Tutorial 1: Create a simple Node.JS application to implement a user management feature.

There are 3 parts to this tutorial which include the following:

1. Set up node.js and respective modules on your windows PC
2. Copy the source code from provided URL and make the necessary changes to perform user authentication using MySQL database
3. Extend the source code from part 2 to implement a feature to update the user info as part of a user management function.

Part 1

Set up your development environment on your windows PC.

Basic Setup Requirements

Install Node.js , MySQL, and Node.js respective modules.

- ## MySQL Server

  Install MySQL Server on your windows PC with the workbench option. You can search for the instructions youtube, etc.

- ## Node.js

  Install Node.js per instruction @ https://nodejs.org/en/

  For the following set up, launch powershell in windows and execute the following instructions

- ## Express - Install with command: `npm install express`.
- ## Express Sessions - Install with command: `npm install express-session`.
- ## MySQL for Node.js - Install with command: `npm install mysql`.
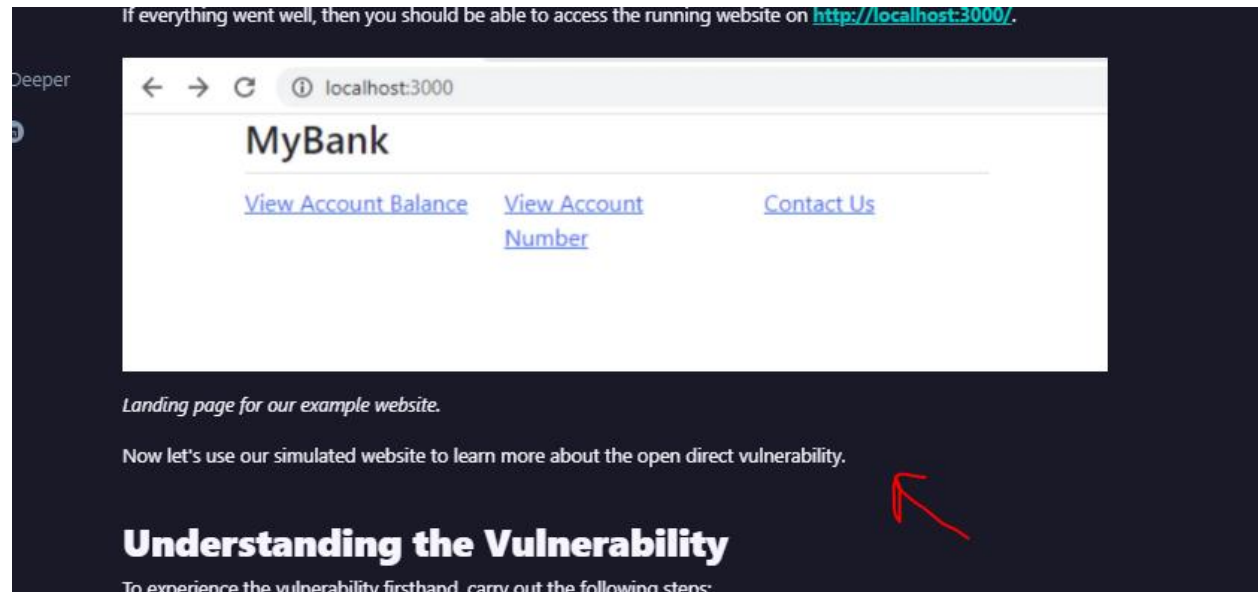
Create the base source code for the tutorial

Create the default source code using the following URL.

Note: Some of the installation could already be done in the setup as above.

You just need to follow the instruction to set up and create the files per instructed till the step indicated by the red arrow in the diagram below.

Part 2

Using the source code created in part 1, you are required to make changes to the source code in Node.js file. The current authentication is using the following code.

```
app.post('/login', (req, res) => {
  const {username, password} = req.body;
  if (username === 'bob' && password === '1234') {
    req.session.isLoggedIn = true;
    res.redirect(req.query.redirect_url ? req.query.redirect_url : '/');
  } else {
    res.render('login', {error: 'Username or password is incorrect'});
  }
});
```

You are required to change this hard coded username and password with the username and password maintain in MySQL database.

Please run the following database script using MySQL workbench to i) create the database (nodelogin), 2) create the table accounts, and 3) insert the username=test, password=test

```sql
CREATE DATABASE IF NOT EXISTS `nodelogin` DEFAULT CHARACTER SET utf8 COLLATE
utf8_general_ci;
USE `nodelogin`;


CREATE TABLE IF NOT EXISTS `accounts` (
    `id` int(11) NOT NULL,
    `username` varchar(50) NOT NULL,
    `password` varchar(255) NOT NULL,
    `email` varchar(100) NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=2 DEFAULT CHARSET=utf8;


INSERT INTO `accounts` (`id`, `username`, `password`, `email`) VALUES (1, 'test',
'test', 'test@test.com');


ALTER TABLE `accounts` ADD PRIMARY KEY (`id`);

ALTER TABLE `accounts` MODIFY `id` int(11) NOT NULL
AUTO_INCREMENT,AUTO_INCREMENT=2;
```

Part 3

Using the source code updated in part 2, you are required to implement a feature to allow the user to make changes only to the user's email. In short, you would need to showcase the following:

1. A screen to display the details of the user
2. A screen to allow the email to be updated
3. Repeat step 1 to show the email is updated.

Note: you are given the flexibility to design the screen and UI interface.