



Relational Databases

How can we save data in a web application?

Databases

To save (or **persist**) data, you need to somehow write the data to permanent storage, like the hard disk.

Databases

For a blogging platform, users have many posts and posts have tags and users may be following other users and so on.

Relational Databases / RDBMS/ Relational Database Management Systems

Relational databases were developed to provide a means of organizing data and their relationships, persisting that data and querying it.

Table

| USERS | | |
|-------|--------|---------------------|
| id | name | email |
| 1 | Sally | sally@gmail.com |
| 2 | Jeff | jeff@gmail.com |
| 3 | Matt | matt@hotmail.com |
| 4 | Sophie | pretty_girl@aol.com |

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→ Row, Single entity

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Column, Attribute

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Primary Key, Identifier

Schema

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| POST - TAG | | |
|------------|---------|--------|
| id | post_id | tag_id |
| 1 | 1 | 3 |
| 2 | 3 | 2 |
| 3 | 4 | 3 |
| 4 | 1 | 1 |

| TAGS | |
|------|-------------|
| id | tag_name |
| 1 | music |
| 2 | awesomeness |
| 3 | facts |
| 4 | boring |

| POSTS | | |
|-------|---------|-------------------------|
| id | user_id | post |
| 1 | 1 | this is my first post! |
| 2 | 1 | this is great |
| 3 | 3 | I am Matt! |
| 4 | 2 | I am not a pretty girl! |

Schema

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Foreign Key,
Relationships
1:n (has many)

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| id | tag_name |
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| 4 | boring |



Foreign Key,
Relationships

n:m (many to many)

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