

Building Frontends

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Recipes to become a good front-end developer

- Load Javascript code efficiently
- Ensure the DOM is loaded with `window.onload`
- Write good Javascript code
- Encapsulate Javascript in closures
- Create a Frontend API

The problem with Javascript interpreters

- ✓ **Good Javascript** is interpreted by browsers in a consistent way
- ⦿ **Bad javascript** code is loosely interpreted by browsers in an inconsistent way

Solution 1: using **strict mode**

- ➡ Force the browser to validate Javascript against the standard
- ✓ Dynamically raises errors (or warnings) in the console when the code is not compliant with the standard

```
"use strict";
```

```
var doSomething = function() {  
    // this runs in strict mode  
}
```

Solution 2 : using **JSHint**

- ➡ Analyze Javascript source code with JSHint
- ✓ Statically finds bugs and reports them in the terminal

```
$ npm install -g jshint  
$ jshint js
```


Problem with scoping

- ➡ In the browser, all Javascript files share the same execution environment i.e they share the same scope
 - ⦿ variable (and function) naming conflicts
 - ⦿ strict mode applied to all

Scoping problem with variable names

```
file1.js  
var doSomething = function() {  
    // first declaration of doSomething  
}
```

```
file2.js  
var doSomething = function() {  
    // shadowing doSomething from file 1  
}
```

Scoping problem with strict mode

file1.js

```
"use strict";
```

```
var doSomething = function() {  
    // strict mode applies  
}
```

file2.js

```
var doSomethingElse = function() {  
    // strict mode applies too  
}
```


Solution : encapsulate Javascript in **a closure**

```
(function() {  
    "use strict";  
  
    var private = function() {  
        // private is not available from outside  
    }  
})();
```

Solution : encapsulate and export the **namespace**

```
var $ = (function() {  
    "use strict";  
  
    var export = {};  
  
    var private = function() {  
        // private is not available from outside  
    }  
  
    export.public = function() {  
        // public is available from outside  
    }  
  
    return export;  
} ( ) );
```

Structuring the frontend

