

# Vue.js Fundamentals

Course #: VU-100 Duration: 4 days

#### Prerequisites

Students should have a good understanding of HTML and CSS and be experienced JavaScript developers, with an advanced understanding of JavaScript objects and functions as first class citizens.

#### Details

Vue.js is the progressive JavaScript framework that is rapidly gaining in popularity in the web community. It can be incrementally adopted, scaling easily from being used as a library to add small functionality to web pages to being used as a framework for a complete single-page-application. Vue.js is also easily integrated with other JavaScript libraries and frameworks.

In this course you will start out working with Vue.js to add small bits of functionality to a page. You will then build a complete front-end web application using Vue.js, with routing and animation, interacting with a web API and implementing the Redux state management pattern using Vuex.

#### Software Needed

Text Editor, Node.js and a current web browser

## Outline

#### Vue.js Fundamentals

- Introduction
  - What is Vue.js?
  - · How to get Vue.js
  - Hello Vue.js World
  - Data and Methods
- Interacting with the DOM
  - Vue.js Virtual DOM
  - Interpolation
  - Methods
  - Interpolation and HTML Encoding
  - Event Binding, Arguments, and Modifiers
- Data and Event Binding
  - JavaScript Code in the Template

- 2-way Data Binding
- Computed Properties
- Watchers
- Binding HTML Classes
- Binding Style Properties

## • Conditionals and Iterations

- Built-in Conditional Directives
- Built-in Looping Directives

# • The Vue.js Instance

- Configuration Options
- Selector Limitations
- Using Components
- Template Limitations
- Lifecycle Hooks

## • Using the Vue CLI

- The Development Environment
- $\circ \ \ \, {\rm The \, Development \, Work flow}$
- Creating Projects Using Vue CLI
- Webpack Template Overview
- Vue Files and render
- Using Vue CLI to Build for Production

## • Creating Components

- Component Syntax
- Data and Template Syntax
- Registering a Component Locally
- Root Component
- File Naming Conventions (and Folder Conventions)
- Selector Naming (Hyphenated vs. Camel-Case)
- Component Styles and Scoping

# Communicating Between Components

- props
- Emitting Events
- Unidirectional Data Flow
- Callback Functions
- Vue.js Instance as Event Bus

# Advanced Component Usage

- Data Sharing Review
  - Content Sharing with Slots
  - Multiple, Named Slots
  - Default Slots and Default Content
  - Dynamic Components

## • Working with Forms

- Input Form Binding
- Input Modifiers
- Checkboxes and Arrays
- Radio Buttons
- Dropdown Lists
- Custom Controls
- Submitting a Form
- Directives
  - Built-in Directives
  - Creating Custom Directives
  - Directive Hook Functions
  - Passing Values to Custom Directives
  - Passing Arguments to Custom Directives
  - Creating Modifiers for Custom Directives

## • Filters and Mixins

- Custom Filter
- Computed Property as a Filter Alternative
- Mixins

- How Mixins Get Merged
- The Global Mixin Antipattern
- Mixins and Scope

## • Transitions and Animations

- Transition Element
- CSS CLasses Applied
- Animating on Load
- Using Animation Libraries
- TRansitioning Between Elements
- Transition JavaScript Hooks
- Animating Dynamic Components
- Animating Multiple Elements
- Working with HTTP APIs
  - Installing Axios
  - HTTP Verb Methods
  - GETting Data
  - Configuring Axios Globally
  - Using Interceptors
  - Custom Axios Instances

#### • Vue Routing

- Setting up routes
- Displaying Components with router-view
- Router Modes
- Creating Router Links
- Navigating from Code
- Using Route Parameters
- Child Routes
- Using Named Routes
- Using Multiple RouterViews
- Redirecting and Catch-all Routes
- Animating Router Transitions
- Route Guards
- Lazy-Loading Route Components

# • Managing State with VuEx

- Installing vuex
- Central Store for State
- Using Getters for State
- Committing Mutations
- Creating Actions
- Passing Payloads
- Vuex and 2-way Data Binding
- Modularize State
- Best Practices
- Deployment
  - Preparing for Deployment
  - Creating Deployment Build
  - Deploying an App