

# **CS 602 - Assignment 3**

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Sept 25, 2017

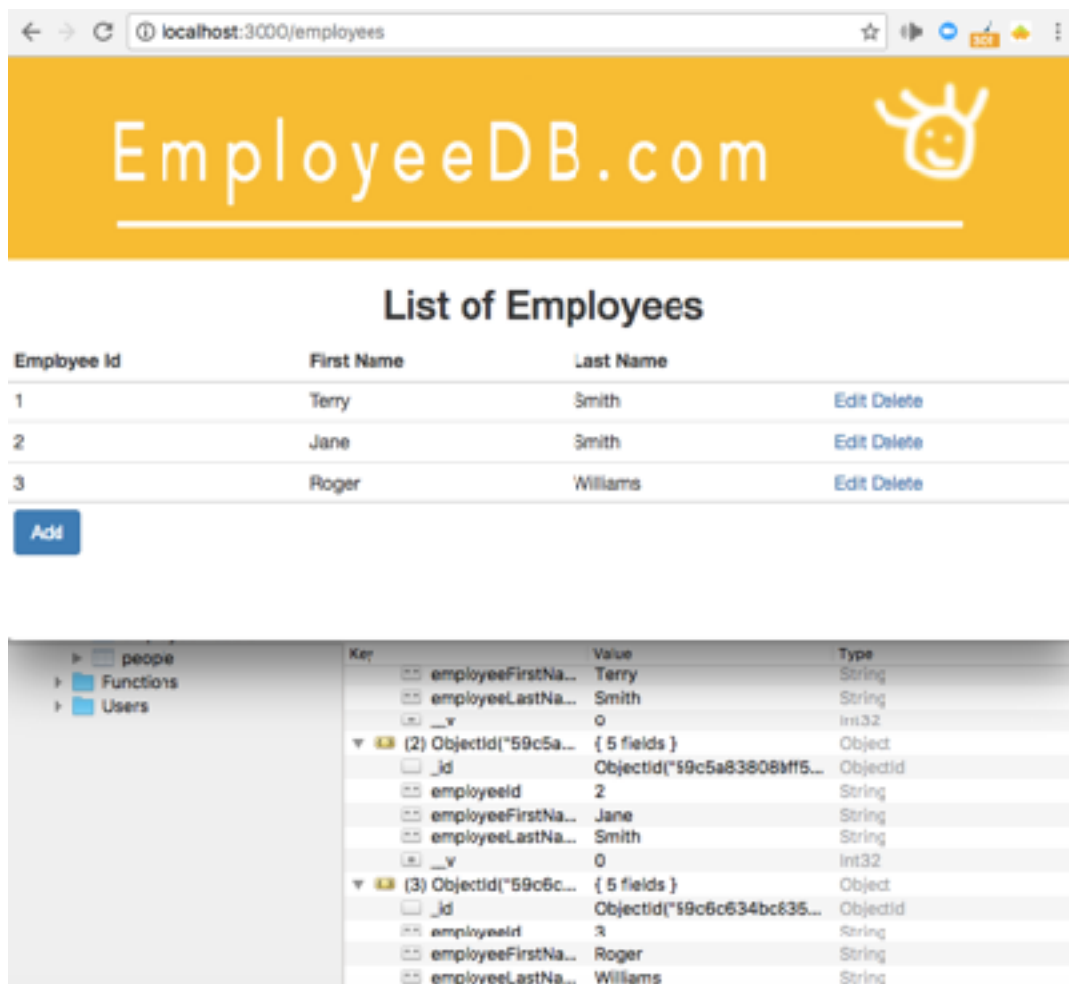
# 1. Starting the Application and Database

```
CS602_HW3_Ryan — node app.js — 80x24
Last login: Sat Sep 23 16:00:54 on ttys000
Marks-MacBook-Air:~ markryan$ cd Desktop/BU/CS602/Module3
Marks-MacBook-Air:Module3 markryan$ ls
CS602_HW3_Ryan      CS602_Module3_Samples
Marks-MacBook-Air:Module3 markryan$ cd CS602_HW3_Ryan
Marks-MacBook-Air:CS602_HW3_Ryan markryan$ ls
app.js              node_modules          routes
client.js           package-lock.json      views
credentials.js      package.json
employeesDb.js      public
Marks-MacBook-Air:CS602_HW3_Ryan markryan$ node app.js
Creating connection and model...
http://localhost:3000

markryan — mongod - sudo — 134x24
2017-09-25T21:48:34.842-0400 I CONTROL [initandlisten] allocator: system
2017-09-25T21:48:34.842-0400 I CONTROL [initandlisten] modules: none
2017-09-25T21:48:34.842-0400 I CONTROL [initandlisten] build environment:
2017-09-25T21:48:34.842-0400 I CONTROL [initandlisten]          distarch: x86_64
2017-09-25T21:48:34.842-0400 I CONTROL [initandlisten]          target_arch: x86_64
2017-09-25T21:48:34.842-0400 I CONTROL [initandlisten] options: {}
2017-09-25T21:48:34.842-0400 I - [initandlisten] Detected data files in /data/db are
  missing, the active storage engine is 'wiredTiger'.
2017-09-25T21:48:34.844-0400 I STORAGE [initandlisten] wiredtiger_open config: create,cache
  reads,max=4),config_base=false,statistics=[fast],log=(enabled=true,archive=true,path=journ
  le_time=100000),checkpoint=(wait=60,log_size=250),statistics_log=(wait=0),
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten]
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten] ** WARNING: Access control is not e
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten] **          Read and write access i
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten] ** WARNING: You are running this pl
  ended.
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten]
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten]
2017-09-25T21:48:35.315-0400 I CONTROL [initandlisten] ** WARNING: soft rlimits too low. P
  000
2017-09-25T21:48:35.485-0400 I FTDC [initandlisten] Initializing full-time diagnostic s
  stic.data'
2017-09-25T21:48:35.486-0400 I NETWORK [thread1] waiting for connections on port 27017
```

The application is started using node app.js and mongodb is started on a separate command prompt.

## 2. Adding an Employee



The screenshot shows the EmployeeDB.com web application in a browser. The page has a yellow header with the site name and a smiley face logo. Below the header is a section titled "List of Employees" containing a table with three employees: Terry Smith (id 1), Jane Smith (id 2), and Roger Williams (id 3). Each row has "Edit" and "Delete" links. An "Add" button is located below the table. Below the web application, a database view shows the underlying data structure, including fields like employeeFirstNa..., employeeLastNa..., \_id, and employeeid, with their respective values and types.

Employee Id	First Name	Last Name	
1	Terry	Smith	<a href="#">Edit</a> <a href="#">Delete</a>
2	Jane	Smith	<a href="#">Edit</a> <a href="#">Delete</a>
3	Roger	Williams	<a href="#">Edit</a> <a href="#">Delete</a>

[Add](#)

Key	Value	Type
employeeFirstNa...	Terry	String
employeeLastNa...	Smith	String
_id	0	Int32
(2) Objectid("59c5a...	{ 5 fields }	Object
_id	Objectid("59c5a83808Mf5...	Objectid
employeeid	2	String
employeeFirstNa...	Jane	String
employeeLastNa...	Smith	String
_id	0	Int32
(3) Objectid("59c6c...	{ 5 fields }	Object
_id	Objectid("59c6c634bc635...	Objectid
employeeid	3	String
employeeFirstNa...	Roger	String
employeeLastNa...	Williams	String

The database originates with three employees: Terry Smith, Jane Smith, and Roger Williams. An employee is added to the List of Employees by selecting the 'Add' button.

Once 'Save' is selected by the user, the employee Lisa Taylor is added to the database.

localhost:3000/employees/add

# EmployeeDB.com

## Add an Employee

Employee Id:

First Name:

Last Name:

people	Key	Value	Type
Functions	employeeFirstNa...	Terry	String
Users	employeeLastNa...	Smith	String
	_v	0	Int32
	(2) ObjectId("59:5a...	{ 5 fields }	Object
	_id	ObjectId("59:5a83808bff5...	ObjectId
	employeeId	2	String
	employeeFirstNa...	Jane	String
	employeeLastNa...	Smith	String
	_v	0	Int32
	(3) ObjectId("59:6c...	{ 5 fields }	Object
	_id	ObjectId("59:6c634bc335...	ObjectId
	employeeId	3	String
	employeeFirstNa...	Roger	String
	employeeLastNa...	Williams	String



## List of Employees

Employee Id	First Name	Last Name	
1	Terry	Smith	<a href="#">Edit</a> <a href="#">Delete</a>
2	Jane	Smith	<a href="#">Edit</a> <a href="#">Delete</a>
3	Roger	Williams	<a href="#">Edit</a> <a href="#">Delete</a>
4	Lisa	Taylor	<a href="#">Edit</a> <a href="#">Delete</a>

Add

The image shows the MongoDB Compass interface. On the left, a sidebar lists collections: "people", "Functions", and "Users". The main area displays a list of documents in a collection. The first document is expanded, showing its fields: `_id` (Objectid), `employeeId` (4), `employeeFirstNa...` (Lisa), `employeeLastNa...` (Taylor), and `__v` (0).

Key	Value	Type
(1) Objectid("59c5a...)	{ 5 fields }	Object
(2) Objectid("59c5a...)	{ 5 fields }	Object
(3) Objectid("59c6c...)	{ 5 fields }	Object
(4) Objectid("59c9b...)	{ 5 fields }	Object
expanded (4) Objectid("59c9b...)		
_id	Objectid("59c9b2f67d6c4...)	Objectid
employeeId	4	String
employeeFirstNa...	Lisa	String
employeeLastNa...	Taylor	String
__v	0	Int32

Robo ST - 1.1

markdb (1)

- System
- cs602db\_kalathur
  - Collections (3)
    - coursemodels
    - employeeModels
    - people
  - Running
  - Users

markdb | localhost:27017 | cs602db\_kalathur

db.getCollection("employeeModels").find({})

employeeModels | 0.001 sec. | 0 | 50

Key	Value	Type
(1) ObjectId("59c5a...	{ 1 fields }	Object
_id	ObjectId("59c5a836083ff5...	ObjectId
employeeId	1	String
employeeFirstNa...	Terry	String
employeeLastNa...	Smith	String
_v	0	int32
(2) ObjectId("59c5a...	{ 1 fields }	Object
_id	ObjectId("59c5a836083ff5...	ObjectId
employeeId	2	String
employeeFirstNa...	Jane	String
employeeLastNa...	Smith	String
_v	0	int32
(3) ObjectId("59c6c...	{ 1 fields }	Object
_id	ObjectId("59c6c634bc835...	ObjectId
employeeId	3	String
employeeFirstNa...	Roger	String
employeeLastNa...	Williams	String
_v	0	int32
(4) ObjectId("59c0b...	{ 1 fields }	Object
_id	ObjectId("59c0b0ff9dffc4...	ObjectId
employeeId	4	String
employeeFirstNa...	Lisa	String
employeeLastNa...	Taylor	String
_v	0	int32

### 3. Deleting an Employee

When the 'Delete' link is selected next to the employee's name, the employee is deleted from both the application and database. Terry Smith has been deleted from the application.

Notice how the database now contains just three employees: Jane Smith, Roger Williams, and Lisa Taylor.

The screenshot shows a web browser at `localhost:3000/employees` displaying the **EmployeeDB.com** application. The page has a yellow header with the site name and a smiley face icon. Below the header is a section titled **List of Employees** containing a table with three employees: Jane Smith (id 2), Roger Williams (id 3), and Lisa Taylor (id 4). Each row has 'Edit' and 'Delete' links. An 'Add' button is located below the table. At the bottom, a database viewer shows the state of the database, listing three objects corresponding to the employees in the table, with fields like `_id`, `employeeid`, `employeeFirstNa...`, `employeeLastNa...`, and `_v`.

Employee Id	First Name	Last Name	
2	Jane	Smith	<a href="#">Edit</a> <a href="#">Delete</a>
3	Roger	Williams	<a href="#">Edit</a> <a href="#">Delete</a>
4	Lisa	Taylor	<a href="#">Edit</a> <a href="#">Delete</a>

[Add](#)

Database View:

- [1] ObjectId: "68c8b..." ( 6 fields ) Object
  - \_id: ObjectId("59c5a838D8b7f5...") Objectid
  - employeeid: 2 String
  - employeeFirstNa...: Jane String
  - employeeLastNa...: Smith String
  - \_v: 0 Int32
- [2] ObjectId: "59c8c..." ( 5 fields ) Object
  - \_id: ObjectId("59c8c634bc835...") Objectid
  - employeeid: 3 String
  - employeeFirstNa...: Roger String
  - employeeLastNa...: Williams String
  - \_v: 0 Int32
- [3] ObjectId: "69c9b..." ( 6 fields ) Object
  - \_id: ObjectId("69c9b2f67d6c4...") Objectid
  - employeeid: 4 String
  - employeeFirstNa...: Lisa String
  - employeeLastNa...: Taylor String
  - \_v: 0 Int32

## 4. Editing an Employee

Finally, employee information is able to be edited by selecting 'Edit' next to the employee name. The employee Lisa Taylor is changed to Lisa Thompson.

The screenshot shows a web browser window with the URL `localhost:3000/employees/edit/19c9b2f6736c4b5277e7c027`. The page has a yellow header with the text "EmployeeDB.com" and a simple line-art logo of a person with a lightbulb for a head. Below the header, the title "Edit Employee" is centered. The form contains three input fields: "Employee Id:" with the value "4", "First Name:" with the value "Lisa", and "Last Name:" with the value "Thompson". At the bottom of the form are two buttons: a green "Save" button and a red "Cancel" button.

Below the form, a table lists the employees in the database. The table has three columns: a selection column with checkboxes, a column for the employee's ID and name, and a column for the employee's details. The table contains three rows of data:

	Objectid: 080ba...	{ 5 fields }	Objectid
<input type="checkbox"/>	_id	Objectid("19cfa833c8b4f8...	Objectid
<input type="checkbox"/>	employeeid	2	String
<input type="checkbox"/>	employeeFirstNa...	Jane	String
<input type="checkbox"/>	employeeLastNa...	Smith	String
<input type="checkbox"/>	_v	0	Int32
<input checked="" type="checkbox"/>	Objectid("5fc6e...	{ 5 fields }	Objectid
<input type="checkbox"/>	_id	Objectid("19c6c634bc835...	Objectid
<input type="checkbox"/>	employeeid	3	String
<input type="checkbox"/>	employeeFirstNa...	Roger	String
<input type="checkbox"/>	employeeLastNa...	Williams	String
<input type="checkbox"/>	_v	0	Int32
<input checked="" type="checkbox"/>	Objectid("5fc9b...	{ 5 fields }	Objectid
<input type="checkbox"/>	_id	Objectid("19c9b2f67d6c4...	Objectid
<input type="checkbox"/>	employeeid	4	String
<input type="checkbox"/>	employeeFirstNa...	Lisa	String
<input type="checkbox"/>	employeeLastNa...	Taylor	String
<input type="checkbox"/>	_v	0	Int32



This change is also reflected in the database as seen below.

The screenshot shows a web browser at `localhost:3000/employees`. The page has a yellow header with the text "EmployeeDB.com" and a smiley face icon. Below the header is a section titled "List of Employees".

Employee Id	First Name	Last Name	
2	Jane	Smith	<a href="#">Edit</a> <a href="#">Delete</a>
3	Roger	Williams	<a href="#">Edit</a> <a href="#">Delete</a>
4	Lisa	Thompson	<a href="#">Edit</a> <a href="#">Delete</a>

Below the table is a blue "Add" button.

At the bottom, a database view shows the data structure:

- Functions
- Users
  - (1) Objectid('59c5a...') ( 5 fields ) Object
    - \_id Objectid('59c5e83806cf15...') Objectid
    - employeeid 2 String
    - employeeFirstNa... Jane String
    - employeeLastNa... Smith String
    - \_v 0 Int32
  - (2) Objectid('59c6c...') ( 6 fields ) Object
    - \_id Objectid('69c6c634c836f...') Objectid
    - employeeid 3 String
    - employeeFirstNa... Roger String
    - employeeLastNa... Williams String
    - \_v 0 Int32
  - (3) Objectid('59c8c...') ( 6 fields ) Object
    - \_id Objectid('59c8b21b7d8c4...') Objectid
    - employeeid 4 String
    - employeeFirstNa... Lisa String
    - employeeLastNa... Thompson String
    - \_v 0 Int32