

MongoDB

Data modeling part 1

Data modeling

- **Relationship**
- Tree
- Specific application context

Relationship

- Reference document
- Embedded document

Compare with RDBMS

RDBMS	MongoDB
Database	Database
Table	Collection
Row	Document
Column	Field
Join	Embedded
Index	Index
Foreign key	Reference/link

Data in MongoDB has a

“flexible schema”

Collection do not enforce

“document structure”

Your decisions effect to

“how you model data”

Your decisions effect to
“application performance”

Your decisions effect to

“database capacity”

แนวคิดหลักในการออกแบบ

Traditional schema design

“focus on data storage”

Document schema design

“focus on data use”

Document schema design

Flexibility

Array => multiple value per field

Embedded document

Flexibility

- Choices for schema design
- Each document can have different field
- Common structure come from application need
- Easy to evolve as needed

Array

- Multiple value per field
- Each field can
 - absent
 - null
 - Single value
 - array of many values

Embedded document

- Any value can be a document
- Nested documents

What is an Entity ?

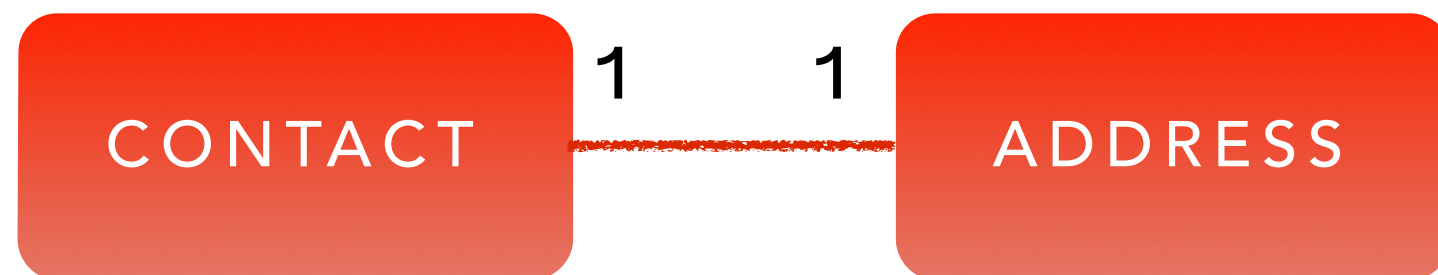
- Object in your **model**
- **Associations** with other entities

RDBMS	MongoDB
one-to-one	?
one-to-many	?
many-to-many	?

Let's start with



Entity



1. Referencing

contact =

```
{  
  _id: 1,  
  name: "Somkiat Puisungnoen",  
  company_name: "Siam Chamnankit",  
  email: "somkiat@sprint3r.com",  
  address_id: 1  
}
```

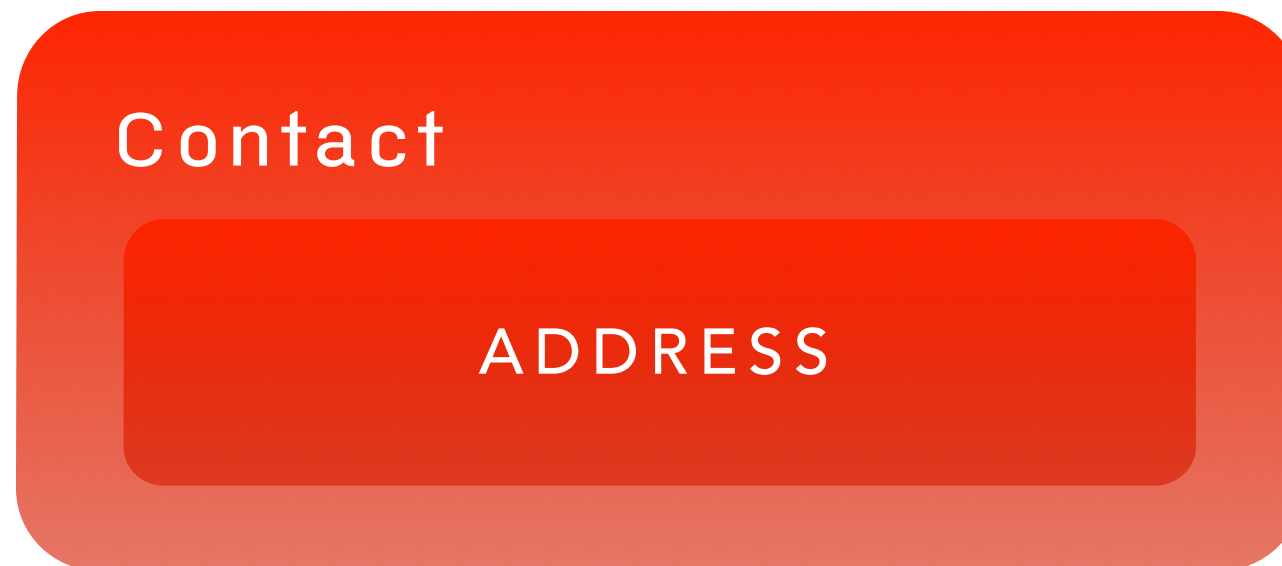
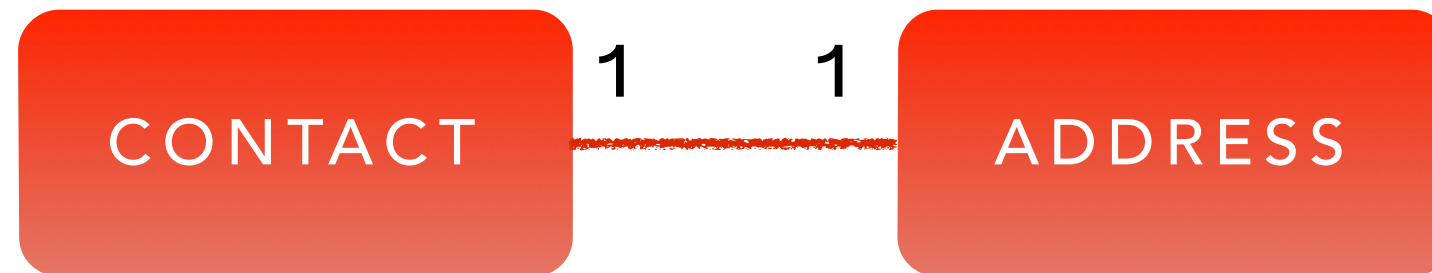
address =

```
{  
  _id: 1,  
  name: "2/149 Phahonyothin 40",  
  city: "Bangkok"  
  country: "Thailand",  
  email: "somkiat@sprint3r.com",  
  zipcode: "10220"  
}
```

2. Embedding

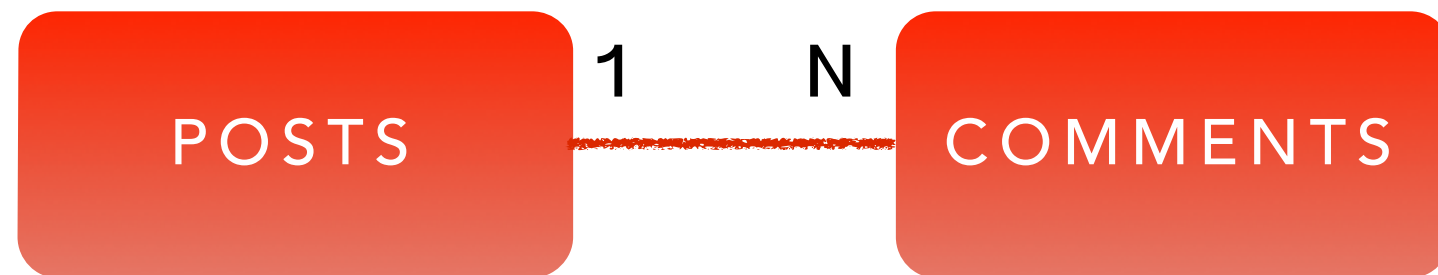
```
full_contact =  
{  
    _id: 1,  
    name: "Somkiat Puisungnoen",  
    company_name: "Siam Chamnankit",  
    email: "somkiat@sprint3r.com",  
    address: {  
        name: "2/149 Phahonyothin 40",  
        city: "Bangkok"  
        country: "Thailand",  
        email: "somkiat@sprint3r.com",  
        zipcode: "10220"  
    }  
}
```

แตกต่างกันอย่างไร ? เลือกอะไร ?



What are your application need ?

Blog system



What are your questions ?

Data behaviour ?

What is the cardinality of relationship ?

- One-to-many !!!

What is the cardinality of relationship ?

- One-to-few
- One-to-many
- One-to-large

One-to-few

- แนะนำให้ใช้ Embedded document
- ข้อดี
 - One query
 - Atomicity
- ข้อเสีย
 - Embedded document not a standalone entity

ถ้าต้องการ comment ของเมือวาน ?

One-to-many

- แต่ละ post มีจำนวน comment หลายร้อย
- Good for referencing
- **Child reference**

Child reference

post =

```
{  
  _id: 1,  
  comments: [1,2]  
}
```

comment =

```
{  
  _id: 1,  
  text: "comment",  
}
```

comment =

```
{  
  _id: 2,  
  text: "comment",  
}
```

One-to-many

- ข้อดี
 - Standalone comment
 - Easy to update and search
 - ได้ Many-to-Many มาแบบอัตโนมัติ
- ข้อเสีย
 - More query

One-to-Large

- แต่ละ post มีจำนวน comment หลายพัน
- Good for referencing
- **Parent reference**

ทำไมใช้ Child reference ไม่ได้ล่ะ ?

- ขนาดสูงสุดของ 1 document = 16 MB

Parent reference

post =

```
{  
  _id: 1  
}
```

comment =

```
{  
  _id: 1,  
  text: "comment",  
  post_id: 1  
}
```

comment =

```
{  
  _id: 2,  
  text: "comment",  
  post_id: 1  
}
```

Workshop

- สร้างระบบ Blog ขึ้นมา



Workshop

- รายละเอียดของ post


เมื่อ NoSQL database ได้รับความนิยมสูงขึ้นเรื่อยๆ


Permalink: <http://www.somkiat.cc/when-nosql-databases-are-popular/> Edit View Post Get Shortlink


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 Couchbase

 MarkLogic


 mongoDB


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 Neo4j


 InfiniteGraph
The Distributed Graph Database


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Key-Value Databases

 HYPERTABLE

 accumulo

Categories

All Categories Most Used

- ☒ เรื่องทั่วไป
- ☐ Architecture
- ☐ Book
- ☐ course
- ☐ dev-ops
- ☐ Practice
- ☐ Programming
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Workshop


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