

ITMD 565 Project2

Ankith Jain Full NodeJS Express CRUD Application with JSON API

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Project Description

This application is based on Express.js which is a Node.js web application server framework. I have created two data models which are **Products** and **Customers** having the data persistence stored in JSON files present in filesystem. They also have respective RESTful url paths. CRUD operations is successfully implemented on both the data models with proper data validations for user input.

Project Features and Functions

1. Highlights about Data Models

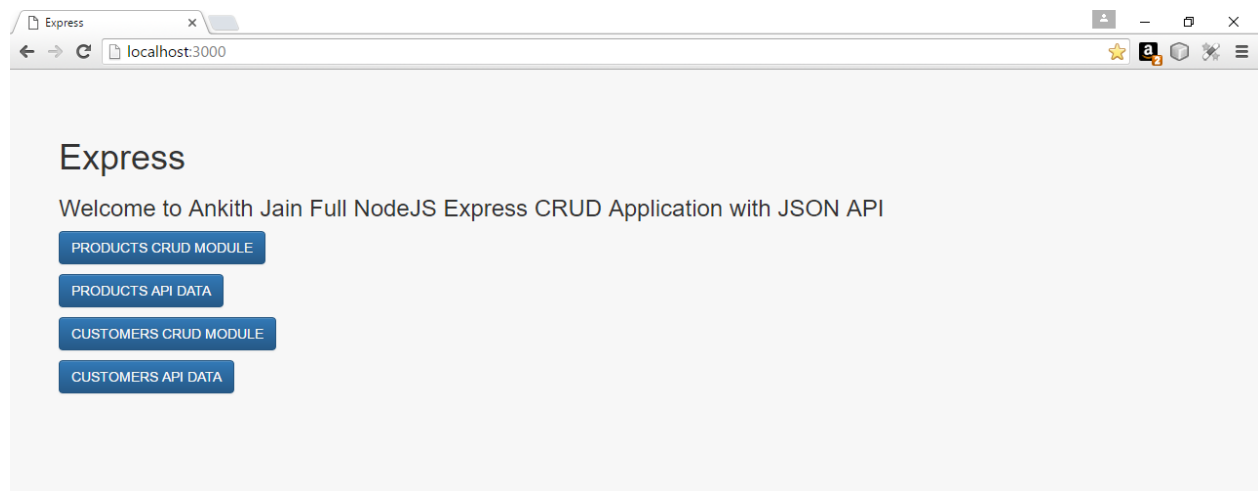
- Products – Each Product has a property or fields of Product Id, Product Name, Product SKU, Product Price, and Product Color.
- Customers – Each Customer has a property or fields of Customer Id, Customer First Name, Customer Last Name, Email and Phone.

2. Welcome Page

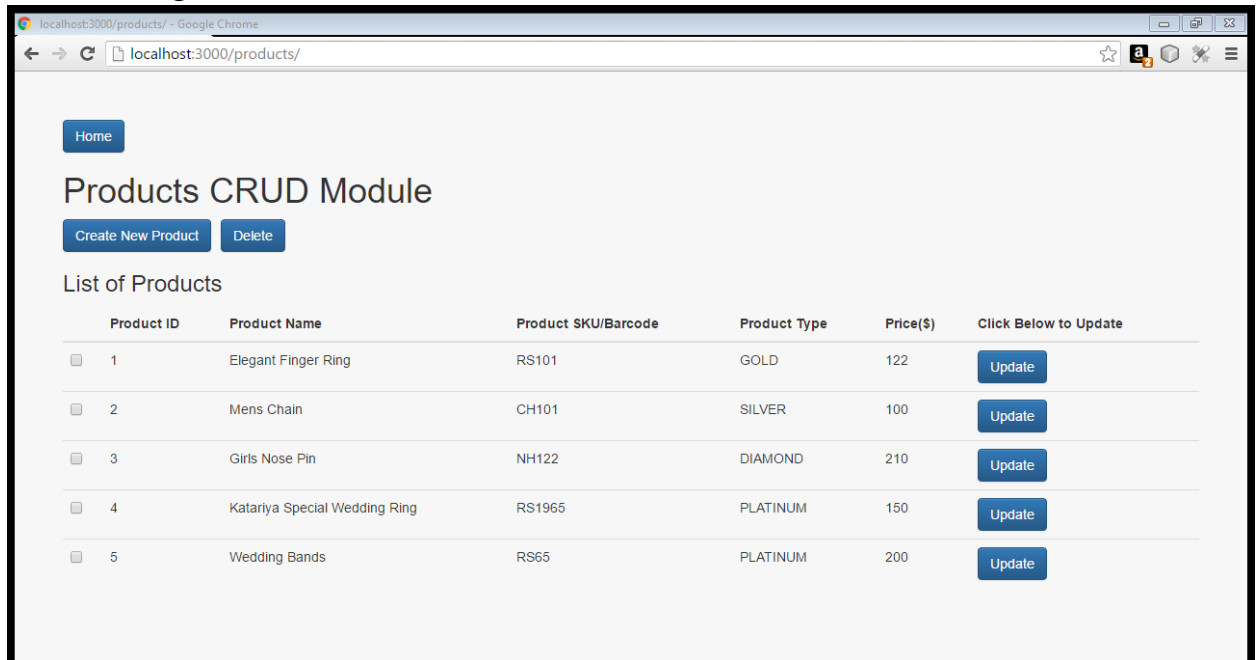
- On visiting <http://localhost:3000/> on a browser an index page is displayed where an user can see and navigate to options mentioned below
 - a. PRODUCTS CRUD MODULE
 - b. CUSTOMERS CRUD MODULE
 - c. PRODUCTS API DATA
 - d. CUSTOMERS API DATA

3 Screen Shots from Working of Application

- WELCOME PAGE



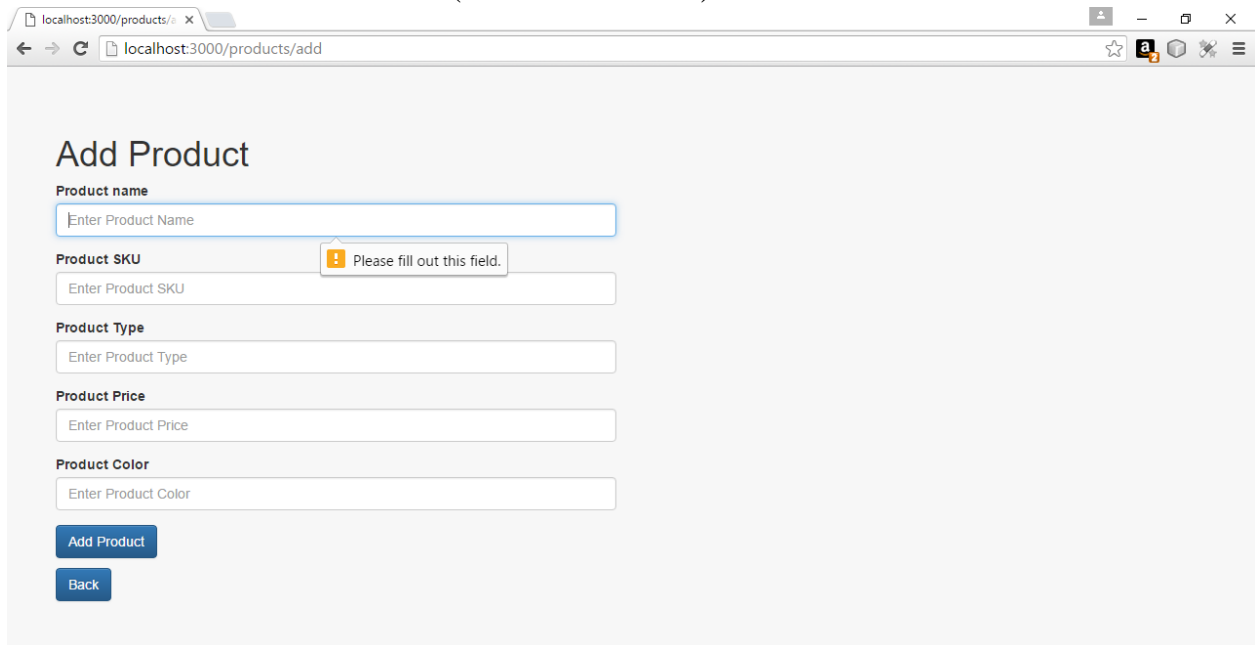
- On Clicking PRODUCTS MODULE CRUD Screen



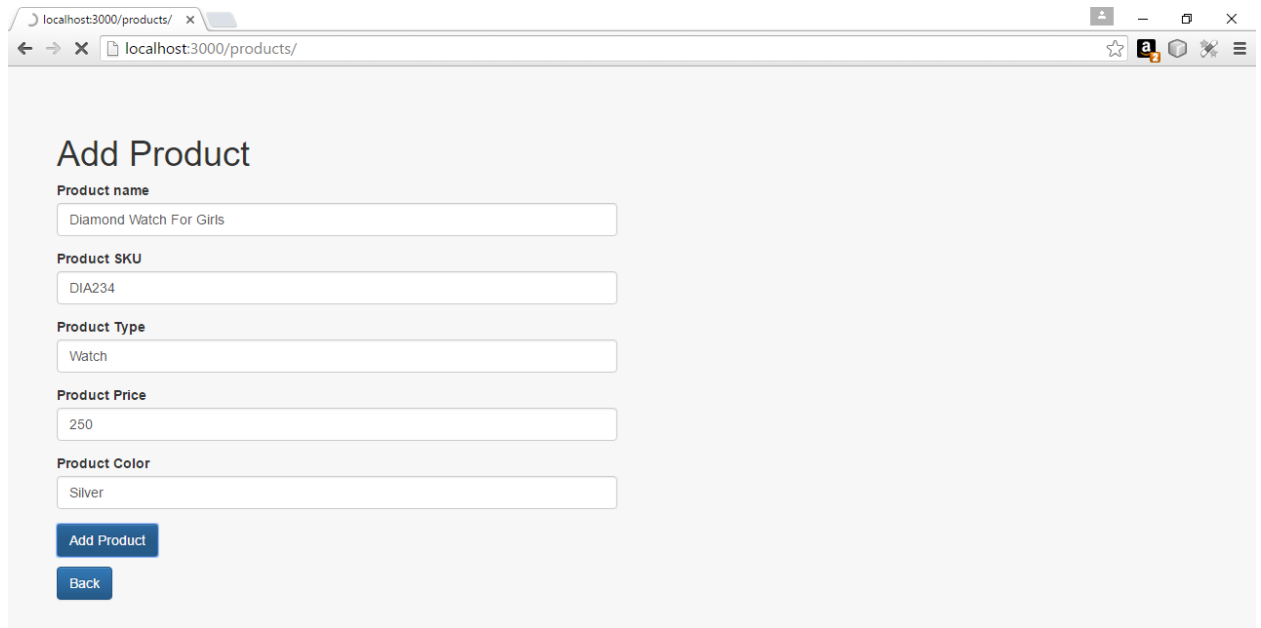
The screenshot shows a web application interface for the 'Products CRUD Module'. At the top, there is a 'Home' button. Below it, the title 'Products CRUD Module' is displayed, followed by 'Create New Product' and 'Delete' buttons. A section titled 'List of Products' contains a table with the following data:

	Product ID	Product Name	Product SKU/Barcode	Product Type	Price(\$)	Click Below to Update
<input type="checkbox"/>	1	Elegant Finger Ring	RS101	GOLD	122	<button>Update</button>
<input type="checkbox"/>	2	Mens Chain	CH101	SILVER	100	<button>Update</button>
<input type="checkbox"/>	3	Girls Nose Pin	NH122	DIAMOND	210	<button>Update</button>
<input type="checkbox"/>	4	Katariya Special Wedding Ring	RS1965	PLATINUM	150	<button>Update</button>
<input type="checkbox"/>	5	Wedding Bands	RS65	PLATINUM	200	<button>Update</button>

- CREATE NEW PRODUCT (with validations)



The screenshot shows the 'Add Product' form. It includes input fields for 'Product name', 'Product SKU', 'Product Type', 'Product Price', and 'Product Color'. A validation message 'Please fill out this field.' is displayed next to the 'Product SKU' field. At the bottom, there are 'Add Product' and 'Back' buttons.



localhost:3000/products/

Add Product

Product name
Diamond Watch For Girls

Product SKU
DIA234

Product Type
Watch

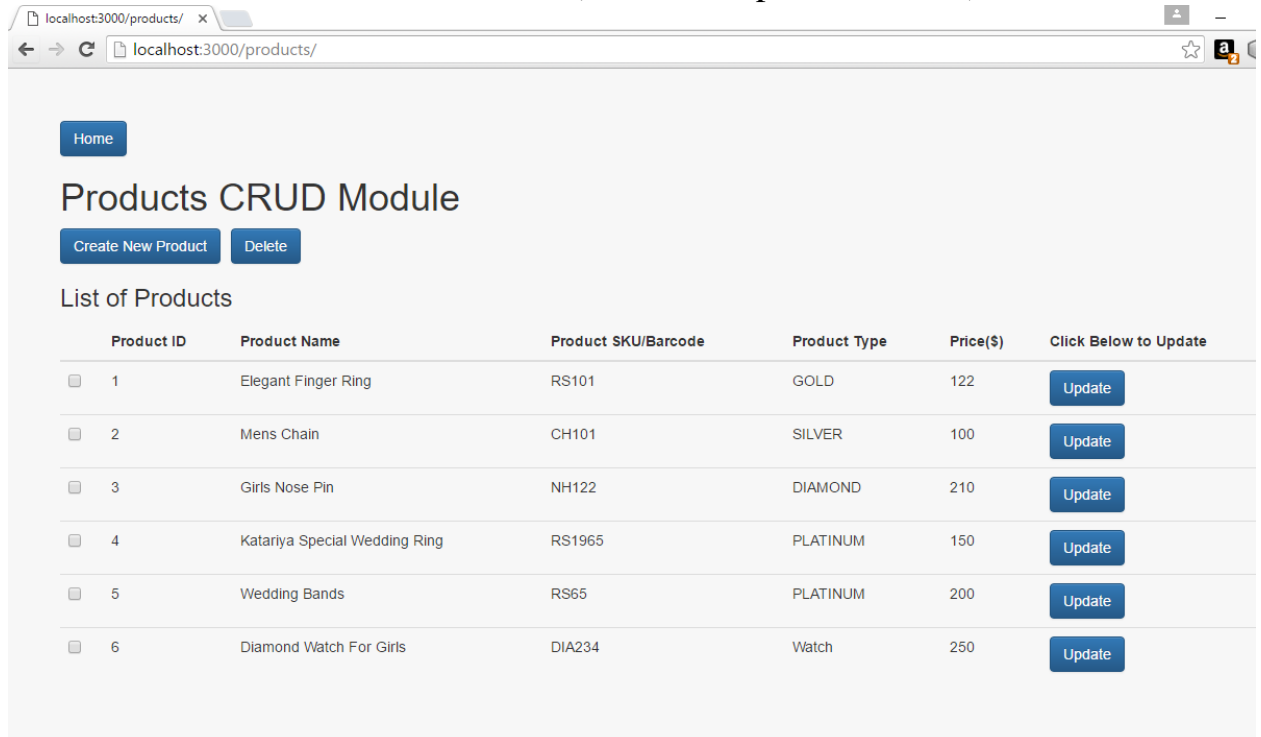
Product Price
250

Product Color
Silver

[Add Product](#)

[Back](#)

- **READ / VIEW PRODUCTS** Screen (with a new product added)



localhost:3000/products/

[Home](#)

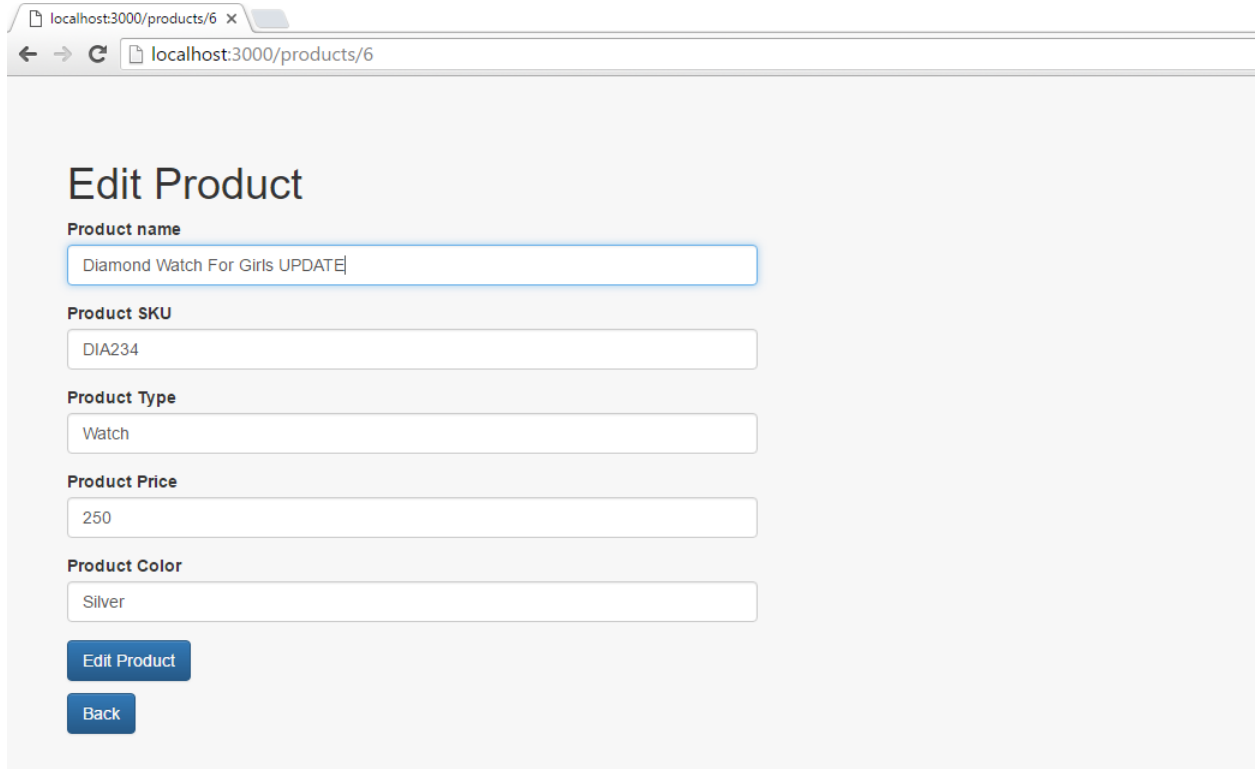
Products CRUD Module

[Create New Product](#) [Delete](#)

List of Products

	Product ID	Product Name	Product SKU/Barcode	Product Type	Price(\$)	Click Below to Update
<input type="checkbox"/>	1	Elegant Finger Ring	RS101	GOLD	122	Update
<input type="checkbox"/>	2	Mens Chain	CH101	SILVER	100	Update
<input type="checkbox"/>	3	Girls Nose Pin	NH122	DIAMOND	210	Update
<input type="checkbox"/>	4	Katariya Special Wedding Ring	RS1965	PLATINUM	150	Update
<input type="checkbox"/>	5	Wedding Bands	RS65	PLATINUM	200	Update
<input type="checkbox"/>	6	Diamond Watch For Girls	DIA234	Watch	250	Update

- **UPDATE A PRODUCT**



localhost:3000/products/6

Edit Product

Product name

Product SKU

Product Type

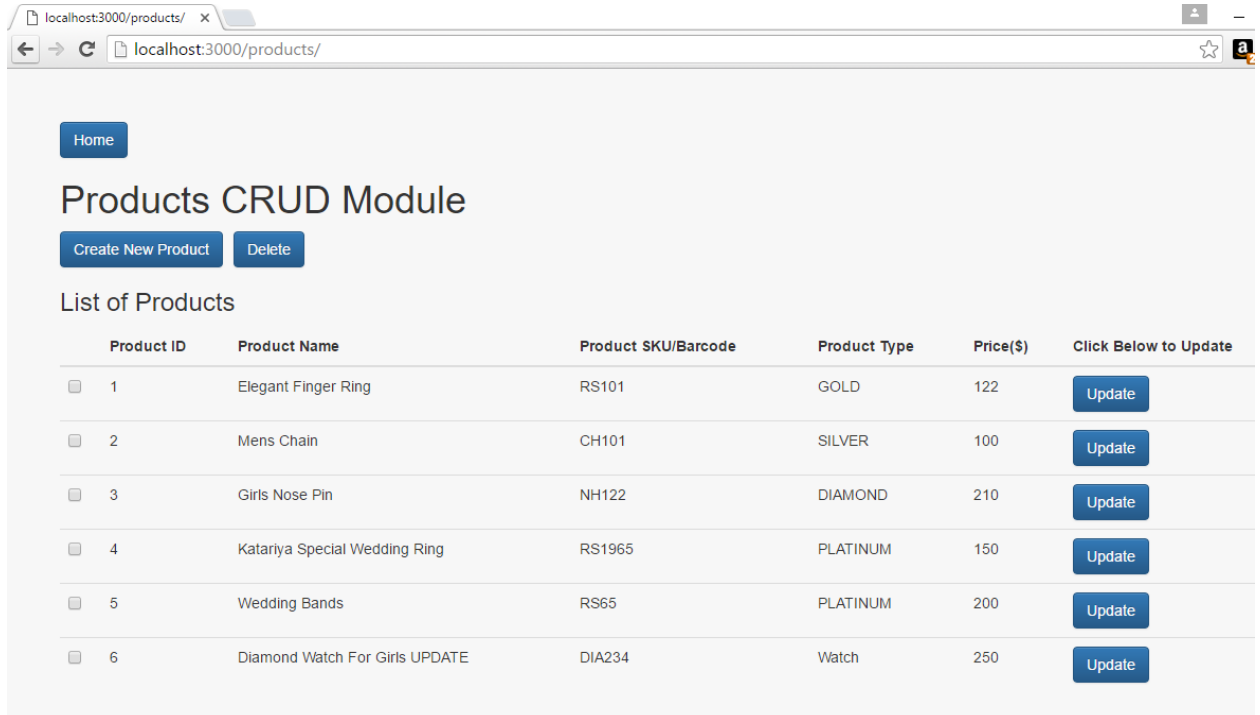
Product Price

Product Color

[Edit Product](#)

[Back](#)

- **UPDATED Product ID with 6 on the View Screen**



localhost:3000/products/

[Home](#)

Products CRUD Module

[Create New Product](#) [Delete](#)

List of Products

	Product ID	Product Name	Product SKU/Barcode	Product Type	Price(\$)	Click Below to Update
<input type="checkbox"/>	1	Elegant Finger Ring	RS101	GOLD	122	Update
<input type="checkbox"/>	2	Mens Chain	CH101	SILVER	100	Update
<input type="checkbox"/>	3	Girls Nose Pin	NH122	DIAMOND	210	Update
<input type="checkbox"/>	4	Katariya Special Wedding Ring	RS1965	PLATINUM	150	Update
<input type="checkbox"/>	5	Wedding Bands	RS65	PLATINUM	200	Update
<input type="checkbox"/>	6	Diamond Watch For Girls UPDATE	DIA234	Watch	250	Update

- **DELETE ONE OR MULTIPLE PRODUCTS**

Selecting check box of product having id 4, 5 and pressing delete button

The screenshot shows a web application interface for a 'Products CRUD Module'. At the top, there is a 'Home' button and two buttons: 'Create New Product' and 'Delete'. Below these is a section titled 'List of Products' containing a table with the following data:

Product ID	Product Name	Product SKU/Barcode	Product Type	Price(\$)	Click Below to Update
<input type="checkbox"/> 1	Elegant Finger Ring	RS101	GOLD	122	Update
<input type="checkbox"/> 2	Mens Chain	CH101	SILVER	100	Update
<input type="checkbox"/> 3	Girls Nose Pin	NH122	DIAMOND	210	Update
<input checked="" type="checkbox"/> 4	Katariya Special Wedding Ring	RS1965	PLATINUM	150	Update
<input checked="" type="checkbox"/> 5	Wedding Bands	RS65	PLATINUM	200	Update
<input type="checkbox"/> 6	Diamond Watch For Girls UPDATE	DIA234	Watch	250	Update

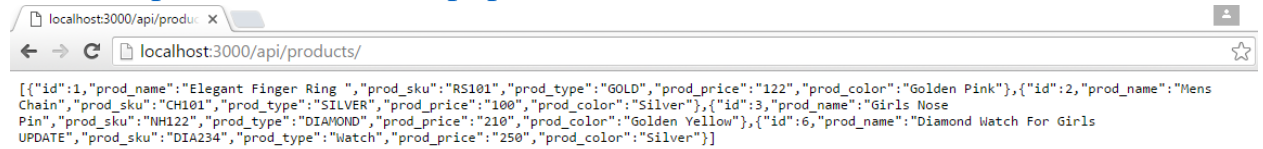
Deleted and Updated the View Screen

The screenshot shows the same 'Products CRUD Module' interface after deleting products 4 and 5. The 'List of Products' table now contains the following data:

Product ID	Product Name	Product SKU/Barcode	Product Type	Price(\$)	Click Below to Update
<input type="checkbox"/> 1	Elegant Finger Ring	RS101	GOLD	122	Update
<input type="checkbox"/> 2	Mens Chain	CH101	SILVER	100	Update
<input type="checkbox"/> 3	Girls Nose Pin	NH122	DIAMOND	210	Update
<input type="checkbox"/> 6	Diamond Watch For Girls UPDATE	DIA234	Watch	250	Update

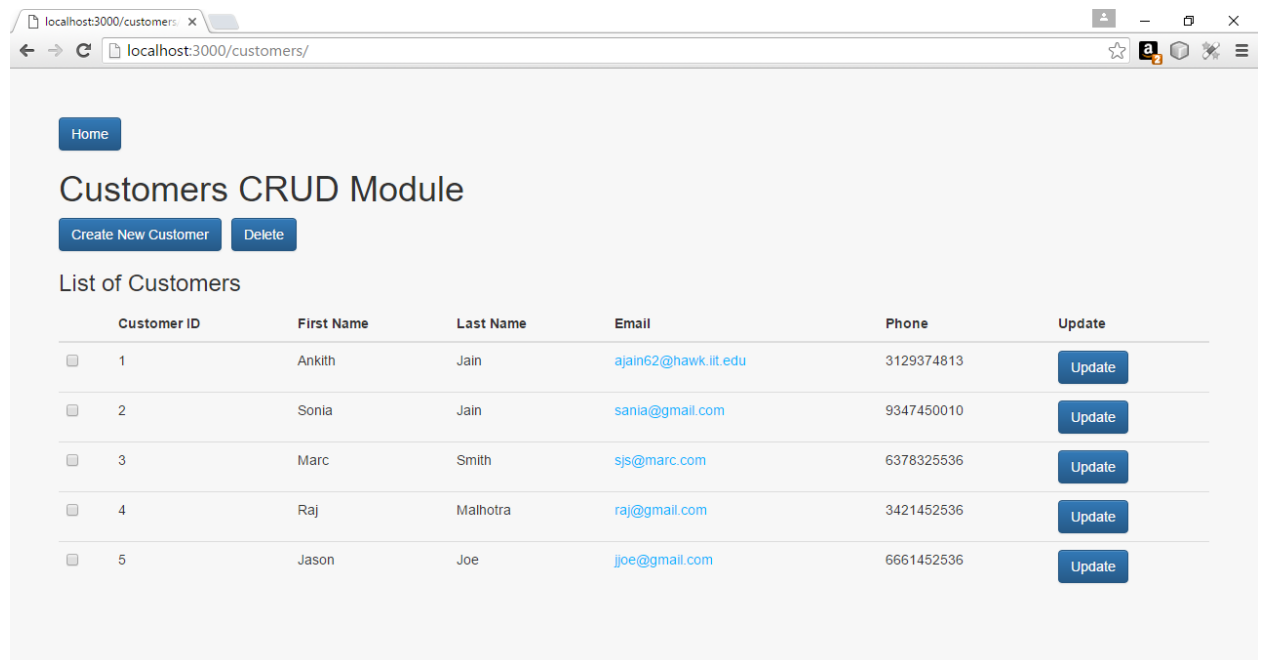
- PRODUCTS API DATA stored in JSON file with RESTful

URL <http://localhost:3000/api/products/>

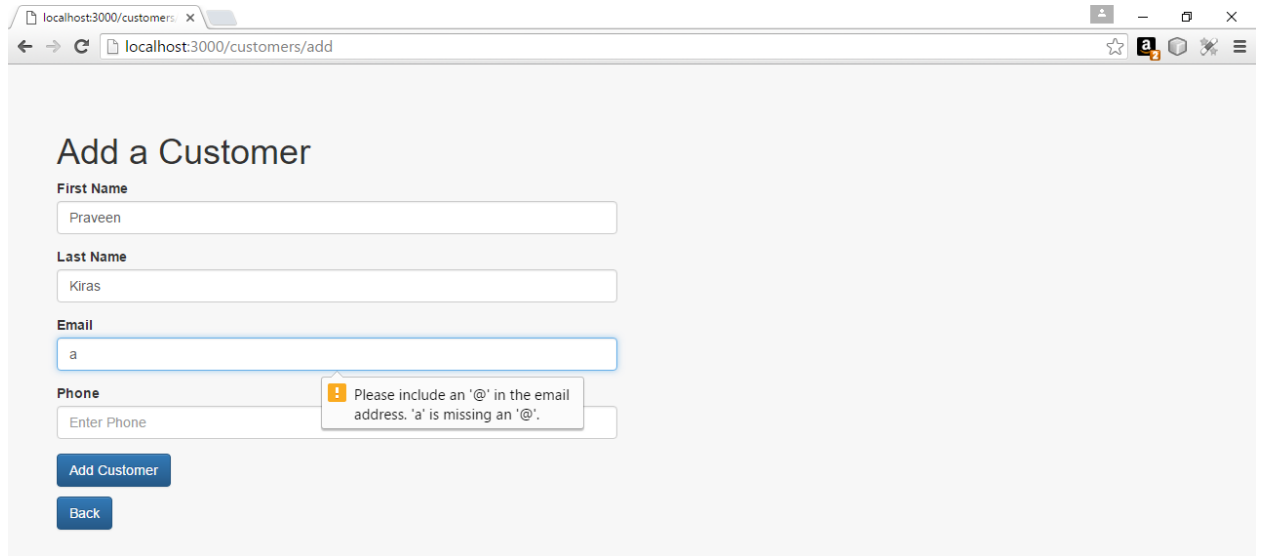


CUSTOMERS MODULE CRUD Working

- Customers CRUD Module Screen



- **CREATE CUSTOMER (with validations)**

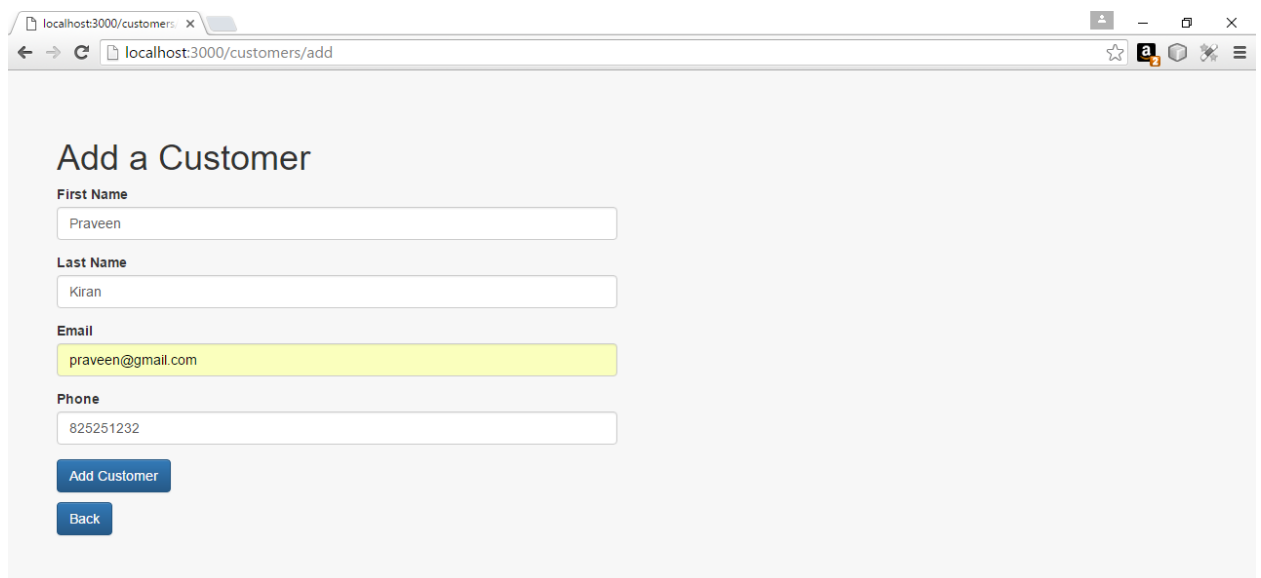


The screenshot shows a web browser window with the address bar displaying 'localhost:3000/customers/add'. The page title is 'Add a Customer'. The form contains the following fields and values:

- First Name:** Praveen
- Last Name:** Kiras
- Email:** a
- Phone:** Enter Phone

A validation message is displayed next to the Email field: "Please include an '@' in the email address. 'a' is missing an '@'." Below the form are two buttons: "Add Customer" and "Back".

Adding Customer with proper data

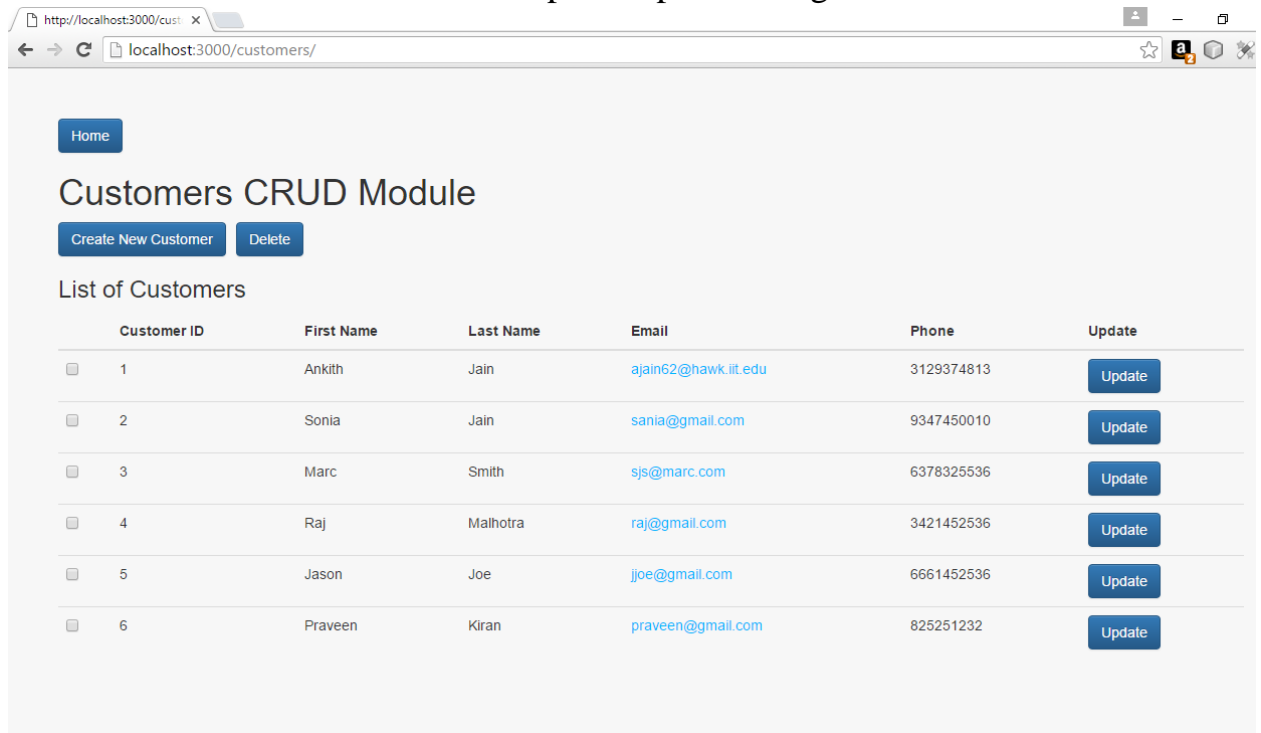


The screenshot shows the same web browser window with the 'Add a Customer' form. The fields are now filled with valid data:

- First Name:** Praveen
- Last Name:** Kiran
- Email:** praveen@gmail.com
- Phone:** 825251232

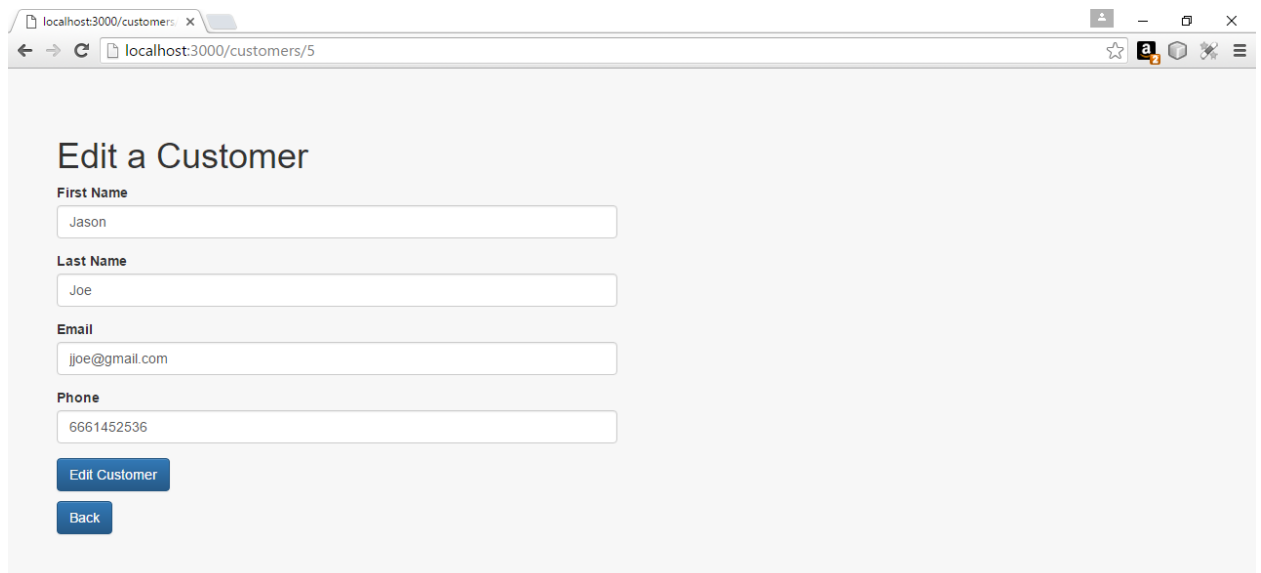
The "Add Customer" and "Back" buttons are still present at the bottom of the form.

- **VIEW / READ** Customers screen updated post adding new customer

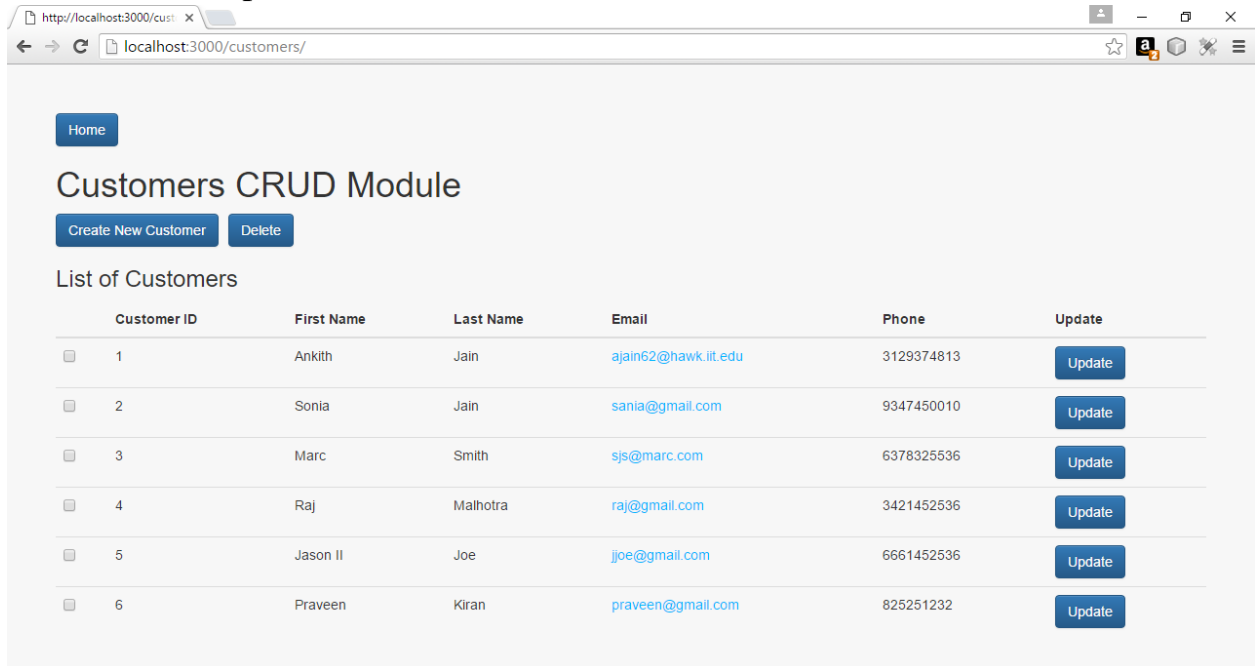


- **UPDATE / EDIT** a Customer

On clicking Jason contact number 5 update button and changing name to Jason II



- Contact Jason updated as Jason II in the view screen



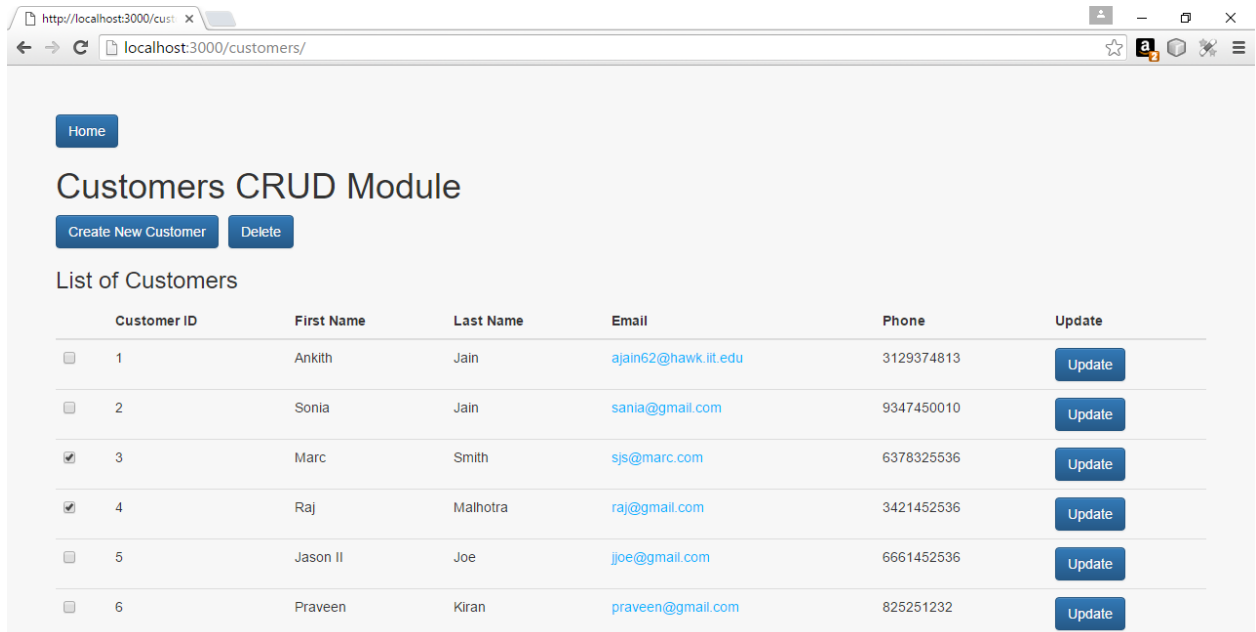
Customers CRUD Module

Create New Customer Delete

List of Customers

	Customer ID	First Name	Last Name	Email	Phone	Update
<input type="checkbox"/>	1	Ankith	Jain	ajain62@hawk.iit.edu	3129374813	<button>Update</button>
<input type="checkbox"/>	2	Sonia	Jain	sania@gmail.com	9347450010	<button>Update</button>
<input type="checkbox"/>	3	Marc	Smith	sjs@marc.com	6378325536	<button>Update</button>
<input type="checkbox"/>	4	Raj	Malhotra	raj@gmail.com	3421452536	<button>Update</button>
<input type="checkbox"/>	5	Jason II	Joe	jjoe@gmail.com	6661452536	<button>Update</button>
<input type="checkbox"/>	6	Praveen	Kiran	praveen@gmail.com	825251232	<button>Update</button>

- **DELETE ONE OR MULTIPLE CUSTOMERS**
Selecting check box of customer having id 3, 4 and pressing delete button



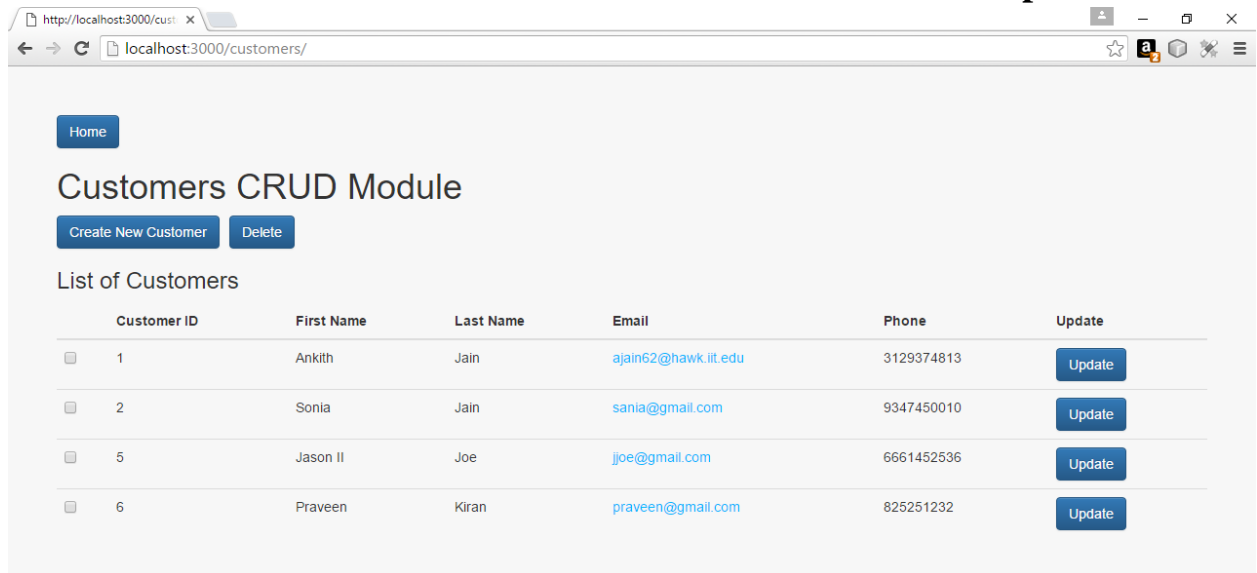
Customers CRUD Module

Create New Customer Delete

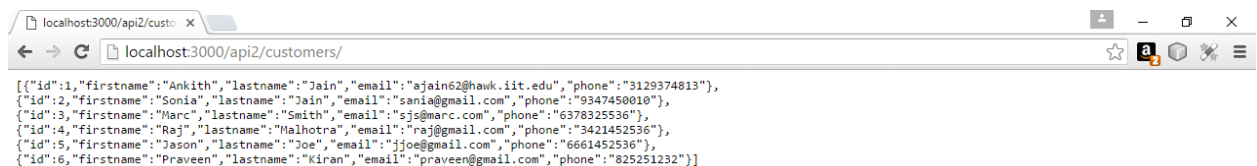
List of Customers

	Customer ID	First Name	Last Name	Email	Phone	Update
<input type="checkbox"/>	1	Ankith	Jain	ajain62@hawk.iit.edu	3129374813	<button>Update</button>
<input type="checkbox"/>	2	Sonia	Jain	sania@gmail.com	9347450010	<button>Update</button>
<input checked="" type="checkbox"/>	3	Marc	Smith	sjs@marc.com	6378325536	<button>Update</button>
<input checked="" type="checkbox"/>	4	Raj	Malhotra	raj@gmail.com	3421452536	<button>Update</button>
<input type="checkbox"/>	5	Jason II	Joe	jjoe@gmail.com	6661452536	<button>Update</button>
<input type="checkbox"/>	6	Praveen	Kiran	praveen@gmail.com	825251232	<button>Update</button>

- **DELETED CUSTOMERS with ID 3 and 4 and View screen is updated**



- **API DATA OF CUSTOMERS MODULE in JSON file with RESTful URL** - <http://localhost:3000/api2/customers/>



- **Tools and Technologies Used**
 1. WebStorm IDE 2016 1.1
 2. nodeJS, JavaScript, JSON API, jquery-v1.12.2, Jade, Bootstrap V3.3.6, HTML5, CSS3
 3. Node JS web framework express
 4. Computer Environment & OS – **Microsoft Windows 10**

- **Steps to run the project**

1. Pre-requisite : System should have latest NodeJS and NPM installed it
2. Switch command prompt terminal change your current directory to the folder having the project again62_A20354438_Project2 folder
3. Type npm start and hit enter
4. Once the server starts login to browser and paste the below URL and hit enter to see the application home page
<http://localhost:3000/>

- **Project Insights and Learning**

1. Tried the Node JS web application framework Express for first time and was pretty much excited about the ease in developing a CRUD based web application in a smarter way
2. Learnt handling of GET, POST, PUT and DELETE request from user which is well handled in this framework
3. Jade was something similar to HTML5 but was fun to learn

- **Issues faced**

Sometimes the application navigation is slow from one screen to other and shows err timed out page, waiting for a second is the key and the application is back to normal