

Data Relationships in MongoDB?



Connections between documents in
collections.



Embedding



Storing related data inside the same document.



Referencing





Storing related data in separate documents and linking by IDs.



- One-to-One Relationship
- One-to-Many Relationship
- Many-to-Many Relationship



Pros of Embedding

- Fast data retrieval (single document).
- Simple for small related data.

Cons of Embedding

- Document size grows big.
- Hard to update deeply nested data.



Pros of Referencing

- Keeps documents small.
- Easier to update and manage large data.

Cons of Referencing

- Requires extra queries or joins (populate() in Mongoose).
- Slightly slower reads.



When to Use Embedding?



- Related data is mostly read together.
- Data is small and not updated frequently.



When to Use Referencing?



- Related data is large or updated independently.
- Need to maintain data normalization.

