# Terms and Concepts

## Database

**Databases** are the core data storage structures in XINA. A database essentially defines a MySQL table, with additional features managed by the XINA server system.

Each database is defined by a set of **fields**, which specify the columns of the table. Fields are primarily defined by:

- Name, unique to the field in the database
- Static data type
- Whether a value must be provided by each record (an empty value being null)

A single unit of data in a database is a **record**, corresponding to a row of the table. Each record contains a value for each field of the database.

Structural database changes (adding / changing / removing fields) are very slow (hours to days for very large databases) so initial time investment to optimize database requirements is worthwhile.

## Group

Databases in XINA are organized into a heirarchical structure of **groups**, which can each contain any number of groups and databases. For example:

- The `model` group contains a `journal` database and `data` group
- The `data` group contains a `housekeeping` database and `science` database

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A dot notation is used to reference groups and databases. For example, `moma.data.science` refers to the science database in the above configuration.

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