# Department of Computing

**CS-213: Advanced Programming**

**Class: BSCS 7AB**

# Lab 09: React JS

**Date: 14 November, 2019**

**Time: 10:00-01:00pm & 02:00-05:00pm**

**Submitted by:**

**Muhammad Ali Sadiq (210389)**

# Instructor: Dr. Sidra Sultana

**Lab Engineer: Ms. Ayesha Asif**

# 

# Lab 09: React JS

**Introduction**

**React.js** allows us to express how our app should look at any given point in time. React will automatically manage all UI updates when you’re underlying data changes.

**Objectives**

This lab will get students familiar with the ReactJS by creating a web application.

**Tools/Software Requirement**

ReactJs, ExpressJs

**Lab Tasks**

Build a simple shopping cart prototype that shows how React components can be used to build a friendly user experience with instant visual updates and scalable code in ecommerce applications.

**Features**

* Add and remove products from the floating cart
* Sort products by highest to lowest and lowest to highest price

**Hint:**

You can use React.js as the front-end framework, and a backend server built using Node.js and Express.js.

|  |
| --- |
| **Solution** |
| **Task Code:**  **Index.js (server)**  const express = require('express');  const path = require('path');  const port = process.env.PORT || 4000;  const app = express();  const volleyball = require('volleyball');  const bodyParser = require('body-parser');  var mongoose = require('mongoose');  var cors = require('cors');  // var mv = require('module-visualizer');  // mv.embed({});  var database = require('./database');  mongoose.connect(database.url);  const isDevelopment = process.argv.indexOf('--development') !== -1;  if (isDevelopment) {    const webpack = require('webpack');    const webpackConfig = require('../webpack.config');    const compiler = webpack(webpackConfig);    app.use(cors({ origin: '\*' }));    app.use(require('webpack-dev-middleware')(compiler, {      hot: true,      stats: {        colors: true      }    }));    app.use(require('webpack-hot-middleware')(compiler));  } else {    app.use(cors({ origin: '\*' }));    app.use(express.static(path.resolve(\_\_dirname, '../build')));    app.use(express.static(path.resolve(\_\_dirname, '../client')));    app.use(express.static(path.resolve(\_\_dirname, '../node\_modules')));  }  require('./routes.js')(app);  app.get('\*', function (request, response) {    response.sendFile(path.resolve(\_\_dirname, '../build/index.html'))  });  var appRoot = require('app-root-path');  app.listen(port);  console.log(appRoot + "  ========:::::::::::::::");  console.log(`server started on port: ${port}`);  App.js (client)  import React, { Component } from 'react';  import PropTypes from 'prop-types'  import './App.scss';  import './css/style.scss';  import './css/responsive.scss';  import \_ from 'underscore';  import axios from 'axios';  import { LazyLoad, forceCheck } from 'react-lazyload';  import PlaceholderComponent from './components/Placeholder';  import HeaderComponent from './components/Header.component';  import FooterComponent from './components/Footer.component';  import NavbarComponent from './components/Navbar';  import SidebarComponent from './components/Sidebar.component';  import AlertComponent from './components/Alert.component';  import ProductComponent from './components/Product';  import ProductsComponent from './components/Products.component';  import ProductDetailComponent from './components/Productdetails.component';  import HomeComponent from './components/Home.component';  import CartComponent from './components/Cart.component';  import ReactCSSTransitionGroup from 'react-addons-css-transition-group';  import { connect } from 'react-redux';  import { loadMoreItems, searchItems } from './actions';  import { BrowserRouter as Router, Route, Switch } from 'react-router-dom';  import MuiThemeProvider from 'material-ui/styles/MuiThemeProvider';  import getMuiTheme from 'material-ui/styles/getMuiTheme';  import darkBaseTheme from 'material-ui/styles/baseThemes/darkBaseTheme';  import lightBaseTheme from 'material-ui/styles/baseThemes/lightBaseTheme';  import { GridList, GridTile } from 'material-ui/GridList';  import Toggle from 'material-ui/Toggle';  class App extends React.Component {    constructor(props) {      super(props);      this.state = {        theme: darkBaseTheme      }      this.toggle = 1;      this.toggleTheme = this.toggleTheme.bind(this);    }    toggleTheme() {      if (this.toggle) {        this.toggle = 0;        this.setState({          theme: lightBaseTheme        });      } else {        this.toggle = 1;        this.setState({          theme: darkBaseTheme        });      }    }    render() {      return (        <MuiThemeProvider muiTheme={getMuiTheme(this.state.theme)}>          <Router>            <div className="body">              <HeaderComponent onClick={this.toggleTheme} />              <GridList cols={8}>                <div cols={2}>                  <SidebarComponent />                </div>                <div cols={6}>                  <Switch>                    <Route path="/" component={ProductsComponent} exact={true} />                    <Route path="/product-details/:id" component={ProductDetailComponent} />                  </Switch>                </div>              </GridList>            </div>          </Router>        </MuiThemeProvider>      );    }  }  export default App;  **Screenshot:** |

### Deliverable

Compile a single word document by filling in the solution part and submit this Word file on LMS. This lab grading policy is as follows: The lab is graded between 0 to 10 marks. The submitted solution can get a maximum of 5 marks. At the end of each lab or in the next lab, there will be a viva/quiz related to the tasks. You must show the implementation of the tasks in the designing tool, along with your complete Word document to get your work graded. You must also submit this Word document on the LMS. In case of any problems with submissions on LMS, submit your Lab assignments by emailing it to Ms. Ayesha Asif: [ayesha.asif@seecs.edu.pk](mailto:ayesha.asif@seecs.edu.pk).