

# Advanced HTML5

HTML5 Offline Applications

Craig Shoemaker

<http://craigshoemaker.net>

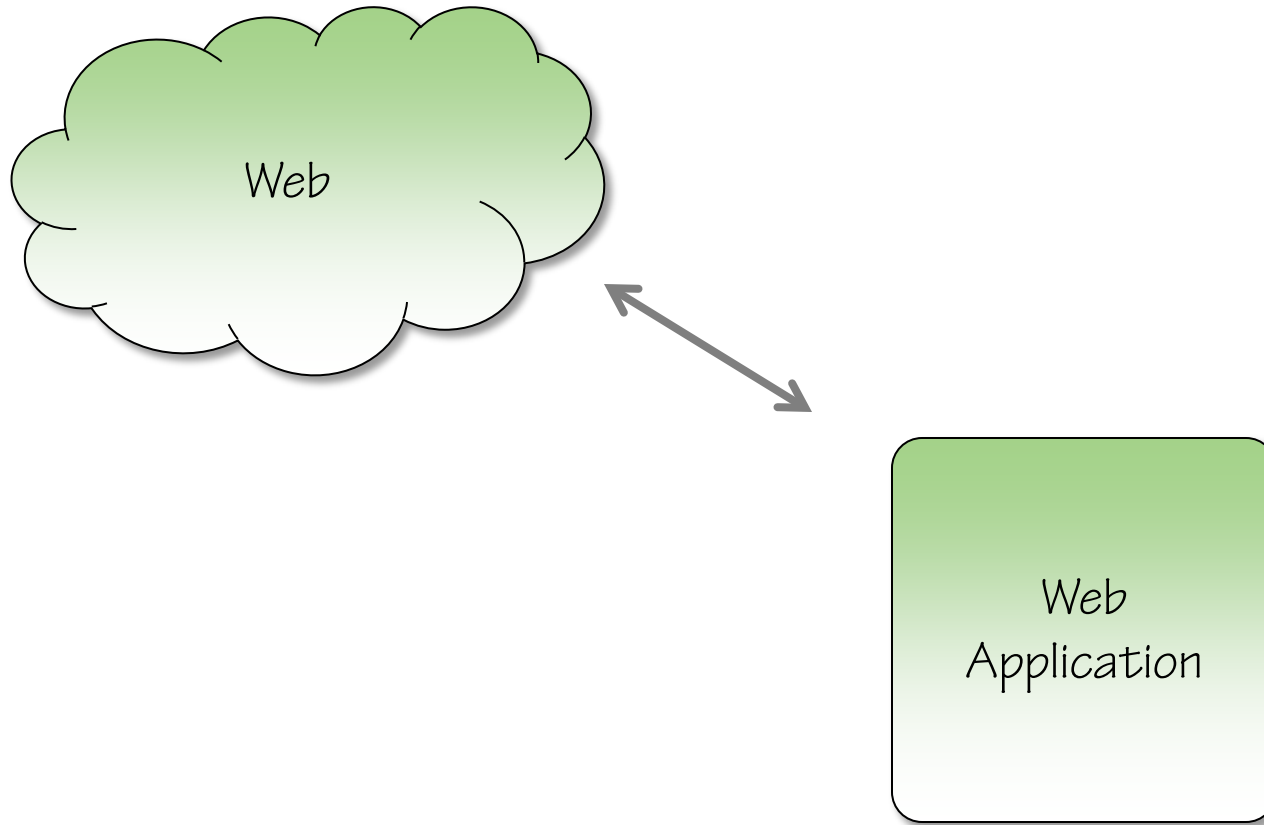
@craigshoemaker



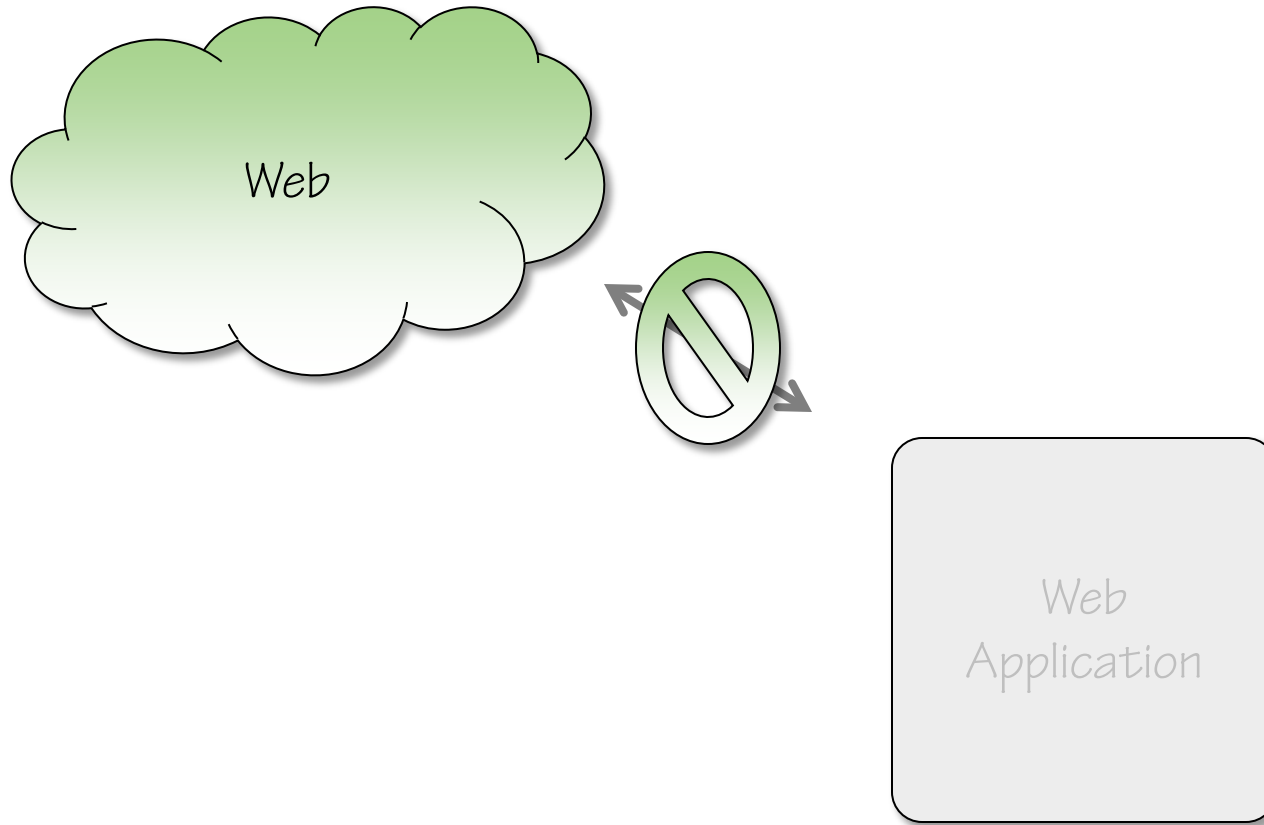
# Outline

- **Introduction**
- **What Are Offline Applications?**
- **Anatomy of Offline Application**
- **Application Cache API & Lifecycle**
- **Browser Support**
- **Demos:**
  - Events
  - Manual Updates
  - Automatic Updates
  - 'Journal' Application
  - Debugging

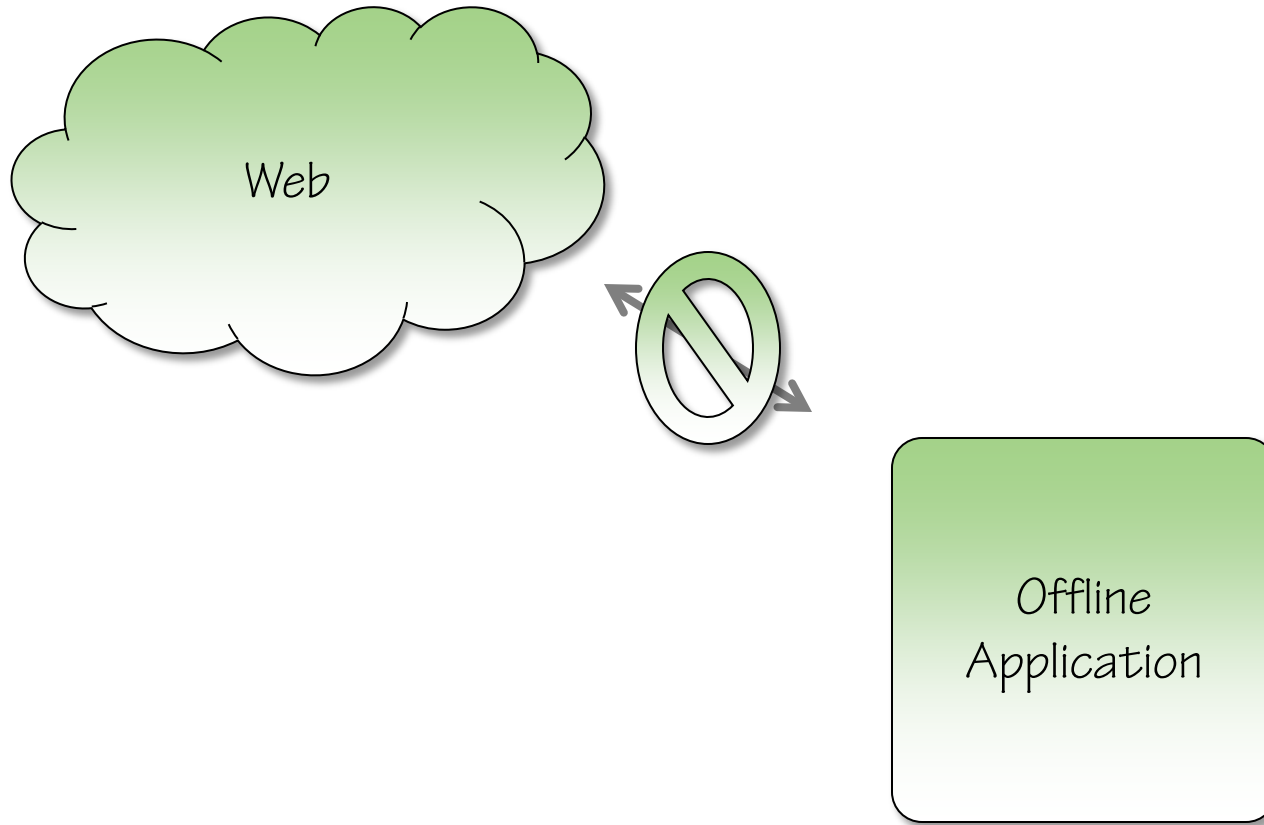
# What Are Offline Applications?



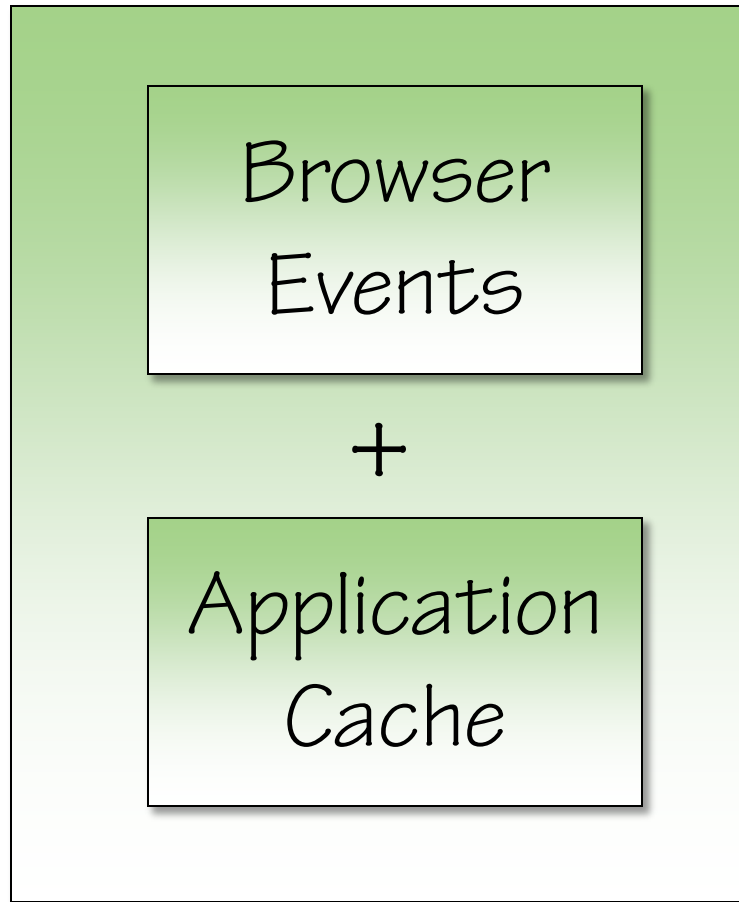
# What Are Offline Applications?



# What Are Offline Applications?



# What Are Offline Applications?



# JOURNAL

|

Send

# Anatomy of an Offline Application

```
<!doctype html>
<html manifest="journal-manifest.aspx">
<head>
  <title>Log</title>
  <link rel="Stylesheet" href="journal.css" type="text/css" />
  <script src="scripts/jquery-1.5.1.min.js" type="text/javascript"></script>
  <script src="offline.js" type="text/javascript"></script>
  <script>

    var isOnLine, box;
    var messages = [];

    function reportOnlineStatus() {
      isOnLine = navigator.onLine;
      $("#onlineStatus").html((isOnLine) ? "Yes" : "No");
    }

    function storeMessage() {
      var message = box.val();
      if (!isOnLine) {
        storeMessageLocal(message);
      }
      else {
        storeMessageRemote(message);
      }
    }

    function storeMessageLocal(msg) {
      messages.push(msg);
      clearUI();
      logEvent("Message saved locally: '" + msg + "'");
    }
  </script>
```



# Anatomy of an Offline Application



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- **Manifest**
- Assets
- Application Cache
- Online Status Awareness

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- Manifest
- **Assets**
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- Manifest
- Assets
- **Application Cache**
- Online Status Awareness

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  <script src="offline.js" type="text/javascript"></script>
</script>

  var isOnline, box;
  var messages = [];

  function reportOnlineStatus() {
    isOnline = navigator.onLine;
    $("#onlineStatus").html((isOnline) ? "Yes" : "No");
  }

  function storeMessage() {
    var message = box.val();
    if (!isOnline) {
      storeMessageLocal(message);
    }
    else {
      storeMessageRemote(message);
    }
  }

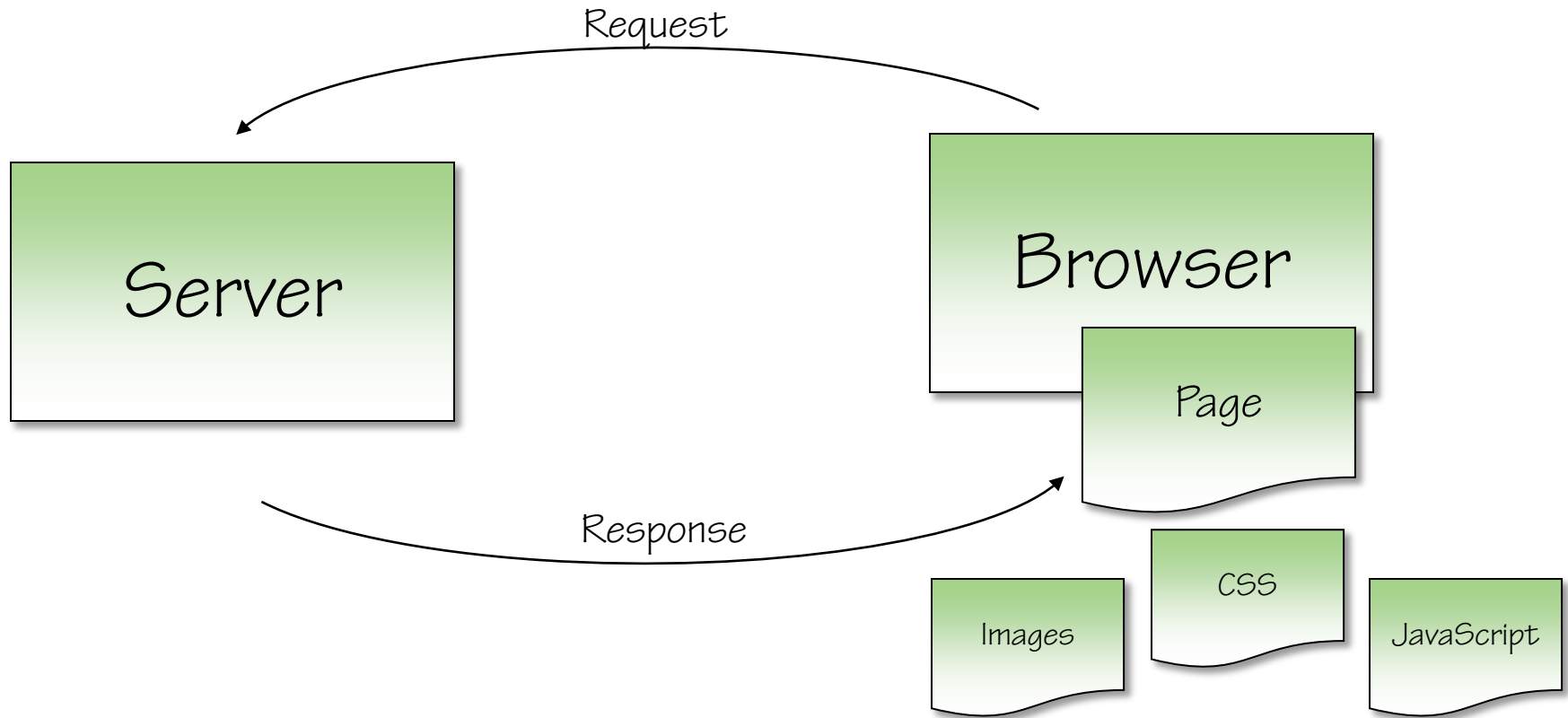
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- Manifest
- Assets
- Application Cache
- Online Status Awareness

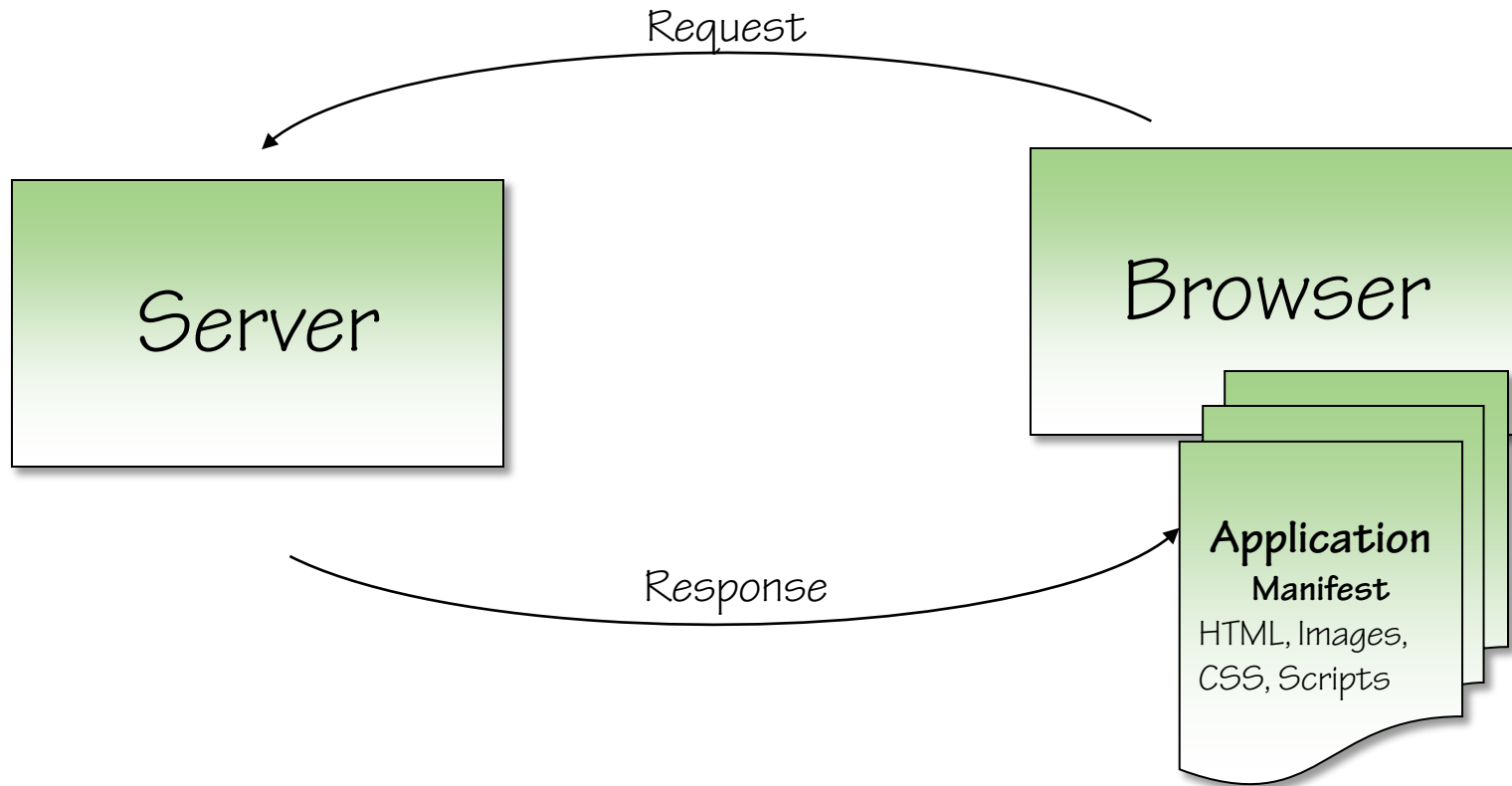
# Understanding Caching

## Browser Caching



# Understanding Caching

## Application Caching



# Understanding Caching



Do not mix browser caching  
and application caching

# Browser Caching vs. Application Caching

URL	Status	Domain	Size
GET events.aspx	200 OK	localhost:2706	1.7 KB
Headers Response Cache			
Response Headers			
Server	ASP.NET Development Server/10.0.0.0		
Date	Fri, 01 Jul 2011 13:09:30 GMT		
X-AspNet-Version	4.0.30319		
Cache-Control	no-cache		
Pragma	no-cache		
Expires	-1		
Content-Type	text/html; charset=utf-8		
Content-Length	1710		
Request Headers			
Host	localhost:2706		
User-Agent	Mozilla/5.0 (Windows NT 6.1; WOW64; rv:5.0) Gecko/20100101 Firefox/5.0		
Accept	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8		
Accept-Language	en-us,en;q=0.5		
Accept-Encoding	gzip, deflate		
Accept-Charset	ISO-8859-1,utf-8;q=0.7,*;q=0.7		
Connection	keep-alive		



# Cache Manifest File

```
CACHE MANIFEST  
# version 1
```

```
CACHE:  
journal.aspx  
journal-css.aspx  
scripts/jquery-1.5.1.min.js  
offline.js  
journal-bkg.jpg
```

```
NETWORK:  
journal/list
```

```
FALLBACK:  
/home /journal-fallback.aspx
```

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# version 1

CACHE:

journal.aspx

journal-css.aspx

scripts/jquery-1.5.1.min.js

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```
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```

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FALLBACK:  
/home /journal-fallback.aspx
```

# Cache Manifest File

**Mime Type:** text/cache-manifest  
**Encoding:** utf-8

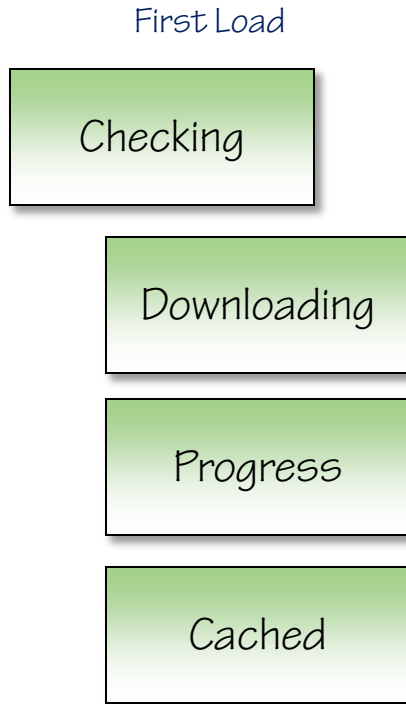
# Progression of Events

window.applicationCache



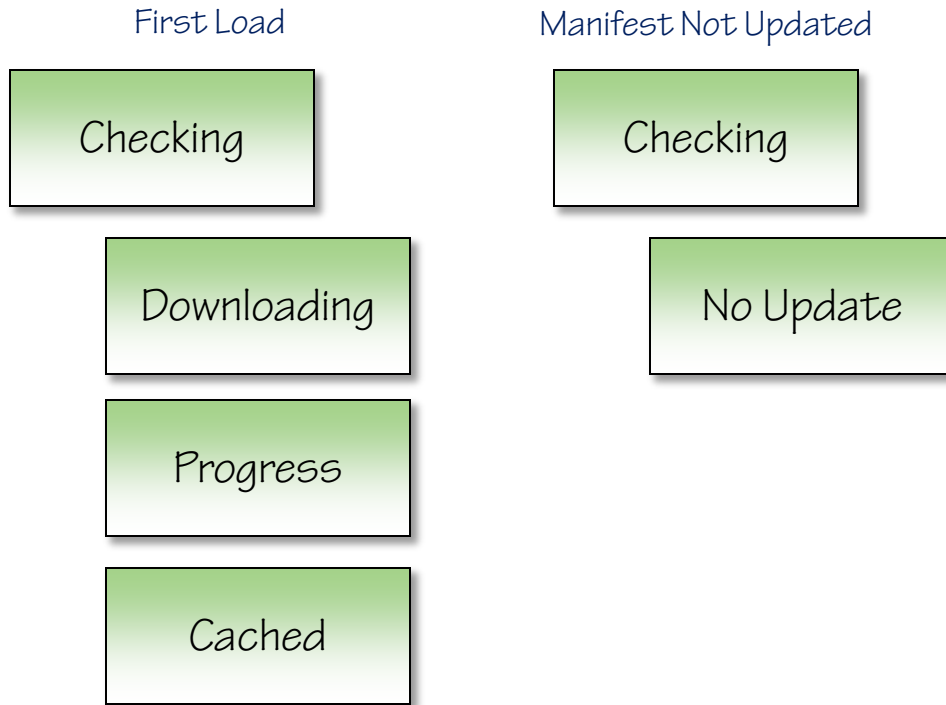
# Progression of Events

window.applicationCache



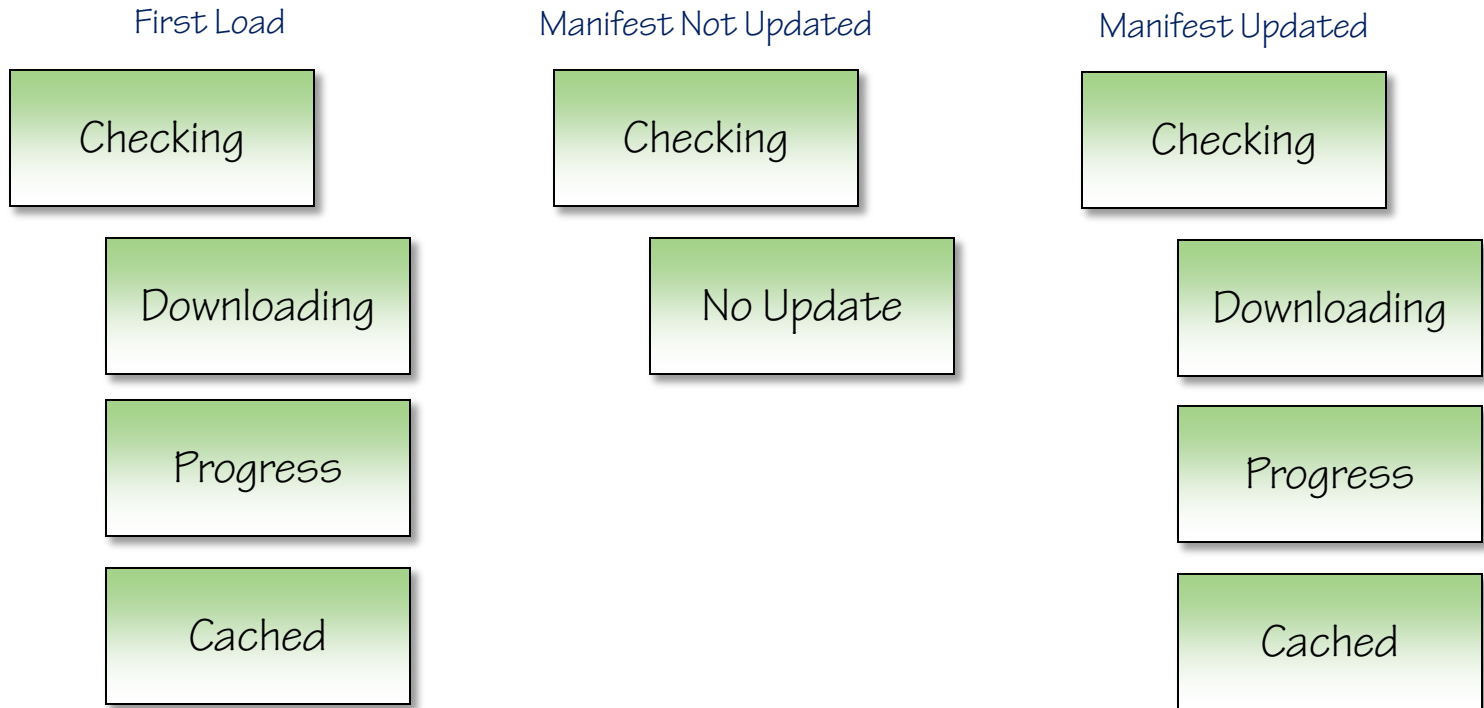
# Progression of Events

window.applicationCache



# Progression of Events

window.applicationCache



# Cache States

State	Status	Description
0	UNCACHED	Cache not initialized
1	IDLE	Cache not being updated
2	CHECKING	Looking at manifest for changes
3	DOWNLOADING	Serving files in manifest to browser
4	UPDATEREADY	All files in manifest are downloaded
5	OBSOLETE	Contents of cache are stale and need to be downloaded again

# Browser Support



Chrome  
4.0+



Firefox  
3.5+



Opera  
10.6+



Safari  
4.0+



IE  
N/A

# Demos

# Summary

- **Offline Applications**
  - Application Cache API
  - Online/Offline Browser Events
- **Working with Events**
- **Manual and Automatic Installation**
- **Manifest Errors**

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