



# Global Office 365 Developer Bootcamp

## Webpack and Modules

Bob German

Many thanks to our sponsors!



BA  
**INSIGHT**



**K2**



**Rencore**



Powell 365



**Microsoft**

# Revealing Module Pattern

Example adapted from Scot's SPC12 talk

```
var Wingtip = window.Wingtip || {};  
Wingtip.Module = Wingtip.Module || {};  
  
Wingtip.Module.Customer = function() {  
  // declare private members  
  var name,  
      setname = function (n) { name = n; },  
      getname = function (n) { return name; },  
      talk = function() { alert('My name is ' + name);  
};  
  
  // expose public members  
  return {  
    set_name: setname,  
    get_name: getname,  
    speak: talk  
  }  
}();  
Wingtip.Module.Customer.set_name('Bob');  
Wingtip.Module.Customer.speak();
```

# JavaScript Module Systems

## CommonJS

- Used by SP Framework
- Designed for Node (server-side)
- Synchronous – works well w/bundles
- Limitation: One module / file

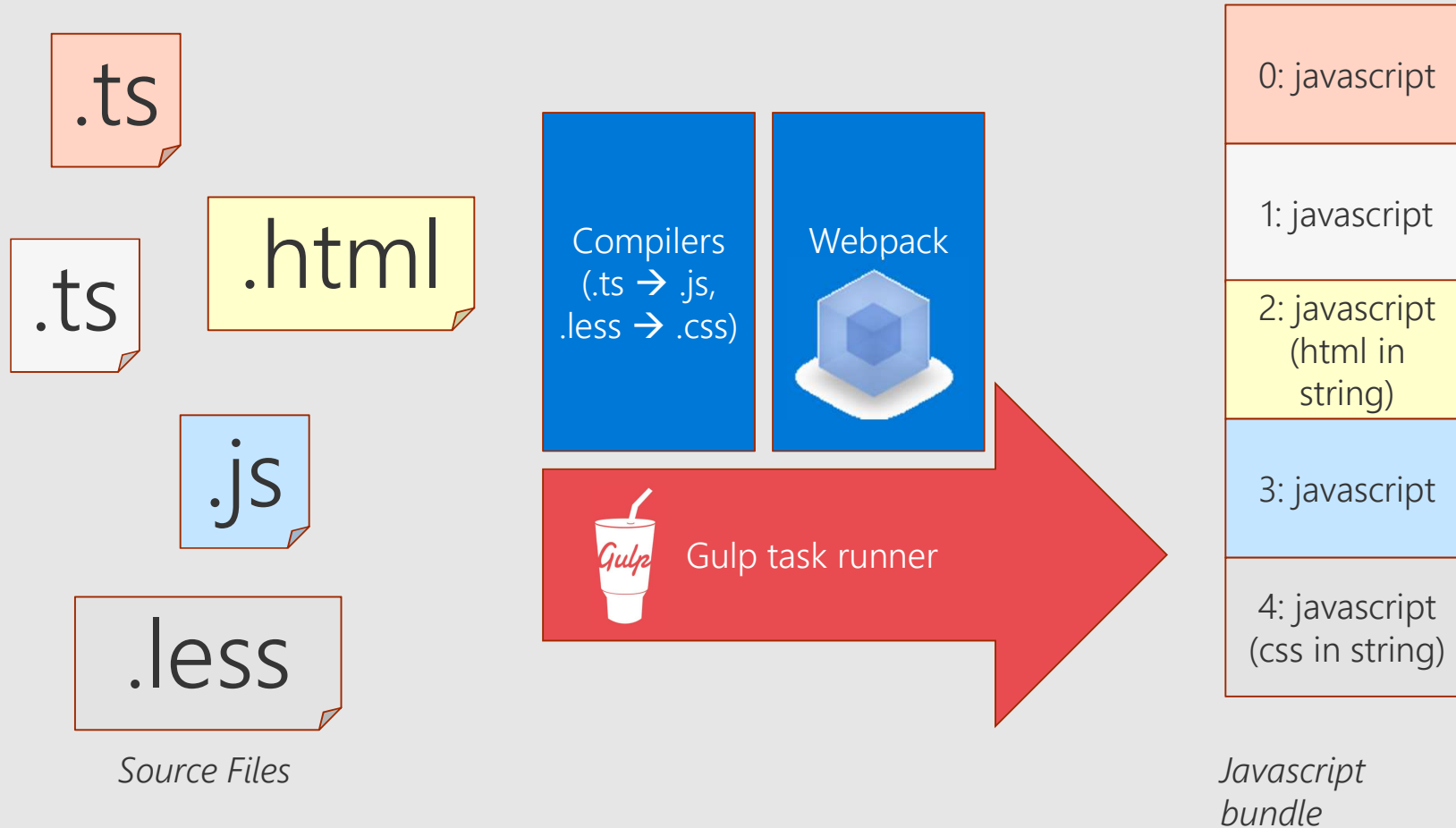
## AMD (Asynchronous Module Definition)

- Looks a little like AngularJS Modules, Services, etc.
- RequireJS is most popular implementation

## UMD (Universal Module Definition)

- Compatible with both AMD and CommonJS
- Does the U stand for Universal or just Ugly?

# Splitting and Bundling



# Splitting and Bundling

- Freely split your code into multiple files
- Each is translated to JavaScript and isolated in a module
  - TypeScript is compiled to JavaScript
  - scss/sass is compiled to CSS in a JavaScript string
  - HTML becomes a JavaScript string
  - JavaScript is just placed in the module
- Advantages
  - Ease of development / modularity
  - Efficient download and caching
  - Synchronous access (never wait for a script to load!)

JavaScript	TypeScript
exports	export
require	import

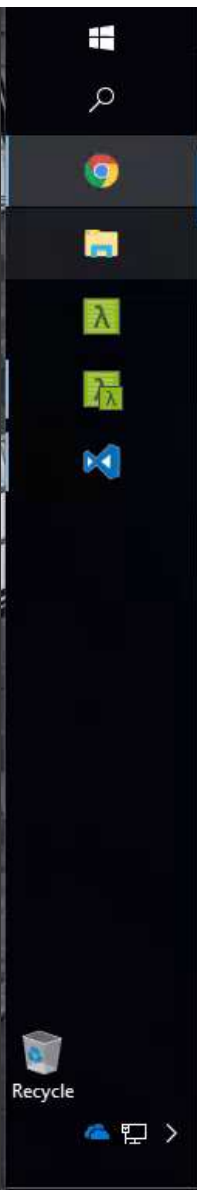
# Writing and Using Modules

HTML Templates

JavaScript

TypeScript

<https://link.bobg.tv/WebPack>



SharePoint Web Part Wo x

Secure | <https://localhost:4321/temp/workbench.html>

Office Admin center | localhost:8080 | Collab Demo | Reference | SPFx | MicroSurvey | Shire | PnP-PowerShell/readme

Office 365 | SharePoint Workbench

Save Discard

Mobile Tablet Preview

### Module demonstration

Greeting: Good Evening  
The magic 8 ball says: Signs point to yes  
Dice roll: You rolled a 41  
Shout about: MY MESSAGE!  
The ultimate answer to life, the universe, and everything is 42



# Writing and Using Modules

Code Walk-through

<https://link.bobg.tv/WebPack>

# CSS Modules

## Web Part 1

```
<h1 class="title">  
  This is Web Part 1  
</h1>
```

```
.title {  
  color: red;  
}
```

*WebPart1.scss*

## Web Part 2

```
<h1 class="title">  
  This is Web Part 2  
</h1>
```

```
.title {  
  color: green;  
}
```

*WebPart2.scss*

- What color is the title of web part 1?
- What color is the title of web part 2?

A: Unknown

A: Unknown

# CSS Modules

## Web Part 1

```
<h1 class="title_e10">  
  This is Web Part 1  
</h1>
```

```
.title_e10 {  
  color: red;  
}
```

*WebPart1.module.scss*

## Web Part 2

```
<h1 class="title_4af">  
  This is Web Part 2  
</h1>
```

```
.title_4af {  
  color: green;  
}
```

*WebPart2.module.scss*

- What color is the title of web part 1?
- What color is the title of web part 2?

A: Red

A: Green

# CSS Modules

Code Walk-through

<https://link.bobg.tv/WebPack>

