

ALTER DATABASE

Available in: [DSQL](#), [ESQL](#)

Description

Alters a database's file organisation or toggles its “safe-to-copy” state.

Syntax

```
ALTER {DATABASE | SCHEMA}
    [<add_sec_clause> [<add_sec_clause> ...]]
    [ADD DIFFERENCE FILE 'filepath' | DROP DIFFERENCE FILE]
    [{BEGIN | END} BACKUP]

<add_sec_clause> ::= ADD <sec_file> [<sec_file> ...]

<sec_file> ::= FILE 'filepath'
               [STARTING [AT [PAGE]] pagenum]
               [LENGTH [=] num [PAGE[S]]]
```

The `DIFFERENCE FILE` and `BACKUP` clauses, added in Firebird 2.0, are not available in ESQL.

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BEGIN BACKUP

Available in: [DSQL](#)

Added in: 2.0

Description

Freezes the main database file so that it can be backed up safely by file system means, even while users are connected and perform operations on the data. Any mutations to the database will be written to a separate file, the *delta file*. Contrary to what the syntax suggests, this statement does *not* initiate the backup itself; it merely creates the conditions.

Example

```
alter database begin backup
```

END BACKUP

Available in: [DSQL](#)

Added in: 2.0

Description

Merges the *delta file* back into the main database file and restores the normal state of operation, thus closing the time window during which safe [backups](#) could be made via the file system. (Safe backups with [gbak](#) are still possible.)

Example

```
alter database end backup
```

Tip: Instead of `BEGIN` and `END BACKUP`, consider using Firebird's [nbackup](#) tool: it can freeze and unfreeze the main database file as well as make full and incremental backups. A manual for `nbackup` is available via the [Firebird Documentation Index](#).

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ADD DIFFERENCE FILE

Available in: DSQL

Added in: 2.0

Description

Presets path and name of the delta file to which mutations are written when the database goes into “copy-safe” mode after an `ALTER DATABASE BEGIN BACKUP` command.

Example

```
alter database add difference file 'C:\Firebird\Databases\Fruitbase.delta'
```

Notes

- This statement doesn't really add any file. It just overrides the default path and name for the delta file that's going to be created if and when the database enters copy-safe mode.
- If you provide a relative path here (or a bare filename), it will be appended to the current directory as seen from the server. On Windows, this is often the system directory.
- If you want to change an existing path and name, `DROP` the old one first and then `ADD` the new one.
- When not overridden, the *delta file* gets the same path and filename as the database itself, but with the extension `.delta`.

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DROP DIFFERENCE FILE

Available in: DSQL

Added in: 2.0

Description

Removes the delta file path and name that were previously set with `ALTER DATABASE ADD DIFFERENCE FILE`. This statement doesn't really drop a file. It only erases the name and path that would otherwise have been used the next time around and reverts to the default behaviour.

Example

```
alter database drop difference file
```

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