Ember 2

Section 2 - Quick Start

MVVM Design Pattern
Ember With ES6
Installing Ember
Creating a Single Page Web Application

Section Objectives

- Be able to teach what MVVM is and the responsibilities of each concern
- Be able to write ES6 syntax and recognize it in Ember code
- Be able to install Ember CLI
- Be able to create a simple single-page application using Ember

Quick Start

MVVM Design Pattern

MVVM Design Pattern

Ember With ES6

Installing Ember

Core Concepts of an Ember Application

Creating a Single Page Web Application

MVVM Design Pattern

- Model-View-Controller (MVC)

- Model-View-ViewModel (MVVM)
  - Originally defined by Microsoft for use with Windows Presentation Foundation (WPF) and Silverlight
  - Grew in popularity with single-page apps to not only separate concerns on an architectural level but skill-set level as well
  - ViewModel is the “Controller” + the added benefit of data binding

- Difference between Controllers and Components?
  - Controller’s model is defined by its route
  - Component’s model is injected into it and not tied to a route

Quick Start

Ember With ES6

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Ember with ES6(ES2015)

```
// let keyword
let age = 21;

// arrow functions (lexical 'this')
function addListener('click', () =>
      console.log('clicked')
);

// import
import Ember from 'ember';

// class
class Person { constructor() {} }

// method shorthand
var obj = { counter: 1, count() {} }
```

Quick Start

Installing Ember

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Installing Ember

- Node.js and npm

```
npm install -g ember-cli@2.11
```

Quick Start

Core Concepts of an Ember Application

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Core Concepts of an Ember Application

- Router
- Route Handlers
- Templates
- Models
- Components
- Controllers

Quick Start

Core Concepts of an Ember Application

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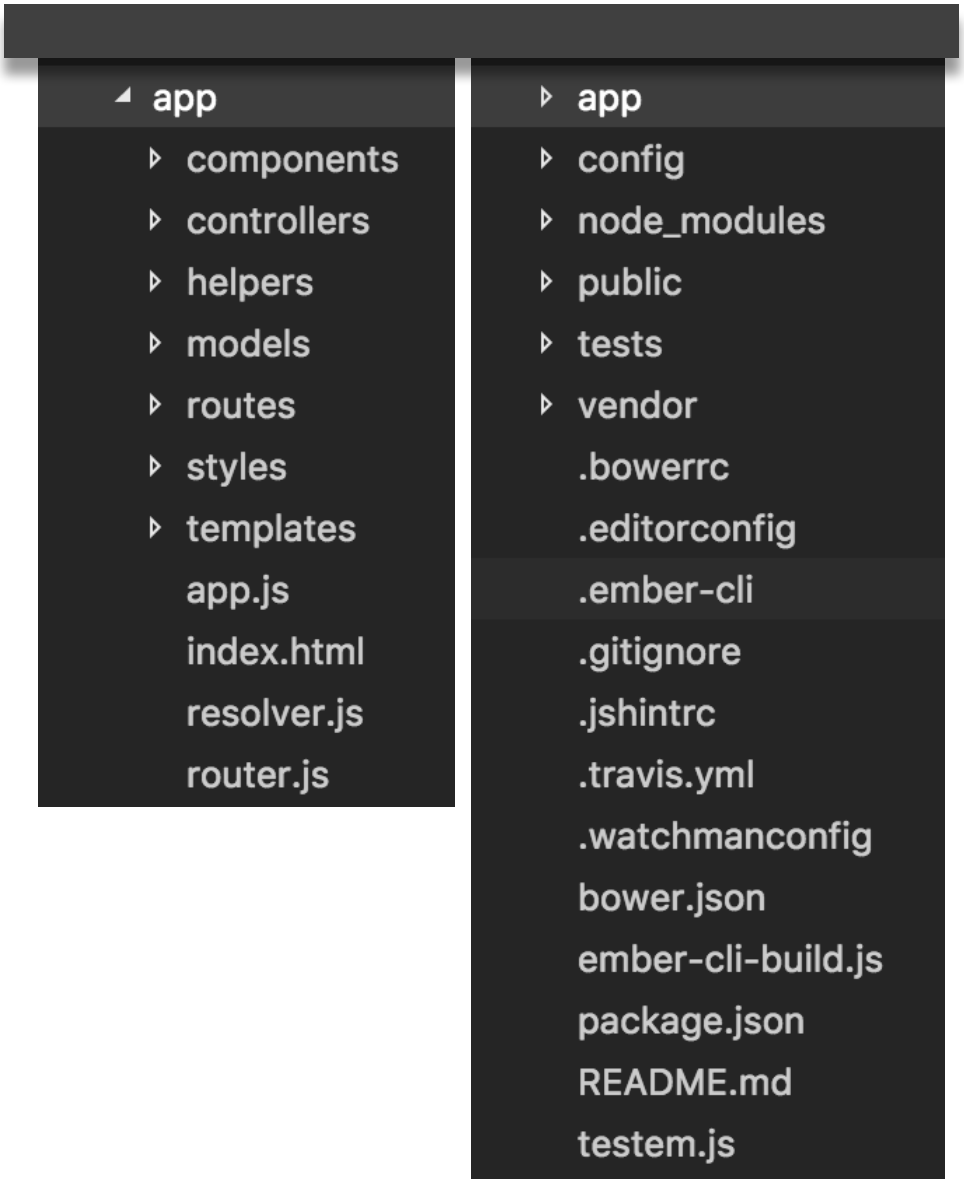
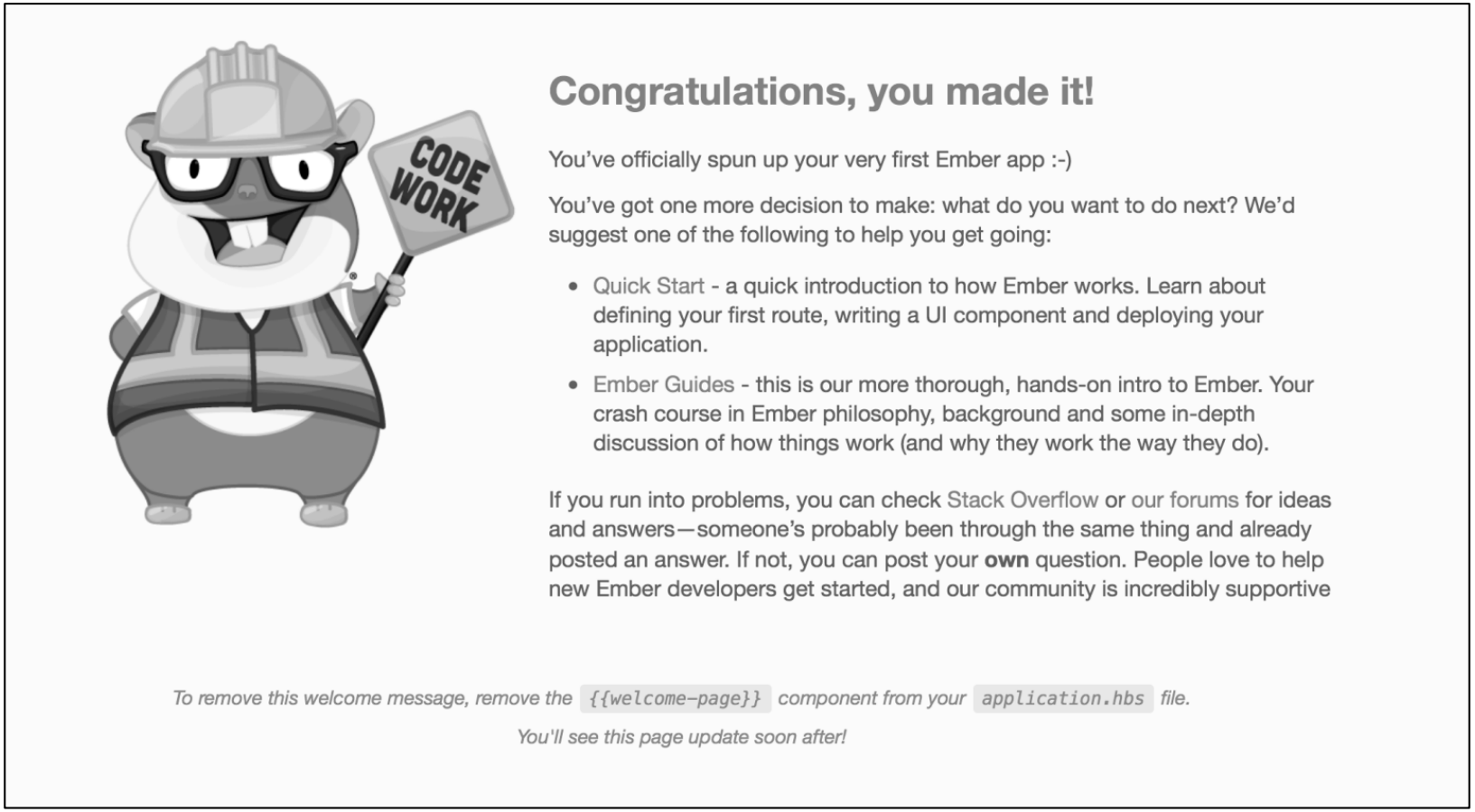
Directory Structure

- *ember new notes-app*



Starting the Development Server

- *ember server (ember s)*
- *http://localhost:4200*



Setting Up Your Development Environment

- Install the following extensions:
  - Angular 2 TypeScript Emmet
  - Ember Colorizer and Theme
- Format – Alt+Shift+F
- Show Integrated Terminal
- Copy ’app.css’ from /Labs/setup/quickstart into the app/styles folder.
- Install Font-Awesome add-on:
  ember install ember-font-awesome

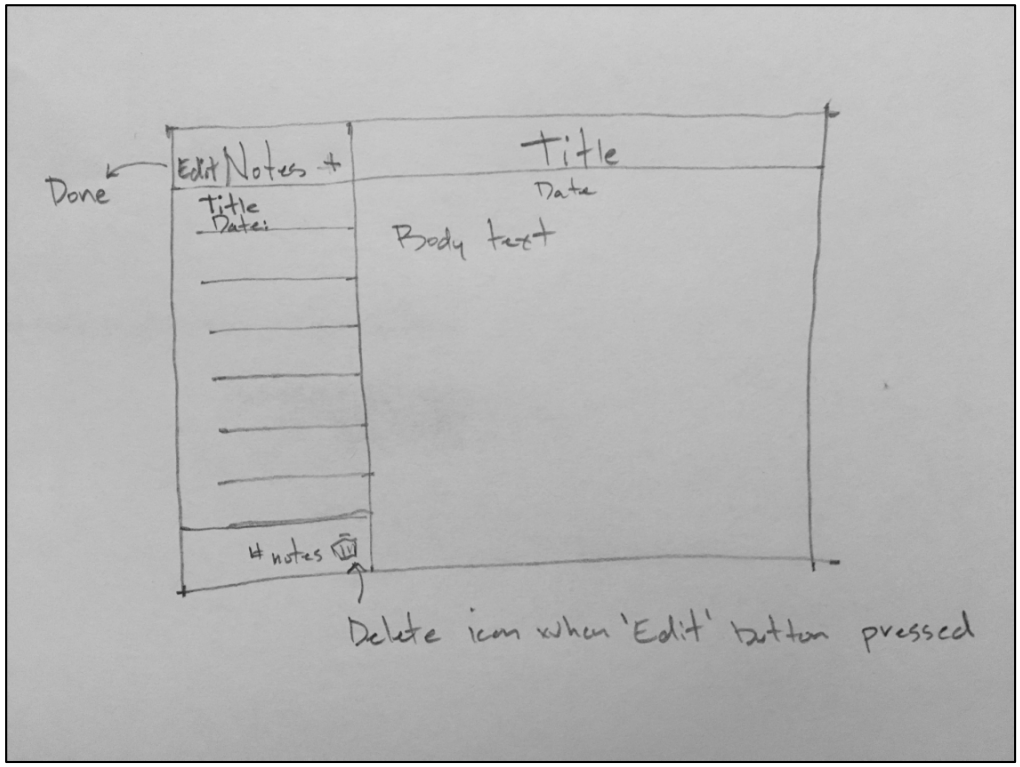
Setting Up Tests

Design:

- Always be sure to plan before you code

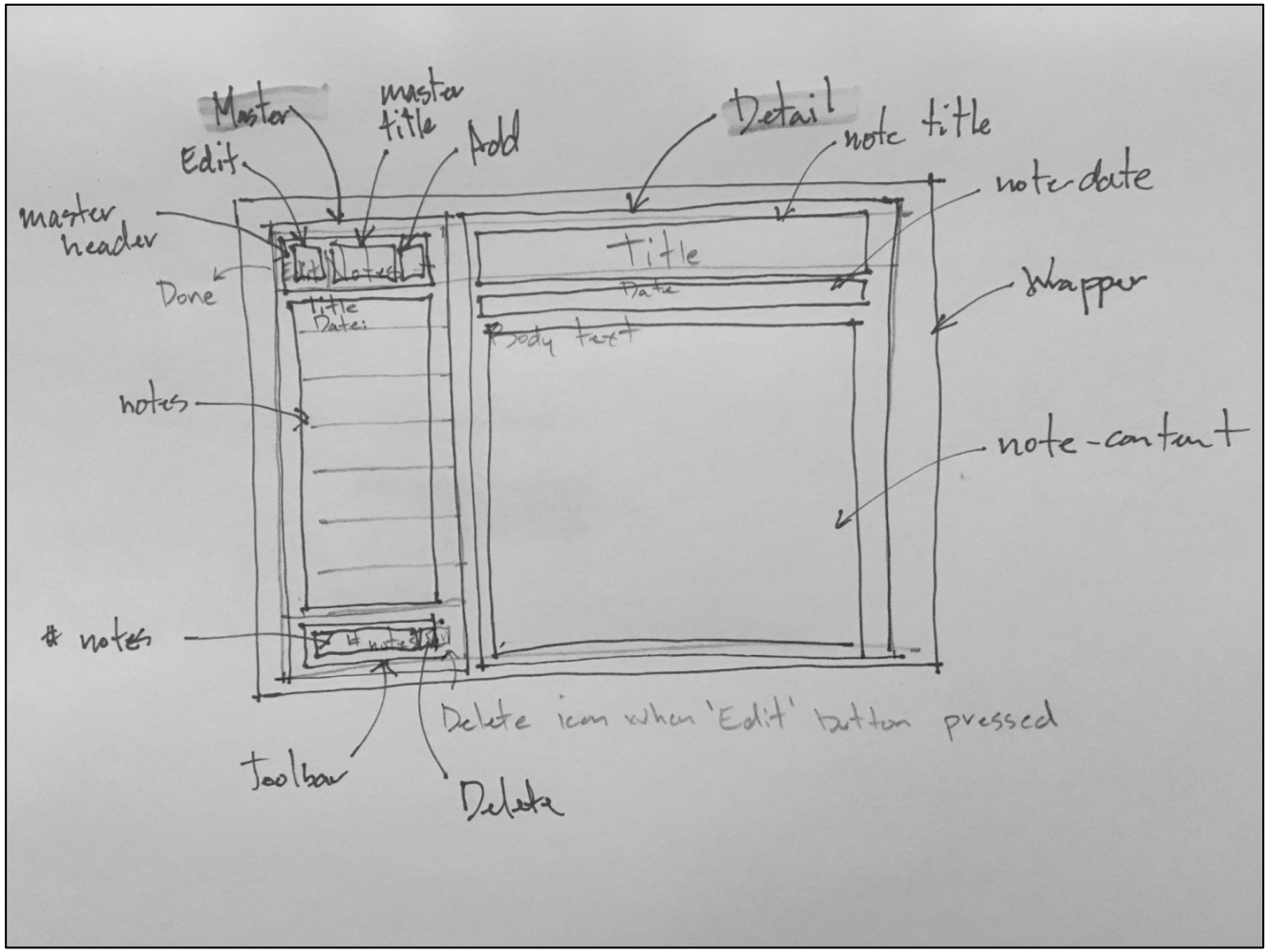
Requirements:

1. Should be able to create a note.
2. Should be able to edit a note.
3. Should be able to delete a note.



Route - Application

ember g route application



Template - Application

application.hbs

```
<div class="wrapper">
  <div class="master container">
    <div class="master_header">
      <div class=“container”> </div>
      <div class="master_title container">Notes</div>
      <div class="edit_button container btn">Edit</div>
    </div>
    <div class="notes">
    </div>
    <div class="toolbar">
      <div class="container"> </div>
      <div class="notes_count container">{{count}} notes</div>
      <div class="add_button container btn">{{fa-icon “plus-square-o”}}</div>
    </div>
  </div>
  <div class="detail container">
    <div class="detail_header">{{title}}</div>
    {{outlet}}
  </div>
</div>
```

Model Hook - Application

application.js

```
import Ember from 'ember';

export default Ember.Route.extend({
    model() {
        var notes = [];
        var singleNote = notes.length == 1;

        return {
            notes: notes,
            singleNote: singleNote,
            selectedNote: null
        };
    }
});
```

- Use the ‘notes’ property returned with the model in your template to show the number of notes in the toolbar

- Change detail-header title to use {{model.selectedNote.title}}

#if Block Helper

- Our label in the toolbar needs to read ‘note’ if there is one note, and ’notes’ for all other values

application.hbs

```
{{#if model.singleNote}}
    note
{{else}}
    notes
{{/if}}
```

- Test between one note and two notes

Ember Data- Index

- Ember Store
- ***ember g model Note***

application.hbs

```
var notes = this.get('store').findAll('note');
```

- What happened?
- Change the method call from the Store to ‘peekAll’

Model - Note

note.js

```
export default DS.Model.extend({
    title: DS.attr('string'),
    content: DS.attr('string'),
    date: DS.attr('date'),
    selected: DS.attr('boolean', {
        defaultValue() {
            return false;
        }
    })
});
```

Route - Note

- Create a note route

note.js

```
model(params) {
    return this.get('store').peekRecord('note', params.id);
}
```

Template - Note

note.hbs

```
<div class="date">{{model.date}}</div>
<div class="note">
    {{#if model.selected}}
        {{textarea value=model.content}}
    {{/if}}
</div>
```

Controller - Application

- How do we add functionality to our route? How did we provide the model?
- ***ember g controller application***
- Create an action to add a note
  - Add {{action “addNote”}} to add_button
  - Create addNote()

application.js

```
actions: {
  addNote() {
     let notes = this.get('store').peekAll('note');
     this.set('model.singleNote', notes.content.length === 0);
     this.get('store').push({
        data: [{
           id: notes.content.length,
           type: 'note',
           attributes: {
              title: "New Note",
              date: new Date().toUTCString(),
              content: "",
              selected: false
           }
        }]
     });
  }
}
```

Component – 'note-row'

- ***ember g note-row***

- How does the component work in the Ember architecture?
  - Model
  - Functionality
  - Template

- *{{note-row note=note showNote=(action "showNote")}}*

- Component code

note-row.js

```
import Ember from 'ember';

export default Ember.Component.extend({
    tagName: 'div',
    classNames: ['note_row'],
    note: null,

    actions: {
        selectNote() {

        }
    }
});
```

#each helper

- Now we need to be able to display multiple {{note-row}} components

application.hbs

```
{{#each model.notes as |note|}}
    {{note-row note=note showNote=(action "showNote”)}}
{{/each}}
```

#link-to helper

- We are now ready to be able to select a note and have it show up in our detail view

- #link-to allows us to go to a route specified in the router

application.hbs

```
{{#each model.notes as |note|}}
    {{#link-to 'note' note}}
         {{note-row note=note showNote=(action "showNote")}}
    {{/link-to}}
{{/each}}
```

#unless helper

- Similar to a guard statement

application.hbs

```
<div class="detail_content">
     {{#unless model.selectedNote}}
        <div class="default_note">
            +<br/>Note
        </div>
     {{/unless}}
     {{outlet}}
</div>
```

Input Helpers

- We need a way to edit the title and contents of the note in-place

application.hbs

```
<div class="detail_header">
    {{#if model.selectedNote}}
        {{input type="text" value=model.selectedNote.title}}
    {{/if}}
</div>
```

note.hbs

```
<div class="note">
    {{#if model.selected}}
        {{textarea value=model.content}}
    {{/if}}
</div>
```

Section Review

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Notes App

Edit **Notes** +

Random Note
Fri, 03 Mar 2017 23:29:10 GMT

New Note
Fri, 03 Mar 2017 23:29:11 GMT

New Note
Fri, 03 Mar 2017 23:29:11 GMT

New Note
Fri, 03 Mar 2017 23:29:12 GMT

4 notes

Random Note

Fri, 03 Mar 2017 23:29:10 GMT

A note that I wrote down

End of Section