

SEQUENCES/AUTO INCREMENT

- SEQUENCES used to insert sequential values in a key column.
- SEQUENCES are implemented through AUTO_INCREMENT in MySQL
- AUTO_INCREMENT can be defined on a Key (PK or Unique) column only.
- In case of multi-column key (composite key) AUTO_INCREMENT column must be the first column of the key
- AUTO_INCREMENT should be defined on integer type columns, though can be defined on other numeric types also
- There can be only one AUTO_INCREMENT column defined in a table at a time

```
ALTER TABLE <tableName> MODIFY <column name> <data type>  
PRIMARY KEY AUTO_INCREMENT;
```

```
ALTER TABLE dept MODIFY deptno integer(10) PRIMARY KEY  
AUTO_INCREMENT;
```

SEQUENCES/AUTO INCREMENT

- Default starting value for AUTO_INCREMENT is 1
- Resetting next value for AUTO_INCREMENT

```
ALTER TABLE <table name> AUTO_INCREMENT = <start value>;
```

- Once defined AUTO_INCREMENT and the KEY will be interdependent and cant be dropped alone
- To drop Only AUTO_INCREMENT from a column –

```
ALTER TABLE <tableName> MODIFY <columnName> <dataType>,  
DROP PRIMARY KEY, ADD PRIMARY KEY (columnName);
```

INDEXES

- Indexes are database objects used by DBMS to retrieve the data from table in a faster manner.
- Invisible to end user
- Speed up SELECT queries but slow down Write (DML) Operations –

```
CREATE [UNIQUE] INDEX <index name>  
ON <table name> (<column name> [,<column name2>, ...]);
```

- Displaying all indexes existing on a table

```
SHOW INDEX IN <table name>;
```

- Dropping and Index

```
ALTER TABLE <table name> DROP INDEX <index name>;
```

GRANT & REVOKE...

- GRANT command is used to give selected/all DML and DDL command privileges to other database user;

```
GRANT [PRIVILEGES] ON <dbname>.<tablename> TO  
'<username>';
```

```
GRANT [PRIVILEGES] ON <dbname>.<tablename> TO '<username>'  
WITH GRANT OPTION;
```

- To Select all existing users in mysql -

```
SELECT USER from mysql.user;
```

- To Check the current privileges

```
SHOW GRANTS FOR <user name>;
```

GRANT & REVOKE

- REVOKE command is used to withdraw privileges given to other database user using GRANT Command;

```
REVOKE [PRIVILEGES] ON <dbname>.<tableName> FROM  
'<username>';
```

- REVOKE 'WITH GRANT OPTION' –

```
REVOKE GRANT OPTION ON <dbname>.<tableName> FROM  
'<username>';
```