Introduction to MongoDB
Storing Data

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@nurih

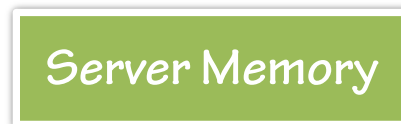**pluralsight**
hardcore developer training

Overview

Storage Engine

Saving documents

Updating documents

Storage Internals

- **How is data stored?**

Storage Internals

Your Application

`0x4E48` `0x594F`

Server Memory

Memory Mapped File

Disk
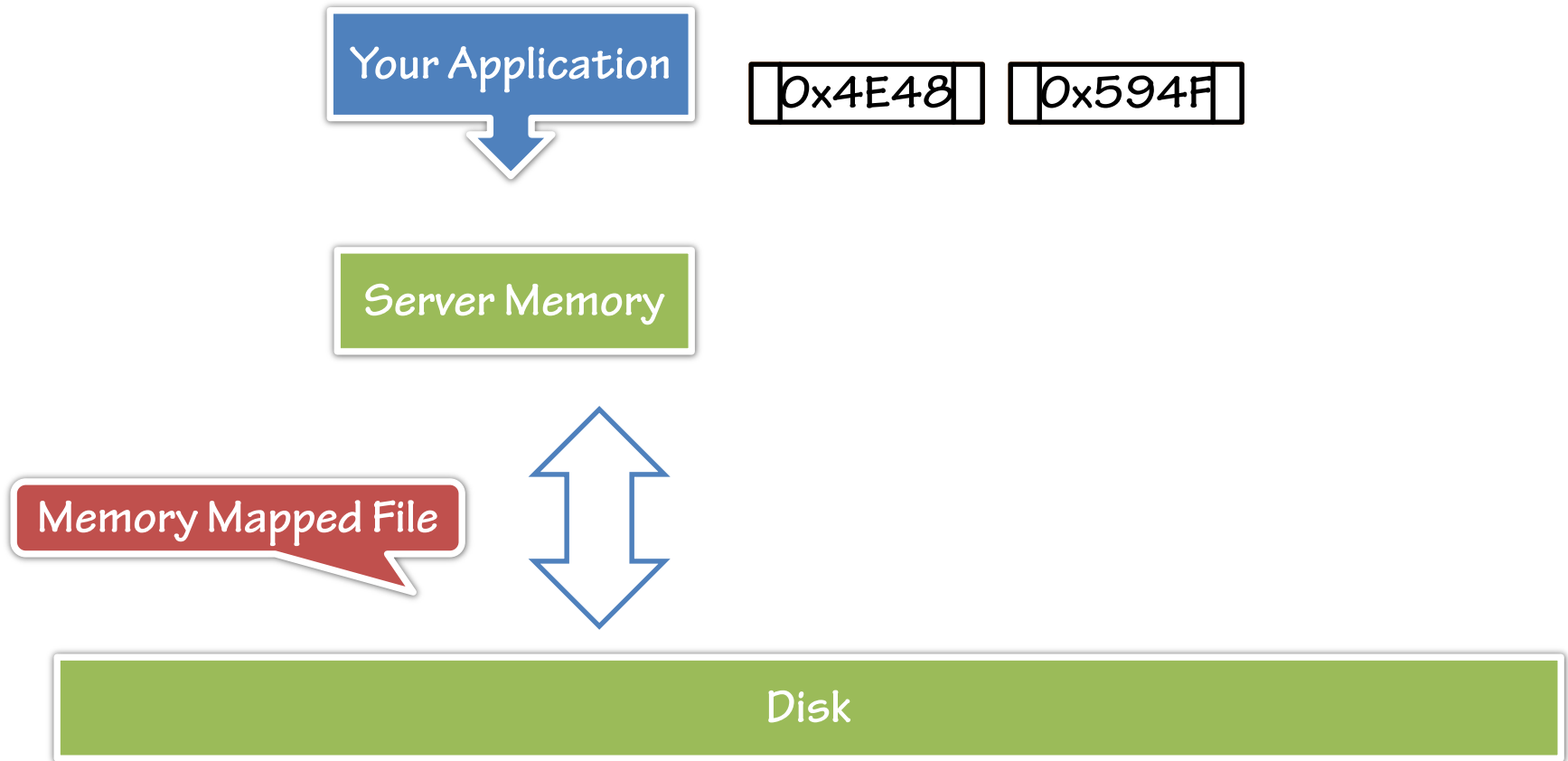
BSON { 01010100 11101011 10101110 01010101 }

BSON *[bee · sahn]*, short for Binary JSON, is a binary-encoded serialization of JSON-like documents. Like JSON, BSON supports the embedding of documents and arrays within other documents and arrays. BSON also contains extensions that allow representation of data types that are not part of the JSON spec. For example, BSON has a Date type and a BinData type.

BSON can be compared to binary interchange formats, like Protocol Buffers. BSON is more "schema-less" than Protocol Buffers, which can give it an advantage in flexibility but also a slight disadvantage in space efficiency (BSON has overhead for field names within the serialized data).

BSON was designed to have the following three characteristics:

1. **Lightweight**

   Keeping spatial overhead to a minimum is important for any data representation format, especially when used over the network.

2. **Traversable**

   BSON is designed to be traversed easily. This is a vital property in its role as the primary data representation for MongoDB.

3. **Efficient**

   Encoding data to BSON and decoding from BSON can be performed very quickly in most languages due to the use of C data types.

| specification | implementations | FAQ | discussion |

Saving Data

#1: A document must have an _id field.

#2: There are very few rules.

Update

Atomic within a document

Targets individual field(s)

Rich syntax support

Update

Which Document?

db.*foo*.update(*query,update,options*);

Collection Name

What Change?

One? Many? Upsert?

Find And Modify

www.mongodb.org

mongoDB

{name: "mongo", type:"DB"}

MONGO DOCS
MongoDB Documentation »

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DOW
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Agile and **Scalable**

MongoDB (from "hu**mongo**us") is an open-source document database, and the leading NoSQL database. Written in C++, MongoDB features:
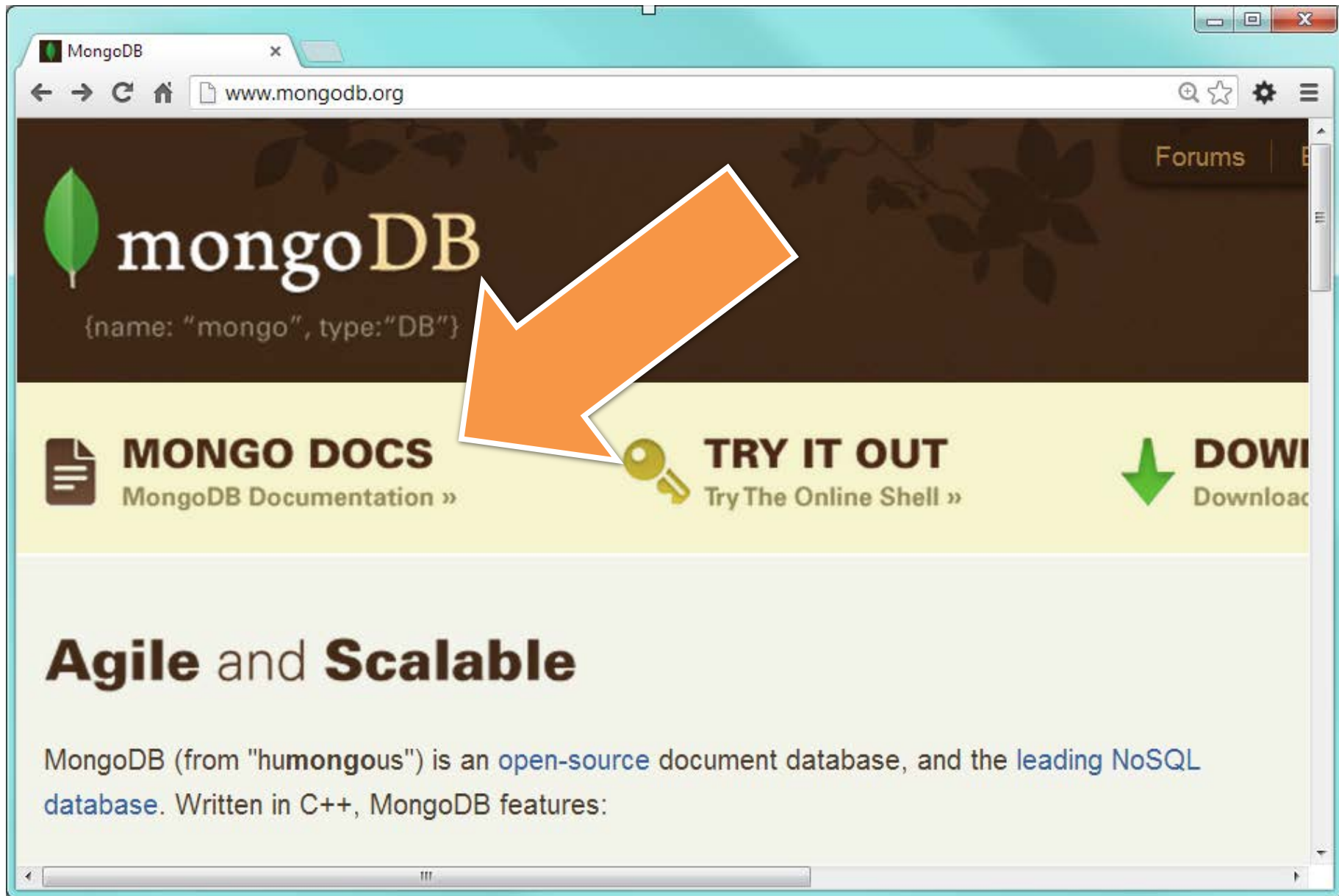
Summary

Storage
- BSON
- Memory Mapped File

New Documents
- Save
- Insert
- Concurrency issue

Updates
- Update
- FindAndModify