



Full-stack Application Development

using ReactJS, Express and TypeScript

About me



Trayan Iliev

- CEO of IPT – Intellectual Products & Technologies
- Oracle® certified programmer 15+ Y
- end-to-end reactive fullstack apps with Java, ES6/7, TypeScript, Angular, React and Vue.js
- 12+ years IT trainer
- Voxxed Days, jPrime, jProfessionals, BGOUG, BGJUG, DEV.BG speaker
- Organizer RoboLearn hackathons and IoT enthusiast

The Course Main Goals

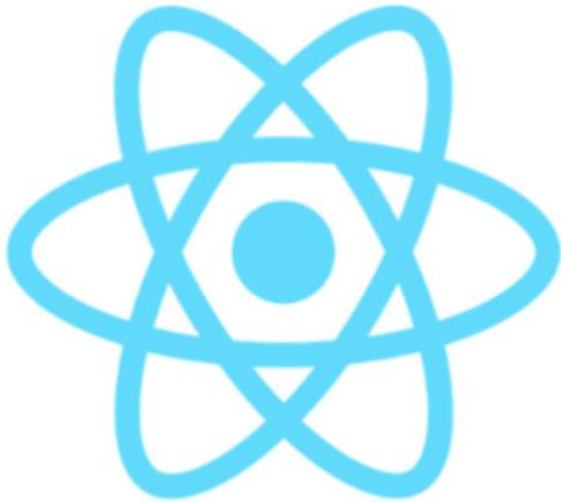
The course provides in-depth study of state-of-the-art *ECMAScript* and *ReactJS* platform for rapid development of modern, component-based, mobile-first, responsive web applications, that are easy to extend and maintain.

Time Schedule

- 12.40 – 14.10 – Block 1
- 14.10 – 14.20 – Break
- 14.20 – 15.50 – Block 2
- 15.50 – 16.00 – Break
- 16.00 – 18.00 (17.00, on 24.09, 28.09 and 01.10) – Block 3

Where to Find The Code and Materials?

<https://github.com/iproduct/fullstack-typescript-react>



Why to Attend This Training?

What will you learn?

You Will Learn How To:

- Develop ECMAScript projects – front-end with [React + Redux](#), using [NodeJS](#) development platform;
- Build reusable [React components](#),
- Integrate them in a full-stack project using [REST/JSON APIs](#);
- Use React Router v5 to develop [single page apps \(SPA\)](#)
- Employ [Redux](#) for scalable and predictable application state management
- Test and debug [React](#) applications

Course Schedule (1)

- Introduction to HTML5, CSS and JavaScript – 6h
- HTTP Client and Fetch APIs – 3 h
- Novelties in ES6+ – 3 h
- Single Page Applications (SPA) development with ReactJS and ECMAScript – 1h
- Building React components and applications – 3 h
- JSX in depth – 4h
- Working with forms – 2h
- Components composition in depth – 4h
- New lifecycle methods – 2h

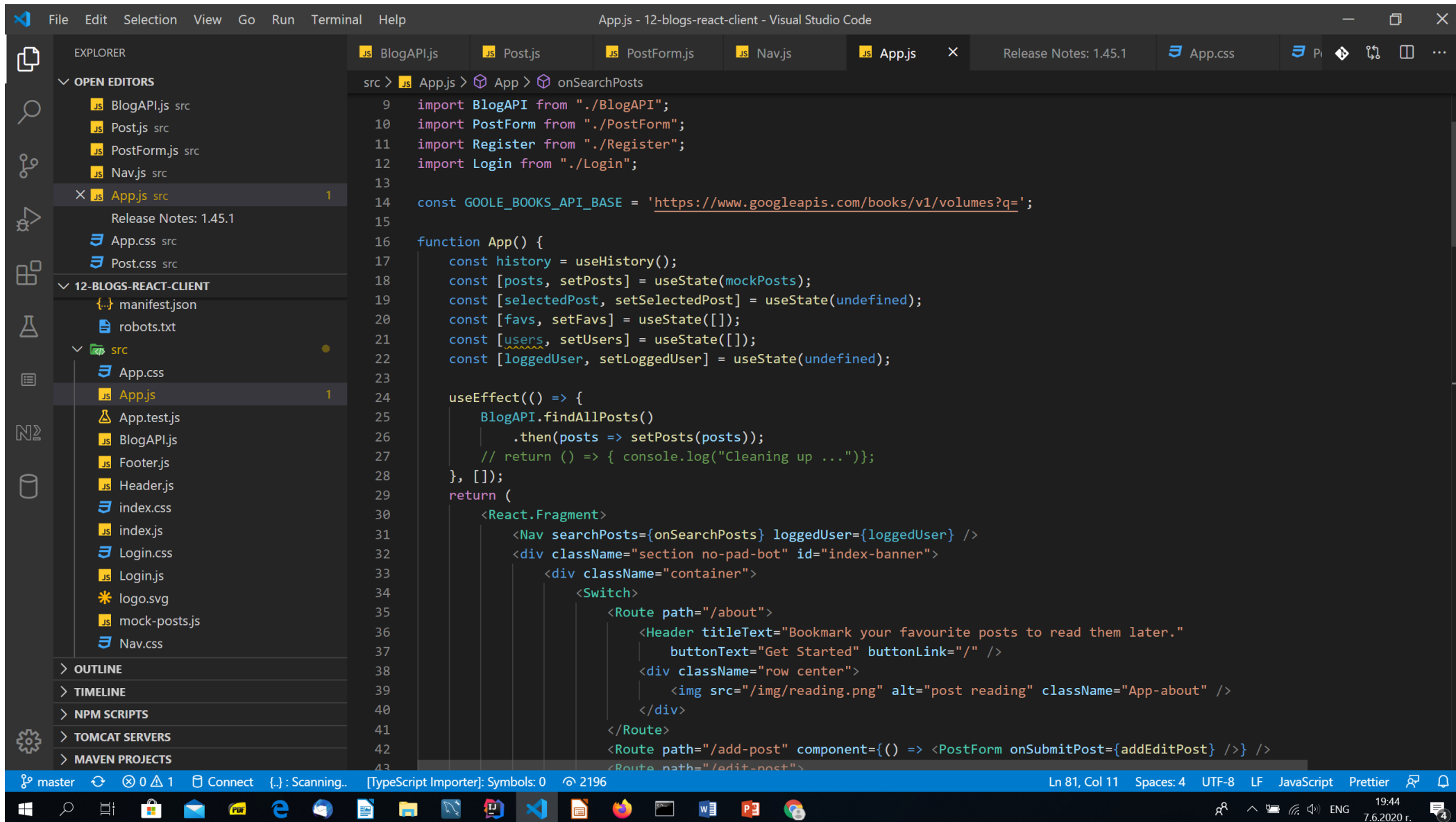
Course Schedule (2)

- Building purely functional components using new Hooks API – 6 h
- Other novelties in React 16+ - 1h
- Dependency Injection (DI) of custom application services using React Context – 2 h
- SPA routing using React Router v5 – 3 h
- Testing React Components using Jest and Enzyme – 2h
- Using Component Libraries: Material-UI – 2h
- Redux – predictable state container for JavaScript apps – 3h

Software to Install

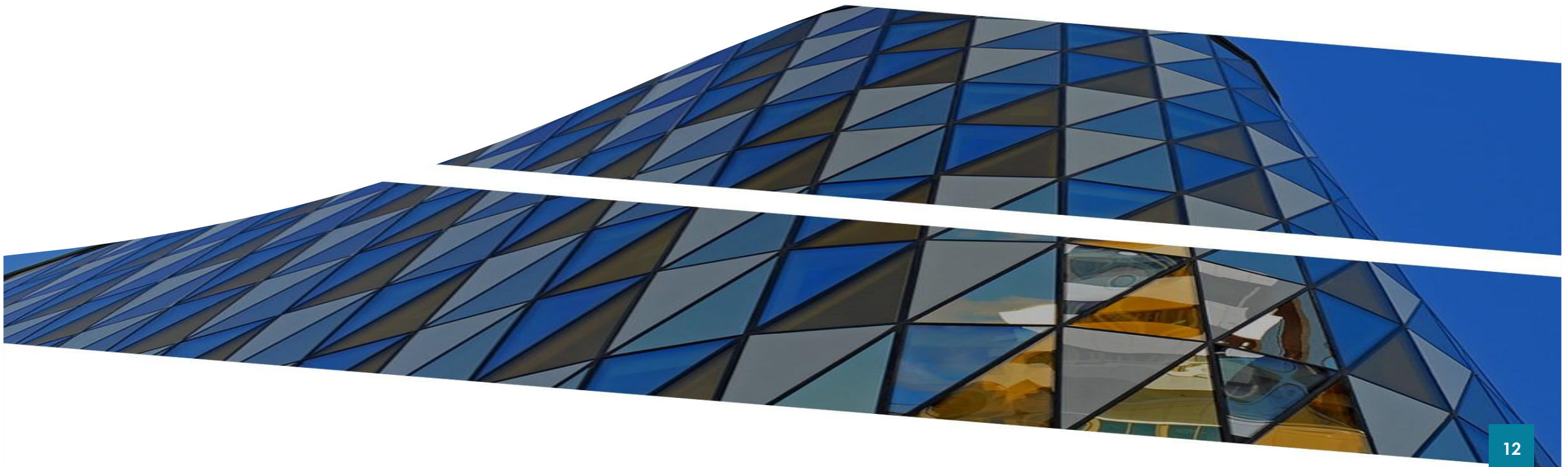
- NodeJS - <https://nodejs.org/en/download/current/>
- Visual Studio Code - <https://code.visualstudio.com/download>
- MongoDB Community Server -
<https://www.mongodb.com/try/download/community>
Don't forget to install MongoDB Compass (GUI) too.
- MySQL Community Server v8 - <https://dev.mysql.com/downloads/mysql/>
- MySQL Workbench - <https://dev.mysql.com/downloads/workbench/>
- Yarn package manager for NodeJS -
<https://classic.yarnpkg.com/en/docs/install/#windows-stable>
- Chrome Web Browser

Visual Studio Code



Introduction to HTML5, CSS & JavaScript

Web design technologies recap



Introduction to HTML 5

Base tags, semantic markup, styling



We will follow the [HTML 5 Tutorials at W3Schools:](#)

- HTML Elements
- Styles and formatting
- Integration with CSS
- Basic building blocks: links, images, tables, lists
- Block and inline elements
- Ids and classes. Basic CSS selectors
- Adding behaviour with JavaScript
- Basic layouts with HTML and CSS
- Semantic markup

We will follow the [HTML 5 Tutorials at W3Schools:](#)

- Charsets and URL encoding
- HTML forms and validation
- HTML Graphics with Canvas and SVG
- HTML 5 Media API - <audio>, <video>
- HTML 5 Geolocation API
- Drag and drop support
- Web Storage API – localStorage and sessionStorage
- Web Workers
- Server Sent Events (SSE)

Quiz Time

<https://www.w3schools.com/quiztest/quiztest.asp?qtest=HTML>



Exercises

<https://www.w3schools.com/html/exercise.asp>



Introduction to CSS

Selectors, positioning, backgrounds, box model and layout, grid system, Flexbox



We will follow the [CSS Tutorials at W3Schools:](#)

- Selectors
- Positioning
- Colours
- Gradients
- Backgrounds
- Borders
- Box model
- Text and fonts
- Horizontal and vertical alignment

We will follow the [CSS Tutorials at W3Schools:](#)

- Complex selectors
- Pseudo-classes and pseudo-elements
- How-to's: navigation bar, dropdowns, gallery
- Forms styling
- Counters
- CSS units
- Selectors specificity
- Web page layout using CSS floating
- Animations and transforms. Styling images

We will follow the CSS Tutorials at W3Schools:

- CSS variables (custom properties) - https://developer.mozilla.org/en-US/docs/Web/CSS/Using_CSS_custom_properties
- calc() Function - <https://developer.mozilla.org/en-US/docs/Web/CSS/calc>, <https://css-tricks.com/creating-color-themes-with-custom-properties-hsl-and-a-little-calc/>
- Responsive web design (RWD)
- CSS @media rule and media queries
- Flexbox - <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>
- Responsive page layout using Flexbox
- CSS Grid Layout - <https://css-tricks.com/snippets/css/complete-guide-grid/>, <https://css-tricks.com/auto-sizing-columns-css-grid-auto-fill-vs-auto-fit/>

Quiz Time

https://www.w3schools.com/css/css_quiz.asp



Exercises

<https://www.w3schools.com/css/exercise.asp>



Homework 1: MyBlogs - Page Layouts

<https://github.com/iproduct/fullstack-typescript-react/wiki/Homeworks>



Thank's for Your Attention!



Trayan Iliev

IPT – Intellectual Products & Technologies

<http://iproduct.org/>

<https://github.com/iproduct>

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