Lab 6 (2%)

Getting started with MongoDB

Learning outcomes

Upon successful completion of this workshop, you will have demonstrated the abilities to:

1. Create a mongoDB database, collections and documents using key:value pairs.
2. Define values of different data types within a mongoDB document.
3. Single and bulk Insert documents in a mongoDB database.
4. Run simple commands to retrieve one document of a collection from a mongoDB database.

Group work acknowledgment

We, Mansoor Ahmad Zafar, declare that the attached assignment is our own work in accordance with the Seneca Academic Policy. No part of this assignment has been copied manually or electronically from any other source (including web sites) **or distributed to other students.**

Specify below what each member has done towards the completion of this work:

Name Task(s)

1- Mansoor Ahmad Zafar Everything

2-

3-

MongoDB installation and use

1. Download and install MongoDB community edition.

Follow the instructions below.

* + Download MongoDB Community Edition installer.
  + Run the MongoDB installer.
  + Follow the MongoDB Community Edition installation wizard
    - Choose Setup Type: complete
    - Service Configuration: Windows service
    - Run the service as Network Service user
  + From Windows Explorer/File Explorer, go to C:\Program Files\MongoDB\Server\4.4\bin\ directory and double-click on [mongo.exe](https://docs.mongodb.com/manual/reference/program/mongo/#bin.mongo).
  + You can also install mongosh where the code is highlighted.
  + To start, open a cmd terminal and type mongosh, hit enter or type mongosh in the search tool on your computer.

Install mongodb community edition: <https://docs.mongodb.com/manual/administration/install-community/>

For windows users: <https://docs.mongodb.com/manual/tutorial/install-mongodb-on-windows/>

Install mongodb shell **https://www.mongodb.com/try/download/shell**

Instructions [15pts]

You are to write mongoDB commands in the mongoDB shell to create a new database, populate a collection, and insert a document into the collection.

1. Display the database you are using. Type db

The operation should return test, which is the default database.

Command:

db

Screenshot:

A screenshot of a computer

Description automatically generated

1. Switch to database called lab6. Type use lab6

Even if it is non-existing, MongoDB will create a database called lab6. Type again db

The operation should return lab6

Command:

use lab6

db

Screenshot(s):

A screenshot of a computer

Description automatically generated

1. Use insert() to insert the following item in the products collection. [5pts]

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| code | desc | indate | qoh | min | price | Colors | Size | Package |
| 11QER/31 | Power painter, 15 psi., 3-nozzle | 2011-11-03 | 100 | 5 | 109.99 | Black, red | l: 24  w:19.99  h:14.99  uom: "cm" | weight: 1.79 uom: "kg" |

Command:

db.products.insert({

"code": "11QER/31",

"desc": "Power painter, 15 psi., 3-nozzle",

"indate": Date(2011-11-03),

"qoh": 100,

"min": 5,

"price": 109.99,

"Colors": ["Black", "red"],

"Size": {

"l": 24,

"w": 19.99,

"h": 14.99,

"uom": "cm"

},

"Package": {

"weight": 1.79,

"uom": "kg"

}

})

Screenshot:

A computer screen shot of a program

Description automatically generated

1. Use findOne() and show the document in the products collection. [1pt]

Command:

db.products.findOne()

Screenshot:

A screen shot of a computer program

Description automatically generated

1. Use insertMany() to bulk insert the following items in the products collection. When the data is missing for a specific attribute, the document should not contain that attribute as key in its structure. Use ISODate() to define a date type for the indate field. E.g. ISODate("2011-12-13")[5pts]

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| code | desc | indate | qoh | min | price | Colors | Size | Package |
| 13-Q2/P2 | 7.25-in. pwr. saw blade | 2011-12-13 | 32 | 15 | 14.99 | - | w: 7.25  h: 0.25  uom: in | - |
| 14-Q1/L3 | 9.00-in. pwr. saw blade | 2011-11-13 | 18 | 12 | 17.49 | Metallic | l: 9  uom: in | weight: 0.6  uom: lbs |
| 1546-QQ2 | Hrd. cloth, 1/4-in., 2x50 | 2012-01-15 | 15 | 8 | 39.95 | silver | l:50  h:2  uom: ft | weight: 19.5  uom: lbs |
| 1558-QW1 | Hrd. cloth, 1/2-in., 4x50 | 2012-01-15 00:00:00.000 | 23 | 5 | 43.99 | - | l:50  h:4  uom: ft | weight: 40  uom: lbs |

Command:

db.products.insertMany([

{

"code": "13-Q2/P2",

"desc": "7.25-in. pwr. saw blade",

"indate": ISODate("2011-12-13"),

"qoh": 32,

"min": 15,

"price": 14.99,

"Size":

{

"w": 7.25,

"h": 0.25,

"uom": "in"

}

},

{

"code": "14-Q1/L3",

"desc": "9.00-in. pwr. saw blade",

"indate": ISODate("2011-11-13"),

"qoh": 18,

"min": 12,

"price": 17.49,

"Colors": ["Metallic"],

"Size":

{

"l": 9,

"uom": "in"

},

"Package":

{

"weight": 0.6,

"uom": "lbs"

}

},

{

"code": "1546-QQ2",

"desc": "Hrd. cloth, 1/4-in., 2x50",

"indate": ISODate("2012-01-15"),

"qoh": 15,

"min": 8,

"price": 39.95,

"Colors": ["silver"],

"Size":

{

"l": 50,

"h": 2,

"uom": "ft"

},

"Package":

{

"weight": 19.5,

"uom": "lbs"

}

},

{

"code": "1558-QW1",

"desc": "Hrd. cloth, 1/2-in., 4x50",

"indate": ISODate("2012-01-15T00:00:00.000Z"),

"qoh": 23,

"min": 5,

"price": 43.99,

"Size":

{

"l": 50,

"h": 4,

"uom": "ft"

},

"Package":

{

"weight": 40,

"uom": "lbs"

}

}

])

Screenshots:

A computer code with many numbers

Description automatically generated with medium confidence

Left -> right

1. 2

3 4

A screen shot of a computer

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1. Show all inserted documents in the products collection. Use find() [1pt]

Command:

db.products.find()

Screenshot:

A computer screen shot of a code

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1. Remove product 11QER/31 from the products collection. Use the remove function and use code as key. Then show all documents in the products collection. Make sure product 11QER/31 does not exist in the collection. [3pts]

Commands:

db.products.remove({“code” : “11QER/31”})

db.products.find()

Screenshots:

A blurry image of a line of colorful lights

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SUBMISSION

Keep the question number, text, add your answer and show the output for each question.

Submit your lab6\_grpxx.doc file on BB. Replace xx with your group number.