ReactJS ver. 16.8 Training

ReactJS is a high-performance library for designing rapidly responsive user interfaces and developed by Facebook and Instagram teams. It's the view layer for web and mobile applications with reusable UI components.

Course Objectives

This course imparts practical training to web developers on the skills needed to implement and utilize ReactJS ver.16.8 in the client side web application development.

Prerequisites

The participants must be skilled in web application development with basic knowledge on JavaScript and CSS is mandatory. Having knowledge/work experience with Angular or earlier versions of React is useful.

Target audience

Maximum 20 participants who want to learn to apply the ReactJS in web applications.

Teaching Methodology

The theoretical topics are discussed interactively with the aid of slides and documents shared and practical coverage is done with practical demonstrations for each topic and hands on practical exercises which strengthens the concepts learned.
This course has more emphasis on practical demonstrations and exercises.

Course Material

Presentations, documents and sample programs with exercise case studies will be shared with the participants in soft format.

Class Room Setup

The Intel dual core compatible 64 bit CPU with minimum 4GB RAM and 220GB HDD with Windows 7/8/10 64 bit and IE11.0 onwards, WinZip, Adobe pdf reader, Firefox Mozilla latest with firebug add-on configured, Google Chrome latest browser, NODE JS ver. v8.11.3 or higher and Microsoft VS Code editor to be installed.

Live internet connection with reasonable speed and download permissions should be available in the training room.
The participants must have admin rights on their systems.

Training Duration

2 days.

Course Plan

Day1

The ReactJS Introduction and setup

- ReactJS Architecture and Features
- Node JS Environment for React build
- NPM and NPX

- React JS Transpilers and package utilities
- VS Code Editor and Web Server
- The create-react-app to create new react app
- The react-scripts environment
- The create-react-component to add new react component

React Concepts

- React API
- JSX usage
- Component and rendering
- Application state and properties
- Context and Refs
- Hooks
- Redux for State management
- React Development Tools Chrome Extension
- Redux Dev Tools
- Virtual DOM
- Server side rendering
- Packaging the React Application

Getting Started with React

- Create New React app with create-react-app
- The Application structure
- Add new component
- React Class and Component
- Manage dependencies with NPM
- Build options with react-scripts
- Debugging the ReactJS application
- Build for production

React Components

- Component structure
- Pass properties to components
- Initializing States from properties
- The stateless and Stateful React components
- Component Events
- Communication Between Components
- The DOM Manipulation
- Virtual DOM
- Components with ES6 arrow functions
- Component Life-Cycle
- Mounting and Un-mounting
- Update application state and share it
- Component Composition

Data Binding

- The One-Way data-binding in React
- Two-Way Data Binding with react-link
- How it Works
- React data flow

Day2

Single-page web application and routing

- Single Page Architecture and Routing
- React Router
- Configure URLs
- Define components for route
- The react-router-link component

Working with Forms

- Controlled Components
- Uncontrolled Components
- Using refs and context

Redux with React

- Unidirectional data flow
- Redux architecture
- Redux components
  - Store
  - Action
  - Reducer
- Application state management with Redux
- State subscriber
- Redux with React components
- React-Redux binding usage
- Connecting to store
- Sharing the state across components
- React-Redux Middleware
- Integration with REST API

React advanced features

- React Hooks and Refs
- Render dynamic imports with lazy()
- Error handling with Error Boundary
- Update state with getDerivedStateFromProps
- StrictMode Component
- Applying CSS Styles
- Server side rendering overview

****