

Alter Table

These are native MySQL Alter Table recommendations for 8.0 and above production systems. If they don't fit your needs, check out [Percona Tools](#) as well.

The advice below will always suggest the least-blocking option. In general:

- `ALGORITHM=INPLACE` - Requires a metadata table lock when the transaction starts and finishes. Otherwise will not block the table. If you have active long-running transactions you will need to kill them at the start and end of processing.
- `ALGORITHM=INSTANT` - Does not require any locking. This is always the best option but only supported in a few scenarios.
- `ALGORITHM=COPY` - Blocks the table during rebuild. Consider using [pt-online-schema-change](#) if you don't have (many) foreign keys. Cannot use `LOCK=NONE` with this algorithm.

Add Index

This alter command allows adding an index to an active table in production.

Uses `ALGORITHM=INPLACE`

```
ALTER TABLE table_name
  ALGORITHM=INPLACE,
  LOCK=NONE,
  ADD INDEX some_index_name (field,list,of,index,cols)
```

Modify Column - Non FK

This alter command allows modifying a column type in production.

Generally you can only use `INPLACE` for things like slightly extending a `varchar` type, or other scenarios where the column width/type doesn't change. You can always try `INPLACE` without fear and you will get an error if it's not allowed.

Warning: This option won't work for columns that are part of a foreign key.

Uses `ALGORITHM=INPLACE` or `COPY`

```
ALTER TABLE my_table  
  ALGORITHM=INPLACE,  
  LOCK=NONE,  
  MODIFY COLUMN user_name VARCHAR(45) NOT NULL
```

Some types of updates that extend the data length may trigger the following error. In this case you can either use `COPY` which will block the table, or use [pt-online-schema-change](#).

SQL Error [1846] [0A000]: ALGORITHM=INPLACE is not supported. Reason: Cannot change column type INPLACE. Try ALGORITHM=COPY.

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