

Problem with MariaDB 10.4 and partial backup restore (IMPORT TABLESPACE)

The default `alter_algorithm` in MariaDB 10.4 is `DEFAULT` which tries to use the fastest way, including the new `INSTANT` algorithm.

Problem: if you `DROP` or `ADD` a column on a table, not being the last one, you'll be later unable to `IMPORT TABLESPACE` when restoring from a partial backup taken with the **mariabackup** tool, getting a schema error like the following:

```
ERROR 1808 (HY000) at line 1: Schema mismatch (Index field name xxxxxx
doesn't match tablespace metadata field name yyyyyy for field position X)
```

This belongs to this [MDEV-18543 official issue](#) of MariaDB -where I added a comment- and where you can read: "IMPORT TABLESPACE currently fails to read the mapping of clustered index fields to columns from the hidden metadata record". So the `.cfg` files that `mariabackup --export` generate, are not going to be valid until the bug gets resolved, which is said "not trivial to do".

Anyway **I came up with a solution** after reading [those slides](#) and documentation from MariaDB on the new `INSTANT ALTERs` and new features of MariaDB versions 10.3 and 10.4.

You can *rebuild* the metadata of the schema using this command:

```
ALTER TABLE dbname.dbtable FORCE;
```

Then you can grab again a backup (or manually transport the InnoDB table), `--prepare` and `--export` again, and `IMPORT TABLESPACE` should work now. Note that this seems **not being replicated** to any slaves.

A simple way to rebuild the metadata for all tables (so we fix them), note that it's simple but not quick, depending on your table data:

Getting a list of InnoDB tables on a given "dbname", with the commands to "FORCE" (fix them)

```
mysql --batch --silent --skip-column-names -e "SELECT CONCAT('ALTER TABLE
',table_schema,'.',table_name,' LOCK=EXCLUSIVE, FORCE;') FROM
information_schema.tables WHERE table_schema = 'dbame' AND engine =
'InnoDB'"
```

Passing the command list to mysql:

```
mysql --batch --silent --skip-column-names -e "SELECT CONCAT('ALTER TABLE
',table_schema,'.',table_name,' LOCK=EXCLUSIVE, FORCE;') FROM
information_schema.tables WHERE table_schema = 'dbame' AND engine =
'InnoDB'" | mysql
```

Problem is that future `ALTERs` (while the bug is not solved), will again render the schema bugged for the "IMPORT TABLESPACE", so you can:

- Enforce the use of , `ALGORITHM=copy` on each dangerous ALTER statement.
- or SET `SESSION alter_algorithm=copy` (see [alter_algorithm](#) system variable) before an ALTER that could cause this “schema mismatch” issue with MariaDB 10.4
- or just setting `alter_algorithm=copy` on a [Mariadb-10.4] section of your `server.cnf` configuration (check that it survives a mariadb restart using `SELECT @@alter_algorithm;`

The COPY algorithm is going to slow things down when doing ALTER on big tables, but you know...

Hope that helps.

~~DISCUSSION|Comentarios~~

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