

How to add retro-compatibility, an example

Introduction

A polyfill is a piece of JavaScript code you include in your HTML page, that will emulate HTML5 features not yet implemented in browsers. Usually a polyfill starts emulating a feature only when native support is not detected.

You can find a list of polyfills on <http://caniuse.com/>^[1] or on <http://html5please.com/>^[2] Web sites, and more generally if you look for the name of the feature and add the "polyfill" search keyword to your Google, Bing, Yandex etc. request.

Some librairies such as <http://modernizr.com/>^[3] are packed with a lot of polyfills that will be loaded on demand only when the browser is not supporting a native feature.

Example with `<details>` and `<summary>`

`<details>` `<summary>` are still not supported by all browsers. How can we use them in a Web site? The answer is: use a polyfill!

Version 1: no polyfill

We wrote a small contact manager application (just the layout, it does not really work), composed of a form and a table for displaying contacts. The form is in a `<details>...<summary>` elements.

Online version: <http://jsbin.com/tupuxo/1/edit>^[4]

Result on Google Chrome (which does support `summary/details`):

Contact manager

Welcome / Contacts

Add / Modify a contact

► Click to show the form.  Summary/details here, folded

Contact list

First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2
Johnny	Halliday	0656453434	johnny.halliday@rocker.fr	17/08/1952	3
Eddy	Mitchell	0656453423	eddy.mitchell@rocker.fr	17/08/1956	2

New contact

Contact manager

Welcome / Contacts **Unfolded (we clicked on "show the form")**

Add / Modify a contact

▼ Click to show the form.

New contact

Last name:

First name:

Telephone :

Email:

Birthdate:

jj/mm/aaaa

Children:

05

Contact list

OK

First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2

On Firefox or Internet Explorer the form is always visible, as `<summary>` and `<details>` are not supported yet:

Contact manager

Welcome / Contacts

Add / Modify a contact

Click to show the form.

New contact

Last name:

First name:

Telephone :

Email:

Birthdate:

Children: 0 5

Contact list OK

First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2

The form is always visible, the `<summary>` and `<details>` elements are not implemented !

Version 2 with a light polyfill

Online version (try it now on Internet Explorer and Firefox, it works as expected as `summary/details` are at this time emulated by JavaScript code): <http://jsbin.com/tupuxo/7/edit>^[5]

Explanations: we used a light polyfill, the one indicated by caniuse.com (<https://gist.github.com/remy/370590>)^[6]:

Details & Summary elements - LS Global 67.43

The <details> element generates a simple no-JavaScript widget to show/hide element contents, optionally by clicking on its child <summary> element.

Current aligned
Usage relative
Show all

IE	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android
		31						
		36						
		37						
		39						
8	31	40					4.1	
9	36	41					4.3	
10	37	42	7	28	7.1		4.4	
11	38	43	8	29	8.3	8	4.4.4	42
Edge	39	44		30				
	40	45		31				
	41	46						

Notes
Known issues (1)
Resources (9)
Feedback

- Specification [html.spec.whatwg.org] ref
- WebPlatform Docs [docs.webplatform.org] ref
- HTML5 Doctor article [html5doctor.com] info
- Bug on Firefox support [bugzilla.mozilla.org] info
- Fallback script [gist.github.com] polyfill
- jQuery fallback script [mathiasbynens.be] info polyfill
- has.js test [raw.github.com] info
- IE platform status: Under Consideration [status.modern.ie] official status
- Chrome platform status: Enabled by default [chromestatus.com] official status

We tried this one. We clicked on the link and found a piece of code we can use...

The link points to the JavaScript code you must include in your Web page. But, in the comments of the polyfill page, you will find an online example at jsbin.com:



commented on 4 Jul 2010

<http://jsbin.com/akadi4>

(Remember [this discussion?](#))

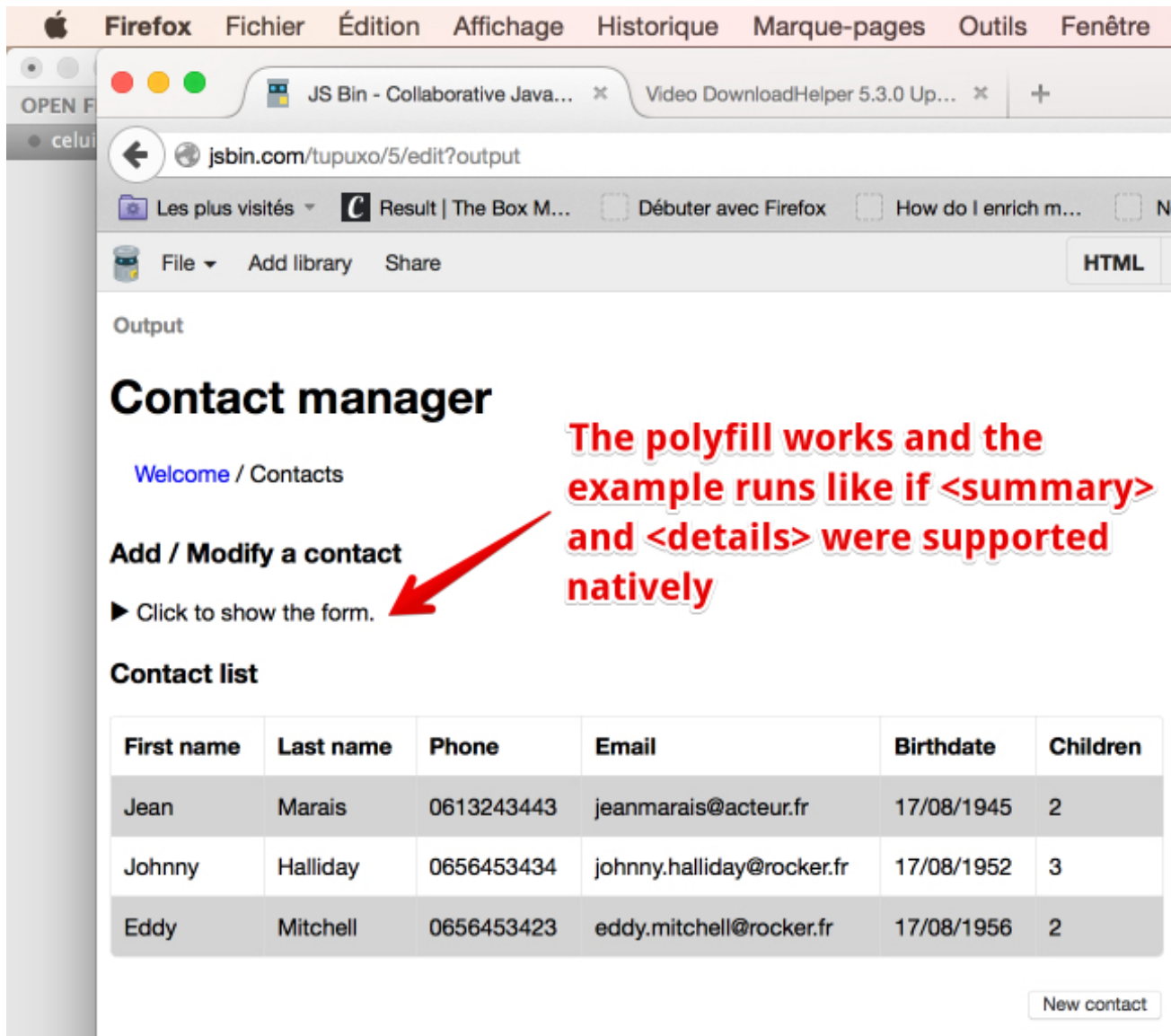
You follow the link to see a running example, or directly copy and paste the code from the main page, then include it in your Web page using the <script> element:

Either use <script src="mypolyfill.js"> (in this case put the polyfill in a file mypolyfill.js) or if you want to try it on jsbin.com, just copy it into the jsBin script tab, or include it directly between <script>...</script>. This is what we did:

1. <!DOCTYPE html>
2. <html>
3. <head>
4. <metacharset"UTF-8"

5. <title>Contact manager</title>
6. <script>
7. (function(function;... // POLYFILL CODE HERE!
8. ...
9. </script>
10. </head>

Now the example works on FireFox and Internet Explorer! This is a screenshot taken with FireFox:



Here is another example with a more complicated case^[7] (nested summary/details), that shows that this polyfill does not handle 100% perfectly nested elements.

Version 3 with a "heavy" polyfill

UPDATE! WARNING: this version apparently does not work anymore on IE. We

contacted the authors of the polyfill as it used to work not so long ago. In between, try on IE the previous and next polyfills, they do work. This one is anyway an "heavy" one we do not really recommend. It was here to show how retro compatibility can become an heavy task. If you have retro compatibilities constraints for a commercial project, and if your customer asks for old IE compatibility, do not forget to charge him extras for that!

Actually, the previous version works on recent browsers that do not implement `<summary>` and `<details>`, but not on "old" browsers such as Internet Explorer 7. Some "heavy" polyfills exist and add support even to these older browsers and provide a better JavaScript API and CSS styling emulation.

This time we searched on the Web for the most complete polyfill and found this one: <https://github.com/termi/Element.details>^[8]. The Web site includes a demo, we copied and pasted the required code from there.

Here is the online version: <http://jsbin.com/nogate/1/edit>^[9], try it if you can, with an old browser (even older than 2012).

Look at the source code (the beginning of the HTML file), you will see why we call it "heavy" ;-)

Version 4 with a polyfill that is 100% accessible

The summary / details elements have been designed to be accessible, thus usable only with a keyboard too. This example sent to me by Steve Faulkner is 99% correct in terms of functionality (small problem of alignment with nested summary/details) and accessibility! **It's the recommended choice!**

Original example of use of the polyfill:

The contact manager form with this polyfill:

Links

1. <http://caniuse.com/>
2. <http://html5please.com/>
3. <http://modernizr.com/>

4. <http://jsbin.com/tupuxo/1/edit>
5. <http://jsbin.com/tupuxo/7/edit>
6. <https://gist.github.com/remy/370590>
7. <http://jsbin.com/qociye/3/edit>
8. <https://github.com/termi/Element.details>
9. <http://jsbin.com/nogate/1/edit>

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