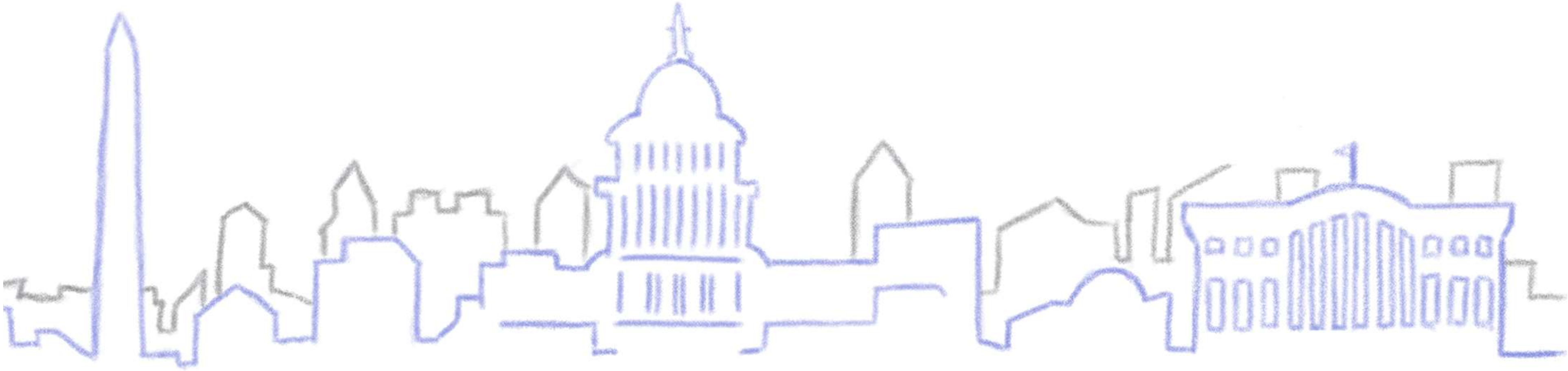
MWLUG 2017
Moving Collaboration Forward

AD108 - Looking into vue.js

(through Domino goggles)



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Who’s this guy?

Don Mottolo / Senior Technical Consultant

Synaptic Communications

IBM Business Partner – Boston

- Began with Lotus Development in 1990 in Tech Support

What does Synaptic do?

- Notes/web/mobile app dev
- Domino server admin / support
- Many SMB customers around the U.S. ++

*SMARSH.com cloud-based email archiving

What I enjoy doing the most is creating apps that bring together different technologies => which leads to vue

Why look at vue.js ?

- A lot of the cool kids are using it, and I'm getting sick of XPages.
- But seriously, I have many customers with Notes apps that are looking for the path forward.
- Using a modern web application framework with Domino data in the back end is one option.

Whenever

you learn something new

it is like

reinventing yourself

What is vue.js?

- A framework for building web applications (*technically not a framework, but a JS library)
- Created by Evan You
- It does much (but not all) of what bigger frameworks, like Angular or React, do.
- A lot of people say very nice things about it on the internet -> 2 million downloads in 2016

A quote on Quora.com from a developer responding to the question:

"Which Front-end Framework Should I Invest My Time in 2017?“

“I just have more

developer happiness

with vuejs and know that getting another developer onboarded on it is as easy as telling them to read the official docs.”

More random quotes

- Vue IS significantly simpler than any other popular and powerful front-end framework.
- Allows our team to easily write simple JavaScript
- No dependencies to learn, Vue can work independently
- Faster (smaller) than React or Angular
- Great documentation w/ lots of clear examples

Sites That Use Vue.js

- Stackoverflow.com
- Segmentfault.com
- NBCsports.com
- Cosmopolitan.com
- Facebook
- Alibaba (the Chinese Amazon), Xiaomi, Oschina.net
- EuroNews
- Grammarly
- Gitlab
- Laracasts

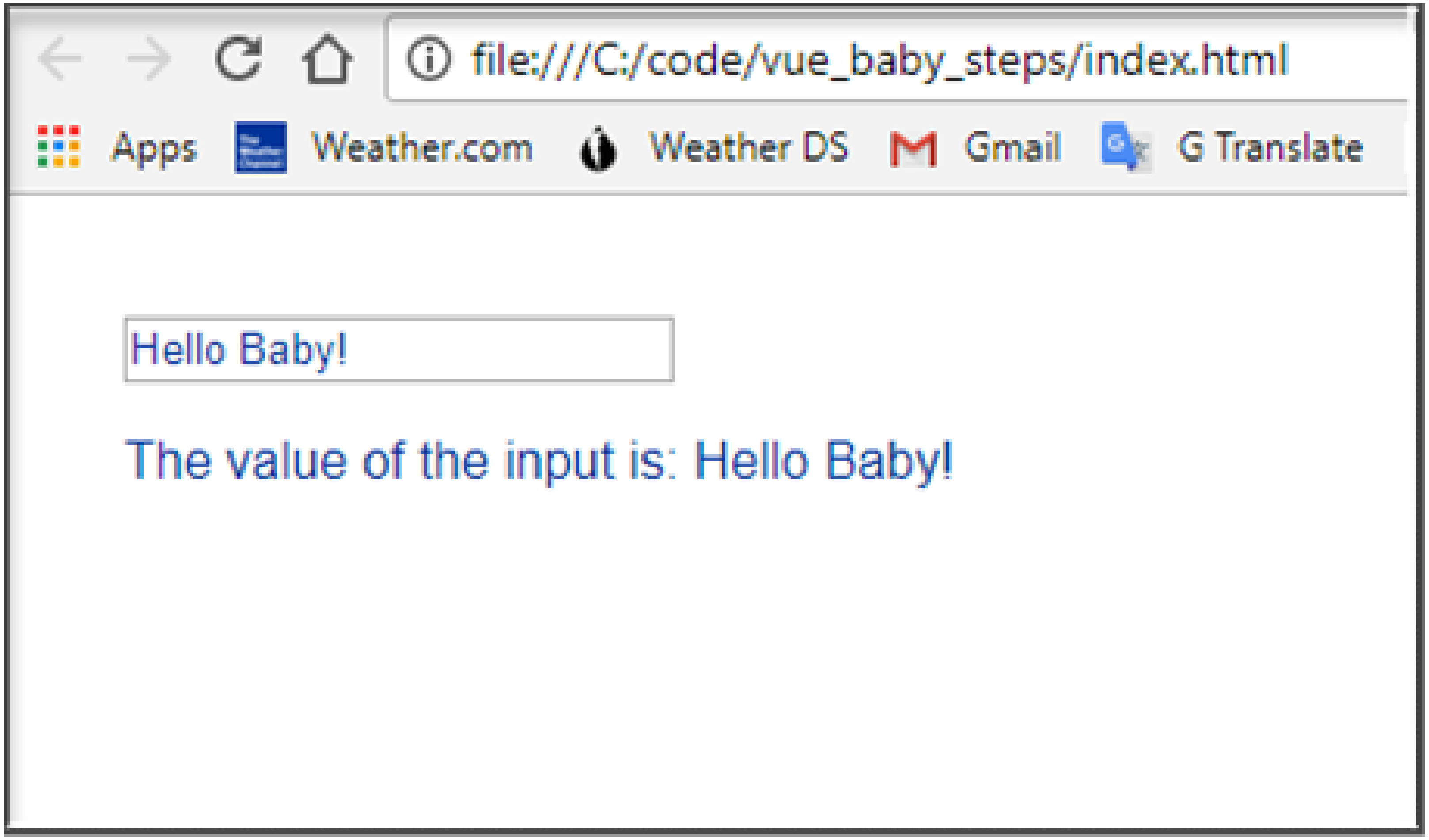
Vue.js in a nutshell

Vue provides “directives” that extend regular html tags, giving them more power and functionality – particularly dynamic data binding.

Vue allows you to create web components.

Used with webpack, the production build compiles/transpiles down to the smallest/quickest files.

Hello Baby



Hello Baby!

The value of the input is: Hello Baby!

Show me the code!

```
<html>
 <body>
   <div id="app">
          <input type="text" id="input" v-model="message">
          <p>The value of the input is:  {{message}}</p>
   </div>

   <script src="https://unpkg.com/vue/dist/vue.js"></script>
   <script>
          new Vue({
                    el: '#app',
                    data: {
                              message: 'Hello Baby!'
                    }
          })
   </script>

 <style type="text/css">
          body, span, input { font-family: sans-serif; color:#003399;}
</style>
  </body>
</html>
```

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```

Directives

v-model   - binds to a vue data property
{{ }} handlebars can be used, too

v-bind:<html attrib>

Like: class, style, title, alt, src, href, …
ex. <span v-bind:class="boldGreen">

v-html – inserts html, like .innerHtml

v-text – inserts text into an element

Directives

v-if and v-else - hide/show an element based on a condition

v-for - create loops iterating the items in an array (like XPage repeat control)

- often used with list tags or repeating divs

- example

```
<div v-for="item in menuItems">
    <div>{{item}}</div>
 </div>
```

Directives

v-on:<event>   - attach events to an element and bind them to a JavaScript method

example:

```
<button value=“GO”  v-on:click=“someMethod” >
```

Web Components

- Files with a .vue extension
- Contain html, script, and css.
- Like an XPage Custom Control / reusable

Pass data into a component using “props”

Send data back to parent using “events”

They said it was sooooo easy

Never believe a techie that says:

"it's very straightforward"

(hmm… what does that really mean)

With vue some things are easy, but there are a lot of pieces to get in place: node, npm, vue cli, webpack, REST services, …

For starters, what IDE or Text Editor?

- I use Sublime Text 2
- Many others like Atom
- Or your choice

Use one that you prefer, but make sure there is vue syntax highlighting plugin for it.

https://devhub.io/repos/vuejs-vue-syntax-highlight

node.js and npm

- node.js is the first req needed for setting up the environment to develop with vue
- google “node.js download” to get the installer
- This will also install npm (node package mgr)
- npm is needed for many, many things

Vue CLI and Dev Server

- To install >   npm install -g vue-cli
- The CLI (command line interface) is a tool for setting up all the files needed to start a vue project - a basic scaffolding for a SPA.
- It also gives you webpack and a dev server that auto-refreshes your browser whenever you save a change in your code.

Use the Vue CLI –> create an app

```
> vue init webpack my_vue_app
```

(this creates a sub directory for this application named "my_vue_app"

```
> cd my_vue_app
```

```
>npm install
```

(this creates a subfolder “node_modules” and copies in packages, like \vue\ )

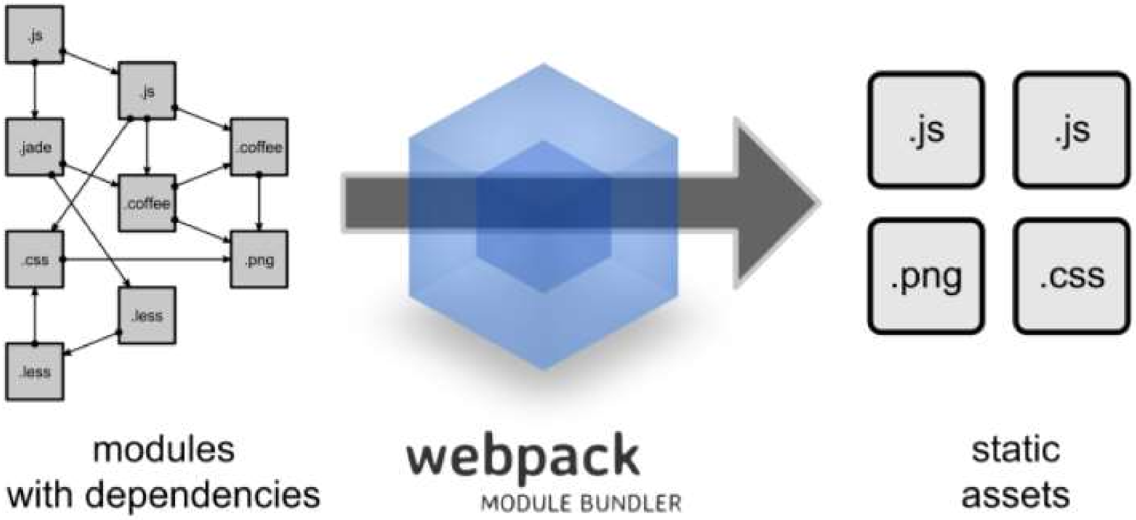
Use the Vue CLI –> run the app

```
> npm run dev
```

- This starts the dev server and serves up the app in the current directory
- It will launch your browser
- When you make changes to the files, you see them instantly in the browser!!!

webpack

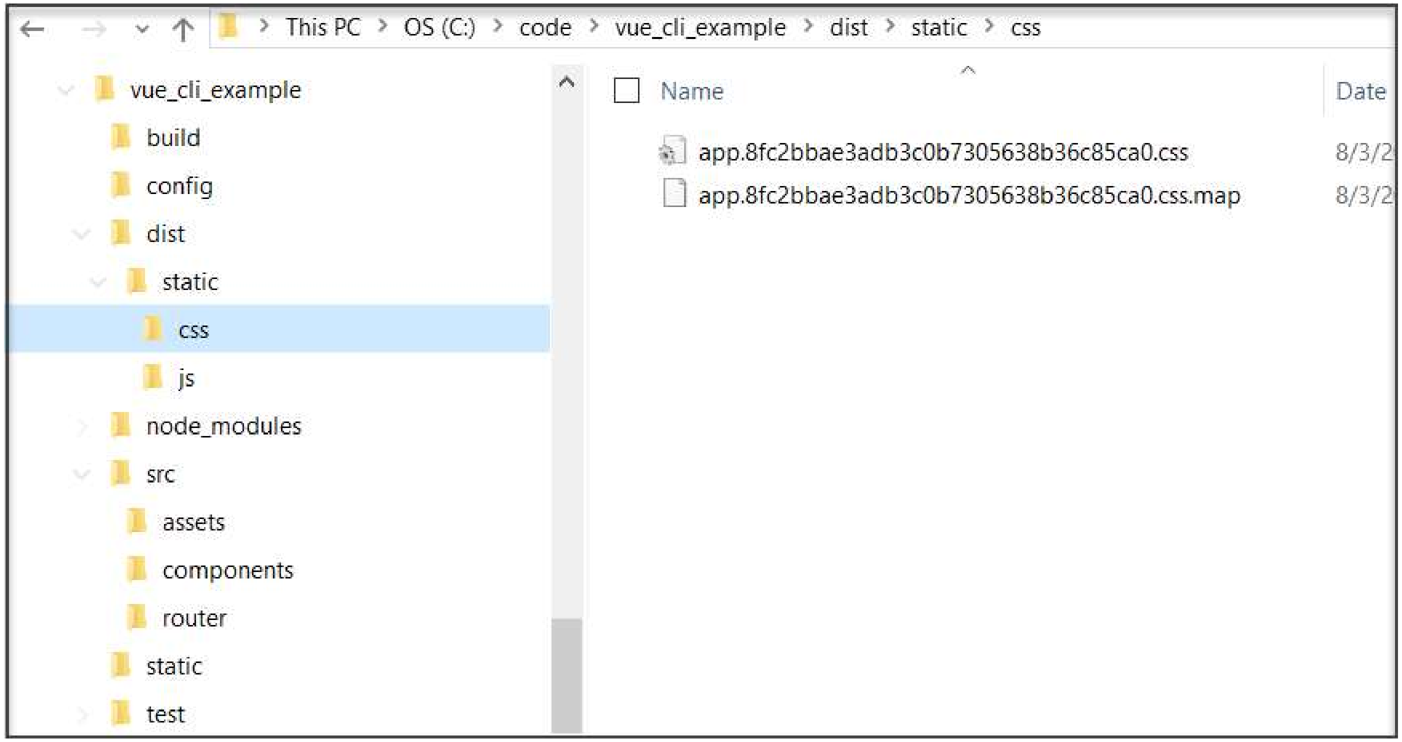
Webpack is a module bundler. It takes a bunch of files, treating each as a module, figuring out the dependencies between them, and bundle them into static assets that are ready for deployment. Vue-loader is a webpack loader to convert vue components (.vue files) into JS.



Bower is an older bundler.

Webpack and Production Builds

> npm run build (creates the \dist\static\ folders)



This PC › OS (C:) › code › vue_cli_example › dist › static › css

- vue_cli_example
  - build
  - config
  - dist
    - static
      - css
      - js
  - node_modules
  - src
    - assets
    - components
    - router
  - static
  - test

Name	Date
app.8fc2bbae3adb3c0b7305638b36c85ca0.css	8/3/2
app.8fc2bbae3adb3c0b7305638b36c85ca0.css.map	8/3/2

* This is KEY for the method I use to integrate with Domino

Integrating with Domino –> back end

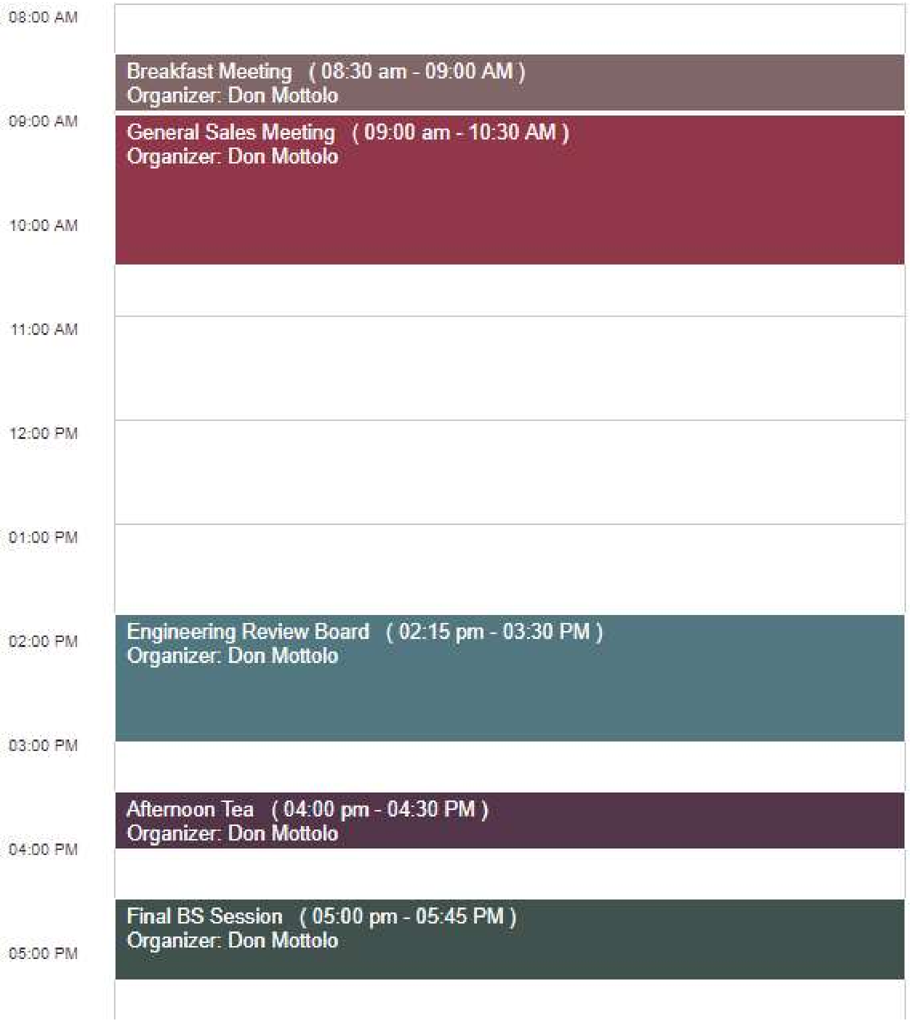
DEMO Conference Room Schedule App

This vue.js app pulls data from the Domino Resource Reservations db to display room bookings on a monitor outside each conference room.

It uses an Ext Lib REST Service control on an XPage to pull data from a categorized view for today’s date.

Outback Room

Sunday: August 6th



08:00 AM

Breakfast Meeting (08:30 am - 09:00 AM)
Organizer: Don Mottolo

09:00 AM

General Sales Meeting (09:00 am - 10:30 AM)
Organizer: Don Mottolo

10:00 AM

11:00 AM

12:00 PM

01:00 PM

Engineering Review Board (02:15 pm - 03:30 PM)
Organizer: Don Mottolo

02:00 PM

03:00 PM

Afternoon Tea (04:00 pm - 04:30 PM)
Organizer: Don Mottolo

04:00 PM

Final BS Session (05:00 pm - 05:45 PM)
Organizer: Don Mottolo

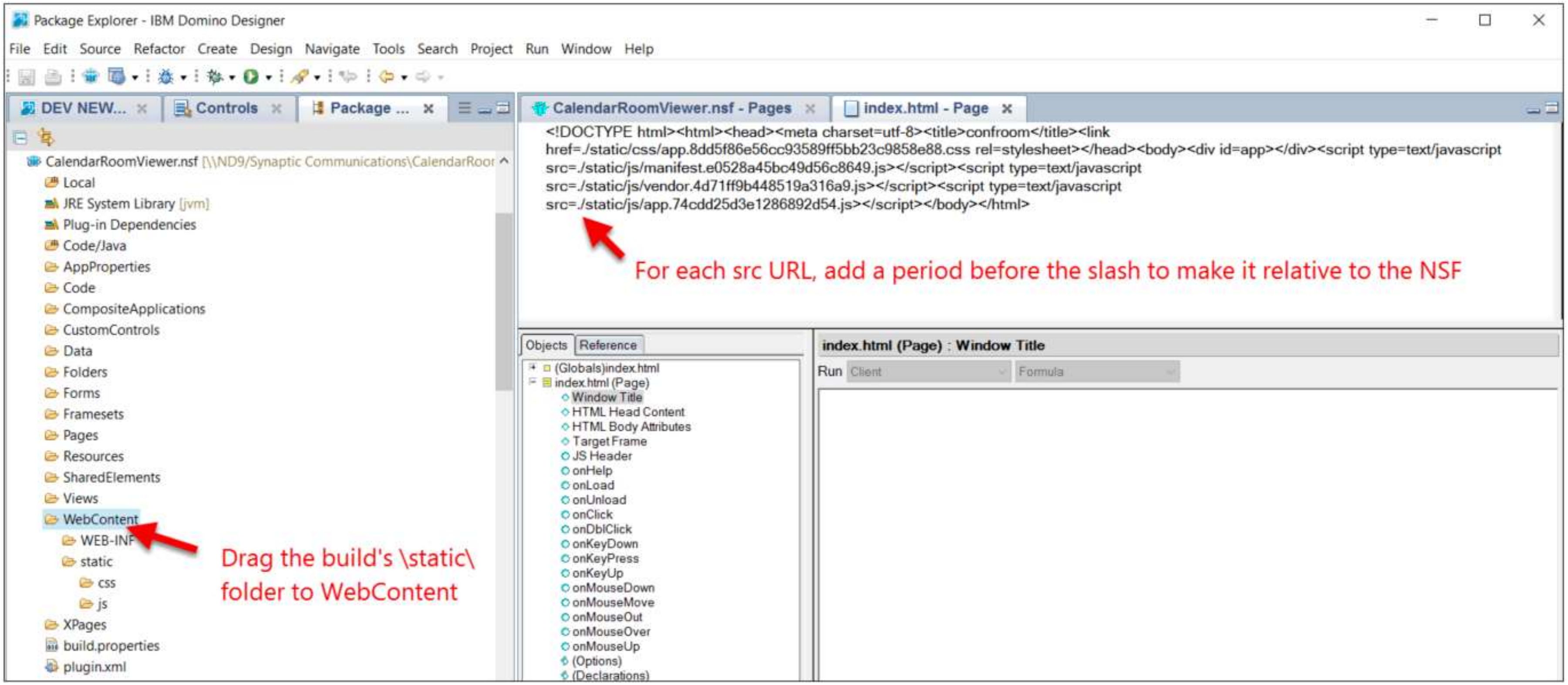
05:00 PM

Integrating with Domino

1. Use Domino Designer, go to the Package Explorer view
2. Locate the .NSF and use drag ‘n drop from Windows Explorer to copy the \dist\static\ folders in to the WebContent folder
3. Create a new Page (not Xpage) in Designer named: index.html
4. Set the page properties Content Type = HTML
5. Copy ‘n paste all the text from the \dist\index.html into this page
6. Edit the text so that every href= and src= to add a period in front of the slash to make it relative

Try it from a browser: http://server_name/db.nsf/index.html

Integrating with Domino



```
<!DOCTYPE html><html><head><meta charset=utf-8><title>confroom</title><link
href=./static/css/app.8dd5f86e56cc93589ff5bb23c9858e88.css rel=stylesheet></head><body><div id=app></div><script type=text/javascript
src=./static/js/manifest.e0528a45bc49d56c8649.js></script><script type=text/javascript
src=./static/js/vendor.4d71ff9b448519a316a9.js></script><script type=text/javascript
src=./static/js/app.74cdd25d3e1286892d54.js></script></body></html>
```

For each src URL, add a period before the slash to make it relative to the NSF

Drag the build's \static\ folder to WebContent

Integrating with Domino –> back end

To use data from Domino

- One option is to create an XPage with the Ext Lib REST Services control
- (for ex. to access data from a view)
- In the vue app, you can use a library to fetch data from a REST API. One highly recommended package is axios   (> npm install axios –save)

Playtime: jsFiddle example

If you want to start playing with vue ASAP

Point your browser to:

https://jsfiddle.net/mbxe2c2n/

Vue Ecosystem

- There are a lot of people developing components and libraries
- Check out: https://madewithvuejs.com/
  - They have UI frameworks (for Bootstrap, and Material Design), mobile UI elements, UI components (carousels, dashboards, calendars, grids, charts)

- VUEX – a library for state management
- Axios – a library for AJAX calls to REST Services

Last Tips

Get the Chrome Dev Tools plugin for Vue

- you can examine AND MODIFY everything in the shadow DOM

Drop me a line to let me know
what cool stuff you are up to!

Contact info

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If you made it this far “thank you for attending”

(and hopefully, Rob Novak still has some beer left)