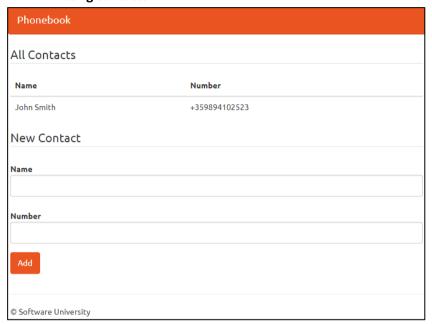
# **JavaScript Basic Web: Phonebook**

## 1. Problem

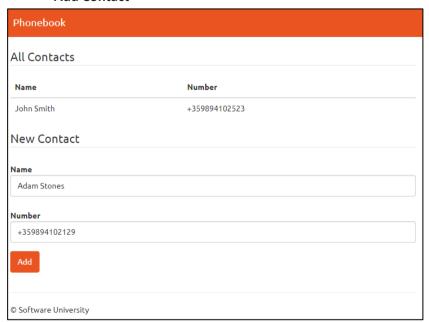
You have been tasked to create a simple Phonebook application. The application should hold contacts, which are the main app entity.

The functionality of the application should support:

#### Listing contacts



#### Add Contact









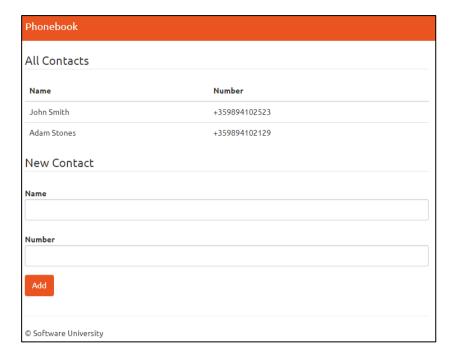












#### 2. Overview

### Requirements

- **Express** framework
- Handlebars view engine

#### **Data Model**

The Contact holds 2 properties:

- name non-empty text
- number non-empty text

### **Project Skeletons**

You will be given the application skeletons, which holds about 90% of the logic. You'll be given some files. The files will have partially implemented logic, so you'll need to write some code for the application to function properly.

The application's views will be given to you fully implemented. You only need to include them in your business logic.

Everything that has been given to you inside the skeleton is correctly implemented and if you write your code correctly, the application should work just fine. You are free to change anything in the Skeleton on your account.

## 3. Preparation

Run "npm install" in the terminal in the folder of the project to install all of the dependencies you will need. (express and handlebars)















### 4. Database

It's time to create our database. Open the "phonebook.js" file and add the following functionality:

```
var phonebook = [];
 2
   function getPhonebook() {
 3
 4
    return phonebook;
 5
 6
 7
    function addContact(contact) {
      phonebook.push(contact);
 8
 9
10
    module.exports = {
11
12
      getPhonebook,
13
      addContact
14
   };
15
```

- We create a phonebook array, which will store all the contacts (memory storage). The array will be empty each time we restart the server
- We add the function that will return the whole phonebook
- We add the function that will add a new contact
- Finally, we export those functions, so we can use them outside this file

#### 5. Model

We should create our contact model which has a name and number as properties. Inside Contact.js create a class which has a constructor and accepts and sets both properties. After that export it:

```
class Contact {
  constructor(name, number) {
    this.name = name;
    this.number = number;
module.exports = Contact;
```

#### 6. View

Go to the **index.hbs** file and find the following code:













```
31
       32
        {{#each contacts}}
33
34
          {{this.name}}
35
          {{this.number}}
        36
37
        {{/each}}
38
```

What this does is, it should receive variable called contacts, it iterates through them and for each it adds a row in the table with this person's name and number.

## 7. Routing

The routes in our application are defined inside routing.js. There are a total of two routes inside '/' which is called when we load the application (HTTP GET) and '/add' which is called when we add a new contact inside the database array (HTTP POST). Every route leads to a function from the controller:

```
const phonebookController = require('./controllers/phonebook-controller');
module.exports = (app) => {
  app.get('/', phonebookController.index);
  app.post('/add', phonebookController.addPhonebookPost);
```

### 8. Phonebook Controller

In order to list and add contacts we need a controller so go to controllers/phonebook-controller.js:

```
module.exports = {
  index: (req, res) => {
   // TODO: load index page
  },
  addPhonebookPost:(req, res) => {
   // TODO: add a phonebook object to the array
  }
```

## **Listing Contacts**

Then when we render the main page, we need to pass the stored contacts to the view, so we can see them. To do that, add the following code in the **index** method:

```
index: (req, res) => {
  res.render("index", {
    contacts: phonebook.getPhonebook()
  });
```

We pass the contacts as an object that has as value for "contacts" the phonebook we stored.













We do that by using our **getPhonebook()** method we wrote earlier

### **Adding Contact**

First, let us see what we need to do. Go to the **index.hbs** again and find the following lines of code:

```
<form class="form-horizontal" action="/add" method="POST"</pre>
40
41
42
            <legend>New Contact</legend>
             <div class="form-group">
43
               <label for="name" class="col-lg-2 control-label">Name</label>
44
45
               <div class="col-lg-10">
                 <input type="text" autofocus="autofocus" name="name"</pre>
46
                 class="form-control" id="name" />
47
               </div>
             </div>
48
             <div class="form-group">
49
50
               <label for="number" class="col-lg-2 control-label">Number</label>
51
               <div class="col-lg-10">
52
                 <input type="text" autofocus="autofocus" name="number"</pre>
                                                                           title="Number"
                 class="form-control" id="number" />
               </div>
53
             </div>
54
55
             <div class="form-group">
               <div class="col-lg-10 col-lg-offset-2">
56
                 <button type="submit" class="btn btn-primary">Add</button>
57
               </div>
58
             </div>
59
60
          </fieldset>
        </form>
61
```

- Here we see, that when we press the submit button, we make a POST request on route "/add".
- The information that we submitted in this form will come as an object with properties name and number (since those are the names of the input fields)
- This is only possible, because we imported "body-parser"

So let us now go to phonebook-controller.js and add the final functionality, which goes in the app.post() method:

```
addPhonebookPost:(req, res) => {
  let name = req.body.name;
  let number = req.body.number;
  let contact = new Contact(name, number);
  phonebook.addContact(contact);
  res.redirect('/');
```

Don't forget to require the Contact class from models/contact.js

```
const Contact = require('../models/Contact');
```

- By typing req.body we get that object that we mentioned earlier (you can log that to the console if you want to see it)
- Then we just use our function we wrote to add that contact and redirect to the index page again











# 9. Testing the Application

With that we finished our JavaScript Phonebook. Type "node index.js" in the terminal to start the server. Then go to localhost: 3000. Feel free to build on your project even further. ©













