

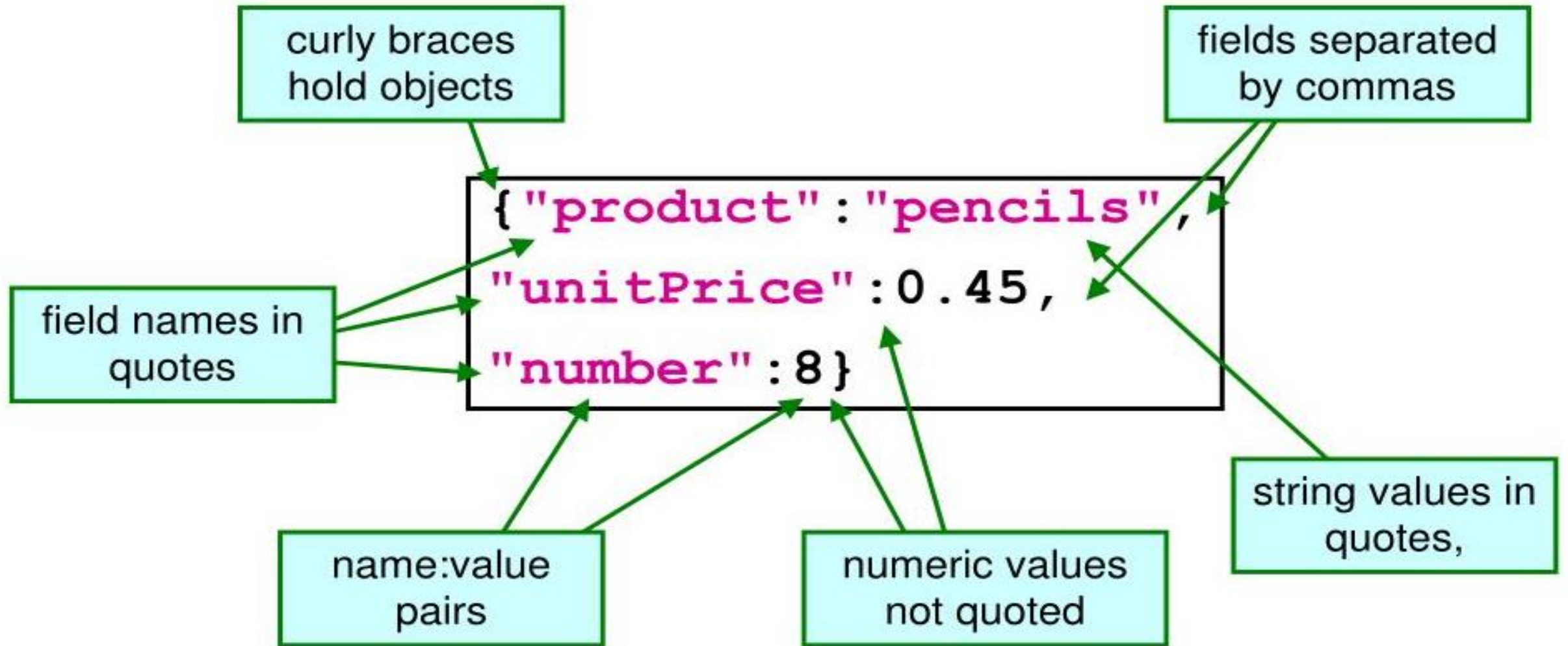
JSON – HUMAN READABLE

Stands for – **JavaScript object notation.**

- > text-based data format
- > used in API's, web apps, config files
- > slower to parse.
- > file size can be more due to text format.



JSON Syntax



What if we could take JSON's structure, but make it smaller, faster to parse, and ready for databases?

That's exactly what BSON does.

Double

String

Object

Array

Binary Data

Undefined

ObjectId

Boolean

Date

Null

Regular Expression

JavaScript

Symbol

JavaScript with Scope

Integer

Timestamp

Min & Max key

BSON

Backbone of MongoDB

Seminar -11

WHAT IS BSON?

Stands for : **Binary JSON**

Designed for :

- Efficient in design
- Fast to parse
- Extensible (supports more datatypes than **JSON**)

BSON vs JSON:



Machine readable



Human readable

AN EXAMPLE:

```
                                \x16\x00\x00\x00    // total document size
                                \x02                  // 0x02 = type String
{"hello": "world"} → hello\x00    // field name
                                \x06\x00\x00\x00world\x00 // field value
                                \x00                  // 0x00 = type E00 ('end of object')
```

BSON VS JSON

	JSON	BSON
Encoding	UTF-8 String	Binary
Readability	Humans and Machines	Machines Only
Data Types	String, Boolean, Number, Array	String, Boolean, Number (Integer, Float, Long, Decimal128...), Array, Date, Raw Binary

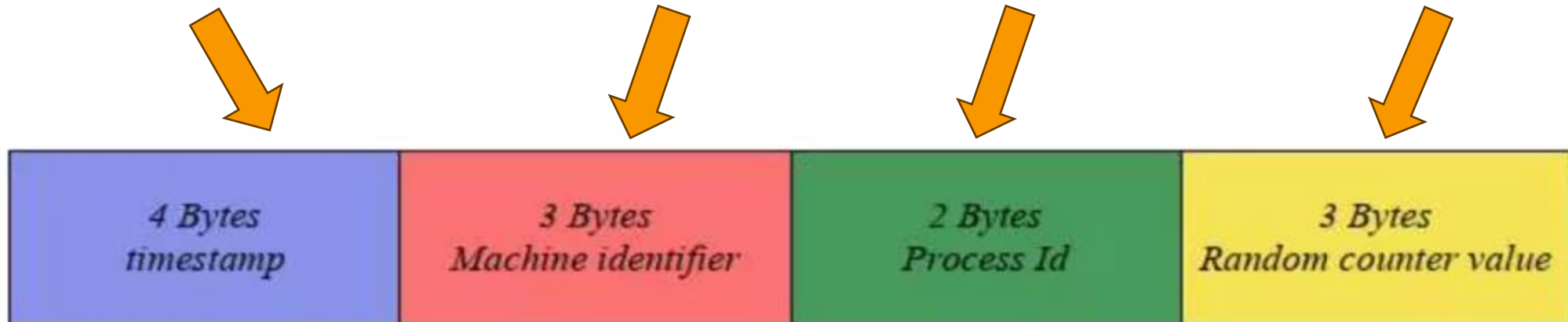
Source: [peerdh](#)

BSON OBJECTID DEEP DIVE

MongoDB's default "_id" is a BSON ObjectId.

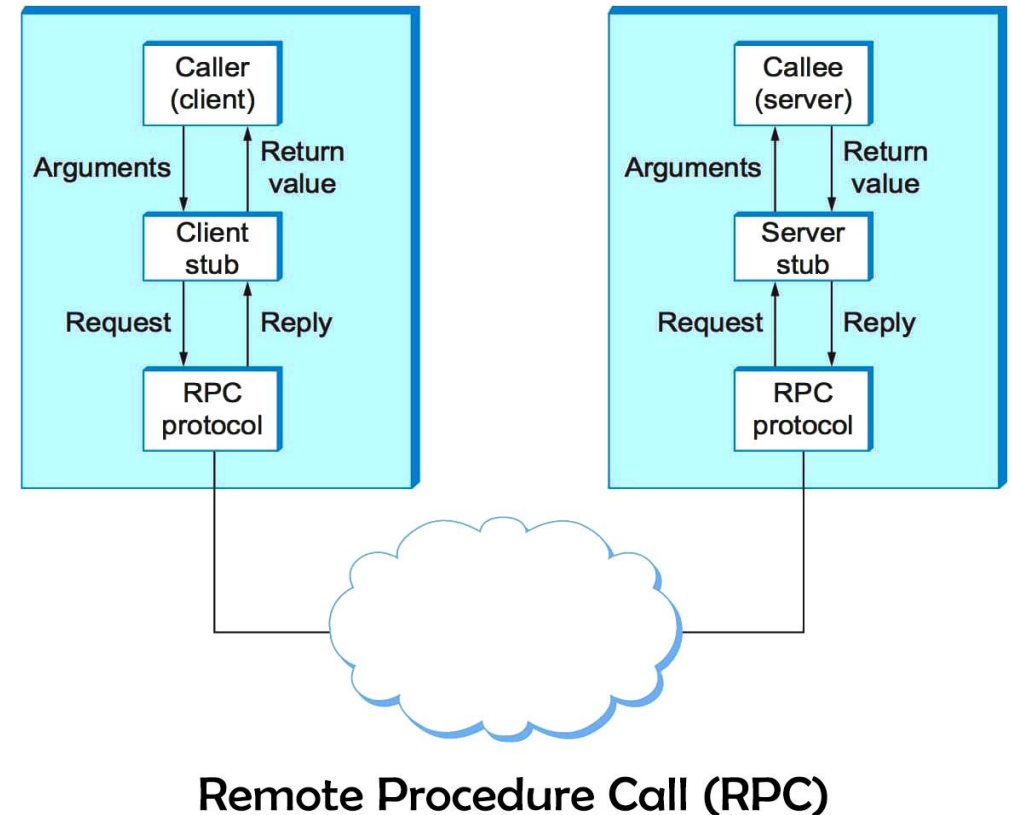
Default structure of ObjectId:

64e3a712 | 5d1bdf | 1e0f | 8e9a12



BSON OTHER USE CASES

- > RPC systems
- > Data Transfer Between Microservices
- > IoT Systems / Embedded Devices
- > MongoDB ecosystem tools



PRACTICAL DEMONSTRATION

Tool used:

MongoDB Compass

Mongodump

bsondump

THANK YOU