4.2 RxJs

This section will guide you to:

* Understand how Observables can be used

This lab has four subsections, namely:

4.4.2 Installing dependencies

4.2.2 Setting up the project

4.2.3 Defining observables using TypeScript

4.2.4 Running the code and verifying how observables work

**Step 4.2.1:** Installing dependencies

* Open your terminal
* Run the command *mkdir rxjs-test* to create a new folder
* Once it is created, navigate inside the folder
* Run the command *npm init -y* to create a *package.json* file
* Run the command *npm install rxjs webpack webpack-dev-server typescript ts-loader* to install webpack, TypeScript, the corresponding TypeScript loader for Webpack, and the Webpack development web server
* Run the command *npm install webpack-cli --save-dev* to install the webpack cli
* Open the *package.json* file in your code editor
* Add the following line to the *scripts* field and save the file

**"start": "webpack-dev-server --mode development"**

**Step 4.2.2:** Setting up the project

* Navigate to the root project folder
* Create a file named *webpack.config.js*
* Enter the code below and save the file

**const path = require('path');**

**module.exports = {**

**entry: './src/index.ts',**

**devtool: 'inline-source-map',**

**module: {**

**rules: [**

**{**

**test: /\.tsx?$/,**

**use: 'ts-loader',**

**exclude: /node\_modules/**

**}**

**]**

**},**

**resolve: {**

**extensions: [ '.tsx', '.ts', '.js' ]**

**},**

**output: {**

**filename: 'bundle.js',**

**path: path.resolve(\_\_dirname, 'dist')**

**}**

**};**

* Create a file named *tsconfig.json*
* Enter the code below and save the file

**{**

**"compilerOptions": {**

**"outDir": "./dist/",**

**"sourceMap": true,**

**"noImplicitAny": true,**

**"module": "es6",**

**"moduleResolution": "node",**

**"target": "es6",**

**"allowJs": true,**

**"lib": [**

**"es2017",**

**"dom"**

**]**

**}**

**}**

* Create a file named *index.html*
* Enter the code below and save the file

**<!DOCTYPE html>**

**<html lang="en">**

**<head>**

**<meta charset="UTF-8">**

**<meta name="viewport" content="width=device-width, initial-scale=1.0">**

**<meta http-equiv="X-UA-Compatible" content="ie=edge">**

**<title>RxJS Demo</title>**

**<style>**

**body { font-family: 'Arial'; background: lightgray }**

**ul { list-style-type: none; padding: 20px; }**

**li { padding: 15px; background: lightcoral; margin-bottom: 10px; }**

**</style>**

**</head>**

**<body>**

**<h1>RxJS Example</h1>**

**<div>**

**<ul id="list"></ul>**

**</div>**

**<script src="/bundle.js"></script>**

**</body>**

**</html>**

**Step 4.2.3:** Defining observables using TypeScript

* Navigate to the root project folder
* Create a new folder inside the project folder named *src*
* Create a new file named index.ts
* Enter the code below and save the file

**import { Observable } from 'rxjs';**

**var observable = Observable.create((observer:any) => {**

**observer.next('Hello World!');**

**observer.next('Hello Again!');**

**observer.complete();**

**observer.next('Bye');**

**})**

**observable.subscribe(**

**(x:any) => logItem(x),**

**(error: any) => logItem ('Error: ' + error),**

**() => logItem('Completed')**

**);**

**function logItem(val:any) {**

**var node = document.createElement("li");**

**var textnode = document.createTextNode(val);**

**node.appendChild(textnode);**

**document.getElementById("list").appendChild(node);**

**}**

**Step 4.2.4:** Running the code and verifying how observables work

* Navigate to the project root folder from the terminal
* Run the command, *npm run start*
* The app will now open at port 8080 as shown below

