

# Demystifying the Dojo Build System

Make developers feel less stupid. #96

 Merged dylans merged 2 commits into `dojo:master` from `stdavis:master` 16 days ago

 Conversation 1


 Commits 2

 Files Changed 1

 Showing 1 changed file with 2 additions and 2 deletions.

4  build/buildSystem.rst

show inline notes

 @@ -49,7 +49,7 @@ own custom transforms and configuring the build system f

49 49 Overview

50 50 =====

51 51

52 -The design of the system is **simple**. It "discovers" a set of resources and of

52 +The design of the system is **somewhat complex**. It "discovers" a set of res  
ordered set of

53 53 resource-dependent transforms to those resources. Both the discovery proc

54 54 user-configurable JavaScript object termed a "profile".

Scott Davis

Utah AGRC

@ScottAGRC

stdavis@utah.gov

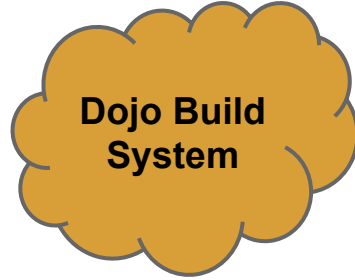
**6,157 words**

# summary sheet

<http://goo.gl/UcVHiG>

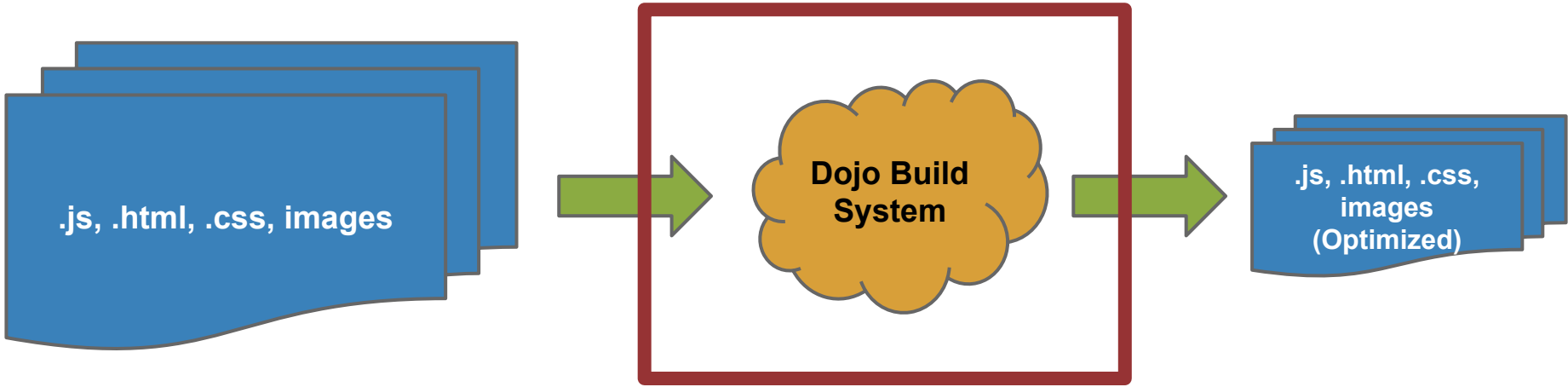
# Dojo Util

<https://github.com/dojo/util>





**transforms**



Transforms

# Minifies code

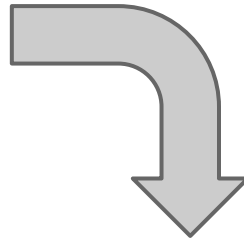
```
function (
  declare,

  _WidgetBase,
  _TemplatedMixin,
  _WidgetsInTemplateMixin,

  template,

  Map
) {
  return declare([_WidgetBase, _TemplatedMixin, _WidgetsInTemplateMixin], {
    templateString: template,
    widgetsInTemplate: true,

    postCreate: function () {
      // summary:
      //   widget dom is ready but not appended to document body yet
      //   sets up map
      console.log('app/App:postCreate', arguments);
    }
  });
}
```

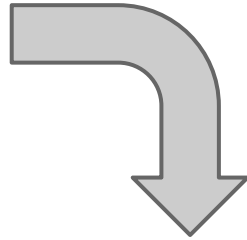


```
,function(a,b,c,d,e,f){return a([b,c,d]},{templateString:e,widgetsInTemplate:!0,postCreate
```



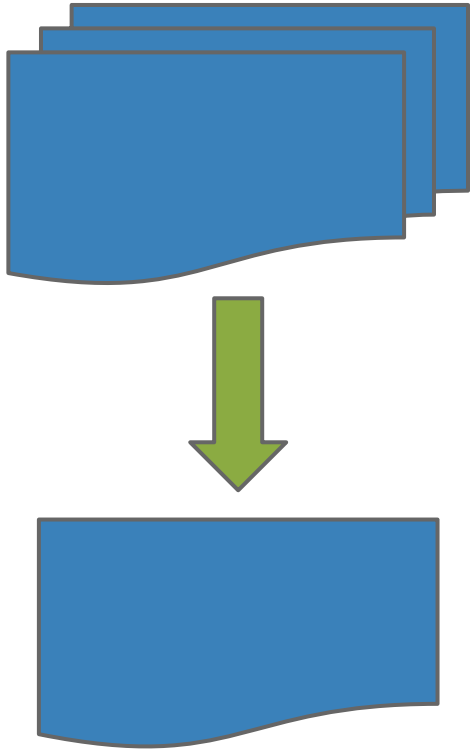
# Interns dojo/text! calls

```
define([  
  'dojo/_base/declare',  
  
  'dijit/_WidgetBase',  
  'dijit/_TemplatedMixin',  
  'dijit/_WidgetsInTemplateMixin',  
  
  'dojo/text!./templates/App.html',  
])
```



```
require({cache:{  
  'url:app/templates/App.html':"<div>\n    <h2>Hello Dojo",  
})  
define("app/App", [  
  'dojo/_base/declare',  
  
  'dijit/_WidgetBase',  
  'dijit/_TemplatedMixin',  
  'dijit/_WidgetsInTemplateMixin',  
  
  'dojo/text!./templates/App.html',  
])
```

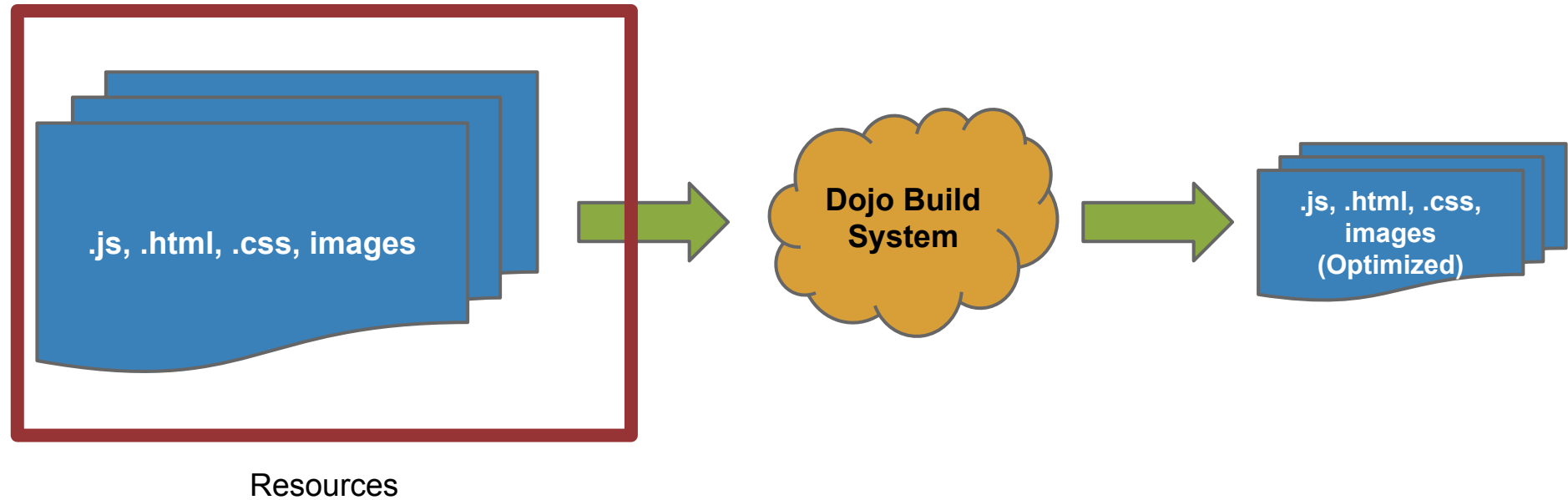
# Concatenates JS & CSS files



```
dojo/dojo:  
  dojo/dom-geometry  
  dojo/_base/array  
  dojo/_base/Deferred  
  dojo/request/watch  
  dojo/dom  
  dojo/text  
  dojo/dom-style  
  dojo/dom-form  
  dojo/request/default  
  dojo/parser
```

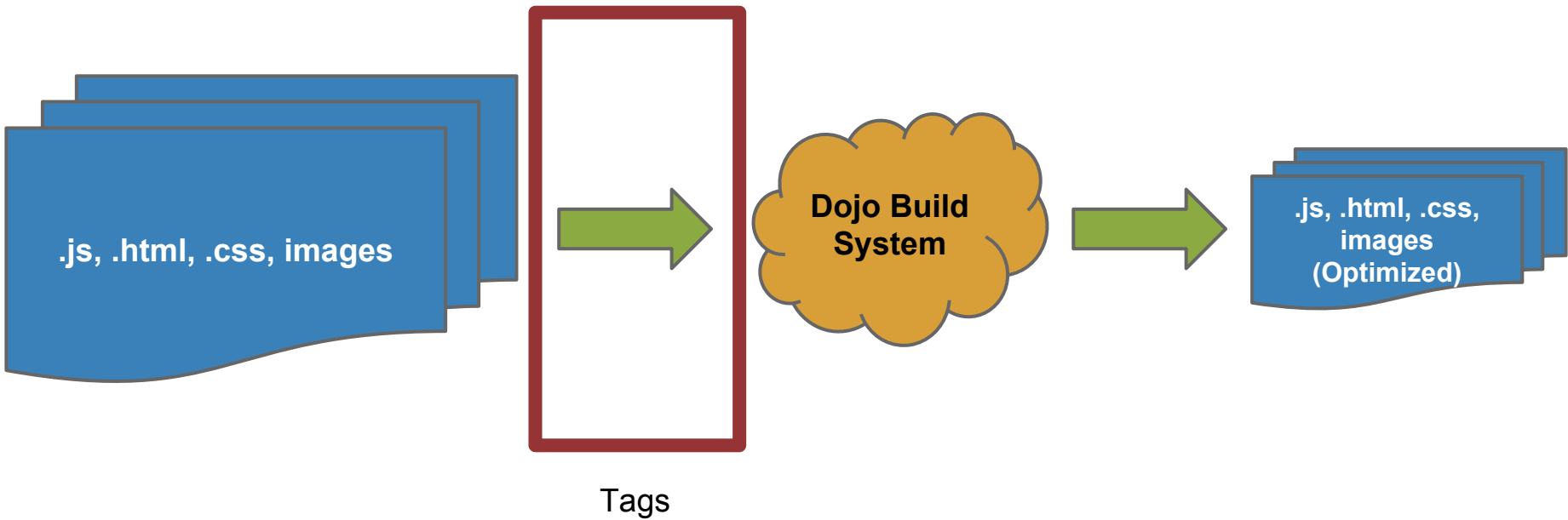


# resources





tags



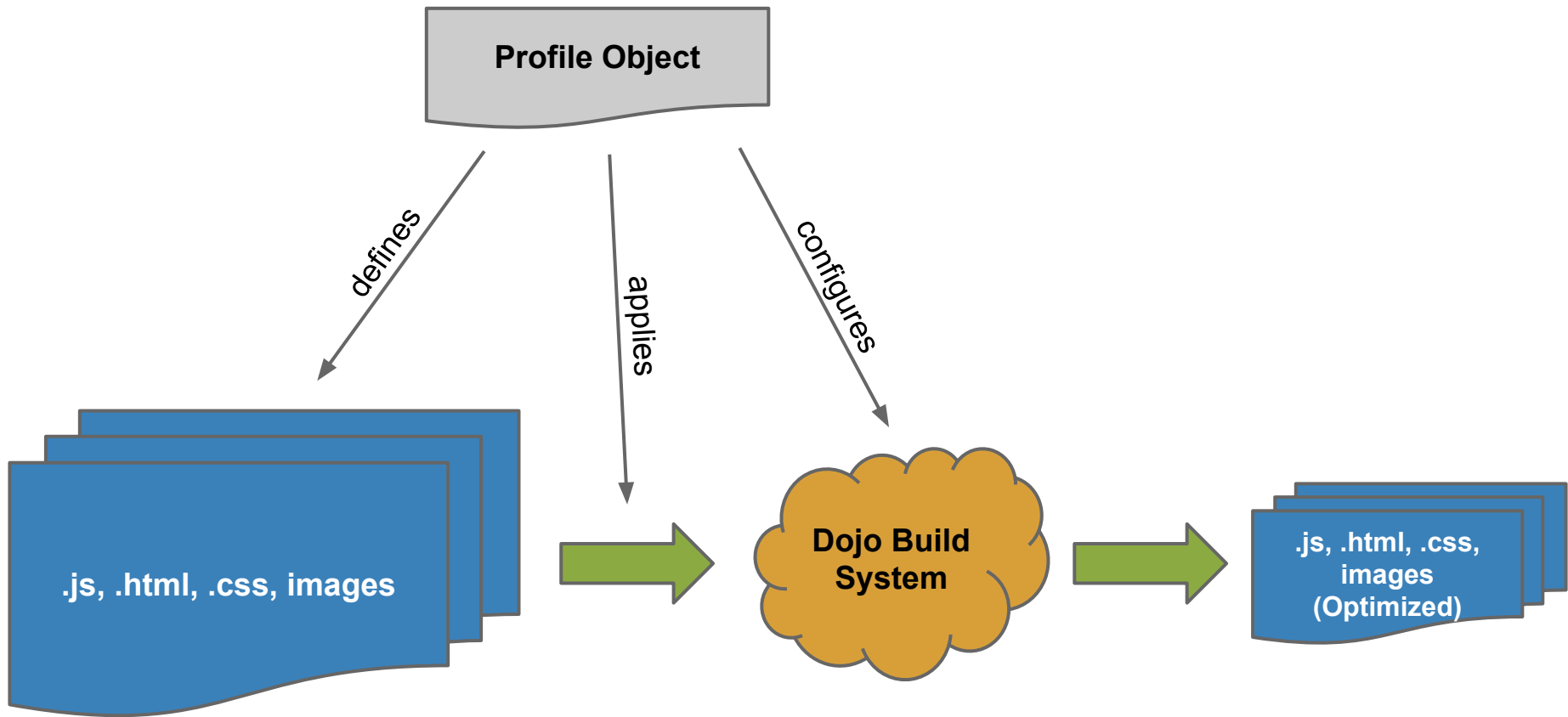
# Resource Tags

- test
- copyOnly
- amd
- declarative
- miniExclude



**profile object**





# Profile definitions

- AMD loader config
- dojoConfig
- \*.profile.js
- package.json
- command line

**simple demo**

# simple example stats

	<b>.css</b>	<b>.html</b>	<b>.js</b>	<b>Transferred (KB)</b>	<b>Approximate Load Time (ms)</b>
src	0	2	81	325	600
dist	0	2	24	91	200



layers

**layer demo**

# layer example stats

	<b>.css</b>	<b>.html</b>	<b>.js</b>	<b>Transferred (KB)</b>	<b>Approximate Load Time (ms)</b>
src	0	2	81	325	600
dist	0	0	1	60	200



# ESRI JS API



# already a layer

[js.arcgis.com/3.8](http://js.arcgis.com/3.8)

```
/*  
    Copyright (c) 2004-2011, The Dojo Foundation All Rights Reserved.  
    Available via Academic Free License >= 2.1 OR the modified BSD license.  
    see: http://dojotoolkit.org/license for details  
*/  
  
/*  
    This is an optimized version of Dojo, built for deployment and not for  
    development. To get sources and documentation, please visit:  
  
        http://dojotoolkit.org  
*/  
  
//>>built  
(function(b,n){var k,m,l=function(){},r=function(a){for(var c in a)return 0;return  
Array]""==q.call(a)},e=function(a,c){if(a)for(var d=0;a[d];)c(a[d++])},d=function(a  
{return Ma(a,c,d,0,p)},v=this,t=v.document,
```

# access to individual modules

```
define([
  'dojo/_base/declare',
  'dijit/_WidgetBase',
  'dijit/_TemplatedMixin',
  'dijit/_WidgetsInTemplateMixin',
  'dojo/text!./templates/App.html',
  'esri/map',
  './Widget'
], function (
```

# already optimized

```
18 //>>built
19 define("esri/map", "require dojo/_base/kernel esri/MapNavigationManager".split(" "), function(x, r,
20 lowerLeft: "panLowerLeft".upperLeft: "panUpperLeft"} .g=B.connect.m=B.disconnect.n=F.create.o=N.set
```

# original solution

## exclude layer

```
layers: {  
  'app/run': {  
    include: ['app/main', 'app/run'],  
    exclude: [  
      "dijit/_base/scroll",  
      "dijit/_TemplatedMixin",  
      "dijit/_Templated",  
      "dijit/_WidgetBase",  
      "dijit/_TemplatedMixin",  
      "dijit/_WidgetsInTemplateMixin",  
      "dojo/_base/array",  
      "dojo/_base/declare",  
      "dojo/_base/lang",  
      "dojo/_base/kernel",  
      "dojox/gfx/matrix",  
      "dojo/_base/Color",  
      "dojox/gfx/_base",  
      "dojox/xml/parser",  
      "dojox/xml/dom" ]  
  }  
}
```

## AMD loader plugin

```
define(function () {  
  // summary:  
  //   A dojo loader plugin for loading esri modules so that  
  //   they get ignored by the build system.  
  return {  
    load: function (id) {  
      // id: String  
      //   esri module id  
      require([id], function (mod) {  
        callback(mod);  
      });  
    }  
  };  
});
```

```
define(['app/EsriLoader!esri/map'], function (Map) { /*...*/ });
```

# problems

- Two layer files
- Unused layer files in ESRI's layer file.

[js.arcgis.com/3.8amd](https://js.arcgis.com/3.8amd)

# slurp\_esri\_modules.sh

## Preferred Argument Aliases

AMD-compliant modules allow for flexibility in how modules are named once they're load their code.

The purpose of this page is to provide a standard naming convention for how to reference the [Dojo AMD modules spreadsheet](#).

Module Path	Return Type	Preferred Arg Alias
Folder: esri		
esri/config	object	esriConfig
esri/domUtils	object	domUtils
esri/fx	object	esriFx
esri/graphic	class	Graphic
esri/graphicsUtils	object	graphicsUtils
esri/IdentityManager	class	IdentityManager

```
esri_modules_3.8.txt x
_coremap.js
arcgis/csv.js
arcgis/Portal.js
arcgis/Utils.js
config.js
css/esri.css
deferredUtils.js
dijit/_EventedWidget.js
dijit/_TouchBase.js
dijit/analysis/images/AggregatePoints32.png
dijit/analysis/images/Around32.png
dijit/analysis/images/AttributeCalculator32.png
dijit/analysis/images/BufferAttribute32.png
dijit/analysis/images/BufferDistance32.png
dijit/analysis/images/ClausesGroup16.png
dijit/analysis/images/ClausesGroup16disabled.png
```

**esri demo**



# esri example stats

	<b>.css</b>	<b>.html</b>	<b>.js</b>	<b>Transferred (KB)</b>	<b>Approximate Load Time (ms)</b>
src	2	2	175	734	1700
dist	1	0	1	305	750

# But what about [jso.arcgis.com](https://jso.arcgis.com)?

- Same tool behind the scenes
- Total control
- Integrate with CI systems
- Instant builds
- No network required

# Questions?

Summary Sheet

<http://goo.gl/UcVHiG>

Scott Davis  
Utah AGRC  
@ScottAGRC  
stdavis@utah.gov