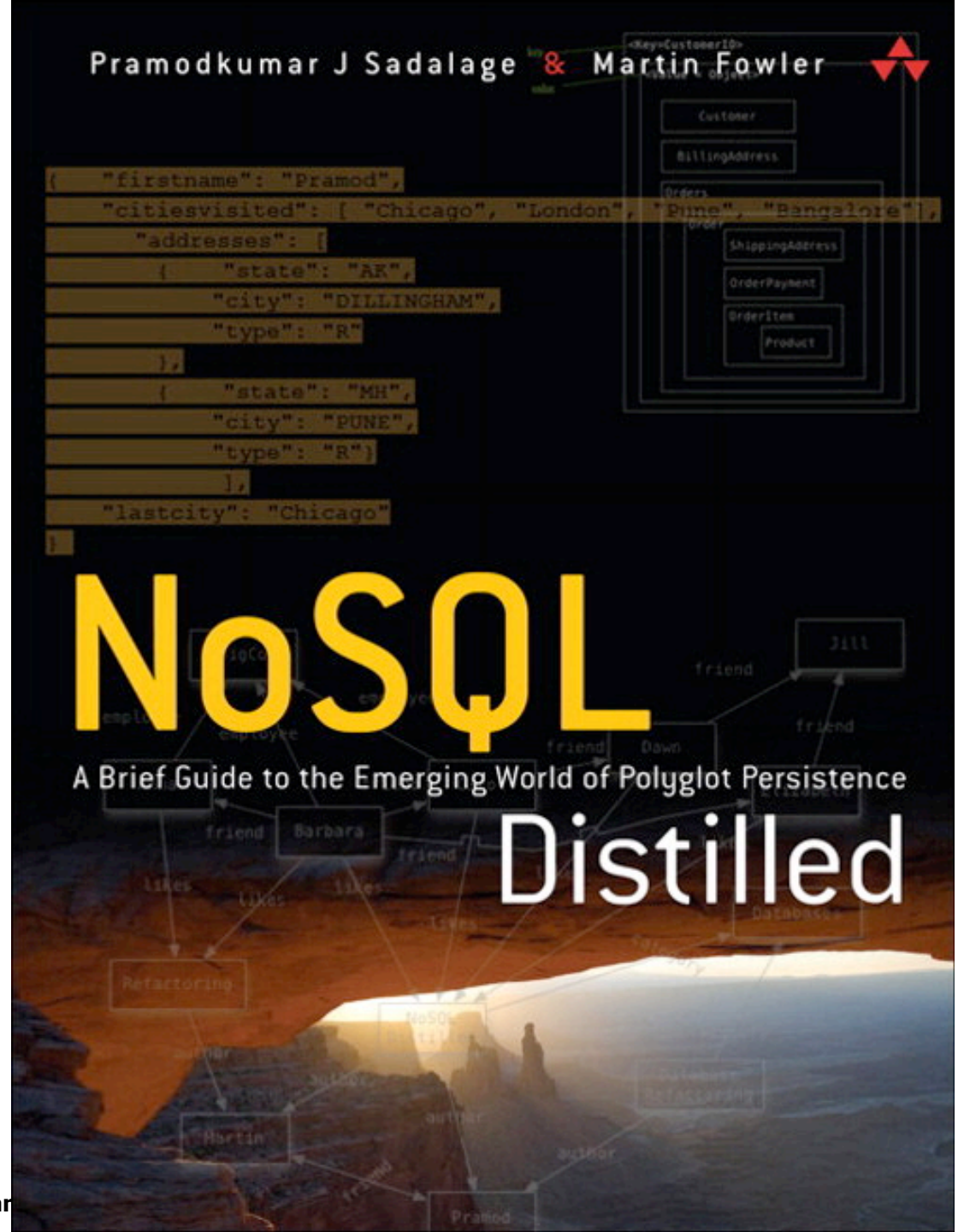
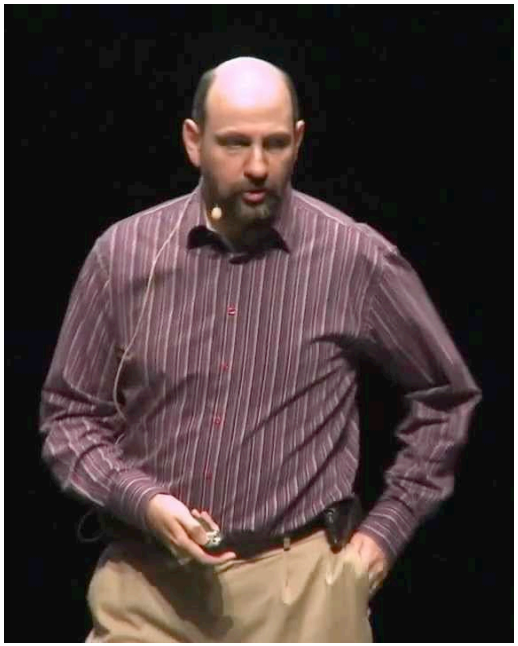
Conception Avancée de Bases de Données

NO SQL

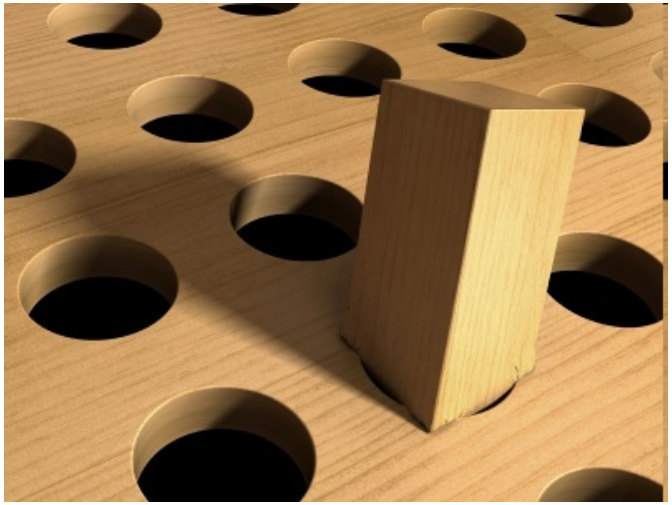
Nosql : Not Only SQL

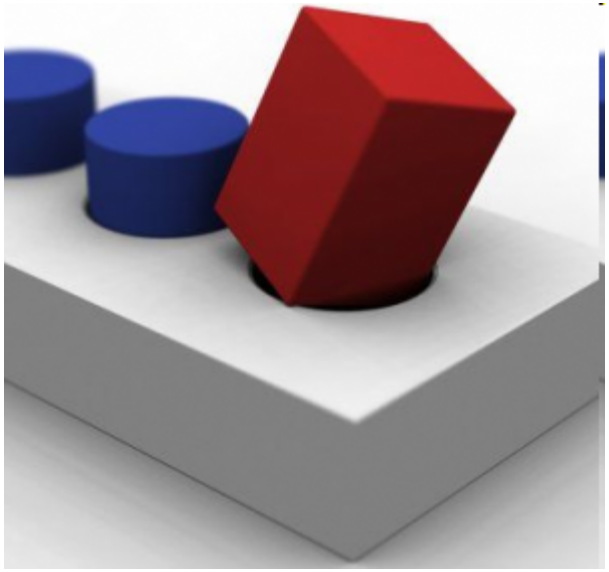
Traduction en cours


Pramodkumar J Sadalage & Martin Fowler
{ "firstname": "Pramod",
"citiesvisited": ["Chicago", "London", "Pune", "Bangalore"],
"addresses": [
{ "state": "AR",
"city": "DILLINGHAM",
"type": "R"
},
{ "state": "MH",
"city": "PUNE",
"type": "R"}
],
"lastcity": "Chicago"
}
NoSQL
A Brief Guide to the Emerging World of Polyglot Persistence
Distilled



Emmar





Mapping, Round Pegs into Square Holes

NOSQL

- Impedance Missmatch
- Agreggate vs Tuple
- Key Value
- Value is Blob
- Value is Document
- Big Table Column oriented : key Value

Indempendance Missmatch

- Agregate to table
- Table to agregate

Record Structure

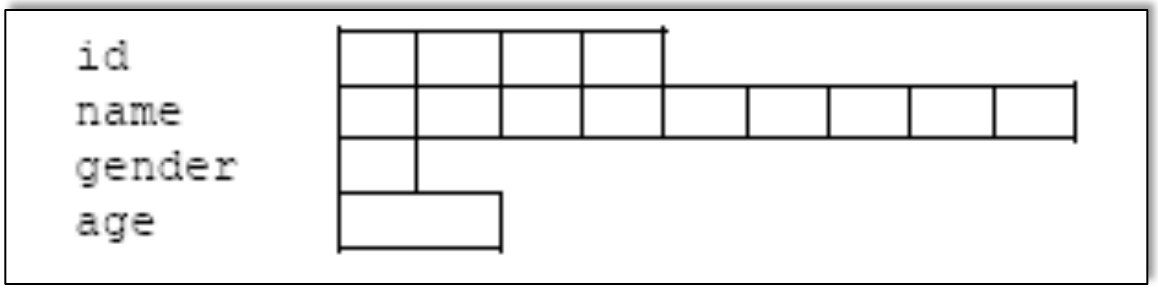
- In C

- In C++

C struct

Memory lay out

```
struct student {
    char id_num[5];
    char name[10];
    char gender;
    int age;
    };
```

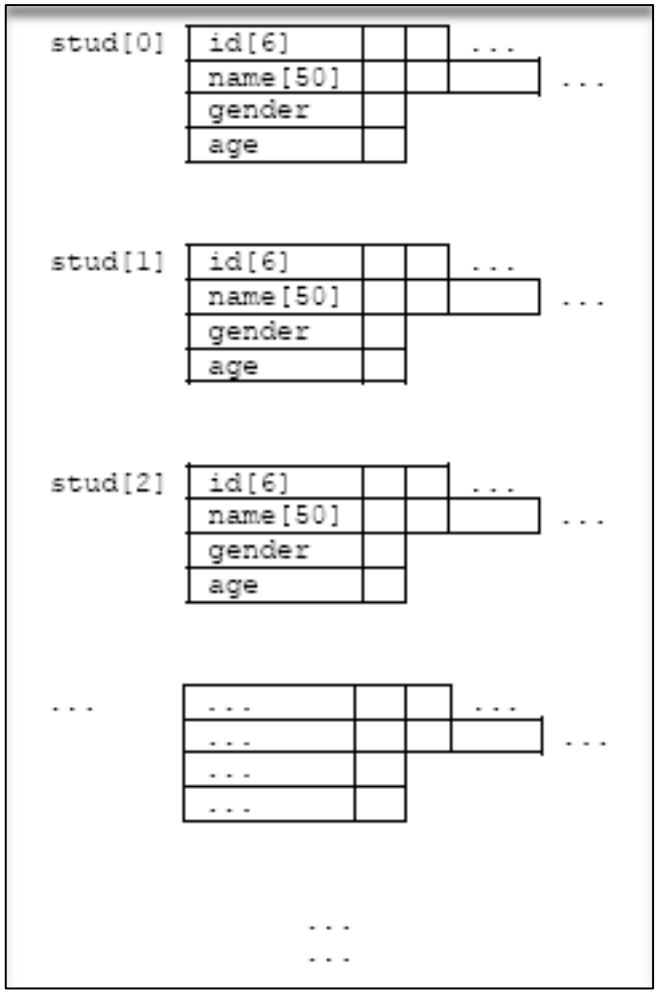


aggregate data types.

http://www.tenouk.com/Module11.html

Array of struct

struct student stud[100];



Agregation

- Record of records
- Structure of structures

Record of records

```
struct date
{
   int date;
   int month;
   int year;
};

struct Employee
   {
   char ename[20];
   int ssn;
   float salary;
   struct date doj;
}emp1;
```

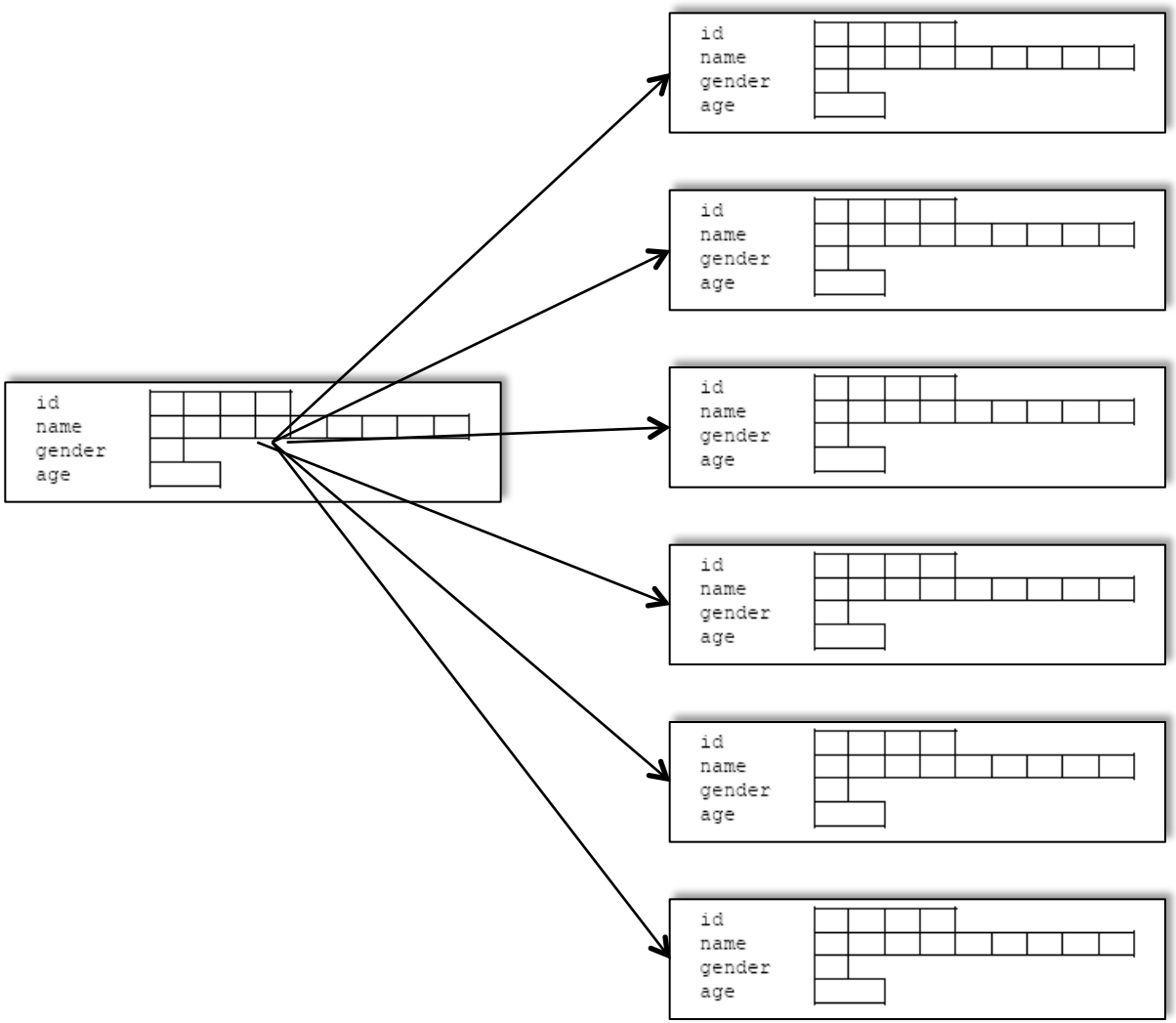
Accessing Month Field : emp1.doj.month
Accessing day Field : emp1.doj.day
Accessing year Field : emp1.doj.year

Structure of structures

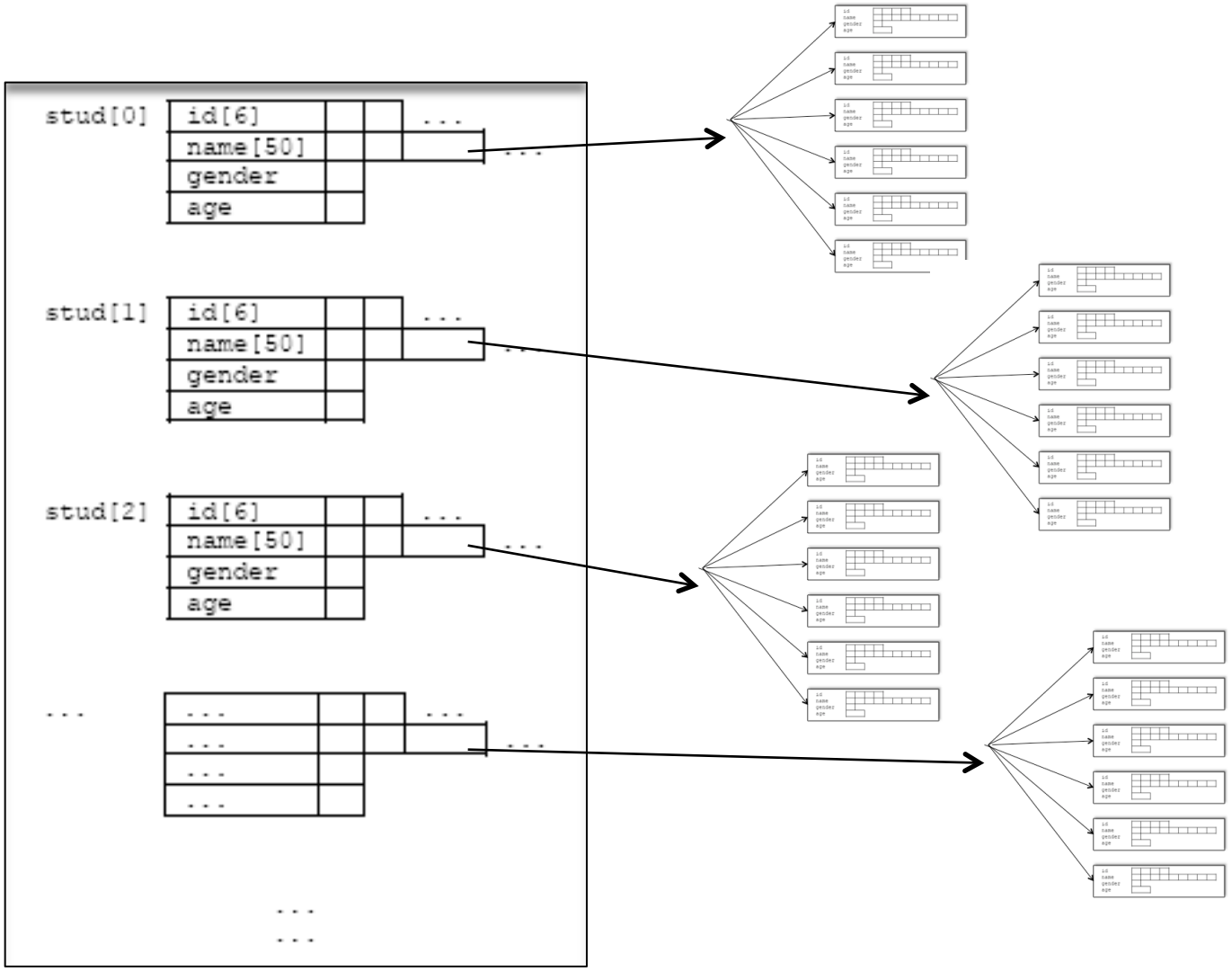
```
struct Employee
{
   char ename[20];
   int ssn;
   float salary;
   struct date
      {
      int date;
      int month;
      int year;
      }doj;
}emp1;
```

http://www.c4learn.com/c-programming/c-nested-structure/

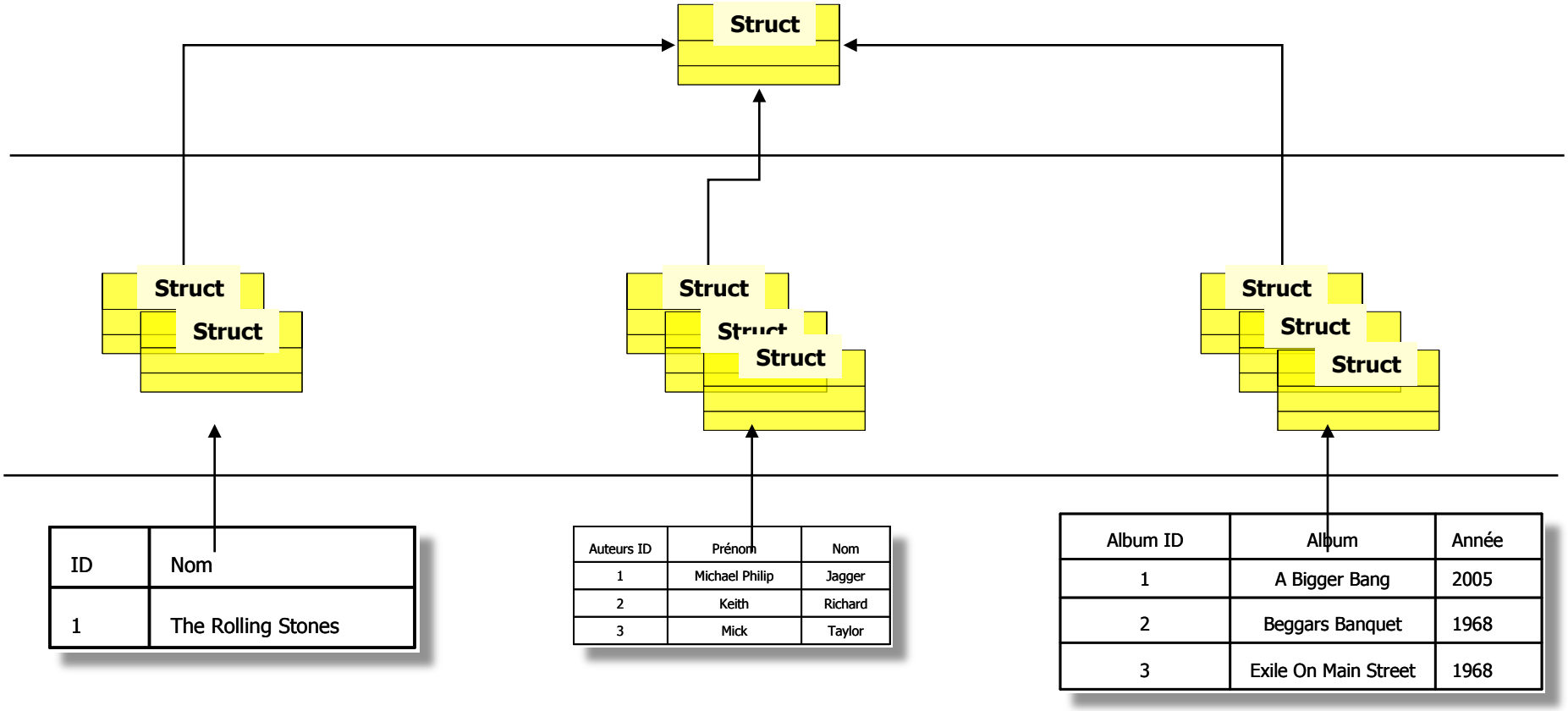
Struct of structs



Array of Structs of structs



Tables to Agregates

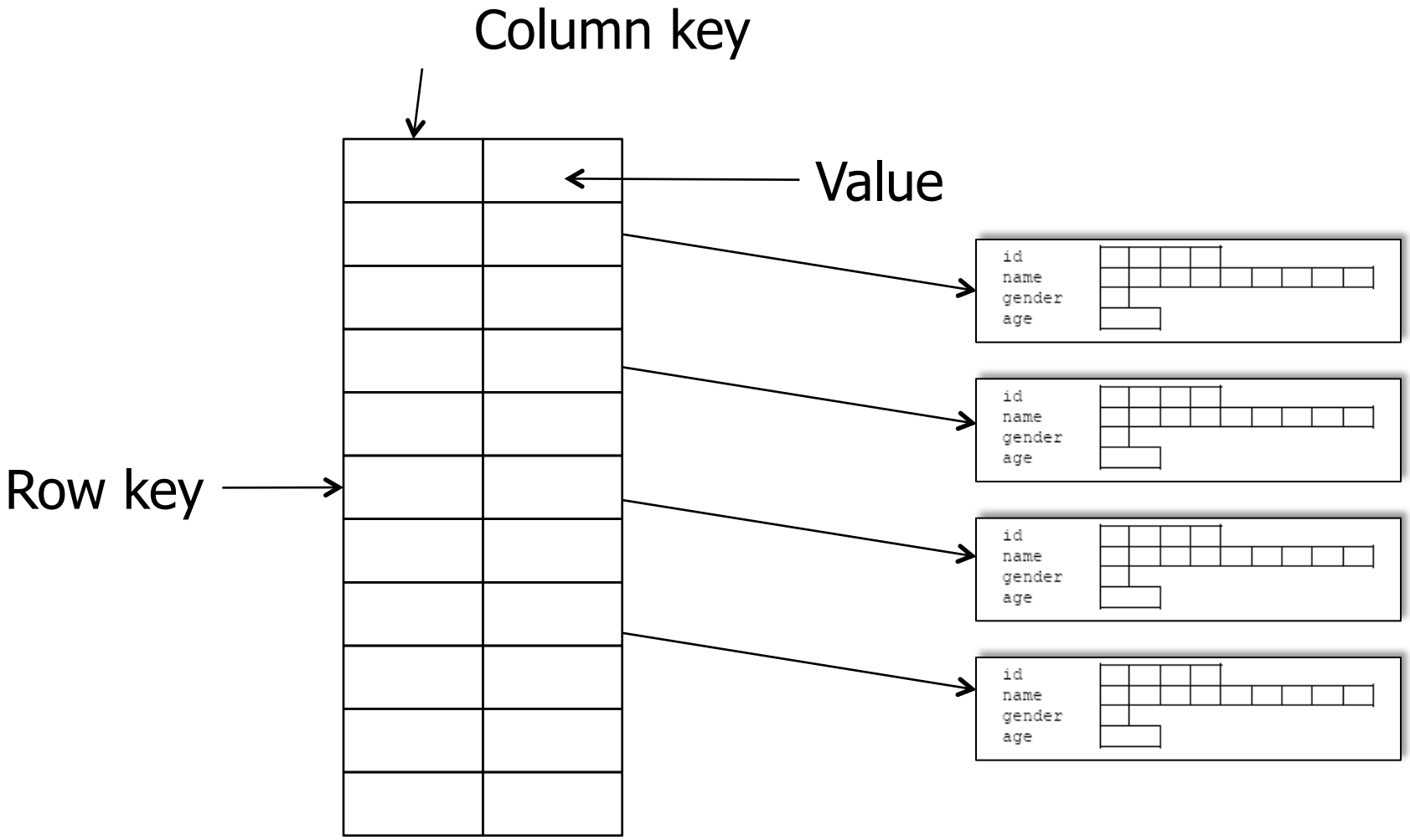


ID	Nom
1	The Rolling Stones

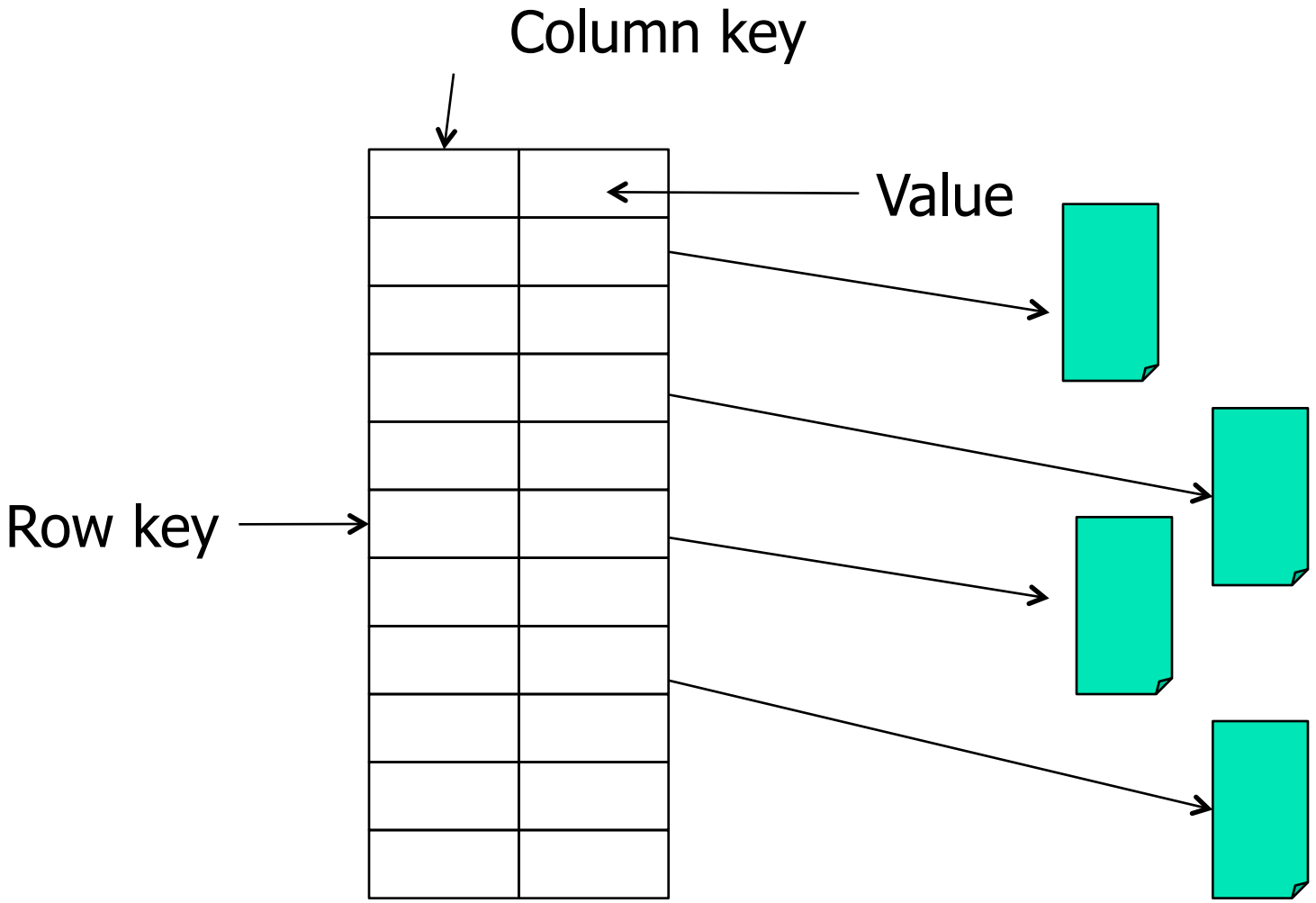
Auteurs ID	Prénom	Nom
1	Michael Philip	Jagger
2	Keith	Richard
3	Mick	Taylor

Album ID	Album	Année
1	A Bigger Bang	2005
2	Beggars Banquet	1968
3	Exile On Main Street	1968

Keys value : struct



Keys value : Doc



JSON Doc

```
{ "id": 1234,
  "customer": "martin",
  "items": [
    {"product": "talisker", "quantity": 500},
    {"product": "macallan", "quantity": 800},
    {"product": "ledaig",   "quantity": 1100}
  ],
  "deliveries": [
    { "id": 7722,
      "shipDate": "2013-04-19",
      "items": [
        {"product": "talisker", "quantity": 300},
        {"product": "ledaig",   "quantity": 500}
      ]
    },
    { "id": 6533,
      "shipDate": "2013-04-18",
      "items": [
        {"product": "talisker", "quantity": 200},
        {"product": "ledaig",   "quantity": 300},
        {"product": "macallan", "quantity": 300}
      ]
    }
  ]
}
```

Nosql : Not Only SQL

- key Value :
  - Dynamo,
  - Riak,
  - Voldemort : Linkedin
  - …
- Document : key where Value=document :
- Column:
  - HBase : Yahoo
  - Cassandra : Facebook
  - Big Table : Google
  - ….