



python in the browser

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PyCon 2010

IronRuby

python in the browser

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5 min	Introduction
5 min	“Hello, World”
5 min	Man behind the curtain
10 min	Batteries included
5 min	EARLY PROTOTYPE of Silverlight tooling for Visual Studio

... setting expectations

- Python is not available in the browser by default
 - Downloaded on-demand with each app
- Uses Silverlight for executing Python



Microsoft®

Silverlight®

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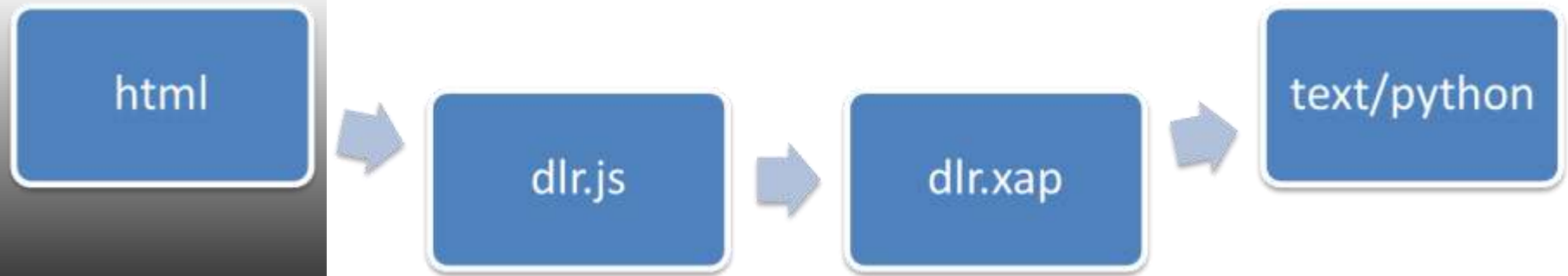
5 min Introduction

5 min “Hello, World”

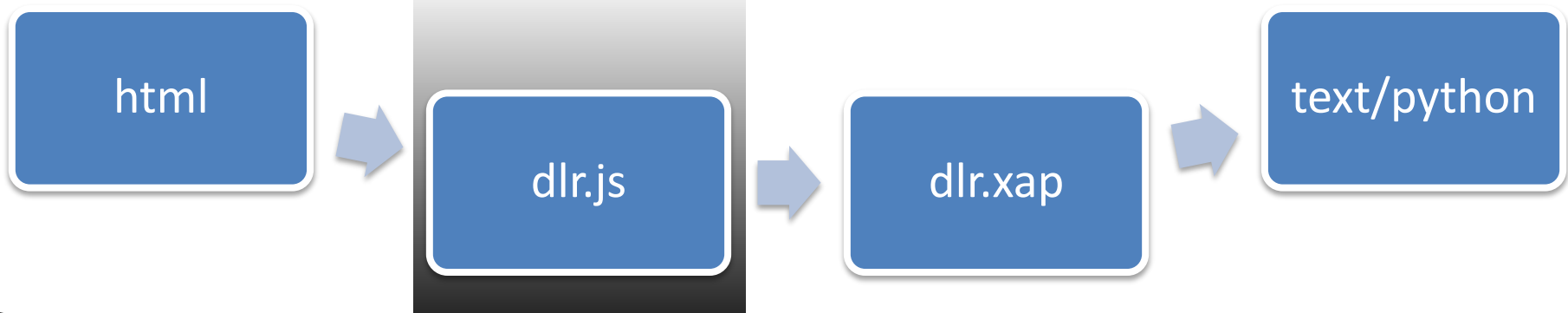
5 min Man behind the curtain

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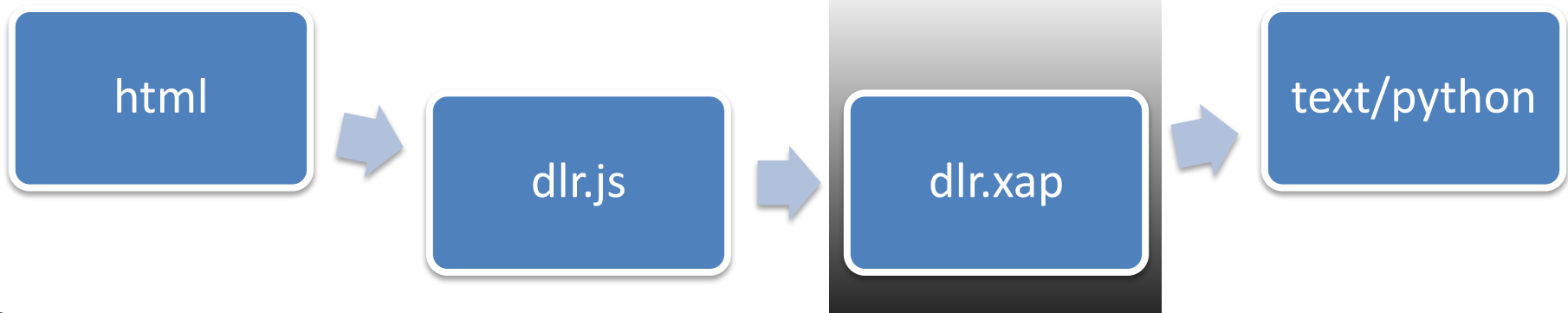


```
<script  
  src="http://go.ironpython.net/dlr.js">  
</script>
```



Injects Silverlight into the HTML page:

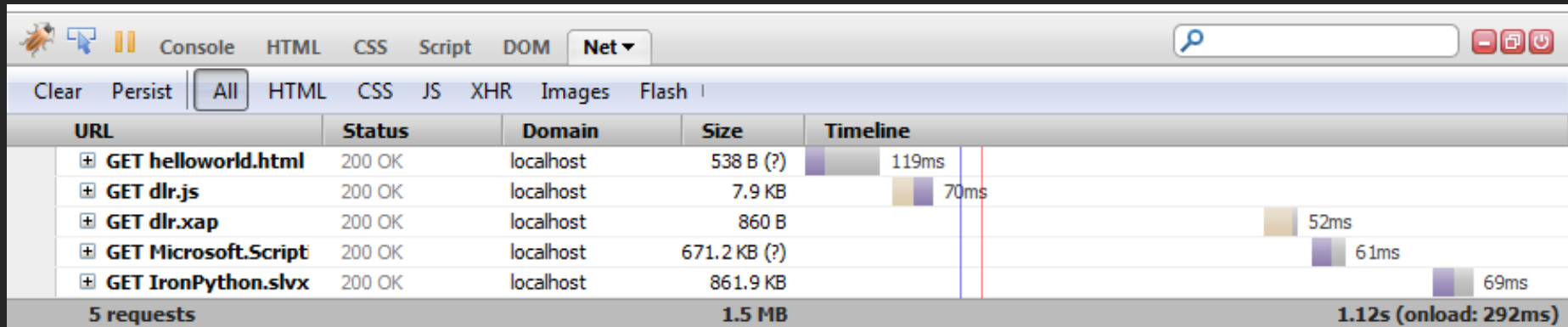
```
<object type="application/x-silverlight">  
  <param  
    name="source"  
    value="http://go.ironpython.net/dlr.xap" />  
</object>
```



- Static Silverlight application
 - Microsoft.Scripting.Silverlight.dll
- Hosts the Dynamic Language Runtime
 - Downloads languages on-demand
- Executes script tags on HTML page

IronPython Payload

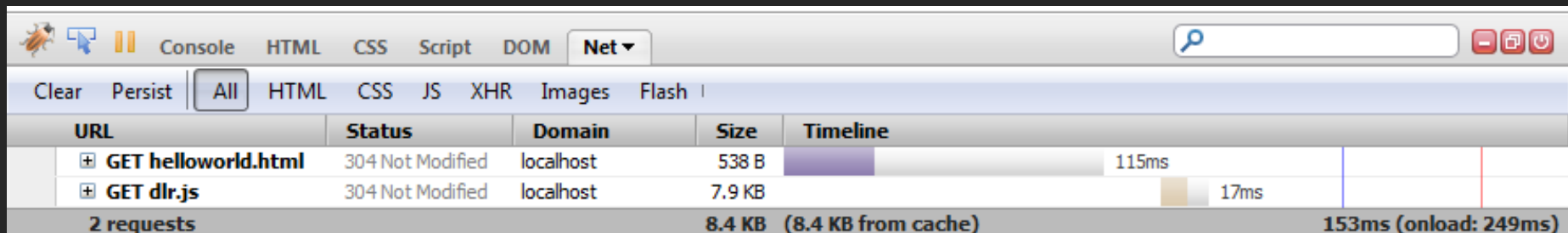
First request ~ 1.5 MB



The screenshot shows the Chrome DevTools Network tab with the 'Net' dropdown selected. The table lists five requests, all with a status of 200 OK and a domain of localhost. The first request, GET helloworld.html, is 538 B. The second, GET dlr.js, is 7.9 KB. The third, GET dlr.xap, is 860 B. The fourth, GET Microsoft.Script, is 671.2 KB. The fifth, GET IronPython.slvx, is 861.9 KB. The total size is 1.5 MB and the total time is 1.12s (onload: 292ms).

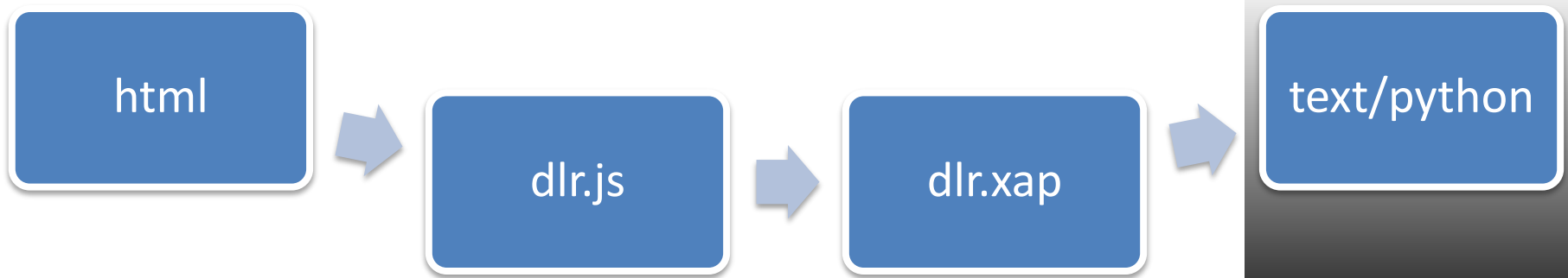
URL	Status	Domain	Size	Timeline
GET helloworld.html	200 OK	localhost	538 B (?)	119ms
GET dlr.js	200 OK	localhost	7.9 KB	70ms
GET dlr.xap	200 OK	localhost	860 B	52ms
GET Microsoft.Script	200 OK	localhost	671.2 KB (?)	61ms
GET IronPython.slvx	200 OK	localhost	861.9 KB	69ms
5 requests			1.5 MB	1.12s (onload: 292ms)

N requests ~ 8 KB

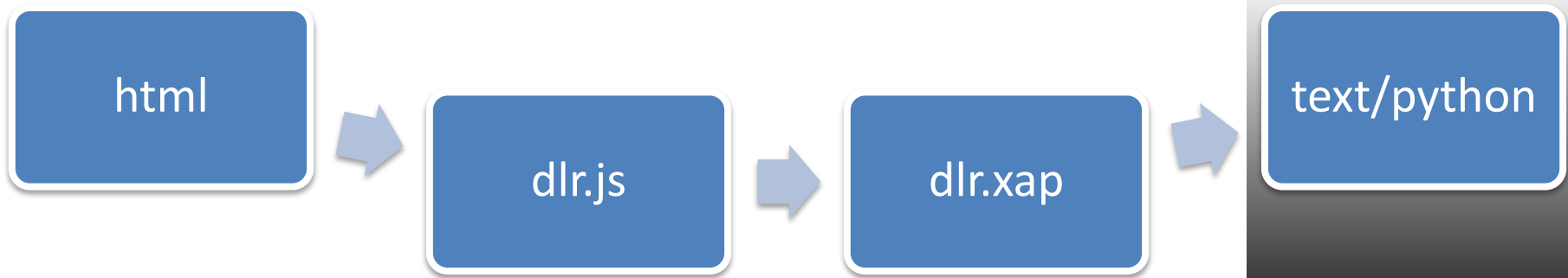


The screenshot shows the Chrome DevTools Network tab with the 'Net' dropdown selected. The table lists two requests, both with a status of 304 Not Modified and a domain of localhost. The first request, GET helloworld.html, is 538 B. The second, GET dlr.js, is 7.9 KB. The total size is 8.4 KB (8.4 KB from cache) and the total time is 153ms (onload: 249ms).

URL	Status	Domain	Size	Timeline
GET helloworld.html	304 Not Modified	localhost	538 B	115ms
GET dlr.js	304 Not Modified	localhost	7.9 KB	17ms
2 requests			8.4 KB (8.4 KB from cache)	153ms (onload: 249ms)



```
<script type="text/python">  
    def say_ouch(s,e):  
        s.html = "Ouch"  
    document.message.onclick += say_ouch  
</script>
```



```
var pythonString = @"  
def say_ouch(s,e):  
    s.html = "Ouch"  
document.message.onclick += say_ouch  
";  
var engine = Python.CreateEngine();  
engine.Execute(pythonString);
```

ironpython.net/browser/sl-back-to-just-text.pdf

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Now you know ...

- What a Python browser app looks like
- What is going on behind the scenes
- How to use real python libs in the browser
- How to use Silverlight APIs from Python
- That there is a prototype of IronPython tooling for Visual Studio in your swag bag!

ironpython.net/browser

Questions?



Thanks!

ironpython.net/browser

It Runs On .NET