

MongoDB inserts

And WriteConcern

Collections

- A collection is created implicitly as soon as a document is inserted into it.
- Collections created in this way have no rules, so the document can be in any format.
- This can cause problems when searching.

Validated collections

- A collection can be explicitly created and validator rules can be added:

```
db.createCollection ("contacts",  
  { validator: { $or:  
    [  
      { phone: { $type: "string" } },  
      { email: { $regex: /@mongodb\.com$/} },  
      { status: { $in: ["Unknown", "Incomplete" ] } }  
    ]  
  }  
} )
```

`$regex` parses regular expressions to validate the email address.

- The contact will not be added unless there is a string phone number, a valid mongodb email address or a status of Unknown/Incomplete.

Write concern

- Write concern describes the level of acknowledgement requested from MongoDB for write operations:
 - to a standalone mongod
 - to replica sets or
 - to sharded clusters.

Write Concern Specification

- Write concern can include the following fields:
- { w: <value>, j: <boolean>, wtimeout: <number> }
 - W: number of instances that must acknowledge
 - J: written to journal
 - Wtimeout: number of seconds to wait before declaring failure.

W request acknowledgement

- w: Number of mongod instances that must be written to allow acknowledgement.
- w: 1 (default)
 - the write operation has propagated to standalone /mongod primary in a replica set.
- w: 0
 - no acknowledgement of the write operation.
- w: >1
 - for replica sets; specifies number of members, including the primary.
- w: "majority"
 - write has propagated to the majority of voting nodes, including the primary.

Other variables

- j: the write operation has been written to the journal
- wtimeout: time limit to prevent write operations from blocking indefinitely.

Comparison with RDBMS

- Relational databases retain all information on a transaction until it has been committed. When it is committed, a log or journal file is written to persistent memory. The process waits until this write is confirmed before continuing.