



INTRODUCTION TO VUE.JS

ROOM WITH A VUE



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ABOUT ME

- ▶ Me: Zachary Klein
 - ▶ Based in St Louis, MO
 - ▶ Web dev since 2010
 - ▶ Work for Object Computing, Inc
 - ▶ Specialize in [Grails](#) & frontend development



ABOUT US

- ▶ My company: Object Computing, Inc
 - ▶ Based in St Louis, MO
 - ▶ Consulting and training provider (24+ years experience)
 - ▶ Corporate sponsor to the **Grails** framework and Groovy language
- ▶ <https://objectcomputing.com>




ABOUT US

- ▶ **Grails**: A dynamic, flexible web application framework
- ▶ Built on top of **Spring Boot**
- ▶ First-class support for REST APIs
- ▶ **Profiles** for building applications using React, Angular, Webpack, and RESTful backends
- ▶ Powerful persistence layer with **GORM** - supports Hibernate, MongoDB, Neo4J, GraphQL, and more
- ▶ Rich plugin ecosystem: 200+ plugins and growing
- ▶ Active community and commercial support available.
- ▶ <https://grails.org>



[HTTP://START.GRAILS.ORG](http://start.grails.org)

GRAILS APPLICATION FORGE



Project Type:

Application

Name Your Application:

myapp

Version:

3.3.1

Profile:

web

Pick Your Features

☒ asset-pipeline

☒ events

☒ gsp

☐ hibernate4

☒ hibernate5

☐ json-views

☐ less-asset-pipeline

☐ markup-views

☐ mongodb

☐ neo4j

☐ rx-mongodb

Generate Project

OR

Execute the following command

```
curl -O start.grails.org/myapp.zip
```

API


The Grails Application Forge includes an API which may be invoked using any http client, like curl for example.

Create An Application Using The Latest Release

```
curl -O start.grails.org/myProject.zip
```

HTTP://GUIDES.GRAILS.ORG

LEARNING



LATEST GUIDES

GRAILS MULTI-DATASOURCE

Oct 10, 2017 - Advanced Grails

Read More

GRAILS & SOAP

Oct 03, 2017 - Advanced Grails

Read More

QUERYING THE DATABASE USING GORM DYNAMIC FINDERS

Sep 25, 2017 - GORM

Read More

CONFIGURE DATASOURCES DYNAMICALLY WHILE USING DATABASE MULTI-TENANCY

Sep 18, 2017 - Advanced Grails

Read More

CUSTOM TENANT RESOLVER BY JWT

Sep 11, 2017 - Advanced Grails

Read More

SEARCH

GRAILS TRAINING

Course	Date(s)	Instructor(s)	Hour(s)
Web Development with Grails 3	Dec 6 - Dec 8	Brown	18
Grails and React	Dec 14 - Dec 15	Klein	6
Intro to Grails for Spring Developers	Jan 18 - Jan 19	Brown	6

GUIDES BY TAG

ACTIVATOR

AI

ANDROID

ANGULAR

ANGULARJS

API-VERSIONING

APPLE-TV

ASYNC

AUTHENTICATION

AWS

BACKEND

BINDING

CHROME

CLOUD-SQL

CLOUD-STORAGE

CLOVER

CODE-COVERAGE

COGNARC

COMMAND-OBJECT

COMMIT-INFO

CONFIGURATION

CONVERSATION

CORS

DATABASE

DEPLOYMENT

ERRAT2

EVENTS

FIREFOX

FRAMEWORK

FRONTEND

FUNCTIONAL-TEST

GCS

GIT

GOOGLE-APP-ENGINE

GOOGLE-HOME

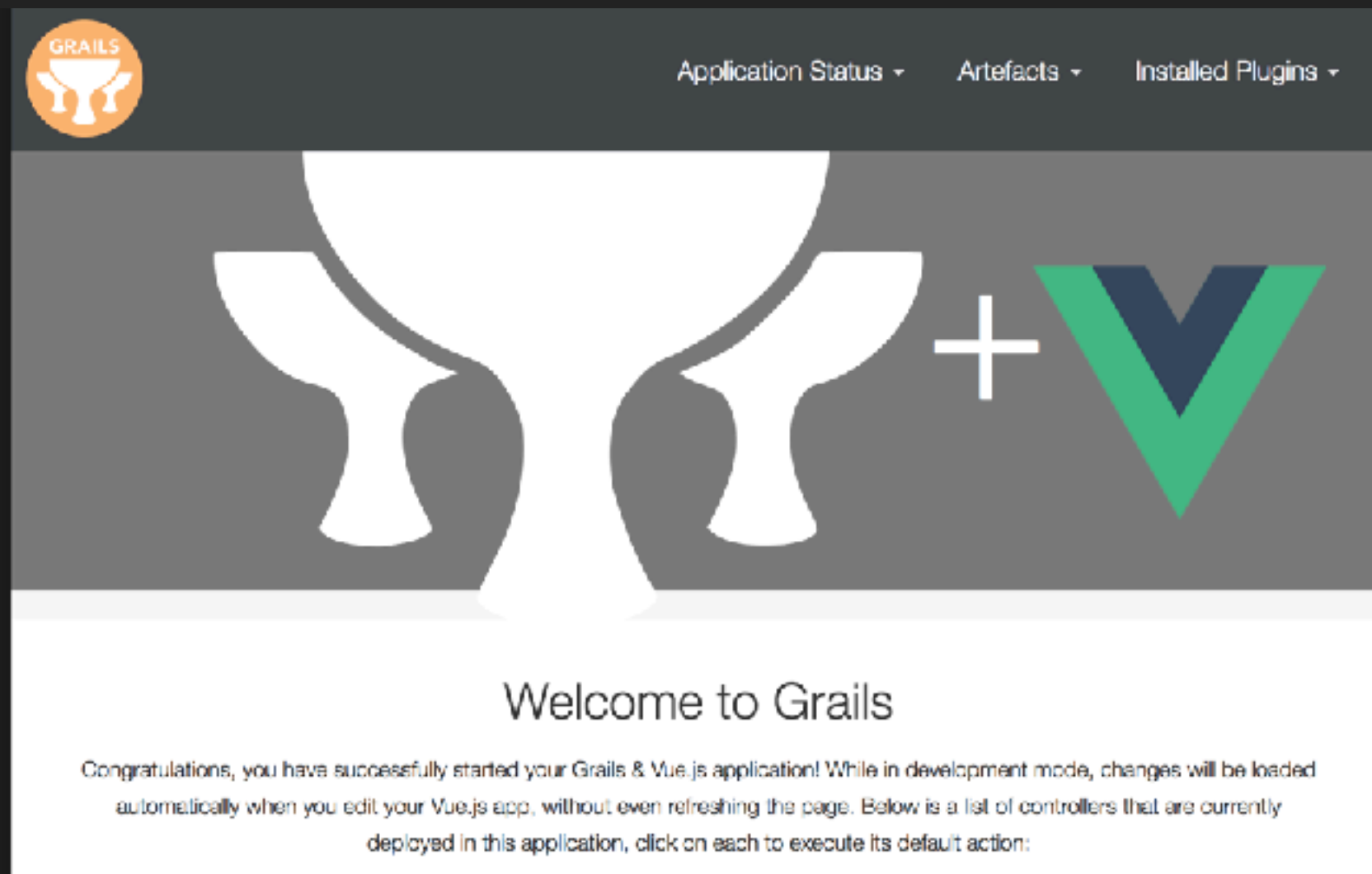
GORM

GORM-EVENT

GRADLE

VUE PROFILE FOR GRAILS

<https://grails-profiles.github.io/vue/latest/guide/index.html>



- ~ `grails create-app myapp -profile vue` //Grails 3.3.3 =<
- ~ `curl -O start.grails.org/myapp.zip -d profile=vue`

OVERVIEW

- ▶ Introduction to Vue.js
- ▶ Building an app
- ▶ Ecosystem
- ▶ Comparison

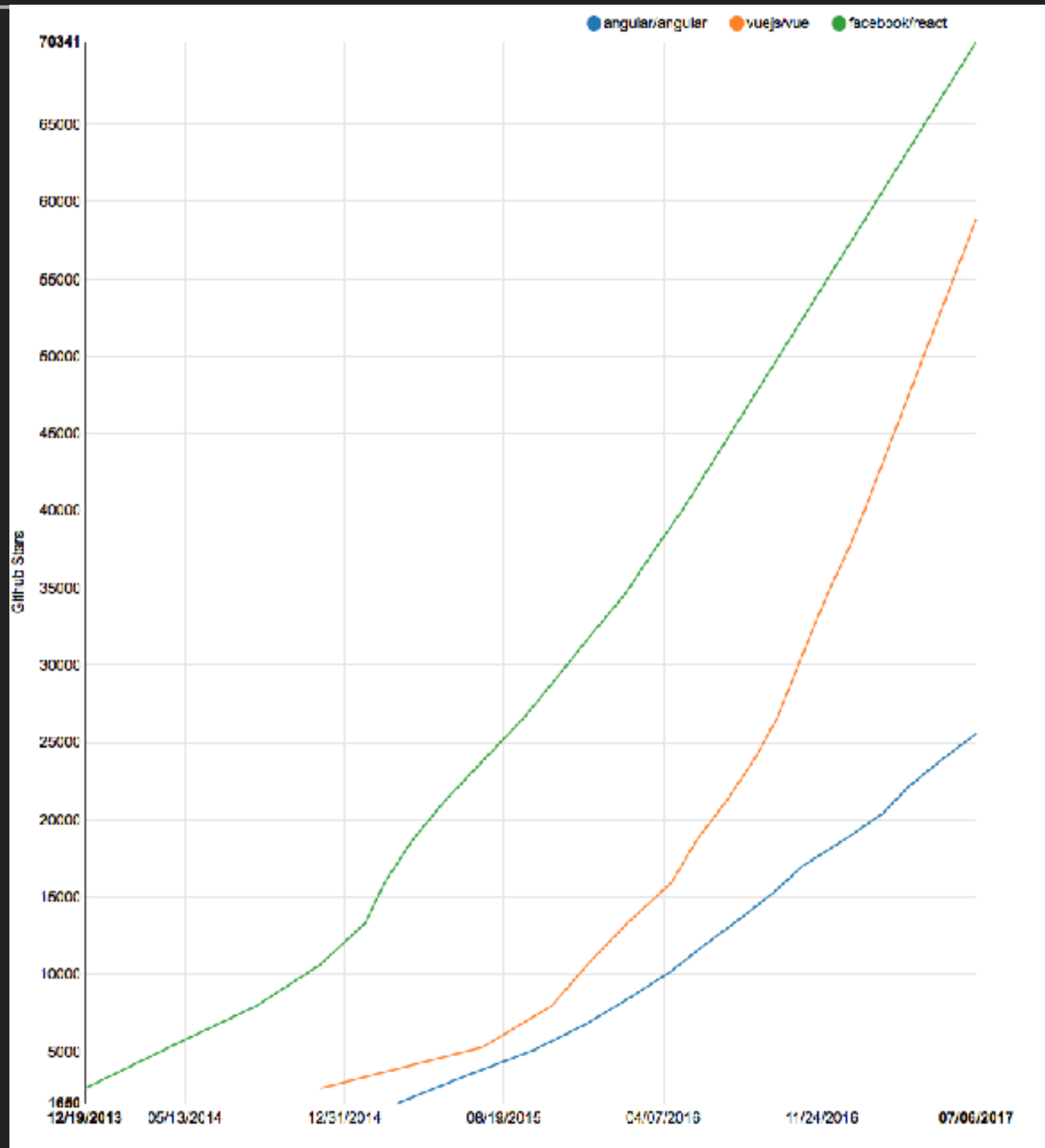


INTRODUCTION TO VUE.JS

- ▶ Seriously, *another* JavaScript framework?
- ▶ What's special about Vue?
- ▶ Trends and stars



ROOM WITH A VUE



<http://www.timqian.com/star-history/#facebook/react&angular/angular&vuejs/vue>

WHAT IS VUE?

- ▶ Released in 2014
- ▶ Current major release (2.x) in 2016
- ▶ Evan You (inventor & core developer) comes from a Google/Angular background
- ▶ Balances between the power/complexity of Angular and the simplicity/focus of React



WHAT IS VUE?

- ▶ Small, focused view library
- ▶ Performant*
- ▶ Full-featured API
- ▶ Mature* ecosystem
- ▶ Powerful devtools
- ▶ Active community



GETTING STARTED

- ▶ Install from NPM
- ▶ Install vue-cli
 - ▶ `vue init [template] my-app`
 - ▶ Multiple templates available - simple, webpack-simple, & webpack



GETTING STARTED

```
<script src="https://unpkg.com/vue"></script>
```

```
<div id="app">  
  {{ text }}  
</div>
```

```
<script>  
  var app = new Vue({  
    el: '#app',  
    data: {  
      text: 'Hello World!'  
    }  
  })  
</script>
```



THE VUE INSTANCE

- ▶ Ground zero for a Vue.js app
- ▶ Accepts an object containing the Vue Instance definition
- ▶ Most definitions shared between instance and **components**

Vue Instance

```
new Vue({  
  el: '#app',  
  data: {...},  
  computed: {...},  
  methods: {...},  
  template: '<App/>'  
})
```

Vue Component

```
export default {  
  name: 'component',  
  data () { return {...} },  
  name: 'component',  
  methods: {...}  
}
```

THE VUE INSTANCE

▶ Element

- ▶ Specifies the DOM element where the app will be rendered

```
new Vue({  
  el: '#app'  
})
```

```
<div id="app"></div>
```


THE VUE INSTANCE

▶ Data

- ▶ An object describing the state of the app/component
- ▶ Properties are subject to reactive rendering within the app/component (one-way & two-way)
- ▶ New properties can be added, but will not be subject to reactive behavior
- ▶ Components must use a **data()** function that returns state

THE VUE INSTANCE

► Data

Vue Instance

```
new Vue({  
  data: {  
    myValue: 3,  
    myObject: {  
      prop: 'abc'  
    }  
  }  
})
```

Vue Component

```
export default {  
  data () {  
    return {  
      myValue: 3,  
      myObject: {  
        prop: 'abc'  
      }  
    }  
  }  
}
```

THE VUE INSTANCE

- ▶ Methods
 - ▶ Arbitrary functions
 - ▶ Can access/manipulate data
 - ▶ Can be called from templates, other methods

```
methods: {  
  toggleLinks: function () {  
    this.showLinks = !this.showLinks  
  }  
},
```

THE VUE INSTANCE

- ▶ Computed Properties
 - ▶ Functions that return dynamic values
 - ▶ Accessed from templates & methods as state properties
 - ▶ Cached - only recomputed if their input data changes

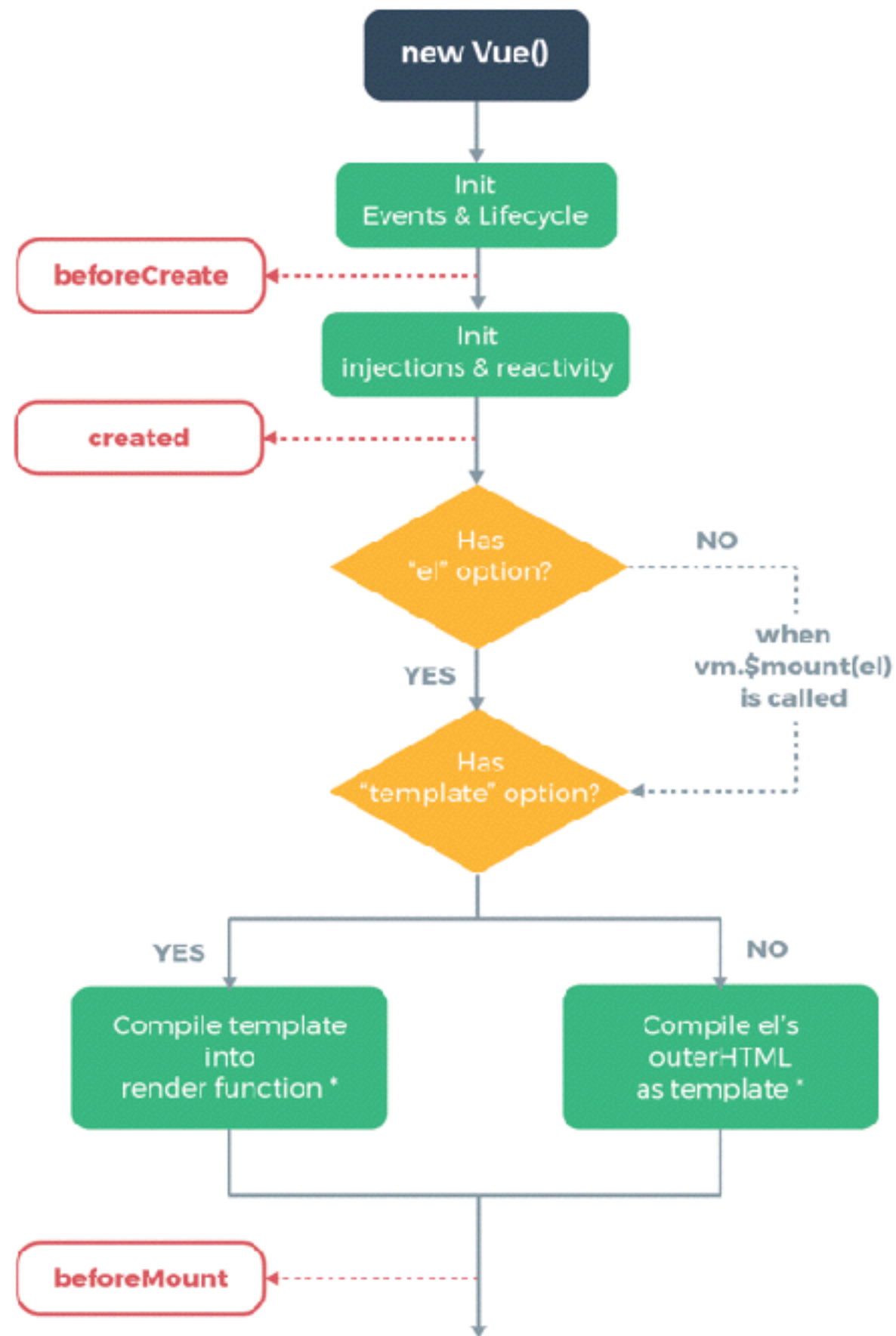
THE VUE INSTANCE

▶ Lifecycle Hooks

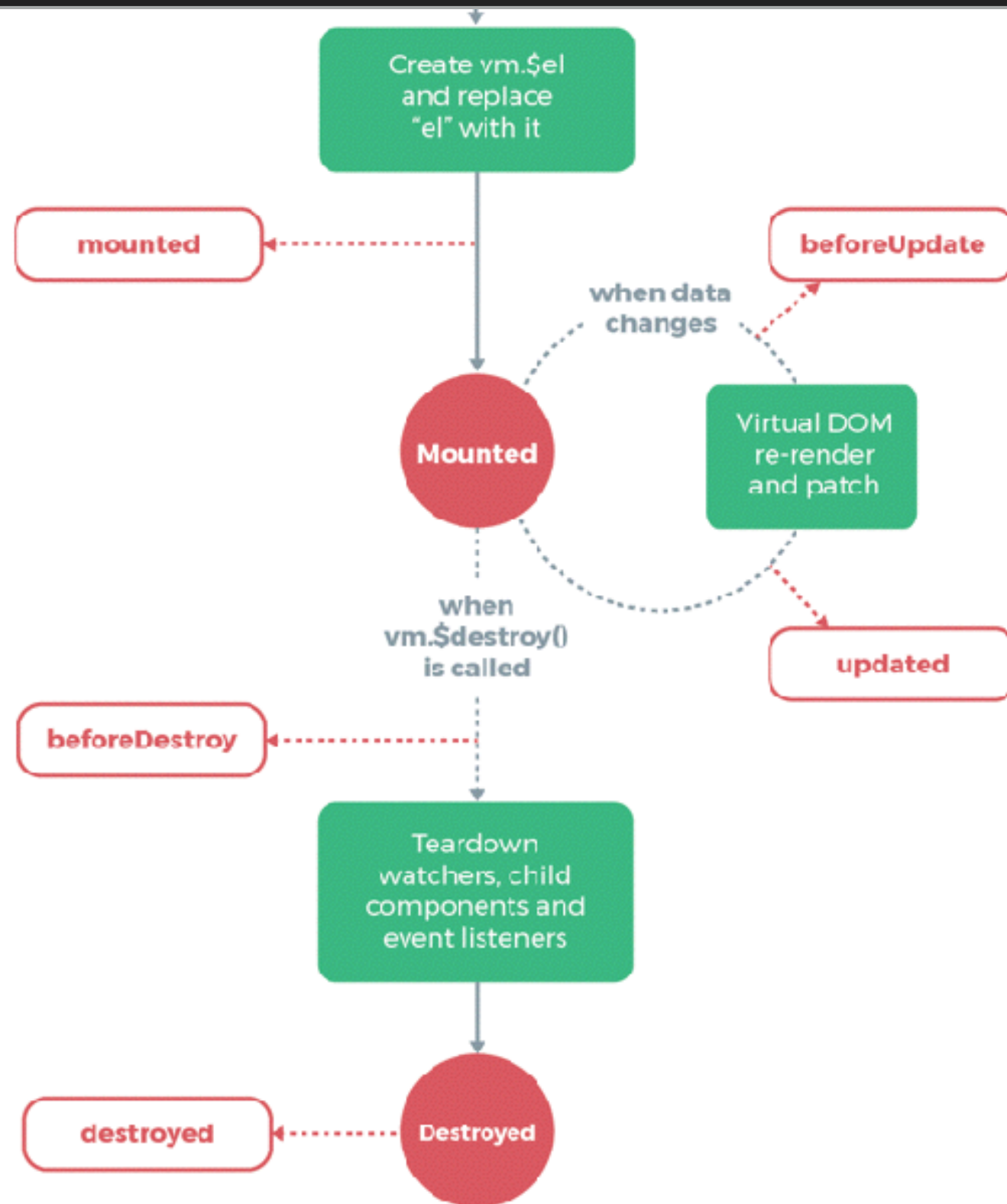
- ▶ Functions that are called at specific points in the app/component lifecycle

```
created: function () {  
  fetch(`${this.$data.serverURL}/application`)  
    .then(r => r.json())  
    .then(json => {  
      this.serverInfo = json  
    })  
},
```

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ROOM WITH A VUE



* template compilation is performed ahead-of-time if using a build step, e.g. single-file components

TEMPLATES

- ▶ HTML based Templating syntax
- ▶ “Mustache” `{{}}` syntax for string interpolation and dynamic variables
- ▶ Directives
 - ▶ prefixed with “**v-**”
 - ▶ accept **arguments** separated by “**:**”
 - ▶ support **modifiers** prefixed with “**.**”
- ▶ Rendered via a virtual DOM, for efficient updates

TEMPLATES

```
<template>
  <div class="form">
    <div class="title cell">
      <label>Title</label>
      <input ref="bookTitle" v-model="book.title" type="text"/>
    </div>
    <div class="pages cell">
      <label>Pages</label>
      <input v-model="book.pages" type="text"/>
    </div>
    <div class="author cell">
      <label>Author</label>

      <select v-model="book.author">
        <option disabled selected value="">Choose Author</option>
        <option v-if="author !== null"
          v-bind:value="{ id: author.id }"
          v-for="author in authors">{{author.name}}</option>
      </select>
    </div>
    <div class="save cell">
      <button @click="submitNewBook()" >Add Book</button>
    </div>
  </div>
</template>
```

DIRECTIVES

- ▶ Vue-specific element attributes
- ▶ Add control logic, behavior & data-binding to elements
- ▶ You can write your own directives

```
<option v-if="author !== null" >{{author.name}}</option>
```

```
<li v-for="book in books" >{{book.title}}</li>
```

```
<select v-model="book.author">
```

Shorthand

```
<input v-bind:value="{ id: author.id }"/> OR <input :value="{ id: author.id }"/>
```

```
<button v-on:click="save()">Save</button> OR <button @click="save()">Save</button>
```

COMPONENTS

- ▶ Nested component hierarchy
- ▶ Each component renders either a template or returns `createElement()` calls (JSX is supported)
- ▶ Components typically defined in single files with `<template>`, `<script>`, and `<style>` sections

ROOM WITH A VUE

DEMO

ECOSYSTEM



- ▶ State Management - Vuex
- ▶ Routing - Vue Router
- ▶ UI Libraries:
 - ▶ VueStrap (v3)
 - ▶ BootstrapVue (v4)
 - ▶ VueMaterial

COMPARE AND CONTRAST – ANGULAR



- ▶ A cleaner, simpler way to build apps
- ▶ Similar concepts/syntax: directives, templates, v-model
- ▶ More understandable, readable code
- ▶ Less code
- ▶ A rich, featureful API that doesn't make you do everything with plain JavaScript
- ▶ Not a framework - you'll still need to add packages

COMPARE AND CONTRAST – REACT



- ▶ Adding some magic back in to JavaScript
- ▶ Similar concepts/syntax: components, virtual DOM, lifecycle methods
- ▶ Supports JSX*
- ▶ Less code... sometimes
- ▶ Less opaque than Angular - but not “pure” JS

SUMMARY

- ▶ Vue.js is not “just” another JavaScript framework
- ▶ Aims for balance between rich, developer-friendly features and clean, understandable code
- ▶ Community is vibrant and engaged, and shows every sign of being in this for the long haul
- ▶ Vue.js is definitely worth learning, either as a first-timer’s JavaScript framework or for developers looking for a fresh view of SPAs

LINKS

- ▶ <http://vuejs.org> (links to Vuex/Vue-Router)
- ▶ <https://github.com/vuejs/awesome-vue>
- ▶ <https://medium.com/unicorn-supplies/angular-vs-react-vs-vue-a-2017-comparison-c5c52d620176>
- ▶ <https://medium.freecodecamp.org/between-the-wires-an-interview-with-vue-js-creator-evan-you-e383cbf57cc4>

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THANK YOU

Sample Code: <https://github.com/ZacharyKlein/room-with-a-view-tech-lunch>



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