



Web Apps
without
the Web

Remy Sharp / @rem

What's what.



HTML5

"HTML5"

"HTML5"

HTML5

Offline applications

Offline events

Canvas

Video

Web Forms

HTML5

MOAR!!!

Geolocation

Web Workers

Web Sockets

Web SQL Databases

Web Storage

HTML5

Offline applications

Offline events

Canvas

Video

Web Forms

HTML5 Apps

"Offline Storage"



Offline cache

Data storage

1. Web Storage

2. Web SQL Databases

3. HTML5 offline applications

4. APIs of the future

Web Storage

(cookies on steroids)



Web Storage

(cookies on steroids)



Cookies Suck.

***Two windows have
access to the same
"session" cookie***

Storage

window based

sessionStorage

localStorage

Storage

window based

sessionStorage

domain based

localStorage

Setting

```
sessionStorage.setItem('version',5);
```

Setting

```
sessionStorage.setItem('version', 5);
```

```
sessionStorage.version = 5;
```


Setting

```
sessionStorage.setItem('version', 5);
```

```
sessionStorage.version = 5;
```

```
sessionStorage['version'] = 5;
```

HTML 5 Demos and Examples

http://html5demos.com/ Google

HTML 5 Demos and Examples

HTML 5 experimentation and demos lye hooked together

Elements Resources Scripts Profiles Databases Search Databases

Key	Value
version	5

DATABASES LOCAL STORAGE html5demos.com SESSION STORAGE html5demos.com

```
> sessionStorage.setItem('version', 5)
undefined
>
```

Getting

```
sessionStorage.getItem( 'version' );
```

Getting

```
sessionStorage.getItem( 'version' );
```

```
sessionStorage.version;
```

Getting

```
sessionStorage.getItem( 'version' );
```

```
sessionStorage.version;
```

```
sessionStorage[ 'version' ];
```

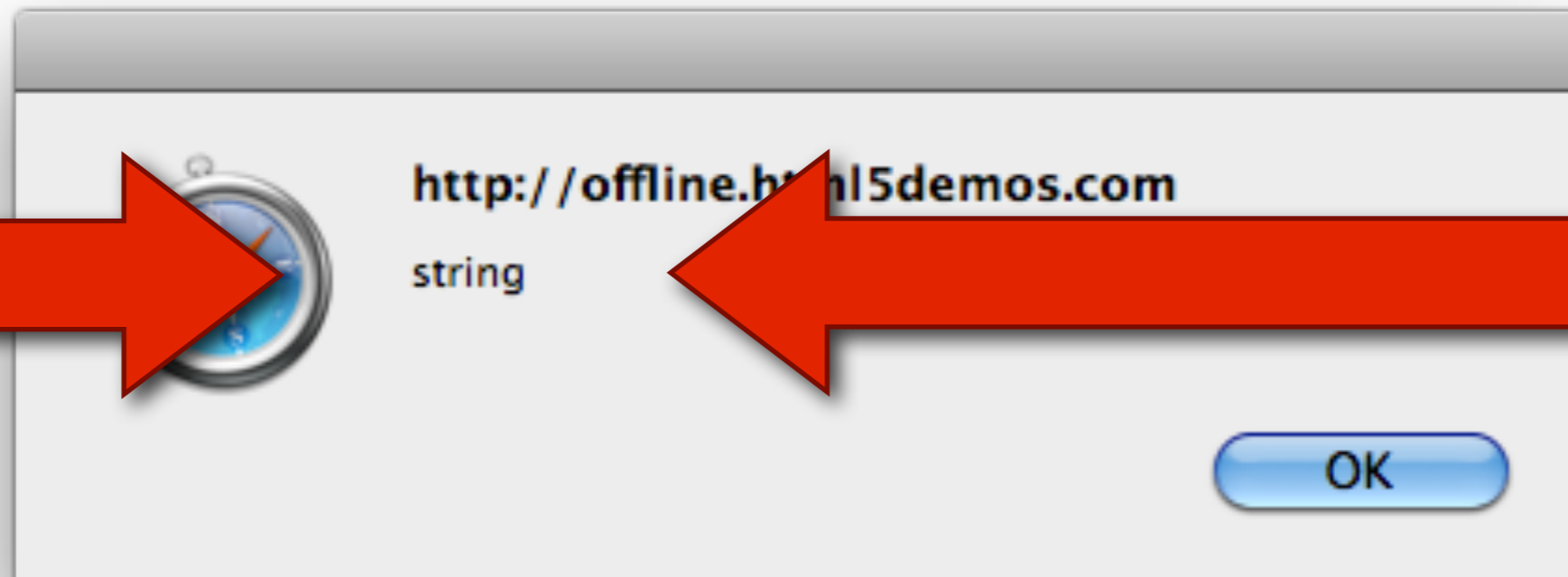
```
sessionStorage.version = 5;
```

```
typeof sessionStorage.version; // ?
```



```
sessionStorage.version = 5;
```

```
typeof sessionStorage.version; // ?
```



Values are strings

Values are strings

Work around: JSON

(and <http://www.json.org/json2.js>)

Complex Objects

```
var ss = sessionStorage,  
    user = { screen_name : 'rem',  
            rating : 11 };  
  
ss.setItem('user', JSON.stringify(user));  
alert( JSON.parse(ss.getItem  
( 'user' ) ).screen_name );
```

There's no security protecting the API

```
// Safari debugger broken:  
sessionStorage.setItem('setItem',12);
```

API

- `setItem(key, value)`
- `getItem(key)`
- `removeItem(key)`
- `length`
- `key(index)`
- `clear()`

**What about
supporting old
browsers?**

Pollyfilling

Just make it work

Just make it work

```
if (!localStorage || !sessionStorage) (function () {  
  
var Storage = function (type) {  
    ...  
};  
if (!localStorage) localStorage = new Storage('local');  
if (!sessionStorage) sessionStorage = new Storage('session');  
  
})();
```

<http://gist.github.com/350433>



Realtime client push

We believe that the real-time web is fantastic and should be easy to implement. This is our simple solution, powered by HTML5 websockets

[Signup for beta invite](#)

We're currently in private beta

- Allow your users to collaborate in realtime
- Add live status updates and messages
- broadcast events to everyone viewing a page

Inspired by native Javascript events

Clients specify events they want to **bind** to in their Javascript:

```
socket.bind('project-create',  
           function(){ /* add project into the UI */ })
```

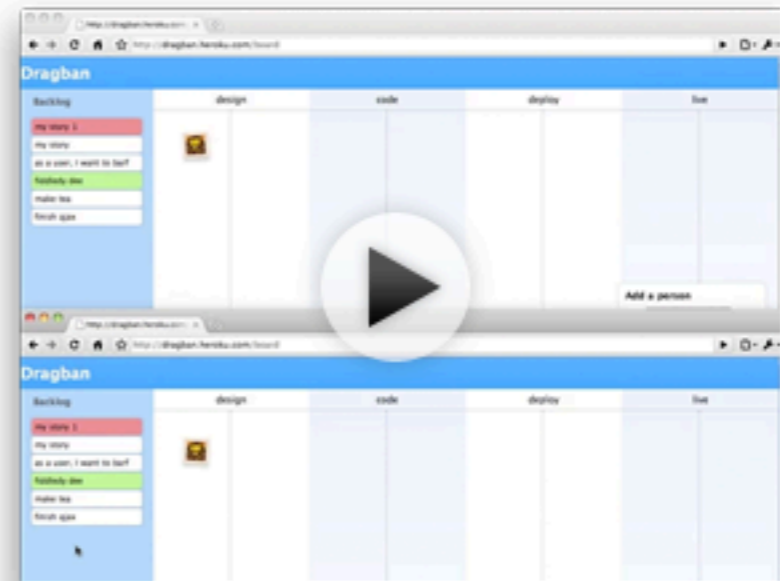
Your server **triggers** events when your users interact and change the data:

```
Pusher['channel'].trigger('project-create',  
                          { :name => 'foo' } )
```

This code uses our open source RubyGem

[Read the quickstart guide](#)

Watch Pusher in action



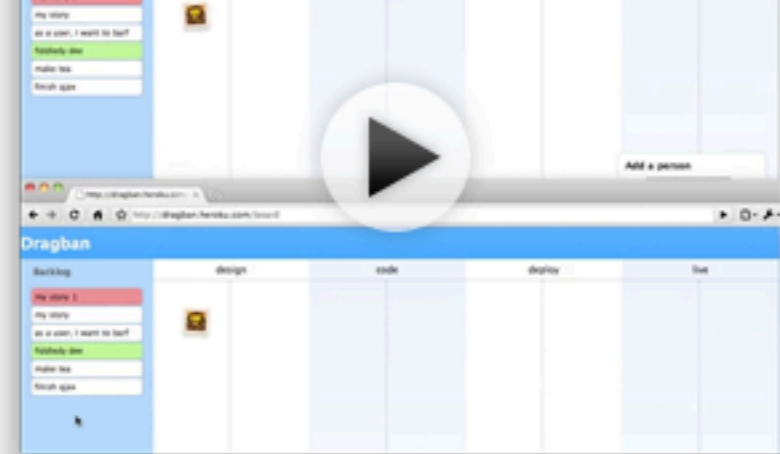
```
function(){ /* add project into the UI */ }
```

Your server **triggers** events when your users interact and change the data:

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Pusher['channel'].trigger('project-create',  
  { :name => 'foo' } )
```

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[Read the quickstart guide](#)



Host in the cloud

Pusher sits on Amazon's AWS architecture, so can easily scale to meet demand

5

Utilize the power of HTML 5

Using native Websockets browsers is a much more efficient means of communication than other methods such as long-polling



Complement your existing architecture

We don't want to completely change our applications to use the realtime web, and assume others don't either.



Fall back to Flash for crap browsers

While support for native Websockets is growing, the laggard browsers are still catered for by using an open source Flash solution.

How it works

Serve up instructions to clients to connect to a particular channel using your API key.

When clients interact with your server, trigger an JSON event to all the others.



[Follow us on twitter](#)



Features

- Lazy channel creation
- Open source client library
- Open source RubyGem
- Hosted event console
- JSON
- REST

Push-based debug console

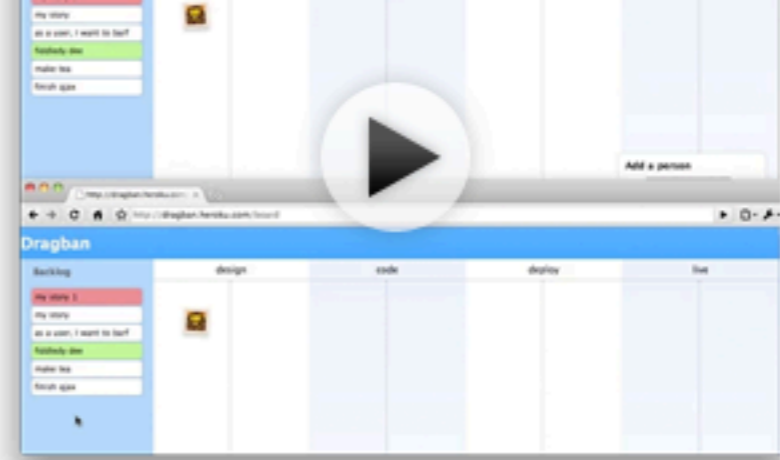

```
function(){ /* add project into the UI */ }
```

Your server **triggers** events when your users interact and change the data:

```
Pusher['channel'].trigger('project-create',  
  { :name => 'foo' } )
```

This code uses our open source RubyGem

[Read the quickstart guide](#)



Chrome's native Web Sockets & Flash is used to fill the holes

5

Utilize the power of HTML 5

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- Hosted event console
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Push-based debug console



Web SQL Databases

(cookies on steroids on steroids)

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(cookies on steroids on steroids)



Web SQL Database API

1. openDatabase

2. db.transaction

3. transaction.executeSql

openDatabase

- **Check for support**

openDatabase

- **Check for support**
- **Estimate db size**

openDatabase

- **Check for support**
- **Estimate db size**
- **Store return var**

openDatabase

- **Check for support**
- **Estimate db size**
- **Store return var**
- **Forget versioning for now**

```
if (!window.openDatabase) {  
    alert('No supported');  
    return;  
}
```

```
var db = openDatabase(  
    'mydb', // name  
    '1.0', // version  
    'My First Database', // description  
    2 * 1024 * 1024 // size, 2Mb  
);
```

```
var db = openDatabase(  
    'mydb', // name  
    '1.0', // version  
    'My First Database', // description  
    2 * 1024 * 1024 // size, 2Mb  
);
```

Question:

**How do I open the
database without
knowing the version?**

Question:

**How do I open the
database without
knowing the version?**

You can't.

transaction

- **Container for running SQL**

transaction

- **Container for running SQL**
- **Queues executeSql**

transaction

- **Container for running SQL**
- **Queues executeSql**
- **Rolls back on error**

```
db.transaction(function (tx) {  
    tx.executeSql('CREATE TABLE foo (id unique, text)');  
    tx.executeSql('INSERT INTO foo VALUES (1, "foobar")');  
});
```

```
db.transaction(function (tx) {  
  tx.executeSql('CREATE TABLE foo (id unique, text)');  
  tx.executeSql('INSERT INTO foo VALUES (1, "foobar")');  
});
```




Queue

3. `select count(*)`

2. `drop table & (try) to insert`

1. `create table & insert`



Database



Queue

3. select count (*)

2. drop table & (try) to insert



1. create table & insert



Database



Queue

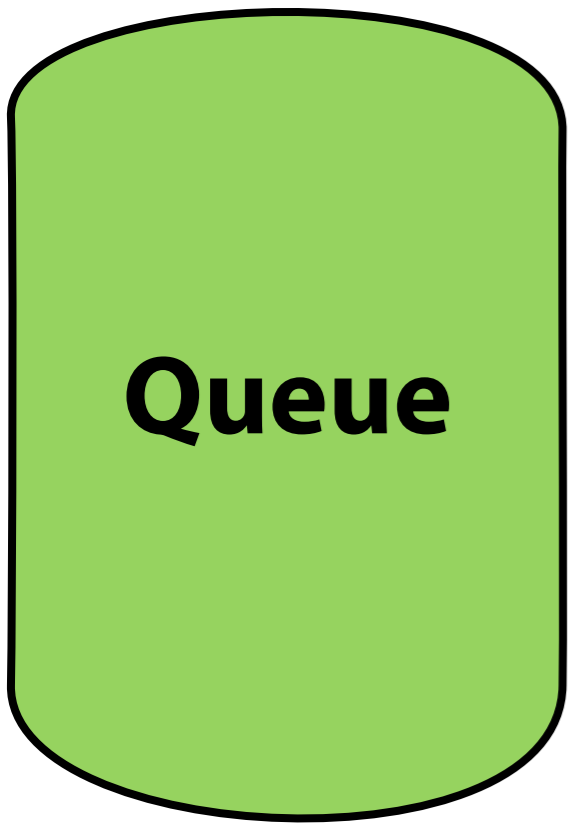
3. `select count(*)`

2. `drop table & (try) to insert`

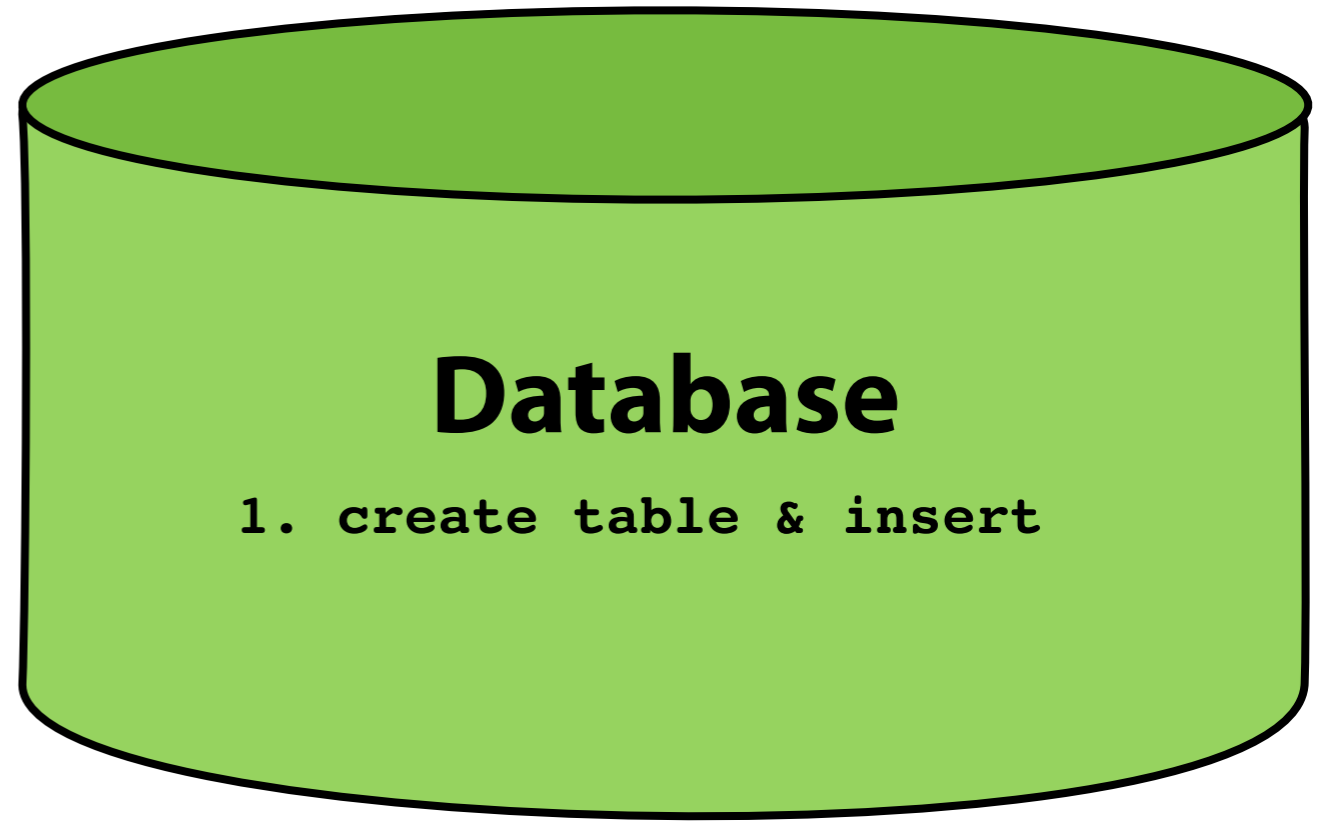
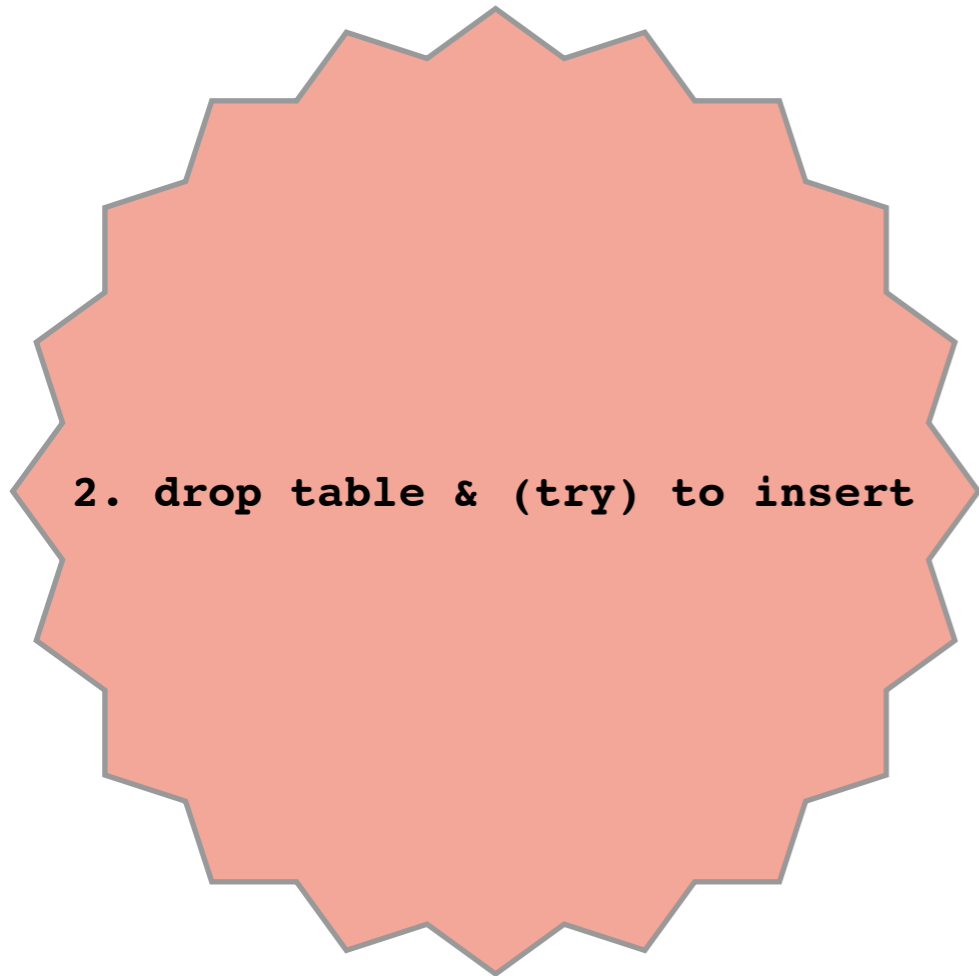


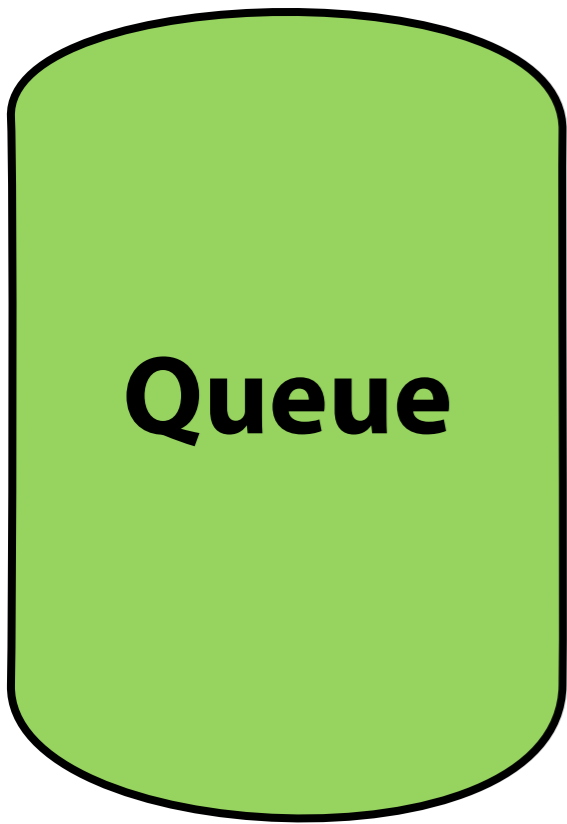
Database

1. `create table & insert`

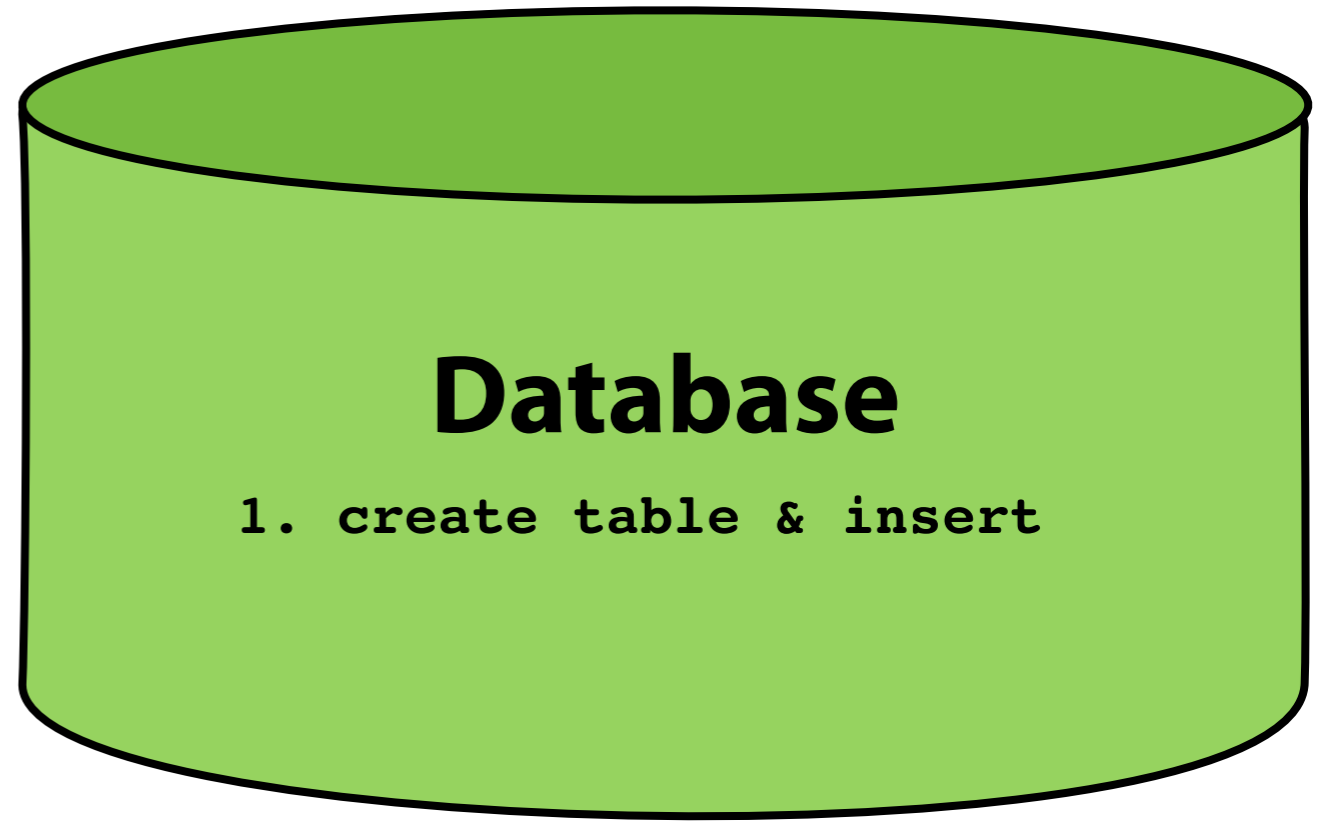
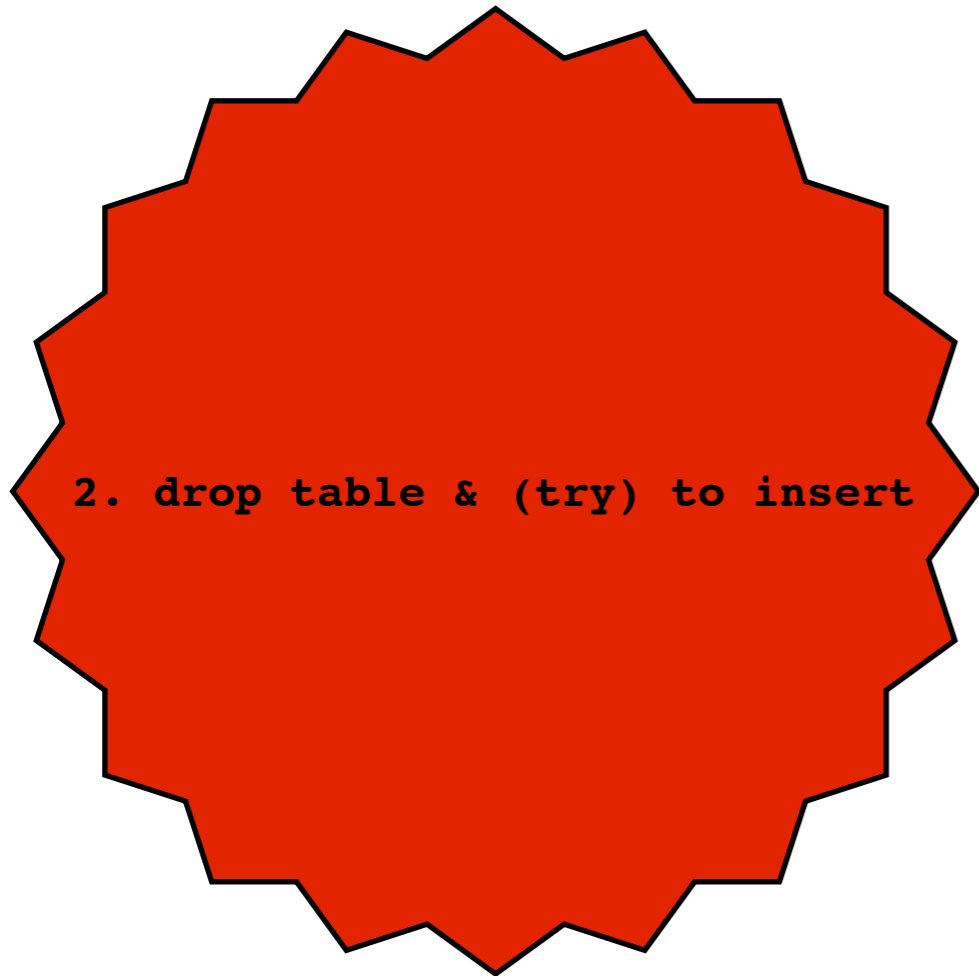


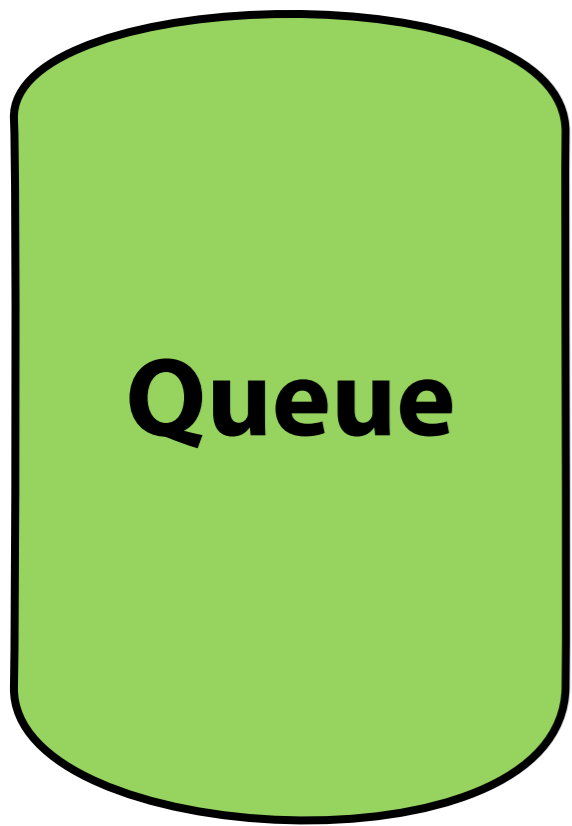
3. select count (*)



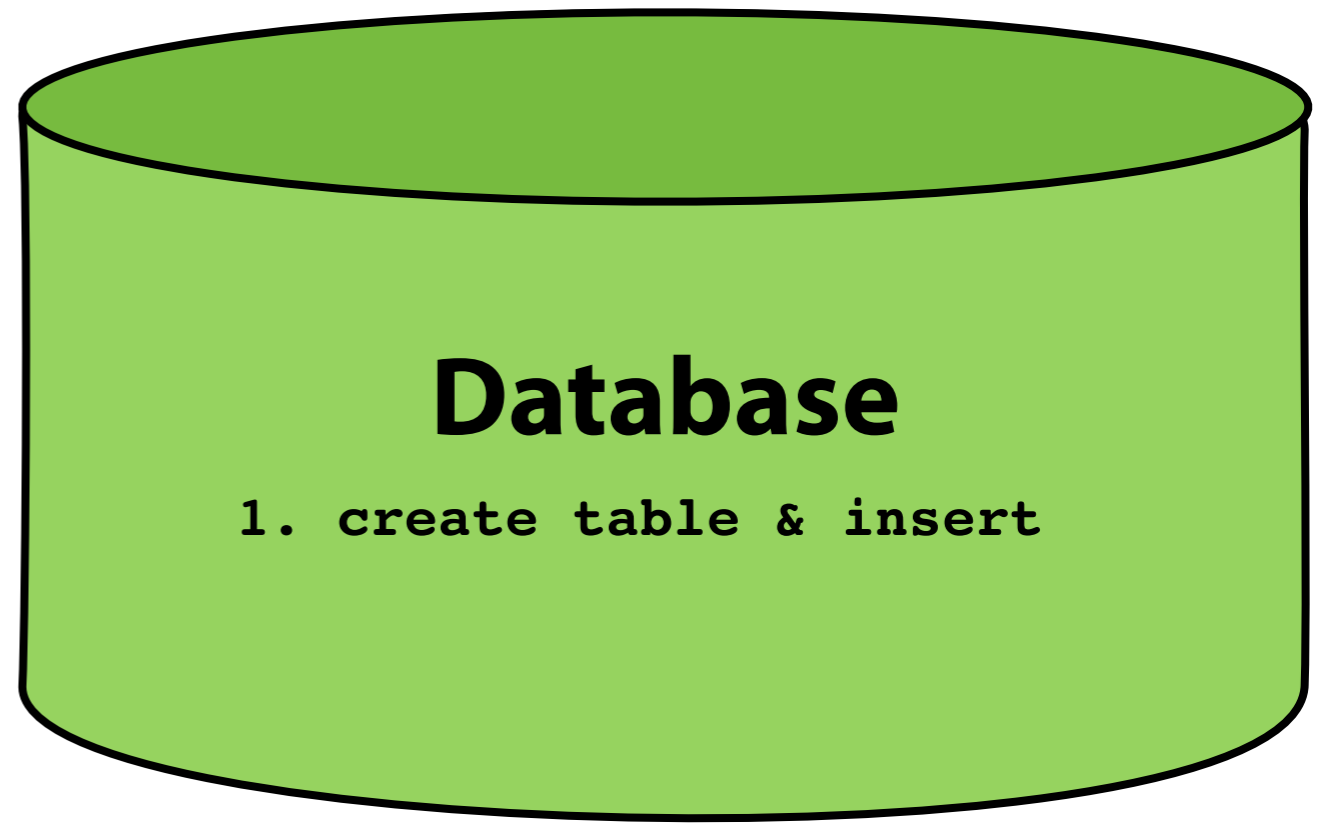
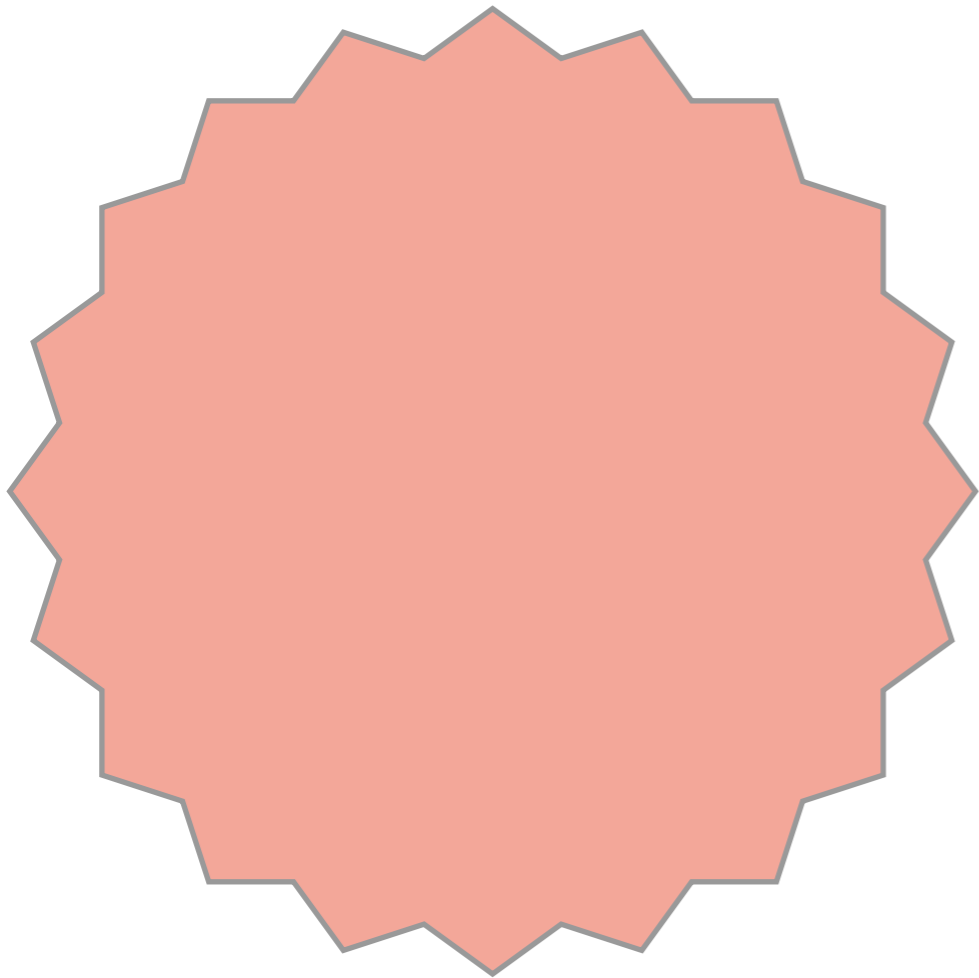


3. select count (*)





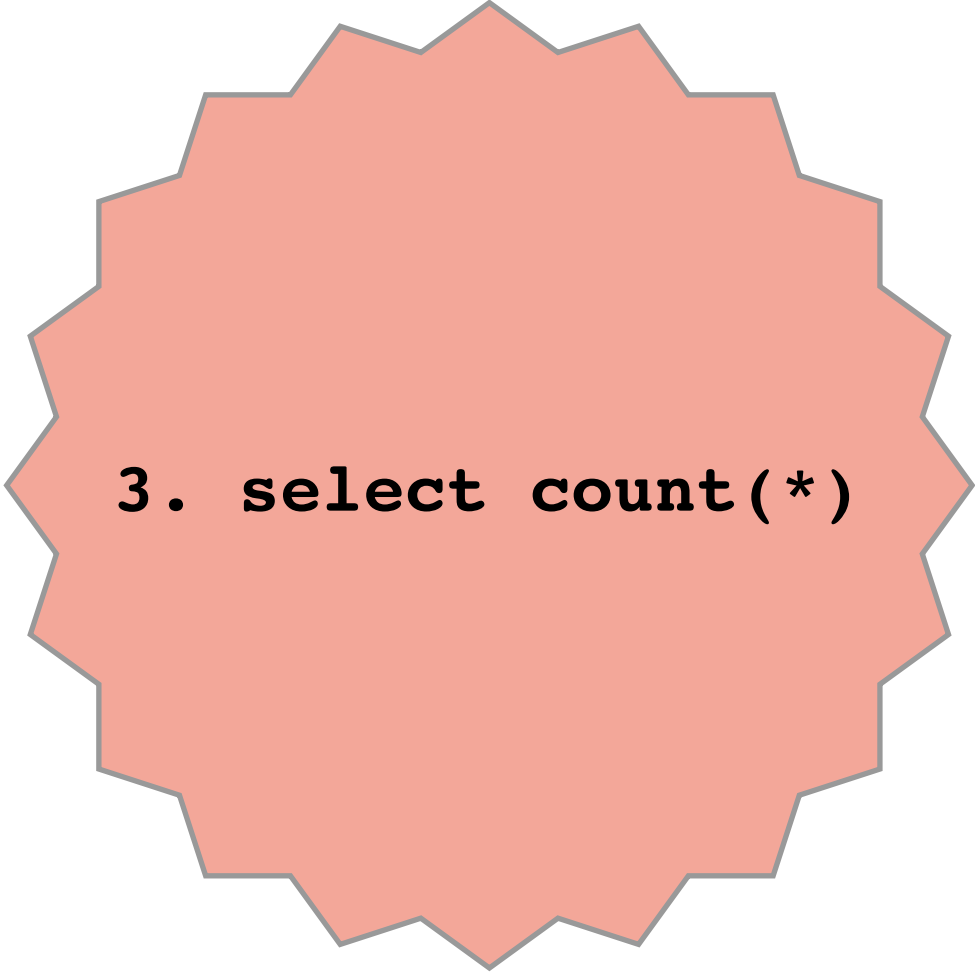
3. select count (*)



1. create table & insert



Queue



3. `select count(*)`



Database

1. `create table & insert`



Queue



Database

1. `create table & insert`

3. `select count(*)`

executeSql

- **Both for read & write**

executeSql

- **Both for read & write**
- **Injection protection**

executeSql

- **Both for read & write**
- **Injection protection**
- **Callback gives results**

```
db.transaction(function (tx) {  
    tx.executeSql( 'SELECT * FROM foo' );  
});
```

```
db.transaction(function (tx) {  
    tx.executeSql('SELECT * FROM foo');  
});
```

```
db.transaction(function (tx) {  
    tx.executeSql( 'SELECT * FROM foo' );  
});
```

```
tx.executeSql(  
    'INSERT INTO foo VALUES (1, "foo")'  
);
```



```
tx.executeSql(  
    'INSERT INTO foo VALUES (?, ?)',  
    [id, userVariable]  
);
```

```
tx.executeSql(  
    'SELECT * FROM foo',  
    [],  
    function (tx, results) {  
        var len = results.rows.length;  
        for (var i = 0; i < len; i++) {  
            alert(results.rows.item(i).text);  
        }  
    }  
);
```

```
tx.executeSql(  
    'SELECT * FROM foo',  
    [],  
    function (tx, results) {  
        var len = results.rows.length;  
        for (var i = 0; i < len; i++) {  
            alert(results.rows.item(i).text);  
        }  
    }  
);
```

```
tx.executeSql(  
    'SELECT * FROM foo',  
    [],  
    function (tx, results) {  
        var len = results.rows.length;  
        for (var i = 0; i < len; i++) {  
            alert(results.rows.item(i).text);  
        }  
    }  
);
```

```
tx.executeSql(  
    'SELECT * FROM foo',  
    [],  
    function (tx, results) {  
        var len = results.rows.length;  
        for (var i = 0; i < len; i++) {  
            alert(results.rows.item(i).text);  
        }  
    }  
);
```

Web Database

We're using the Web Database API to store [my tweets](#), so there's no Twitter API hit on load.

In addition, I'm using the `since_id` when we make new requests, so I shouldn't be doubling up on tweets

DATABASES

- html5demos
 - tweets

LOCAL STORAGE

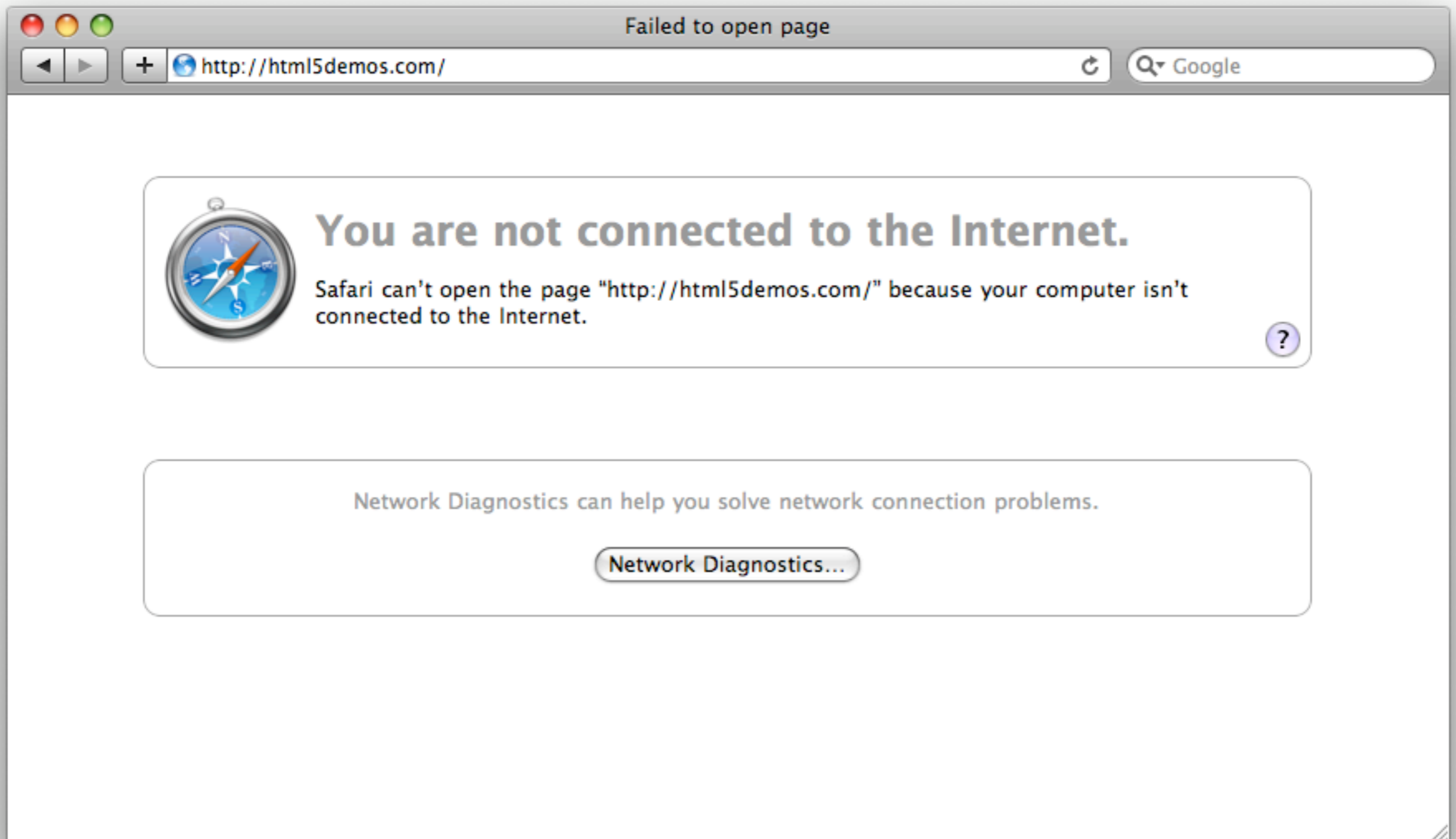
SESSION STORAGE

```
> SELECT * FROM tweets LIMIT 5;
```

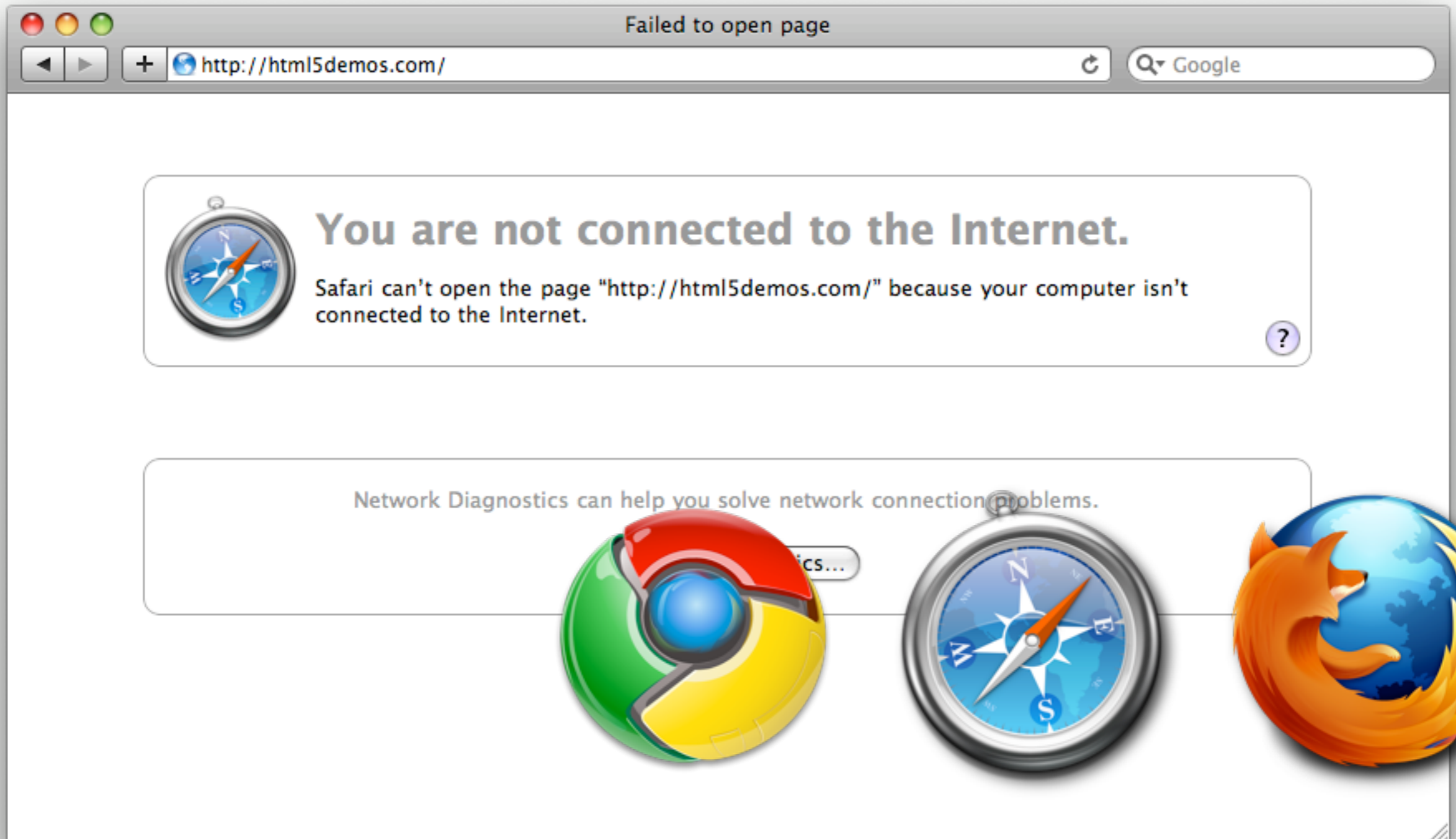
id	text	created_at	sc...	...	
5...	Sneaking out of the #jsconf talks to touch up my slides. #ooermissus	Sat Nov 07 0...	rem	f...	
5...	Hmm - @fullfrontalconf T-shirt at #jsconf or not. It's one of the cle...	Sat Nov 07 0...	rem	f...	
5...	What a beautiful morning. The gods look favourably upon us JavaScr...	Sat Nov 07 0...	rem	f...	
5...	@robertnyman What? What frickin' time did you get up!? I've manag...	Sat Nov 07 0...	rem	f...	
5...	@peterwilsoncc Just a song :-)	Sat Nov 07 0...	rem	f...	

```
>
```

Offline



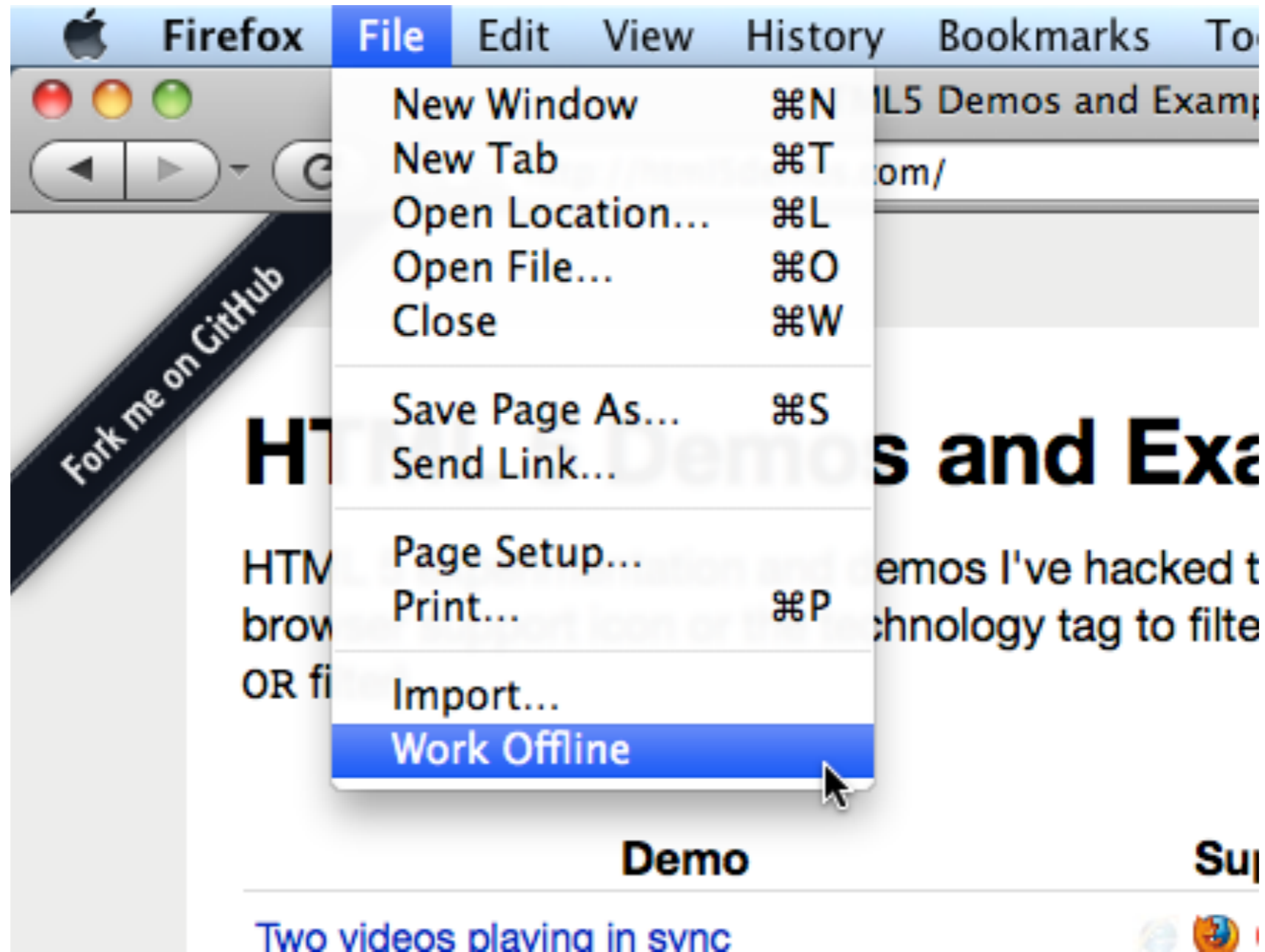
Offline

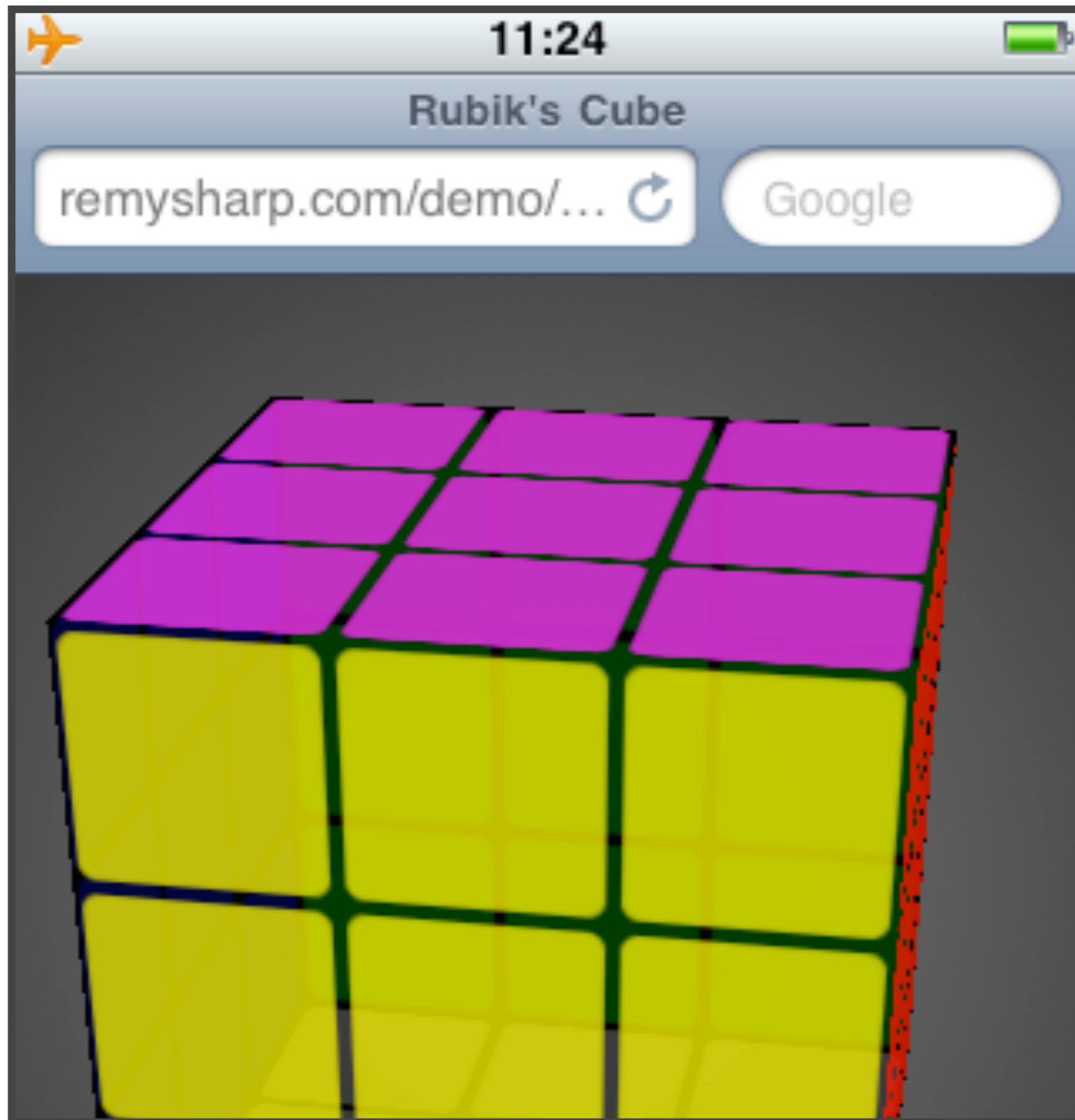


Offline Apps

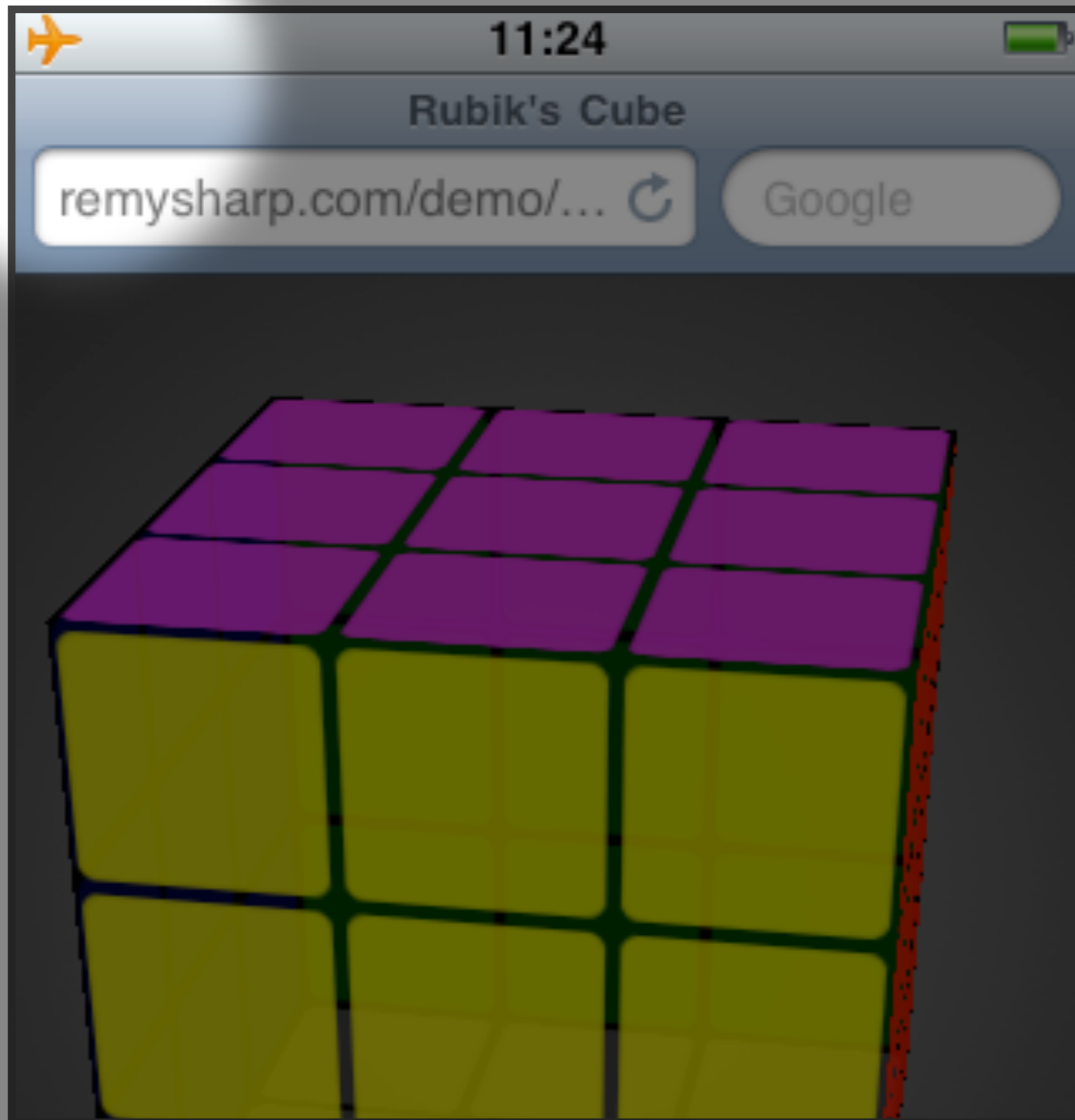
- **Application cache / manifest**
- **Events: offline, online**
- **navigator.onLine property**

navigator.onLine





<http://icanhaz.com/rubiks>



<http://icanhaz.com/rubiks>

Using a Manifest

```
<!DOCTYPE html>  
<html manifest="my.manifest">  
<body>  
<!-- my page -->  
</body>  
</html>
```

my.manifest

CACHE MANIFEST

app.html

css/style.css

js/app.js

#version 13

The Manifest

1. **Serve as text/manifest, by adding to mime.types:**

text/cache-manifest manifest

The Manifest

2. First line must be:

CACHE MANIFEST

The Manifest

- 3. Including page is implicitly included in the cache.**

The Manifest

4. Two further namespaces:

NETWORK & FALLBACK

FALLBACK:

/ offline.html

The Manifest

5. Include some versioning to cache bust your manifest

```
# version 16
```

The process



Browser: request



Browser: request

Server: serve all

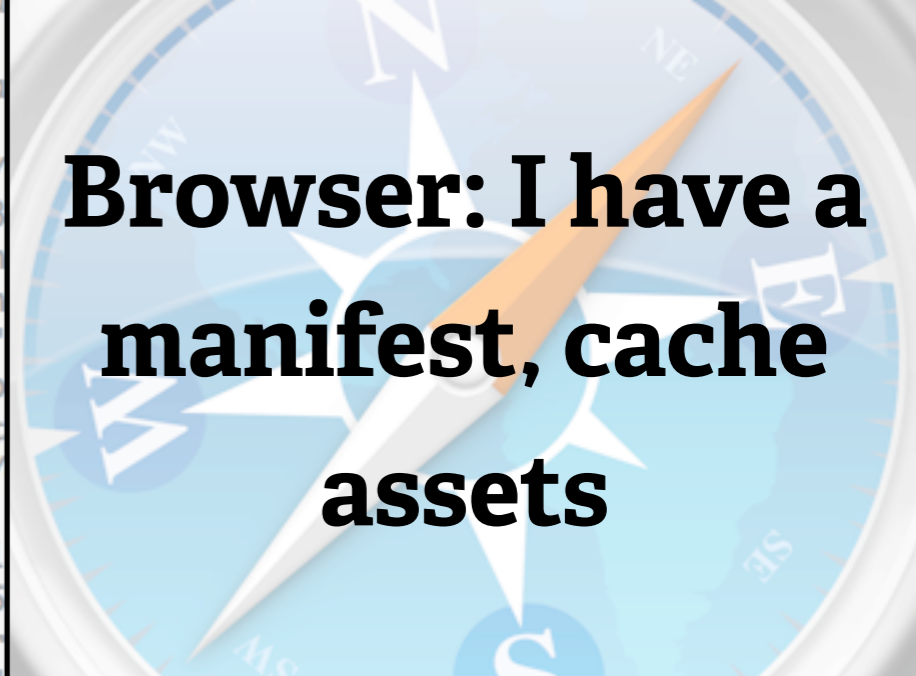
```
GET / HTTP/1.1 200 4085 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:1.9.2.13) Gecko/20100309 Firefox/3.6.13  
GET / HTTP/1.1 200 4084 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:1.9.2.13) Gecko/20100309 Firefox/3.6.13  
GET /snapbird.css HTTP/1.1 200 5809 "http://www.snapbird.com/" AppleWebKit/531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 "http://www.snapbird.com/" AppleWebKit/531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 "http://www.snapbird.com/" AppleWebKit/531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /twitter-search.js HTTP/1.1 200 3040 "http://www.snapbird.com/" AppleWebKit/531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/background.jpg HTTP/1.1 200 635 "http://www.snapbird.com/" AppleWebKit/531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 "http://www.snapbird.com/" AppleWebKit/531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
```




Browser: request

```
GET / HTTP/1.1 200 4085 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.51.1 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
] "GET / HTTP/1.1" 200 4084 "-" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.51.1 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
] "GET /snapbird.css HTTP/1.1" 200 5809 "http://localhost:8080/snapbird.html" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.51.1 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
] "GET /images/header.jpg HTTP/1.1" 200 24716 "http://localhost:8080/snapbird.html" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.51.1 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
] "GET /images/background.jpg HTTP/1.1" 200 635 "http://localhost:8080/snapbird.html" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.51.1 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
] "GET /snapbird.js?2009-11-01 HTTP/1.1" 200 985 "http://localhost:8080/snapbird.html" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.51.1 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
```

Server: serve all



Browser: I have a manifest, cache assets



Browser: request

```
GET / HTTP/1.1 200 4084 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /snapbird.css HTTP/1.1 200 5809 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /images/header.jpg HTTP/1.1 200 24716 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /images/button-bg.gif HTTP/1.1 200 864 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /images/background.jpg HTTP/1.1 200 635 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
```

Server: serve all



Browser: I have a manifest, cache assets

```
GET / HTTP/1.1 200 4084 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /snapbird.css HTTP/1.1 200 5809 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /images/header.jpg HTTP/1.1 200 24716 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /images/button-bg.gif HTTP/1.1 200 864 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /images/background.jpg HTTP/1.1 200 635 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 "http://localhost:8080/snapbird.html" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_8; rv:4.0.3 Safari/531.9)
```

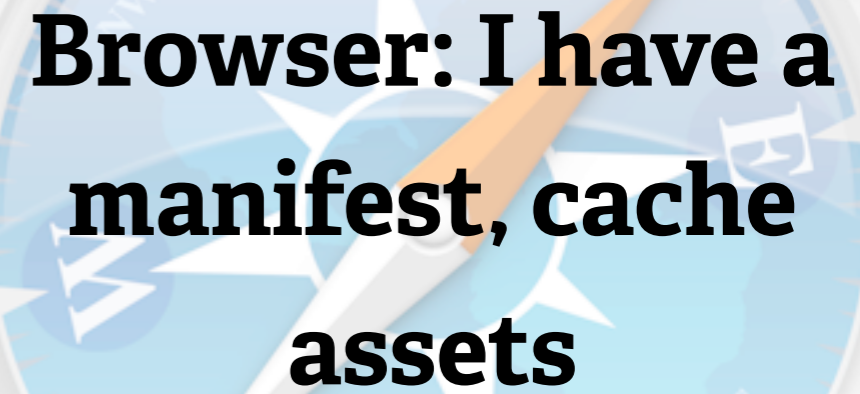
Server: serve manifest assets



Browser: request

```
Version/4.0.3 Safari/531.9"
] "GET / HTTP/1.1" 200 4084 "-" "Mozilla/5.0 (Mac
Version/4.0.3 Safari/531.9"
] "GET /snapbird.css HTTP/1.1" 200 5809 "http://
leWebKit/531.9 (KHTML, like Gecko) Version/4.0.3
] "GET /images/header.jpg HTTP/1.1" 200 24716 "h
(us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/button-bg.gif HTTP/1.1" 200 864 "
(us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/background.jpg HTTP/1.1" 200 635
n-us) AppleWebKit/531.9 (KHTML, like Gecko) Versi
] "GET /snapbird.js?2009-11-01 HTTP/1.1" 200 985
en-us) AppleWebKit/531.9 (KHTML, like Gecko) Ver
] "GET /images/..." HTTP/1.1" 200 92512
```

Server: serve all



**Browser: I have a
manifest, cache
assets**

```
Version/4.0.3 Safari/531.9"
] "GET / HTTP/1.1" 200 4084 "-" "Mozilla/5.0 (Mac
Version/4.0.3 Safari/531.9"
] "GET /snapbird.css HTTP/1.1" 200 5809 "http://
leWebKit/531.9 (KHTML, like Gecko) Version/4.0.3
] "GET /images/header.jpg HTTP/1.1" 200 24716 "h
(us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/button-bg.gif HTTP/1.1" 200 864 "
(us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/background.jpg HTTP/1.1" 200 635
n-us) AppleWebKit/531.9 (KHTML, like Gecko) Versi
] "GET /snapbird.js?2009-11-01 HTTP/1.1" 200 985
en-us) AppleWebKit/531.9 (KHTML, like Gecko) Ver
] "GET /images/..." HTTP/1.1" 200 92512
```

**Server: serve
manifest assets**



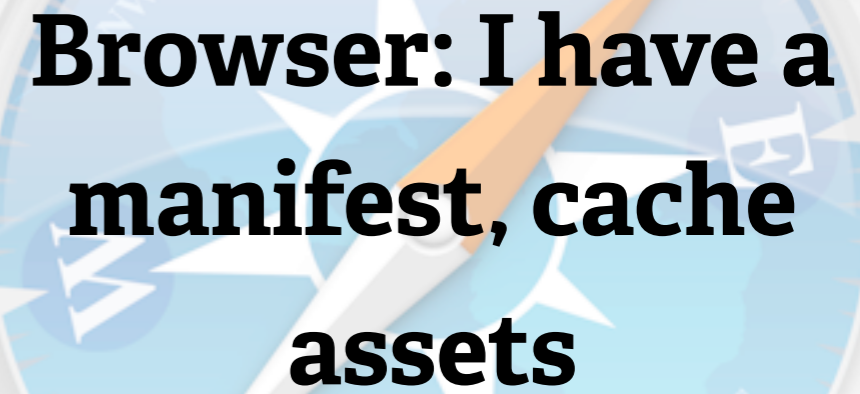
**Browser:
applicationCache
updated**



Browser: request

```
Version/4.0.3 Safari/531.9"
] "GET / HTTP/1.1" 200 4084 "-" "Mozilla/5.0 (Mac
Version/4.0.3 Safari/531.9"
] "GET /snapbird.css HTTP/1.1" 200 5809 "http://
leWebKit/531.9 (KHTML, like Gecko) Version/4.0.3
] "GET /images/header.jpg HTTP/1.1" 200 24716 "h
(us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/button-bg.gif HTTP/1.1" 200 864 "
-us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/background.jpg HTTP/1.1" 200 635
n-us) AppleWebKit/531.9 (KHTML, like Gecko) Versi
] "GET /snapbird.js?2009-11-01 HTTP/1.1" 200 985
en-us) AppleWebKit/531.9 (KHTML, like Gecko) Ver
] "GET /images/..." HTTP/1.1" 200 92512
```

Server: serve all



**Browser: I have a
manifest, cache
assets**

```
Version/4.0.3 Safari/531.9"
] "GET / HTTP/1.1" 200 4084 "-" "Mozilla/5.0 (Mac
Version/4.0.3 Safari/531.9"
] "GET /snapbird.css HTTP/1.1" 200 5809 "http://
leWebKit/531.9 (KHTML, like Gecko) Version/4.0.3
] "GET /images/header.jpg HTTP/1.1" 200 24716 "h
(us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/button-bg.gif HTTP/1.1" 200 864 "
-us) AppleWebKit/531.9 (KHTML, like Gecko) Versio
] "GET /images/background.jpg HTTP/1.1" 200 635
n-us) AppleWebKit/531.9 (KHTML, like Gecko) Versi
] "GET /snapbird.js?2009-11-01 HTTP/1.1" 200 985
en-us) AppleWebKit/531.9 (KHTML, like Gecko) Ver
] "GET /images/..." HTTP/1.1" 200 92512
```

**Server: serve
manifest assets**



**Browser:
applicationCache
updated**



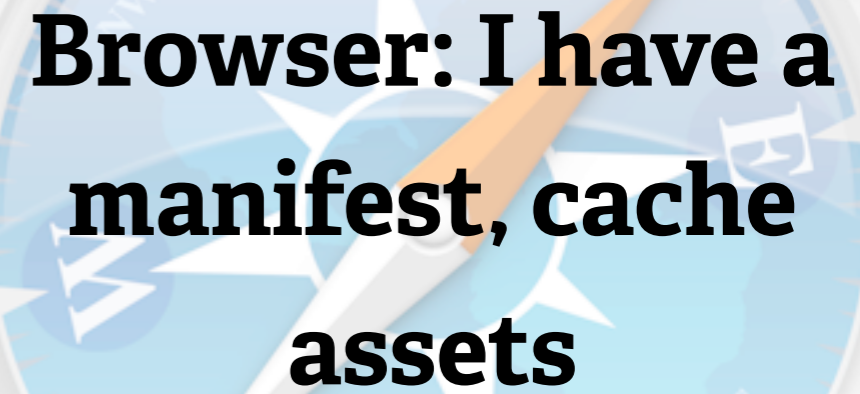
Browser: reload



Browser: request

```
GET / HTTP/1.1 200 4085 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/header.jpg HTTP/1.1 200 24716 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/button-bg.gif HTTP/1.1 200 864 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/logo.png HTTP/1.1 200 1024 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/background.jpg HTTP/1.1 200 635 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
```

Server: serve all



Browser: I have a manifest, cache assets

```
GET / HTTP/1.1 200 4085 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 "-" Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/header.jpg HTTP/1.1 200 24716 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/button-bg.gif HTTP/1.1 200 864 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/logo.png HTTP/1.1 200 1024 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /images/background.jpg HTTP/1.1 200 635 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 "http://localhost:531.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9"
```

Server: serve manifest assets



Browser: applicationCache updated



Browser: reload



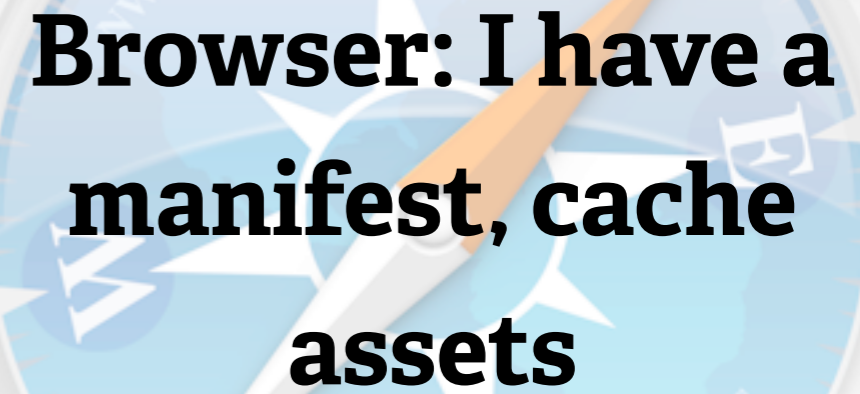
Browser: serve locally



Browser: request

```
GET / HTTP/1.1 200 4085 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 http://localhost:8080/snapbird.css AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 http://localhost:8080/images/header.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/button-bg.gif HTTP/1.1 200 864 http://localhost:8080/images/button-bg.gif AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/search.png HTTP/1.1 200 1024 http://localhost:8080/images/search.png AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/background.jpg HTTP/1.1 200 635 http://localhost:8080/images/background.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 http://localhost:8080/snapbird.js?2009-11-01 AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
```

Server: serve all



**Browser: I have a
manifest, cache
assets**

```
GET / HTTP/1.1 200 4085 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 http://localhost:8080/snapbird.css AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 http://localhost:8080/images/header.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/button-bg.gif HTTP/1.1 200 864 http://localhost:8080/images/button-bg.gif AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/search.png HTTP/1.1 200 1024 http://localhost:8080/images/search.png AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/background.jpg HTTP/1.1 200 635 http://localhost:8080/images/background.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 http://localhost:8080/snapbird.js?2009-11-01 AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
```

**Server: serve
manifest assets**



**Browser:
applicationCache
updated**



Browser: reload



**Browser: serve
locally**



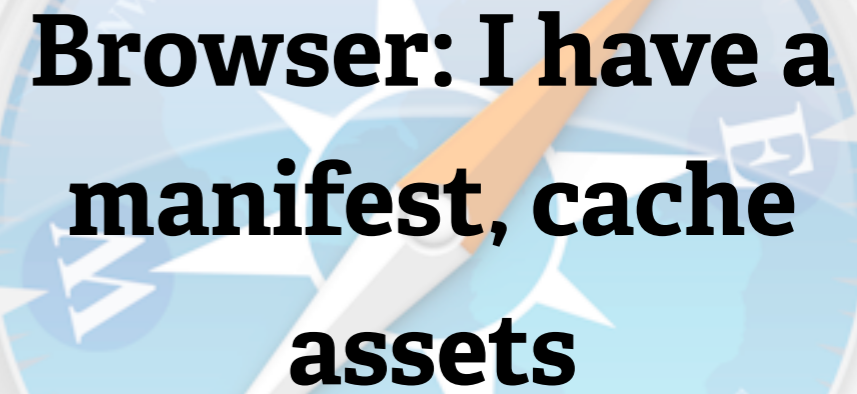
**Browser: only
request manifest
file**



Browser: request

```
GET / HTTP/1.1 200 4085 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 http://localhost:8080/snapbird.css AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 http://localhost:8080/images/header.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/button-bg.gif HTTP/1.1 200 864 http://localhost:8080/images/button-bg.gif AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/background.jpg HTTP/1.1 200 635 http://localhost:8080/images/background.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 http://localhost:8080/snapbird.js?2009-11-01 AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
```

Server: serve all



Browser: I have a manifest, cache assets

```
GET / HTTP/1.1 200 4085 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 http://localhost:8080/snapbird.css AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 http://localhost:8080/images/header.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/button-bg.gif HTTP/1.1 200 864 http://localhost:8080/images/button-bg.gif AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/background.jpg HTTP/1.1 200 635 http://localhost:8080/images/background.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 http://localhost:8080/snapbird.js?2009-11-01 AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
```

Server: serve manifest assets



Browser: applicationCache updated



Browser: reload



Browser: serve locally



Browser: only request manifest file

```
GET / HTTP/1.1 200 4085 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET / HTTP/1.1 200 4084 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_2; rv:42.0) AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.css HTTP/1.1 200 5809 http://localhost:8080/snapbird.css AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/header.jpg HTTP/1.1 200 24716 http://localhost:8080/images/header.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/button-bg.gif HTTP/1.1 200 864 http://localhost:8080/images/button-bg.gif AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /images/background.jpg HTTP/1.1 200 635 http://localhost:8080/images/background.jpg AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9  
GET /snapbird.js?2009-11-01 HTTP/1.1 200 985 http://localhost:8080/snapbird.js?2009-11-01 AppleWebKit/537.53.9 (KHTML, like Gecko) Version/4.0.3 Safari/531.9
```

Server: 304 Not Modified

Problem:

Change of content

requires 2 refreshes

**Browser: I have a
manifest, cache
assets**

**Server: serve
manifest asset**

**applicationCache
updated**

Browser: reload



**Browser: serve
locally**

**Browser: only
request manifest
file**

**Server: 304 Not
Modified**

```
document.body.onOnline =  
function () {  
    // fire an update to the cache  
    applicationCache.update();  
};
```

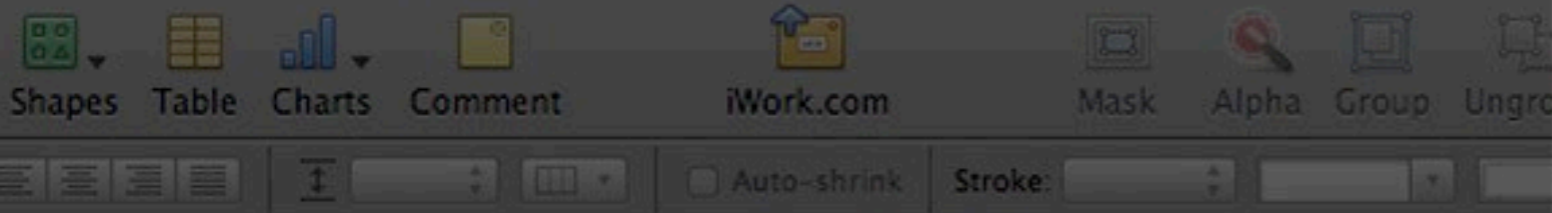
```
document.body.onOnline =  
function () {  
    // fire an update to the cache  
    applicationCache.update();  
};
```

```
applicationCache.onUpdateReady =  
function () {  
    applicationCache.swapCache();  
    notice('reload');  
};
```


APIs of the Future



Notification API



s of the Eu



Remy Sharp

...but that said, their phone support is top quality. Took the reference from the site, picked up from where the site broke, and sorted me.

from <http://www.html5rocks.com/> Options Dismiss



Remy Sharp

Used the wall to slide up and stand up from stroking the cat. Forgot about the railing. Scraped a lot of skin off my back. It hurt. A lot.

from <http://www.html5rocks.com/> Options Dismiss



Remy Sharp

Finished a dry run of the HTML5 talk I'm giving. Fits well, evening including some over-the-ledge-bleeding-edge stuff <http://bit.ly/dfT9ZV>

from <http://www.html5rocks.com/> Options Dismiss


```
if (webkitNotifications.checkPermission() == 0) {  
    webkitNotifications.createNotification  
    ↪ (profile_image_url, name, text).show();  
}
```

File API



Send all
Account
About

Drop zone
↓

No image



Demo by [Paul Rouget](#)
For more information see [hacks.mozilla.org](#)
Image hosting service:



HTML test.html
html5-apis.mp3
IMG_1400.jpg
Unknown.png
jquery.min.js
Remy Sharp Speak...ement
browsers.jpg
WIRE TRANS...QUEST
Screen shot 2010-...26:53
Screen shot 2010-...35:33
Storage.js
Screen shot 2010-...29:57
Screen shot 2010-...32:28
Change of address.pdf

Device API

**Very new, collection
of specifications**

Camera API





Message API

Camera API





Message API

PIM API

(calendar, contacts, tasks)



Camera API

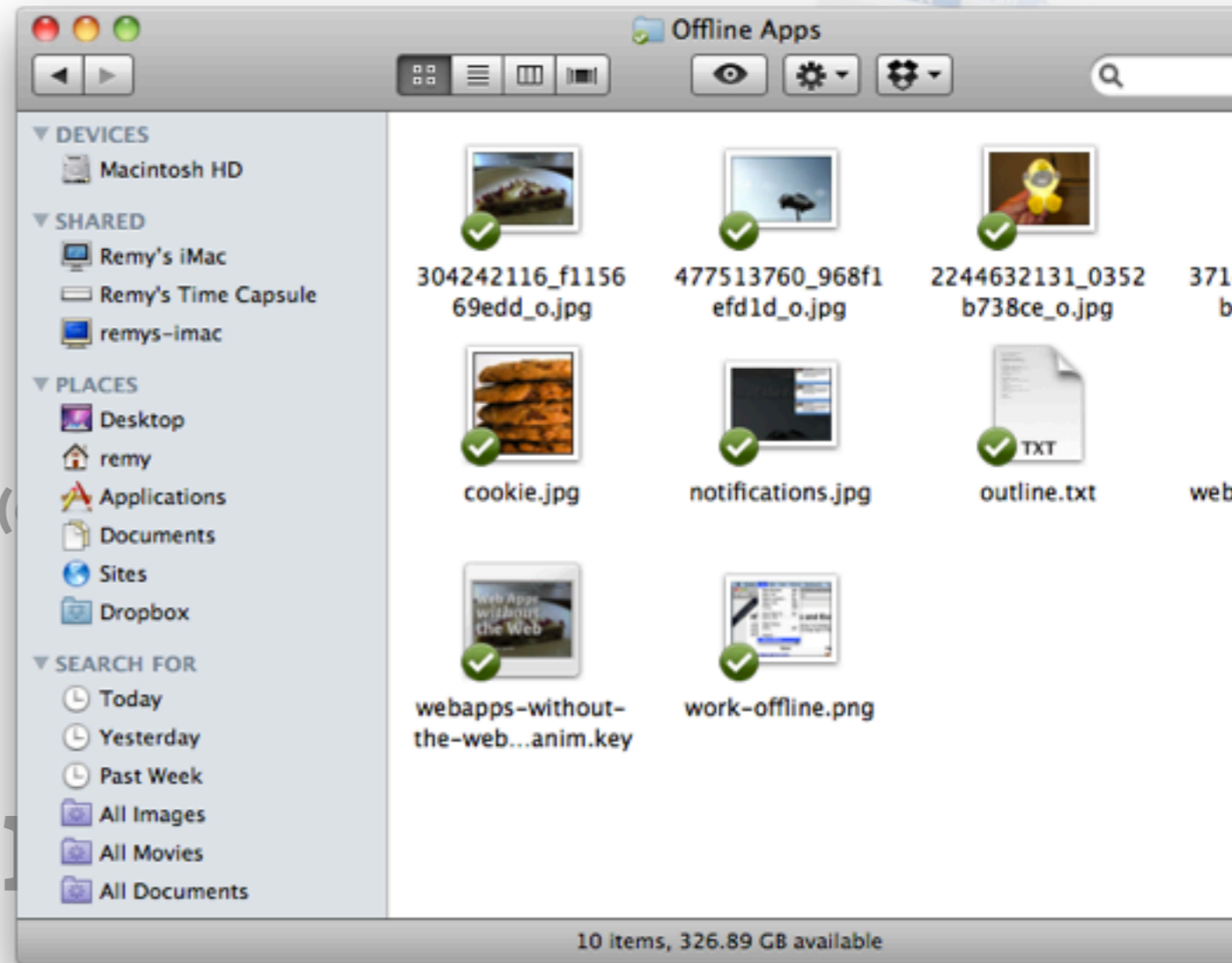




Message API

File System API

Camera



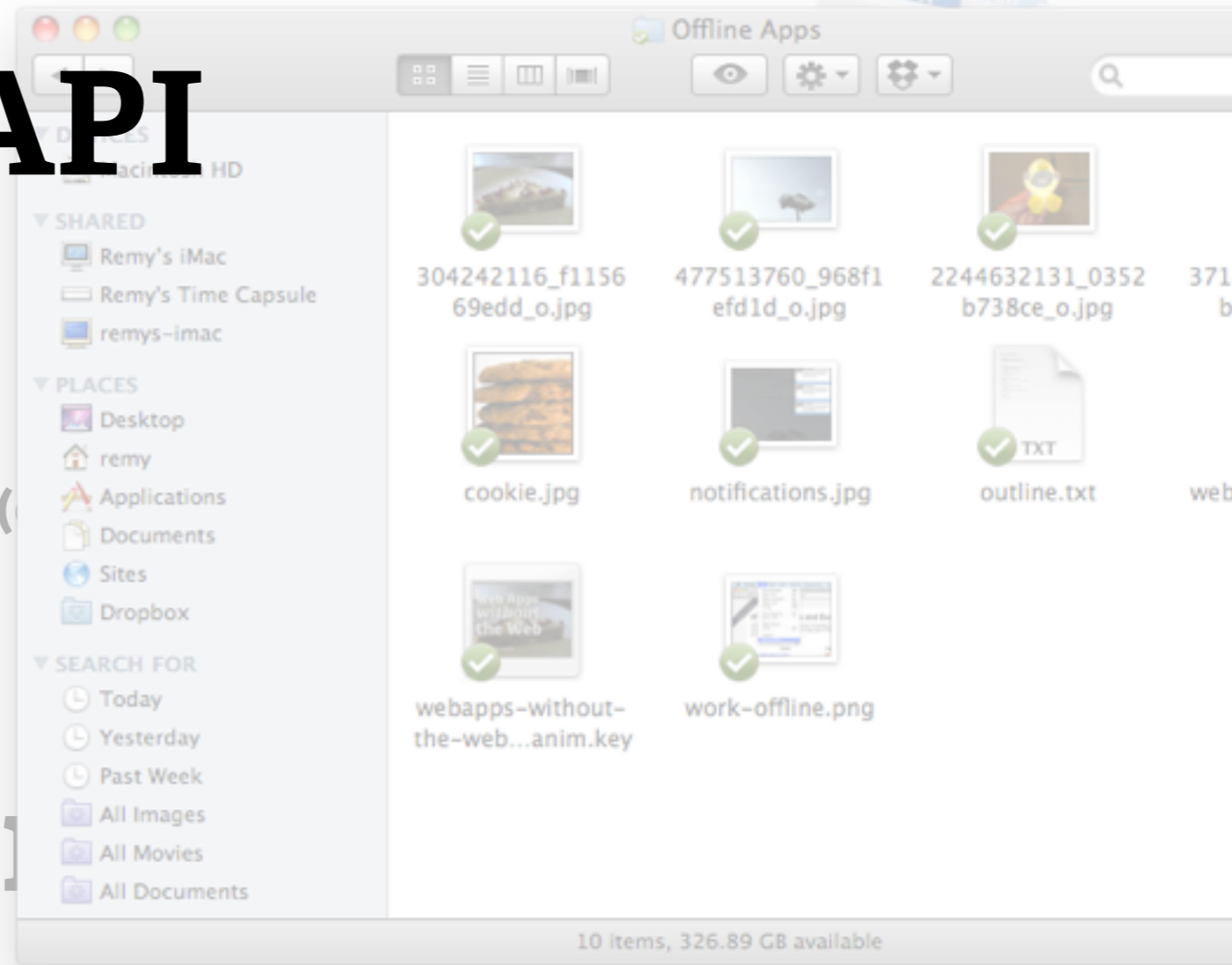


Message API

App Launcher API

File System API

Camera





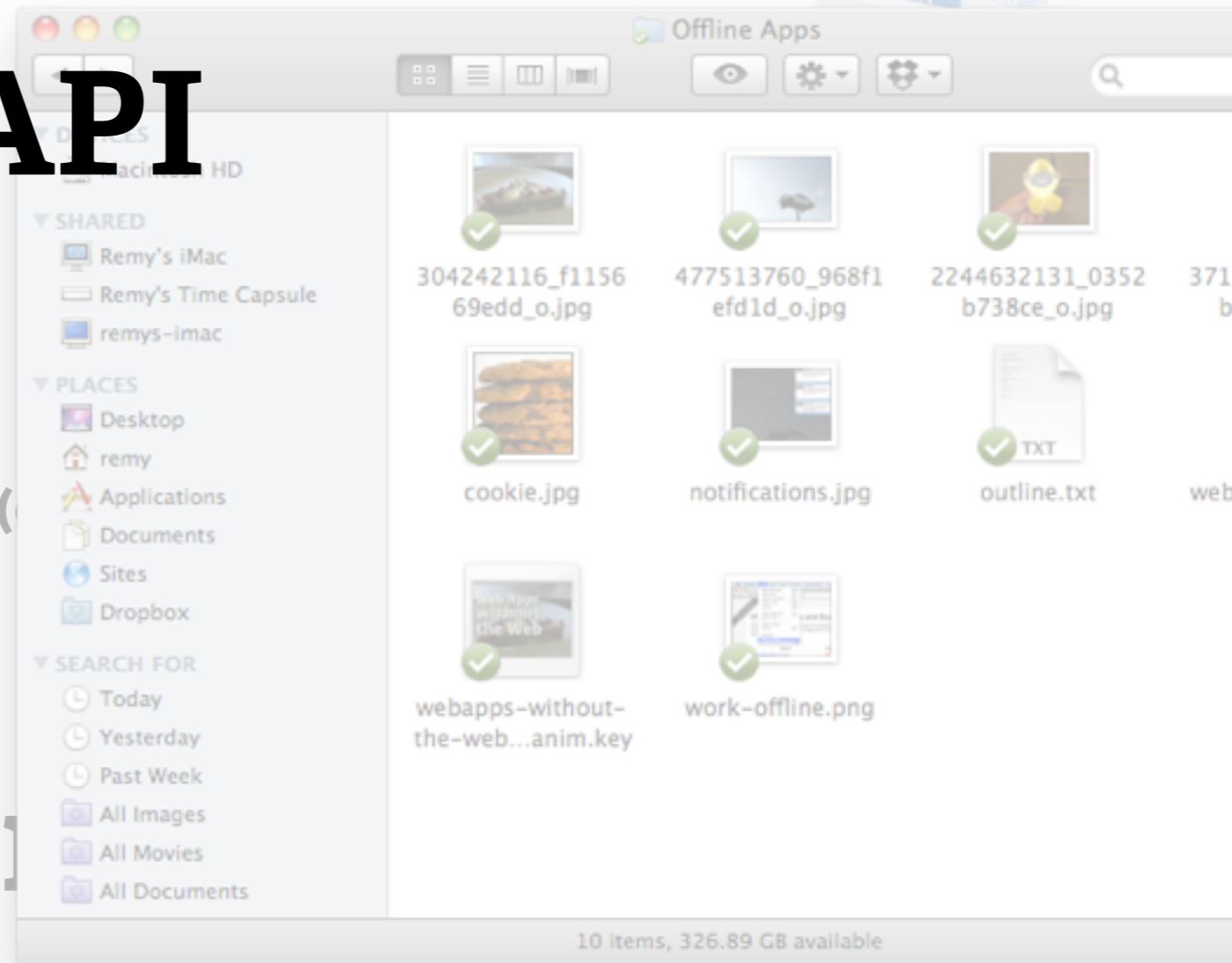
Message API

App Launcher API

File System API

Camera

App Configuration API





Message API

App Launcher API

File System API

Communication Log API

Camera

App Configuration API





Message API

App Launcher API

Gallery API

File System API

Communication Log API

Camera

App Configuration API





Notifications API
Message API

App Launcher API

Gallery API

File System API

Communication Log API

Camera

App Configuration API



**API -
tastic!**

Notifications API

Message API

App Launcher

Gallery API

File System API

Communication Log API

App Configuration API

html5demos.com

introducinghtml5.com



@rem

remy@leftlogic.com