDEX

▸ You can set a column in a table as indexed

→ ALTER TABLE TableName ADD INDEX IndexName (ColName)

→ Alter table tOne add index iOne (colOne);

SQL DDL (Alter Table)

ADD INDEXes

▸ You can set more than one column in a table as indexed (composite)

→ ALTER TABLE TableName ADD INDEX IndexName (ColNames)

→ e.g. alter table tOne add index iTwo (colTwo, colSix);

SQL DDL (Index)

CREATE INDEX

- Similar to the previous command, you can directly create an INDEX in a DB
  - → CREATE INDEX IndexName ON TableName (colNames)

  - → e.g. create index iThree on tTwo (colName);
- This command is also applicable for more than one column(s)

SQL DDL (Index)

SHOW INDEX
- You can preview indexes in your tables
  - → SHOW INDEX FROM DatabaseName.TableName
  - → e.g. show index from dbOne.tOne;
- For active DB, database name is optional
- SHOW KEYS is a synonym for SHOW INDEX

SQL DDL (Index)

DROP INDEX

▸ You can drop indexes using ALTER TABLE command

→ ALTER TABLE TableName DROP INDEX IndexName

→ e.g. alter table tOne drop index iOne;

SQL DDL (Index)

DROP INDEX

▸ You can directly run the DROP INDEX command on a table

→ DROP INDEX IndexName ON TableName

→ e.g. drop index iTwo on tOne;

SQL DDL (Alter Table)

DROP COLUMN

▸ You can drop a column from a table using the ALTER TABLE command

→ ALTER TABLE tableName DROP COLUMN ColumnName

→ e.g. alter table tTwo drop column salary;

SQL DDL (Alter Table)

MODIFY COLUMN DEFINITION
▸ You can modify a column's definition by ALTER TABLE command

→ ALTER TABLE TableName MODIFY COLUMN ColumnName NewDefinition

→ e.g. alter table tOne modify column salary integer(22);

SQL DDL (Alter Table)

▸ To convert a table from one storage engine to another, use an ALTER TABLE statement that indicates the new engine:

ALTER TABLE tOne ENGINE = MYISAM;
ALTER TABLE tOne TYPE = BDB;