

# Mongo DB

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# NoSQL

A NoSQL database provides a mechanism for storage and retrieval of data which is modeled in means other than the tabular relations used in relational databases.

Simplicity of design, simpler "horizontal" scaling to clusters of machines, and finer control over availability.

The data structures used by NoSQL databases:

- key-value,
- wide column,
- graph,
- document

are different from those used by default in relational databases, making some operations faster in NoSQL.

## **ACID?**

No.

Many NoSQL stores compromise consistency in favor of availability, partition tolerance, and speed.

Most NoSQL stores lack true ACID transactions (no Durability)

## Document store

A document-oriented database, or document store, is a computer program designed for storing, retrieving and managing document-oriented information, also known as semi-structured data.

Examples of documents: xml, json, html

MongoDB is a NoSQL database that offers

- a high performance,
- high availability,
- and automatic scaling enterprise database.

MongoDB is a NoSQL database, so you can't use SQL (Structured Query Language) to insert and retrieve data.

And it does not store data in tables like MySQL or Postgres.

Data is stored in a "document" structure in JSON format.

So, MongoDB is NoSQL Document Store

# Instalation

## Ubuntu

```
sudo apt-get purge mongodb-org mongodb-org-mongos mongodb-org-server mongodb-org-shell mongodb-org-tools  
syslog-ng-mod-mongodb
```

```
echo "deb http://repo.mongodb.org/apt/debian wheezy/mongodb-org/3.0 main" | sudo tee  
/etc/apt/sources.list.d/mongodb-org-3.0.list
```

```
sudo apt-get clean
```

```
sudo apt-get update
```

```
sudo apt-get install mongodb-org
```

```
mongo -version
```

```
systemctl start mongod
```

```
systemctl enable mongod
```

```
netstat -plntu | grep 27017
```

## Commands

terminal: mongo

In mongo shell:

show dbs	show database names
show collections	show collections in current database
show users	show users in current database
show profile	show most recent system.profile entries with time >= 1ms
show logs	show the accessible logger names
show log [name]	prints out the last segment of log in memory, 'global' is default
use <db_name>	set current database
db.foo.find()	list objects in collection foo
db.foo.find( { a : 1 } )	list objects in foo where a == 1
exit	quit the mongo shell

## Example

use local

db.system.indexes.find()

# MongoDB Java API

## Maven

```
<dependency>
```

```
  <groupId>org.mongodb</groupId>
```

```
  <artifactId>mongo-java-driver</artifactId>
```

```
  <version>3.4.2</version>
```

```
</dependency>
```

### **com.mongodb.MongoClient**

A MongoDB client with internal connection pooling. For most applications, you should have one MongoClient instance for the entire JVM.

### **com.mongodb.client.MongoDatabase**

Interface for the Mongo database

### **com.mongodb.client.MongoCollection**

Collection is a key-value store where key is ObjectId and value is JSON document.

### **org.bson.Document**

Representation of JSON document

### **org.bson.types.ObjectId**

Id of document in a collection