

dojo.things()

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dōjō

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The History of Dojo

(über-cliffnote version)

A Foundation.



A Team.

dojo.workers()



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<http://demos.dojotoolkit.org/demos/skew/>

The Dojo Toolkit

- Long standing Development
- Friendly Professional Community
- Liberally Licensed, Clean IP

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dijit

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<http://dojotoolkit.org> <http://dojofoundation.org>

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What is Dojo?

- Unified JavaScript Toolkit
 - Supafast Light-weight Base (6k - 30k)
 - Package System
 - Use at will Library
 - Countless tools
 - Exposed Foundations
 - Defined deprecation policies
 - Defined release policies



I LEARNED IT LAST NIGHT! EVERYTHING IS SO SIMPLE!
HELLO WORLD IS JUST
print "Hello, world!"

I DUNNO...
DYNAMIC TYPING?
WHITESPACE?

COME JOIN US!
PROGRAMMING
IS FUN AGAIN!
IT'S A WHOLE
NEW WORLD
UP HERE!
BUT HOW ARE
YOU FLYING?

I JUST TYPED
import antigravity

THAT'S IT?

... I ALSO SAMPLED
EVERYTHING IN THE
MEDICINE CABINET
FOR COMPARISON.
BUT I THINK THIS
IS THE P~~YTHON~~.P

<http://xkcd.com/353>



It's just JavaScript.

Base Dojo (aka: dojo.js)

`<?php echo $this->dojo() ?>`

What you get:

- DOM:
 - byld, attr, place, clone, create, empty, position
- CSS:
 - style, addClass, removeClass, toggleClass, hasClass
- Ajax:
 - xhr, xhrGet/Post/Delete/Put, Deferred
- Language:
 - connect, hitch, partial, delegate, declare, mixin, extend
- Array:
 - forEach, map, filter, indexOf, lastIndexOf, some, every
- JSON:
 - toJson, fromJson, queryToObject, objectToQuery, formToJson/Object/Query
- FX:
 - Color Animations, anim, animateProperty, fadeIn/Out
- <http://download.dojotoolkit.org/current-stable/cheat.html>

dojo.query / dojo.NodeList

- Fastest available Selector Engine - “Acme”
- 1:1 pairing with dojo.* functions
 - `dojo.style("nodeid", { props })` // fast
 - `dojo.query("#nodeid").style({ props })` // sugar
- Syntactic Sugar for events:
 - `dojo.query(".bar").onclick(fnA).onmouseenter(fnB)`

Dojo Plugins

```
// give all NodeList instances a hash of new functions:
dojo.extend(dojo.NodeList, {
  color: function(color){
    // set nodes to a color. getter/setter:
    return this.style("color", color);
  },
  html: function(markup){
    // set the HTML to some passed markup snippet
    return this.forEach(function(n){
      n.innerHTML = markup;
    });
  }
});
```

Bling.

```
(function($){  
  
    $("#foo .bar")  
        .onclick(function(e){  
            // normalized 'e'  
        })  
        .forEach(function(n){  
            // closed 'n'  
            dojo.attr(n, "title", "Touched")  
        })  
        .attr("title", "ReTouched!")  
;  
  
})(dojo.query);
```


Package Basics

- API:
 - `provide(module)`
 - `require(module)`
 - `platformRequire(platform, module)`
 - `requireIf(someCondition, module)`
 - `registerModulePath(namespace, path)`

With Zend Framework ...

```
// teh php:
$this->dojo()->enable()
    ->registerModulePath("myns", "../myns")
    ->requireModule("myns.plugin");

// and js: ../myns/plugin.js
dojo.provide("myns.plugin");
(function($, d){

    d.extend(d.NodeList, { ... });

    d.declare("myns.Thing", null, {
        template: d.cache("myns", "templates/Thing.html"),
        constructor: function(args, node){
            d.mixin(this, args);
            d.place(this.template, node, "replace");
        }
    });

})(dojo.query, dojo);
```

Using “layers”

```
// teh php:
$this->dojo()->enable()
    ->registerModulePath("myns", "../myns")
    ->requireModule("myns.kernel");
// or:
$view->dojo()->addLayer("/js/myns/kernel.js");

// and js: ../myns/kernel.js
dojo.provide("myns.kernel");
dojo.require("myns.stuff");
dojo.require("dojox.image.LightboxNano");
dojo.require("myns.FirstWidget");
```

Ajax is eaaaaaasy

- All route through `dojo.xhr(verb, kwArgs)`
- Common `dojo.Deferred` interface
- Definable custom content handlers

Ajax is eaaaaaasy

```
// basic.
dojo.xhrGet({
  url: "/foo",
  load: function(data){
    dojo.byId("bar").innerHTML = data;
  }
});

// direct dfd
var inflight = dojo.xhrGet({ url: "/foo" })
  .addCallback(function(data){ ... })
  .addErrback(function(error){ ... })
;

// alternate content-type:
dojo.xhrPost({
  url: "/foo/bar",
  handleAs: "json",
  load: function(data){
    for(var i in data){ ... }
  }
});
```

Custom Content Handlers

```
// define the content-handler
dojo.mixin(dojo.contentHandlers, {
  loadInto: function(xhr){
    var n = dojo.byId(xhr.ioArgs.node);
    n.innerHTML = xhr.responseText;
  }
});

// use the content-handler
dojo.xhrGet({
  url: "/foo",
  handleAs: "loadInto",
  node: "someId"
});
```

Events

- dojo.connect
 - DOM or Functional
 - Built-in scoping (everywhere!)
 - Explicit disconnect
- Topics
 - publish/subscribe/unsubscribe

Events

```
var n = dojo.byId("foo");

// plain ole' onclick
dojo.connect(n, "click", function(e){ ... });

// calls thisObj.method(e) in scope of thisObj
dojo.connect(n, "mouseenter", thisObj, "method");

// anonymous with scope
dojo.connect(n, "keydown", thisObj, function(e){
    // "this" == thisObj
});

// with query:
dojo.query("#foo")
    .onclick(function(e){ })
    .mouseenter(thisObj, "method")
    .keydown(thisObj, function(e){ ... })
;
```


Topics

```
// same hitching pattern:  
dojo.subscribe("/are/you/listening", function(a, b, c){ ... });  
dojo.subscribe("/are/you/listening", thisObj, "method");  
dojo.subscribe("/are/you/listening", thisObj, function(){ ... });  
  
// trigger it all  
dojo.publish("/are/you/listening", [1, 2, 3]);
```

hitch()

```
// mini singleton
var myObj = {
  counter:0,
  addOne: function(){
    this.counter++;
  }
}

// more hitching pattern:
dojo.connect(n, "onclick", myObj, "addOne");
dojo.subscribe("/who/knows", myObj, "addOne");

var adder = dojo.hitch(myObj, "addOne");
dojo.connect(n, "mouseenter", adder);
```

hitch() for Classes

```
dojo.declare("my.Thing", null, {  
    url: "/foo",  
    message: "",  
    loader: function(){  
        dojo.xhrGet({  
            url: this.url,  
            load: dojo.hitch(this, "handler")  
        })  
    },  
    handler: function(data){  
        this.message = data;  
    }  
});  
  
var mt = new my.Thing();  
mt.loader();
```

FX

- `dojo.animateProperty(kwArgs)`
- `dojo.anim(node, props, ...)`
- `dojo.fadeOut(kwArgs)`
- `dojo.fadeIn(kwArgs)`
- `new dojo.Animation(kwArgs)`

Animation Events

```
var anim = dojo.fadeOut({ node:"bar" });
dojo.connect(anim, "onEnd", function(n){
    // animation is done
});
dojo.connect(anim, "beforeBegin", function(n){
    // animation starts after this
});
dojo.connect(anim, "onBegin", function(n){
    // animation just started
});
anim.play();

// also onAnimate, onPlay, onStop, etc.

dojo.fadeOut({ node:"baz", onEnd:function(n){ /* inline, too */ }).play();
```


FX++

- `dojo.require("dojo.fx"); // or dojox.fx ...`
- `dojo.fx.chain([animations])`
- `dojo.fx.combine([animations]);`
- `dojo.fx.wipeIn/Out/slideIn/Out/etc`

Core Dojo

dojo.require() away

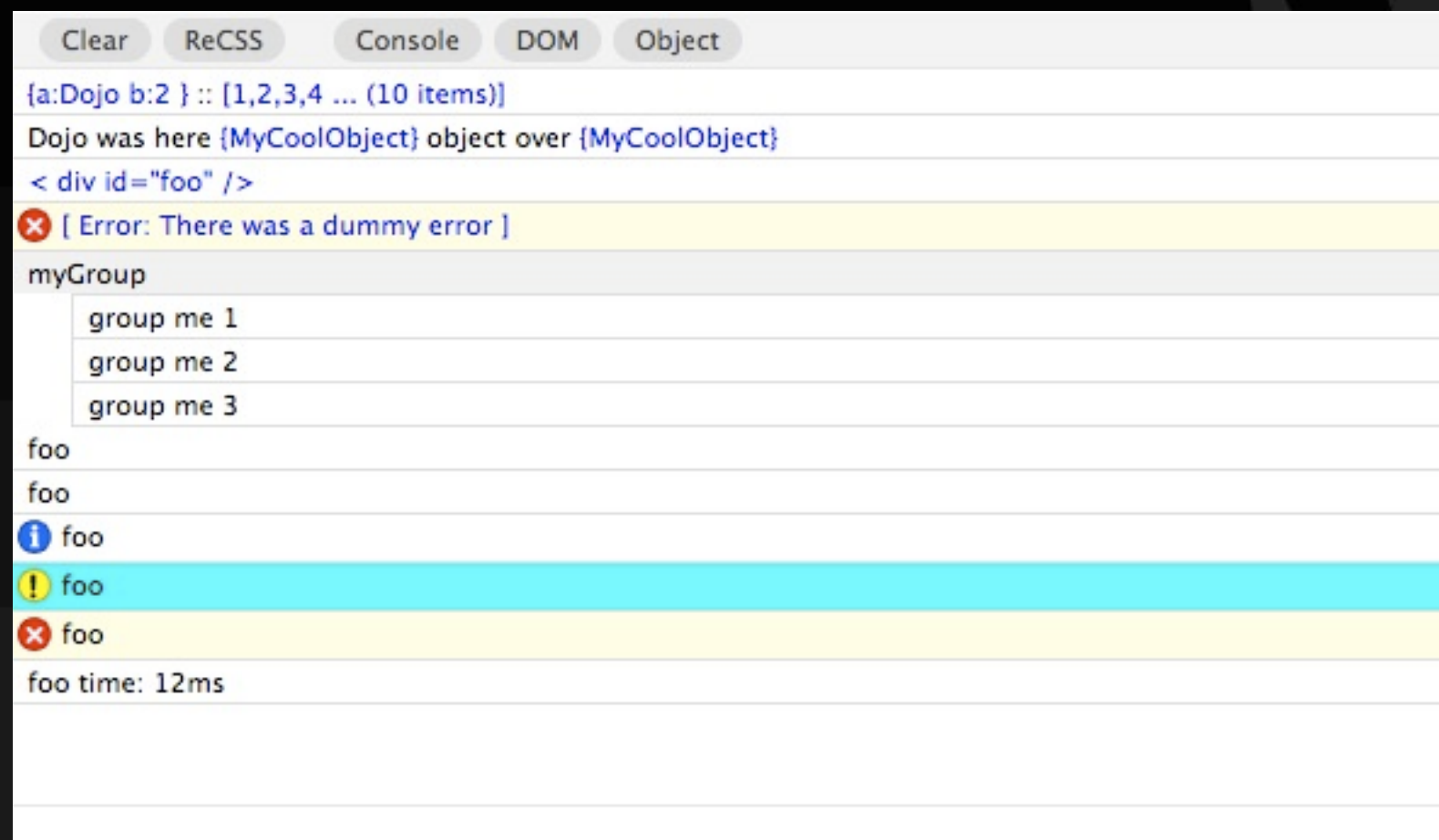
- dojo.data
 - Common API for data handling
- Advanced I/O
 - dojo.io.script, dojo.io.iframe ...
- dojo.cookie
- dojo.behavior!

Behavior?

```
dojo.behavior.add({
  ".foo .bar": function(n){
    // newly found
  },
  "#baz":{
    "found": function(n){
      // also newly found
    },
    "onclick": function(e){
      // handler
    }
  }
});

dojo.behavior.apply();
```

Live behaviors available in `plugd`



Firebug Lite

Dijit (Dojo Widgets)

Dijit widget system

- `dijit._Widget` / `dijit._Templated` / etc
- `dijit.Dialog` / `dijit.layout.TabContainer` / etc
- `dijit.form.ValidationTextBox` / etc

Declarative vs Programatic

```
new dijit.Dialog({  
    title:"Hi There",  
    href:"/foo/bar",  
    id:"bar"  
});
```

```
<!-- same as: -->  
<div id="bar" dojoType="dijit.Dialog" title="Hi There" href="/foo/bar"></div>
```

Declarative vs Programmatic

```
Zend_Dojo_View_Helper_Dojo::setUseDeclarative();  
Zend_Dojo_View_Helper_Dojo::setUseProgrammatic();  
Zend_Dojo_View_Helper_Dojo::setUseProgrammatic(-1);
```

customDijit FTW!

```
// consider:
new my.Thing({ someAttribute:"something" }, "nodeid")

// versus:
<div dojoType="my.Thing" someAttribute="something" id="nodeid">
  <p>Inner Content</p>
</div>

// in PHP:
<?php $this->customDijit()->captureStart(
    'baaar',
    array(
        dojoType => "my.Thing",
        someAttribute => "something"
    )
); ?>
  <p>Inner Content</p>
<? php echo $this->customDijit()->captureEnd('baaar'); ?>
```

DojoX

(X !== experimental)

DojoX, briefly.

- Sandbox
- Cutting Edge
- Un-categorized

DojoX, briefly.

- `dojox.gfx`
- `dojox.charting`
- `dojox.cometd` / `org.cometd`
- `dojox.grid`
- `dojox.widget` / `dojox.layout` / `dojox.form`
- `dojox.image`
- `dojox.data`
- `dojox.rpc` / SMD

RPC / SMD

```
dojo.require("dojox.rpc.Service");

var goog = new dojox.rpc.Service("google.smd");

goog.websearch({ q:"Dojo" }).addCallback(function(response) {
    // handle the responses
});

goog.booksearch({ q:"Dojo" }).addBoth(function(response) {
    // Books about Dojo
});
```

dojox.data Stores:

- AndOrReadStore
- AppStore
- AtomReadStore
- CouchDBRestStore
- CssRuleStore
- CsvStore
- FileStore
- FlickrRestStore / FlickrStore
- GoogleFeedStore
- GoogleSearchStore
- HtmlStore
- jsonPathStore
- jsonRestStore
- OpmlStore

Dojo Build System

All-in-One

- Works transparently with Package System
- Group modules into 'layers'
- Concatenate CSS @import into 'layers'
- Layer & File minification
 - Comments, Whitespace, newlines ...
- stripConsole (console.warn, .log, .error)

#ifdef in JavaScript?

// the code:

```
//>>excludeStart("something", kwArgs.condition == true);  
/* code to exclude */  
//>>excludeStop("something");
```

exclude it:

```
./build.sh condition=true profile=myprofile
```

Development Debugging

```
// ...
handler: function(data){
  if(data && !data.error){
    /* do something with the data */
  }
  //>>excludeStart("debuggykins", true);
  else{
    console.warn("We require data, and didn't get it.");
    console.log("got:", arguments);
  }
  //>>excludeStop("debuggykins");
},
// ...
```

Special Builds

- Stubs (6k dojo.js)
- Base++ (dojo.js with modules)
- Cross-Domain
- plugd
- Scope Burning



MooJo?

scopeMap + kwArgs

```
// Dojo?  
Moo.load(function(){  
    place("<p>Hello, Moojo</p>", "container");  
    query("p")  
        .style("fontSize", "10px")  
        .animate({  
            fontSize:{ end: 42 }  
        })  
    ;  
});
```

```
//>>excludeStart("auto", kwargs.autoConflict == "on")
if(dojo.config.conflict){
//>>excludeStop("auto")

    // exportNS is a plugin plugin
    dojo.exportNS(dojo, dojo.global);

//>>excludeStart("auto", kwargs.autoConflict == "on")
}
//>>excludeStop("auto")
```


Questions?

Gracias.

(me, again)

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<http://twitter.com/phiggins>

<http://higginsforpresident.net/>

<http://dante.dojotoolkit.org>

<http://joind.in/936>

Some resources:

<http://dojotoolkit.org>
<http://dojocampus.org/explorer>
<http://dojocampus.org>
<http://download.dojotoolkit.org>
<http://docs.dojocampus.org>
<http://demos.dojotoolkit.org>