



QINGCLOUD

Anybox Web

安全可靠、开放易用的企业级云盘

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技术栈

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项目构建

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文件上传

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技术栈

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项目构建

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文件上传

3

文件上传

1. 获得用户的文件

2. 上传文件到服务器

3

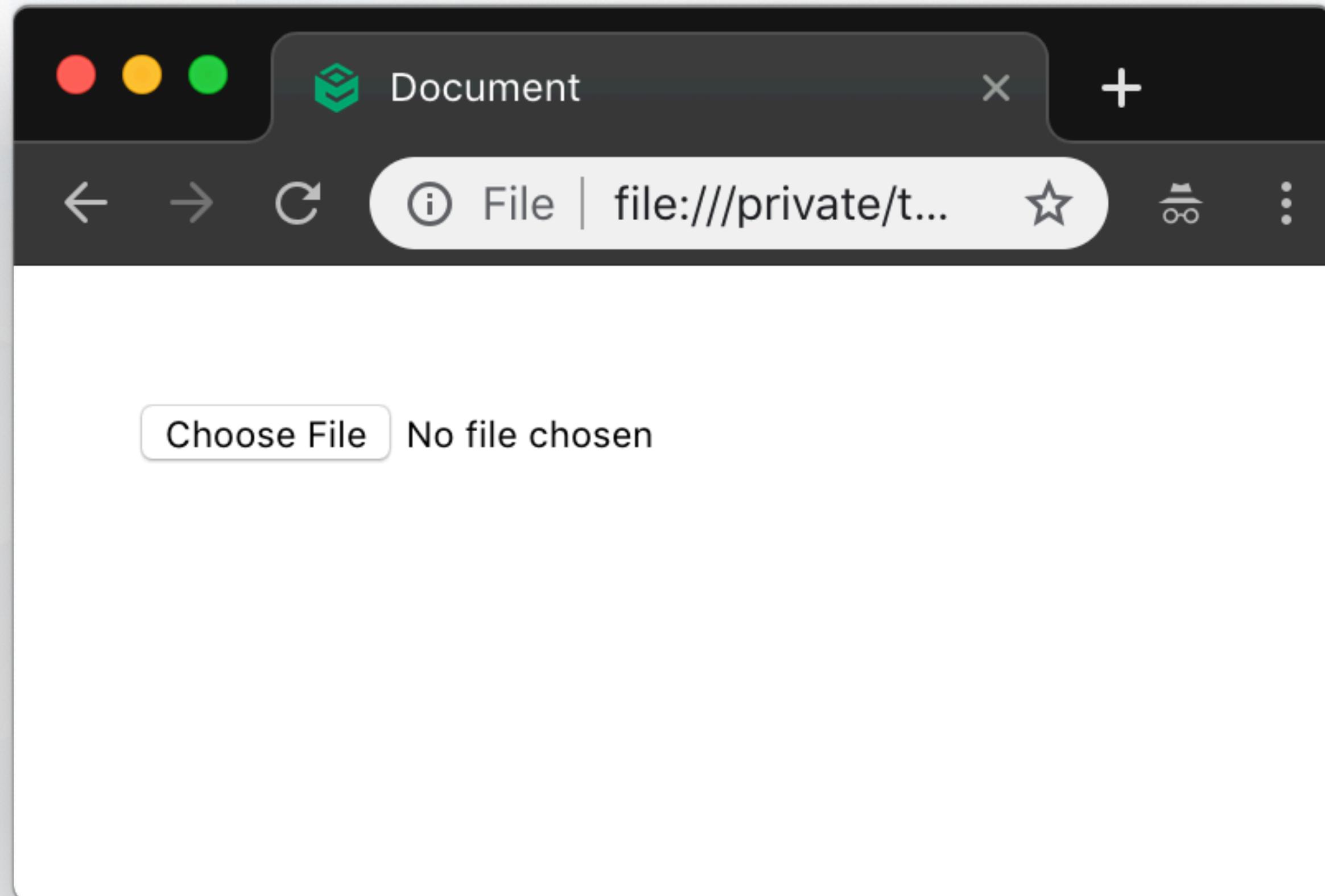
文件上传

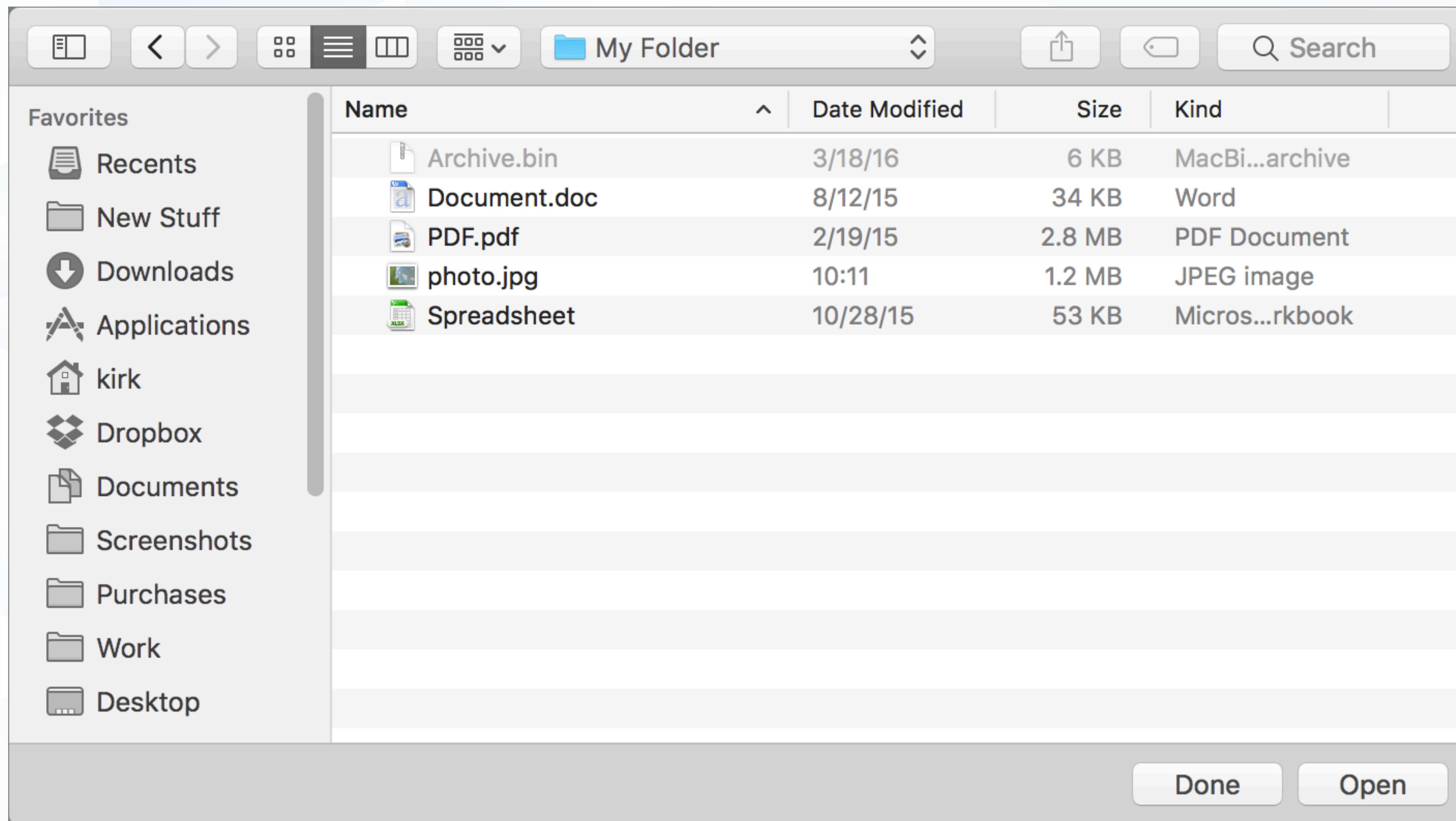
1. 获得用户的文件

2. 上传文件到服务器

- input
- drag and drop

```
<!DOCTYPE html>
<html lang="en">
<head>
</head>
<body>
    <input type="file" name="file" id="input" />
</body>
</html>
```





```
<input type="file" name="file" id="input" />
```

```
const input = document.getElementById('input');

input.addEventListener('change', (e) => {
  const files = e.target.files;
  console.log(files);
});
```

Console

top All levels

FileList {0: File(165845806), length: 1} ⓘ

0: File(165845806)

lastModified: 1540972046952

lastModifiedDate: Wed Oct 31 2018 15:47:26 GMT+0800 (China Standard Time) {}

name: "知行学院分享 Anybox Web.key"

size: 165845806

type: "application/x-iwork-keynote-sffkey"

webkitRelativePath: ""

__proto__: File

length: 1

__proto__: FileList

```
const input = document.getElementById('input');

input.addEventListener('change', (e) => {
  const files = e.target.files;
  console.log(files);
});
```

Console

top All levels

inde:

```
▼ fileList {0: File(165845806), length: 1} ⓘ
  ▼ 0: File(165845806)
    lastModified: 1540972046952
    ▶ lastModifiedDate: Wed Oct 31 2018 15:47:26 GMT+0800 (China Standard Time) {}
    name: "知行学院分享 Anybox Web.key"
    size: 165845806
    type: "application/x-iwork-keynote-sffkey"
    webkitRelativePath: ""
    ▶ __proto__: File
  length: 1
  ▶ __proto__: fileList
```

A screenshot of a web browser displaying the MDN web docs page for the `Blob` object. The page is titled "Blob" and includes sections for "Constructor", "Properties", "Methods", "Examples", "Specifications", and "Browser compatibility". The "Edit" button is highlighted with a blue border. The MDN logo and navigation links are visible at the top.

Blob

Jump to: [Constructor](#) [Properties](#) [Methods](#) [Examples](#) [Specifications](#) [Browser compatibility](#) [See also](#)

[Web technology for developers](#) > [Web APIs](#) > [Blob](#)

A `Blob` object represents a file-like object of immutable, raw data. Blobs represent data that isn't necessarily in a JavaScript-native format. The `File` interface is based on `Blob`, inheriting blob functionality and expanding it to support files on the user's system.

Related Topics

- [Blob](#)
- ▼ [Constructor](#)
- [Blob\(\)](#)

To construct a `Blob` from other non-blob objects and data, use the `Blob()` constructor. To create a blob that contains a subset of another blob's data, use the `slice()` method. To obtain a `Blob` object for a file on the user's file system, see the `File` documentation.

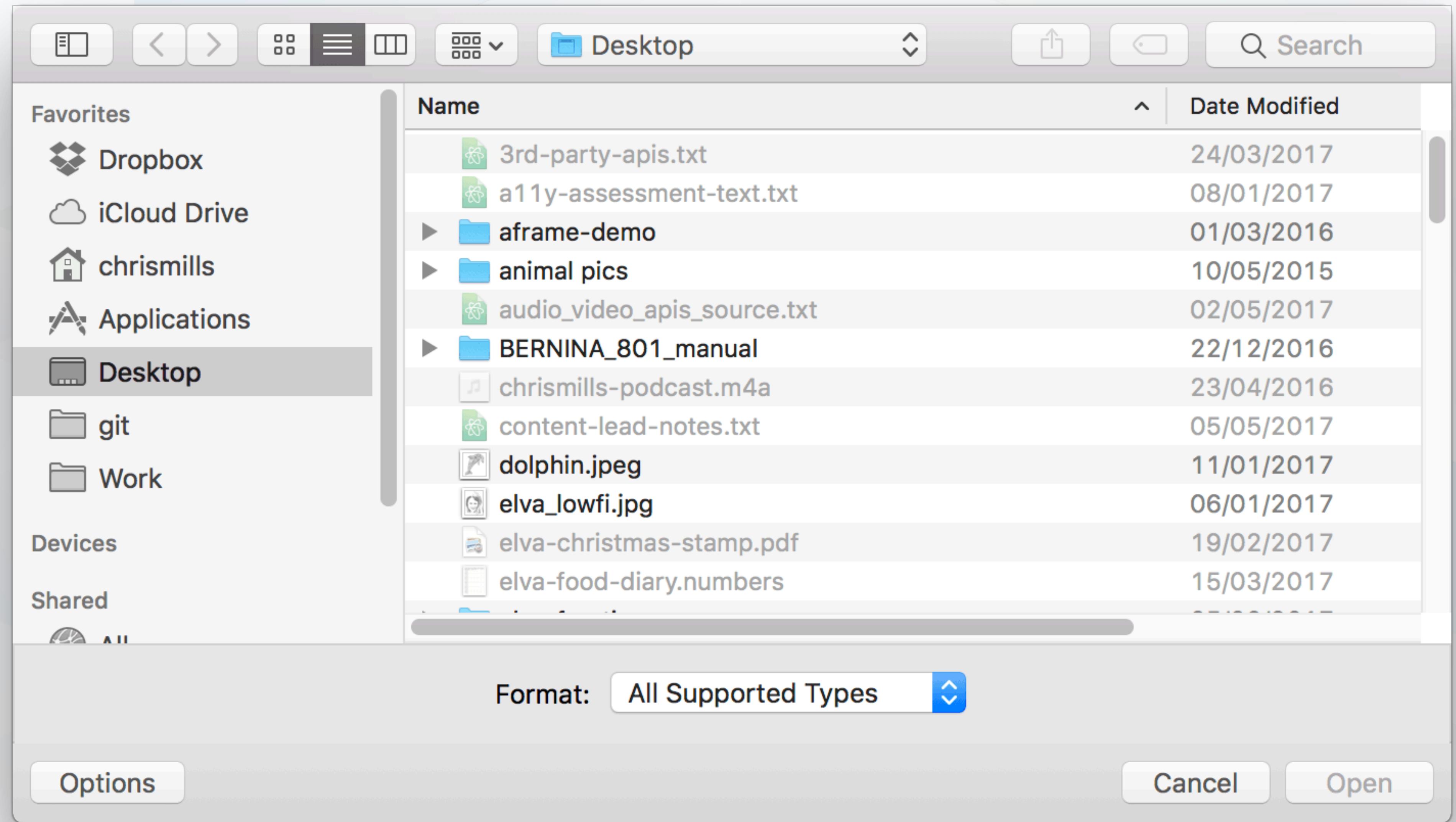
The APIs accepting `Blob` objects are also listed on the `File` documentation.

```
<input type="file" name="file" id="input" multiple />
```

```
<input  
    type="file"  
    name="file"  
    id="input"  
    accept=".doc,.docx,application/msword"  
    capture="camera"  
/>
```

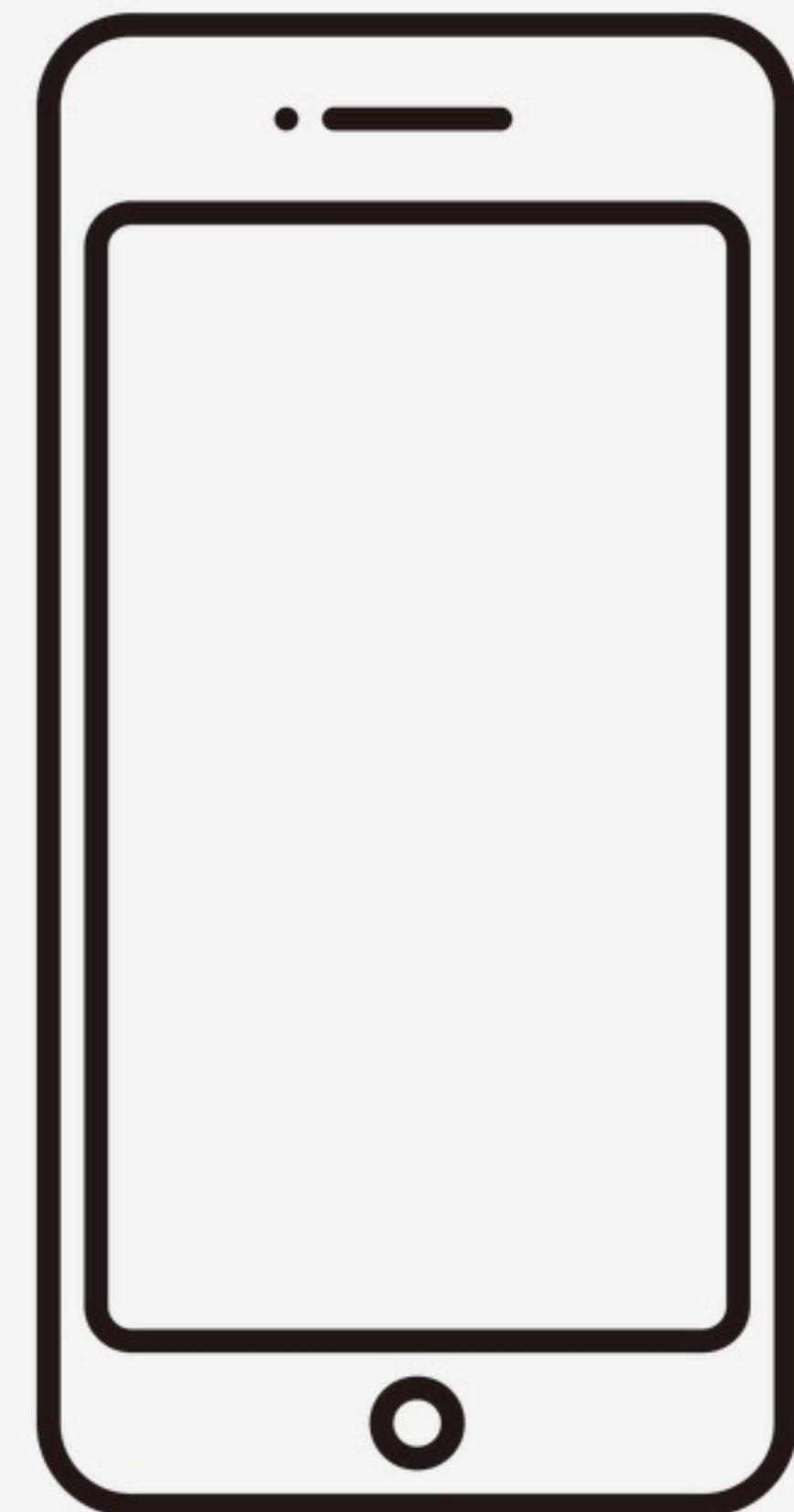
accept 属性接受一个逗号分隔的 MIME 类型字符串, 如:

- accept="image/png" or accept=".png" — 只接受 png 图片.
- accept="image/png, image/jpeg" or accept=".png, .jpg, .jpeg" — PNG/JPEG 文件.
- accept="image/*" — 接受任何图片文件类型.
- accept=".doc,.docx,.xml,application/msword,application/vnd.openxmlformats-officedocument.wordprocessingml.document" — 接受任何 MS Doc 文件类型.

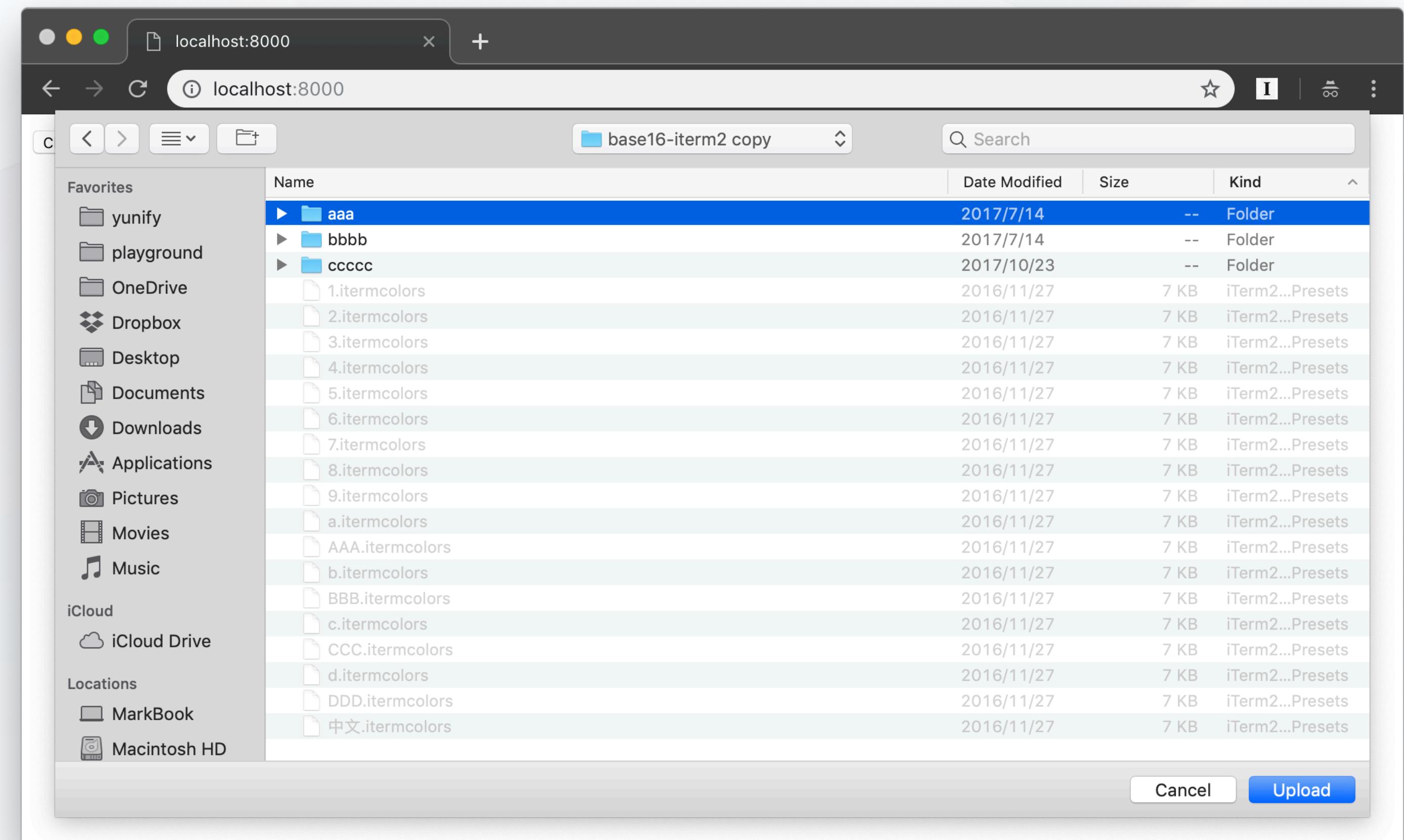


capture: What source to use for capturing image or video data

- capture="user" — 前置摄像头或麦克风
- capture="environment" — 后置摄像头或麦克风
- ...



```
<input  
    type="file"  
    name="file"  
    id="input"  
    webkitdirectory  
/>
```

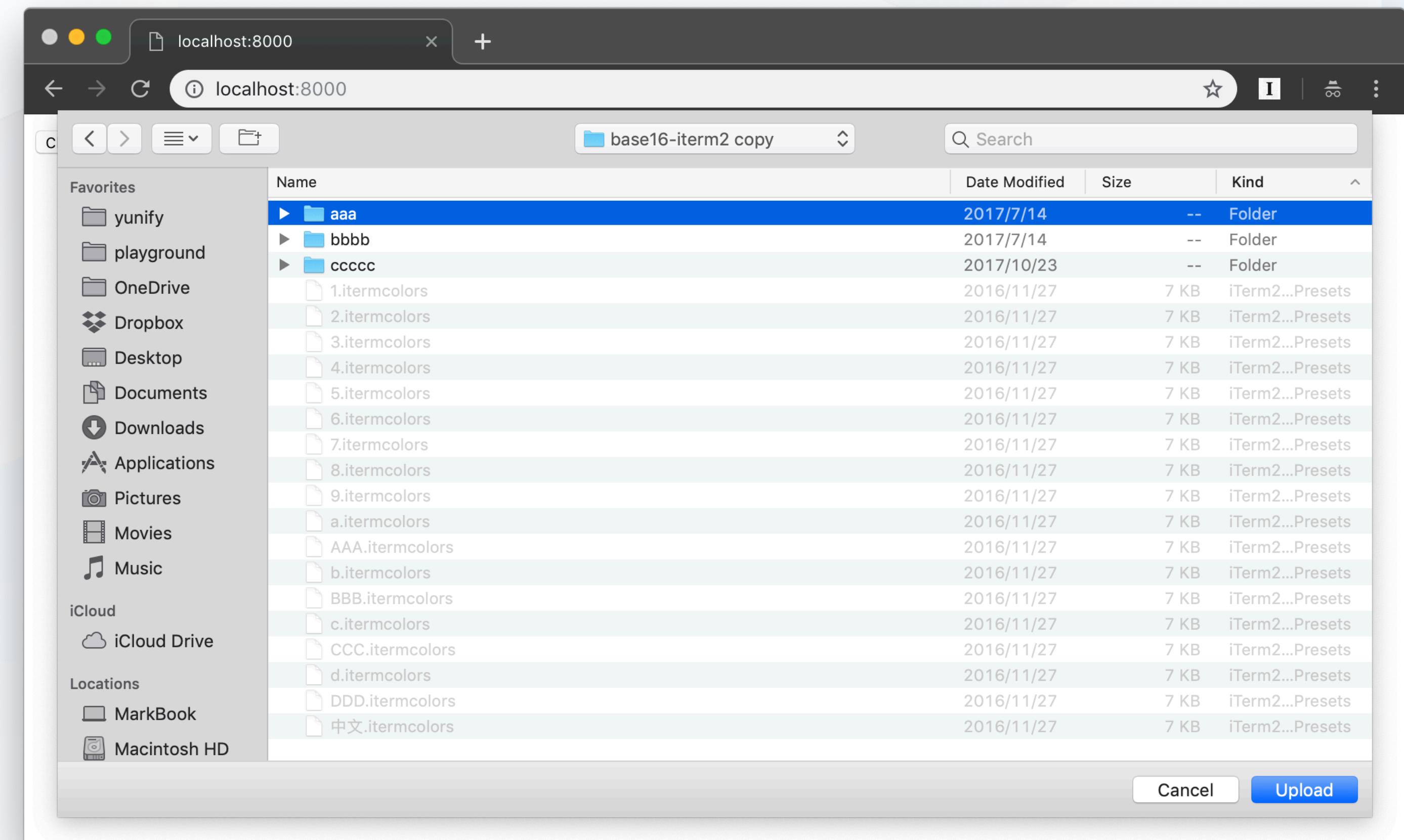


使用 webkitdirectory 需要注意：

- 不能选择文件
- 只能选择一个文件夹
- 浏览器兼容性问题
- 得到的仍然是一个 `FileList` 对象

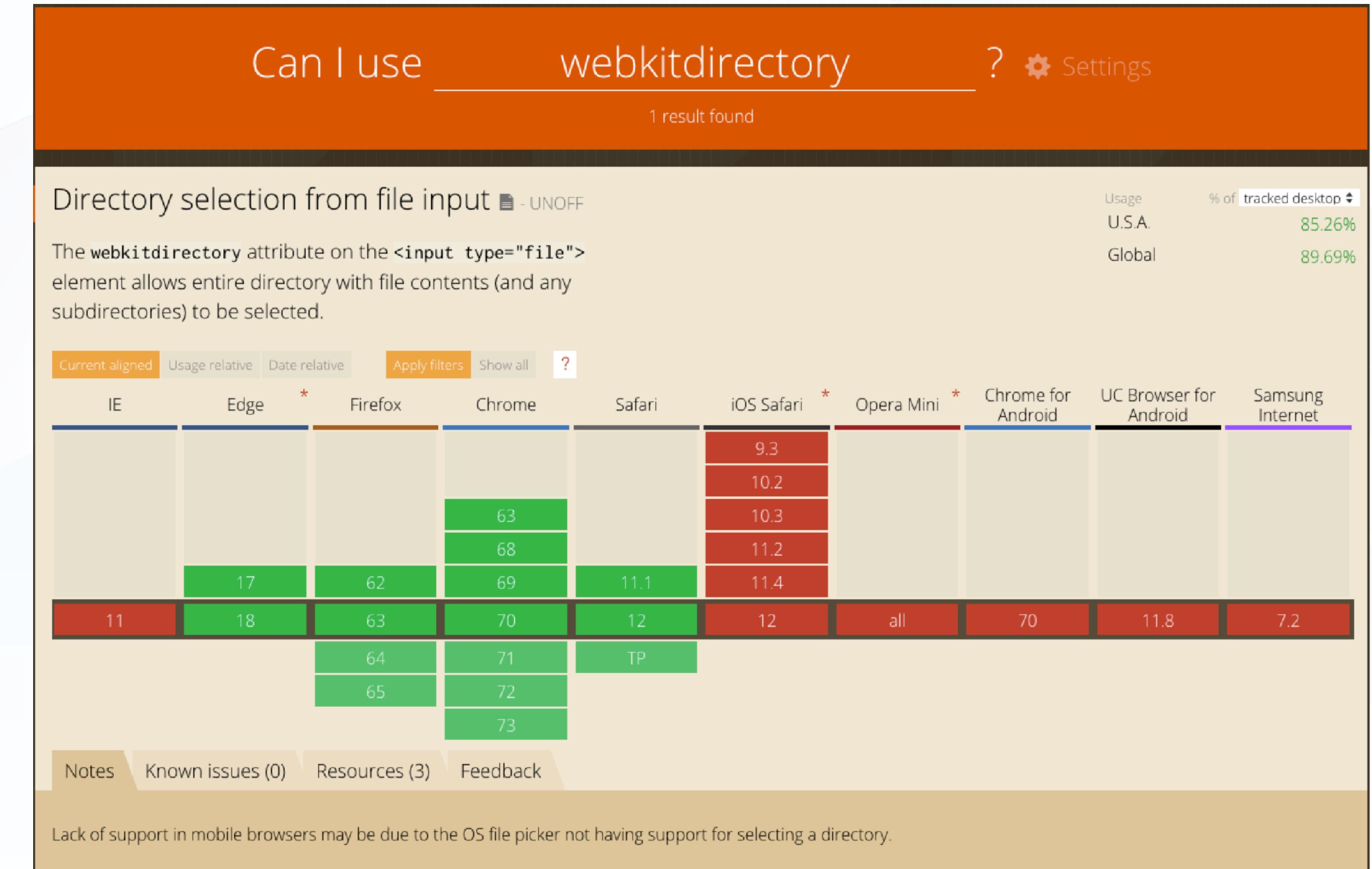
使用 webkitdirectory 需要注意：

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- 得到的仍然是一个 `FileList` 对象



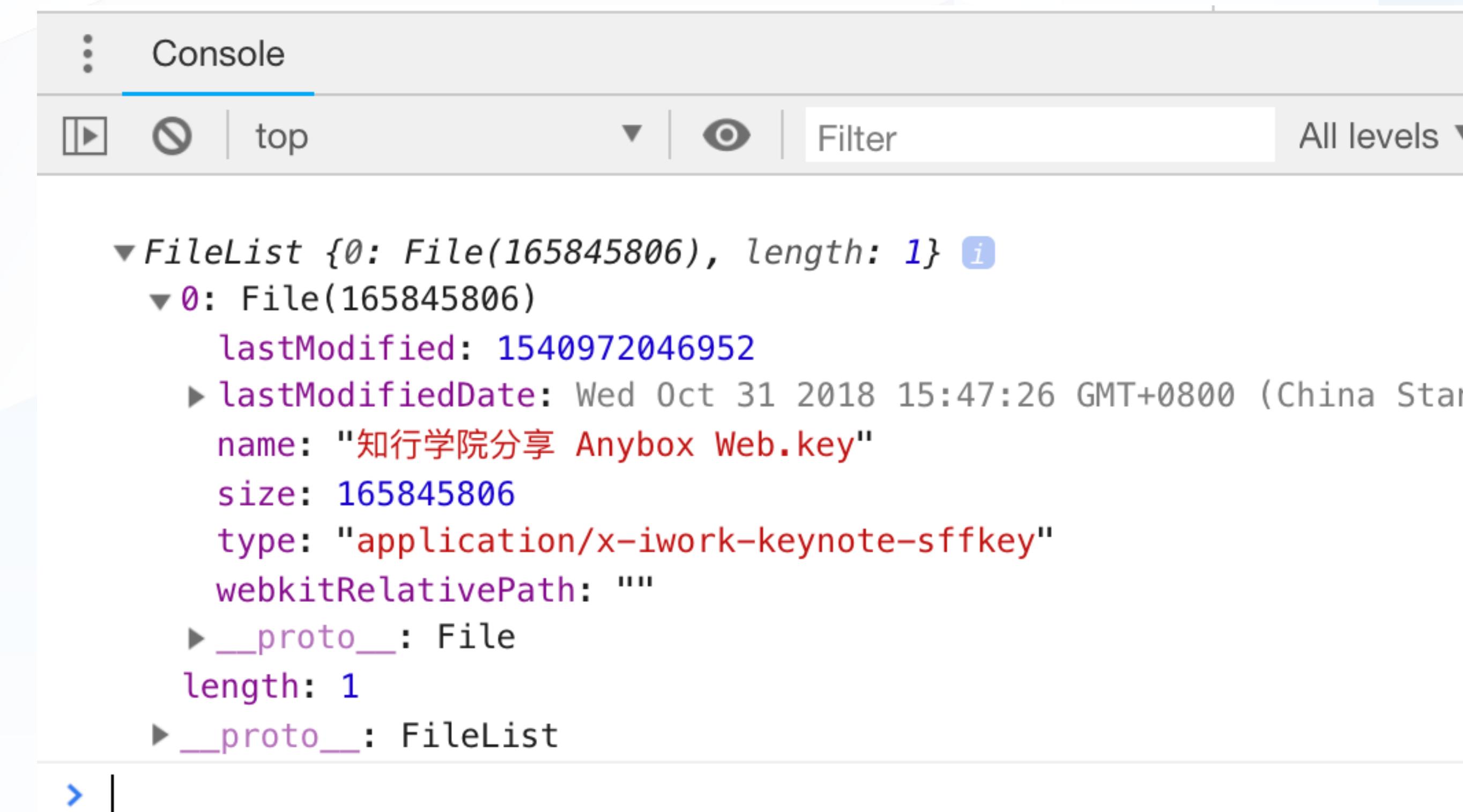
使用 webkitdirectory 需要注意：

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使用 webkitdirectory 需要注意：

- 不能选择文件
- 只能选择一个文件夹
- 浏览器兼容性问题
- 得到的仍然是一个 `FileList` 对象



Console

top All levels

inde:

```
▼ fileList {0: File(165845806), length: 1} ⓘ
  ▼ 0: File(165845806)
    lastModified: 1540972046952
    ► lastModifiedDate: Wed Oct 31 2018 15:47:26 GMT+0800 (China Standard Time) {}
    name: "知行学院分享 Anybox Web.key"
    size: 165845806
    type: "application/x-iwork-keynote-sffkey"
    webkitRelativePath: ""
    ► __proto__: File
  length: 1
  ► __proto__: fileList
```

> |

```
⋮: Console X
[ ]  top  Filter All levels  
0), 91: File(6607), 92: File(6414), 93: File(6561), 94: File(6569), 95: File(6416), 96: File(6577), 97: File(6521), 98: File(6610), 99: File(6414), ...} ⓘ
▶ 0: File(6570) {name: "5.itermcolors", lastModified: 1480224133000, lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
▶ 1: File(6514) {name: "d.itermcolors", lastModified: 1480224133000, lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
▼ 2: File(6558)
    lastModified: 1480224133000
    ▶ lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}
        name: "中文.itermcolors"
        size: 6558
        type: ""
        webkitRelativePath: "base16-iterm2 copy/中文.itermcolors"
    ▶ __proto__: File
    ▶ 3: File(6561) {name: "a.itermcolors", lastModified: 1480224133000, lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
    ▶ 4: File(12292) {name: ".DS_Store", lastModified: 1541411162658, lastModifiedDate: Mon Nov 27 2017 10:59:22 GMT+0800 (China Standard Time) {}}
    ▶ 5: File(6561) {name: "9.itermcolors", lastModified: 1480224133000, lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
    ▶ 6: File(6561) {name: "BBB.itermcolors", lastModified: 1480224133000, lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
    ▶ 7: File(6514) {name: "CCC.itermcolors", lastModified: 1480224133000, lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
    ▶ 8: File(6560) {name: "3 itermcolors" lastModified: 1480224133000 lastModifiedDate: Sun Nov 27 2016 13:22:13 GMT+0800 (China Standard Time) {}}
```

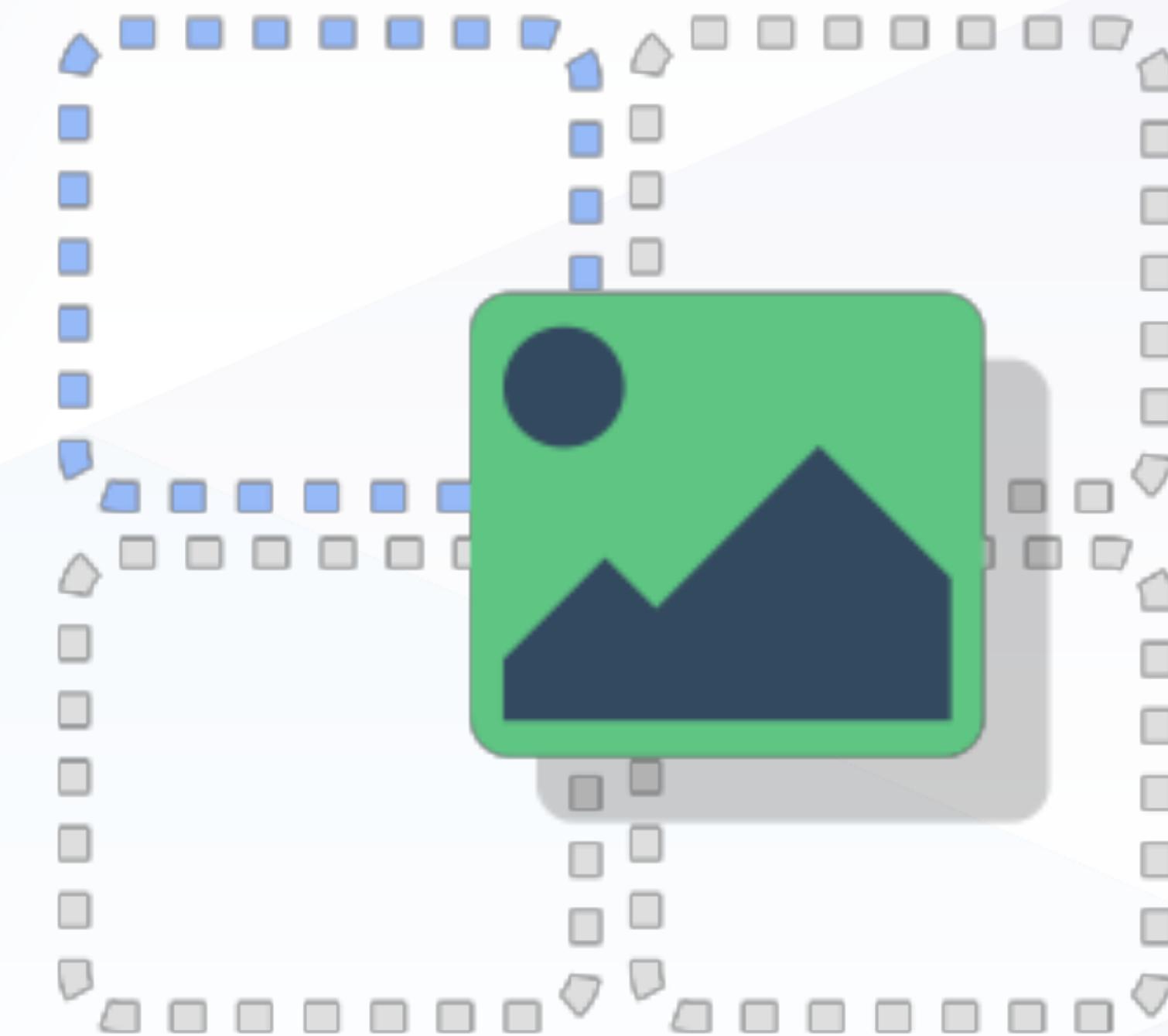


```
<input type="file" name="file" id="input" />
```

```
const input = document.getElementById('input');

input.addEventListener('change', (e) => {
  const files = e.target.files;
  console.log(files);
});
```

Drag and Drop



MouseEvent

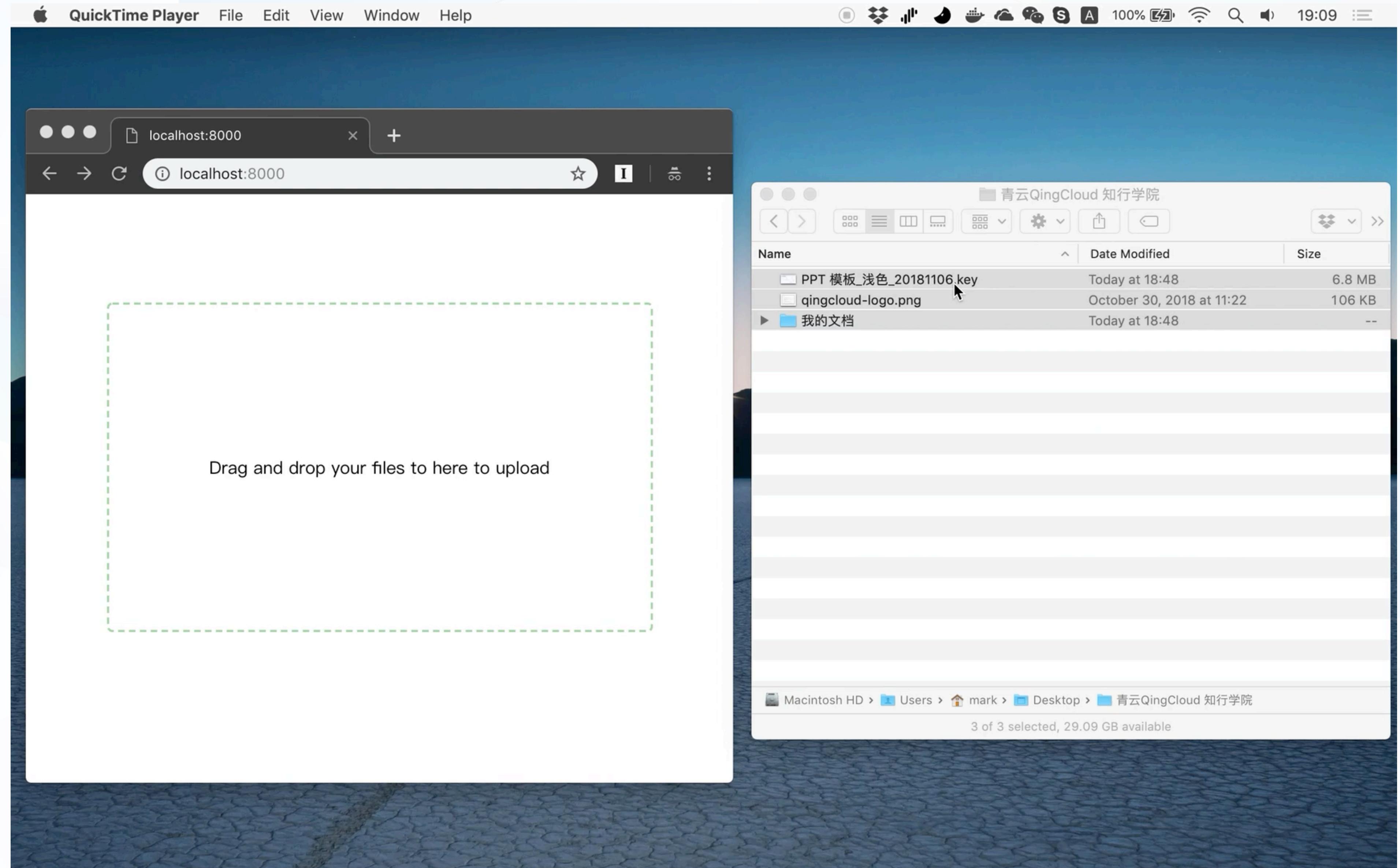


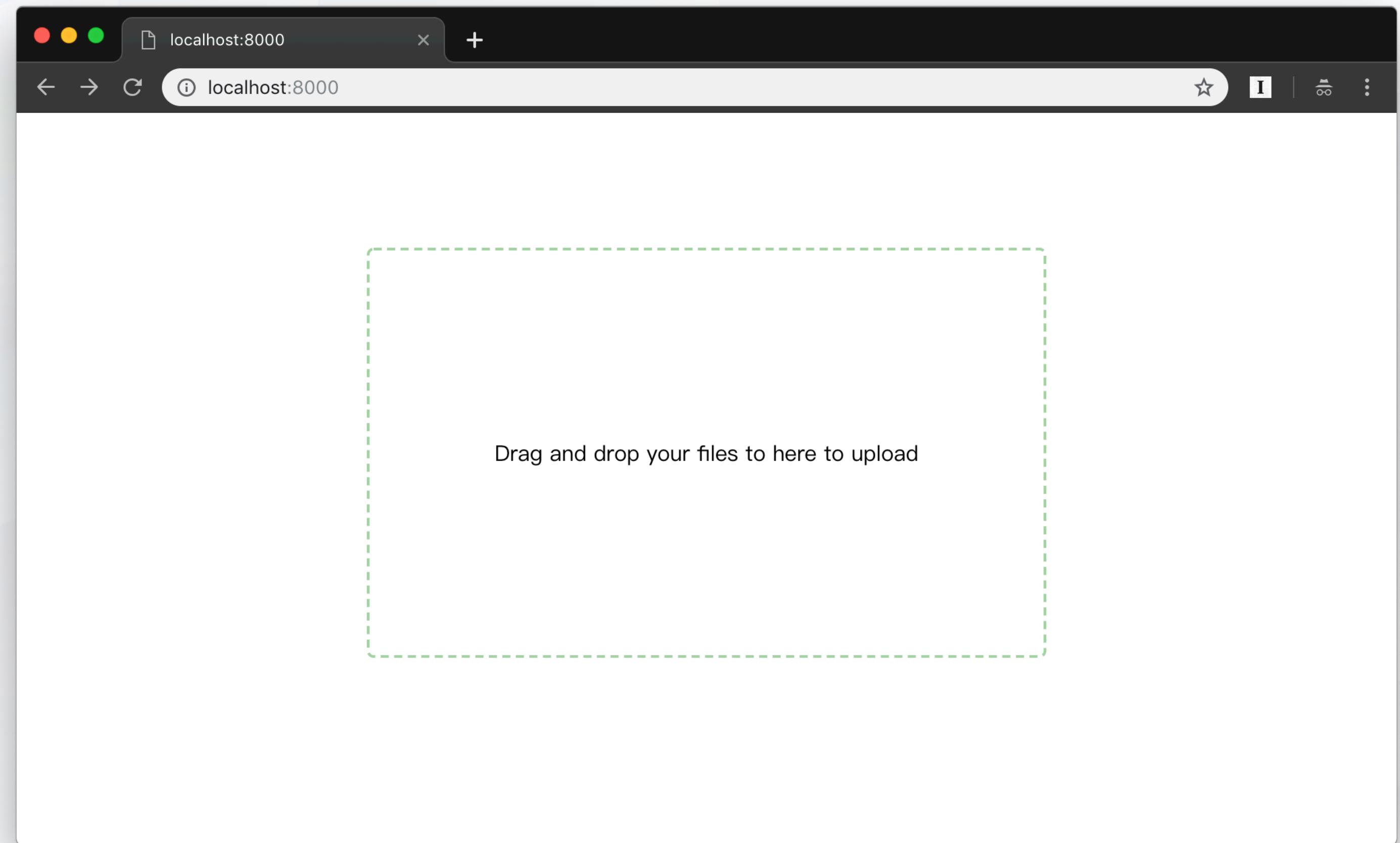
DargEvent

- clientX/clientY
- offsetX/offsetY
- pageX/pageY
- screenX/screenY

Event	On Event Handler	Description
<code>drag</code>	<code>ondrag</code>	当拖动元素或选中的文本时触发。
<code>dragend</code>	<code>ondragend</code>	当拖拽操作结束时触发 (比如松开鼠标按键或敲“Esc”键). (见 结束拖拽)
<code>dragenter</code>	<code>ondragenter</code>	当拖动元素或选中的文本到一个可释放目标时触发 (见 指定释放目标)。
<code>dragexit</code>	<code>ondragexit</code>	当元素变得不再是拖动操作的选中目标时触发。
<code>dragleave</code>	<code>ondragleave</code>	当拖动元素或选中的文本离开一个可释放目标时触发。
<code>dragover</code>	<code>ondragover</code>	当元素或选中的文本被拖到一个可释放目标上时触发 (每100毫秒触发一次)。
<code>dragstart</code>	<code>ondragstart</code>	当用户开始拖动一个元素或选中的文本时触发 (见 开始拖动操作)。
<code>drop</code>	<code>ondrop</code>	当元素或选中的文本在可释放目标上被释放时触发 (见 执行释放)。







```
<div class="drop-zone" id="drop-zone">
  <p>Drag and drop your files to here to upload</p>
</div>

<script>
  const dropZone = document.getElementById('drop-zone');

  dropZone.addEventListener('dragenter', (e) => {
    e.preventDefault();

    dropZone.classList.add('drop-zone--drop');
  });

  dropZone.addEventListener('dragover', (e) => {
    e.preventDefault();
  });

  dropZone.addEventListener('dragleave', (e) => {
    dropZone.classList.remove('drop-zone--drop');
  });
</script>
```

```
<div class="drop-zone" id="drop-zone">  
  <p>Drag and drop your files to here to upload</p>  
</div>  
  
<script>  
  const dropZone = document.getElementById('drop-zone');  
  
  → dropZone.addEventListener('dragenter', (e) => {  
    e.preventDefault();  
  
    dropZone.classList.add('drop-zone--drop');  
  });  
  
  → dropZone.addEventListener('dragover', (e) => {  
    e.preventDefault();  
  });  
  
  dropZone.addEventListener('dragleave', (e) => {  
    dropZone.classList.remove('drop-zone--drop');  
  });  
</script>
```

```
<div class="drop-zone" id="drop-zone">
  <p>Drag and drop your files to here to upload</p>
</div>

<script>
  const dropZone = document.getElementById('drop-zone');

  dropZone.addEventListener('dragenter', (e) => {
    e.preventDefault();

    dropZone.classList.add('drop-zone--drop');
  });

  dropZone.addEventListener('dragover', (e) => {
    e.preventDefault();
  });

  dropZone.addEventListener('dragleave', (e) => {
    dropZone.classList.remove('drop-zone--drop');
  });
</script>
```



```
dropZone.addEventListener('drop', handleDrop);

function handleDrop(e) {
  const dtItems = e.dataTransfer.items;
}
```

DataTransfer - Web APIs | MDN

https://developer.mozilla.org/en-US/docs/Web/API/DataTransfer

Jump to: Constructor Properties Methods Example Specifications Browser compatibility See also

DataTransfer

- Constructor DataTransfer()
- Properties dropEffect effectAllowed files items ▲ mozCursor ▲ mozItemCount ▲ mozSourceNode ▲ mozUserCancelled types
- Methods ▲ addElement() clearData() getData() ▲ mozClearDataAt() ▲ mozGetDataAt() ▲ mozSetDataAt() ▲ mozTypesAt()

Constructor

DataTransfer()

Creates and returns a new `DataTransfer` object.

Properties

Standard properties

DataTransfer.dropEffect

Gets the type of drag-and-drop operation currently selected or sets the operation to a new type. The value must be `none`, `copy`, `link` or `move`.

DataTransfer.effectAllowed

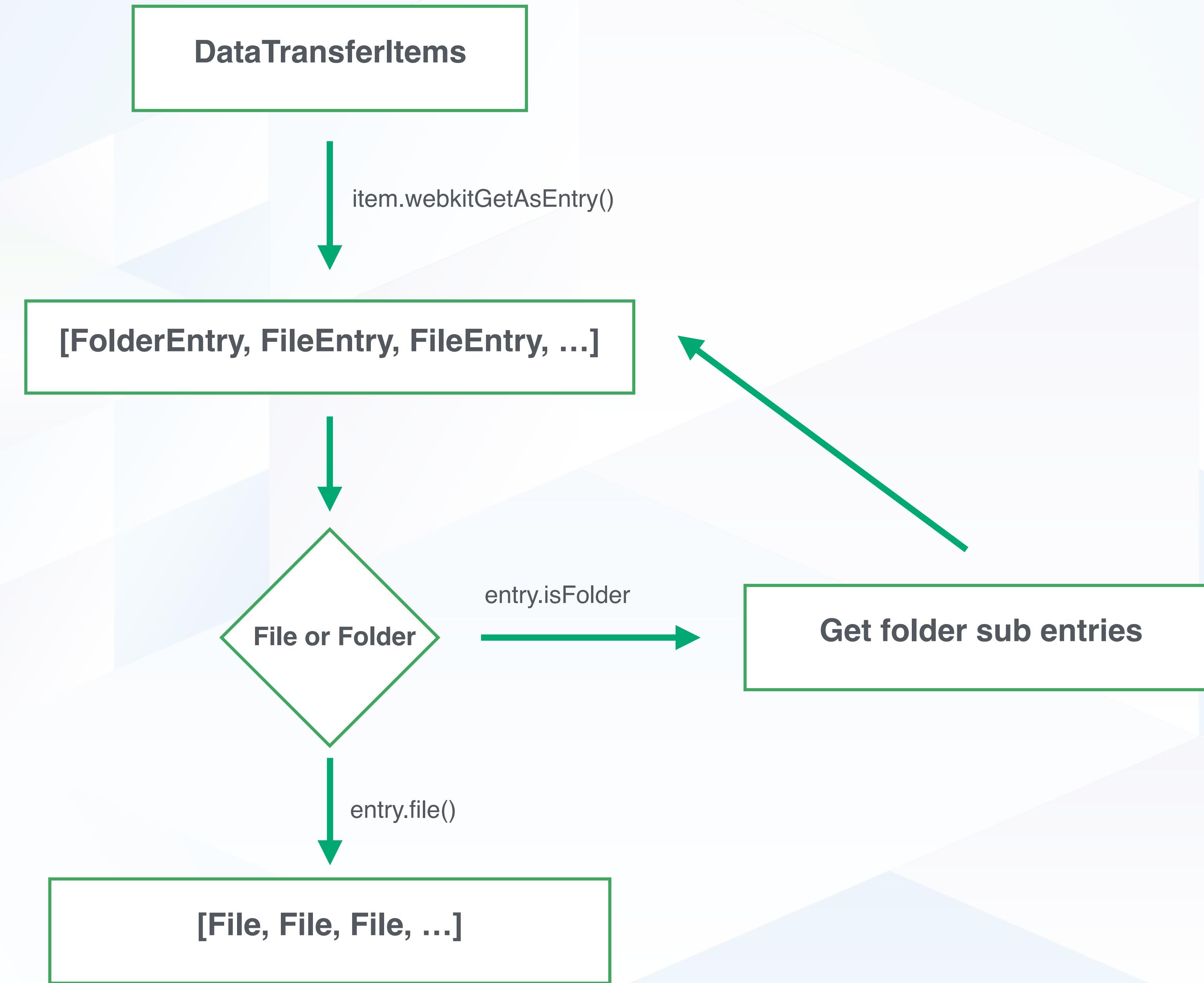
Provides all of the types of operations that are possible. Must be one of `none`, `copy`, `copyLink`, `copyMove`, `link`, `linkMove`, `move`, `all` or `uninitialized`.

DataTransfer.files

Contains a list of all the local files available on the data transfer. If the drag operation doesn't involve dragging files, this property is an empty list.

DataTransfer.items

Given a `DataTransferForThumbnails` object which is a list of all of the drag data.



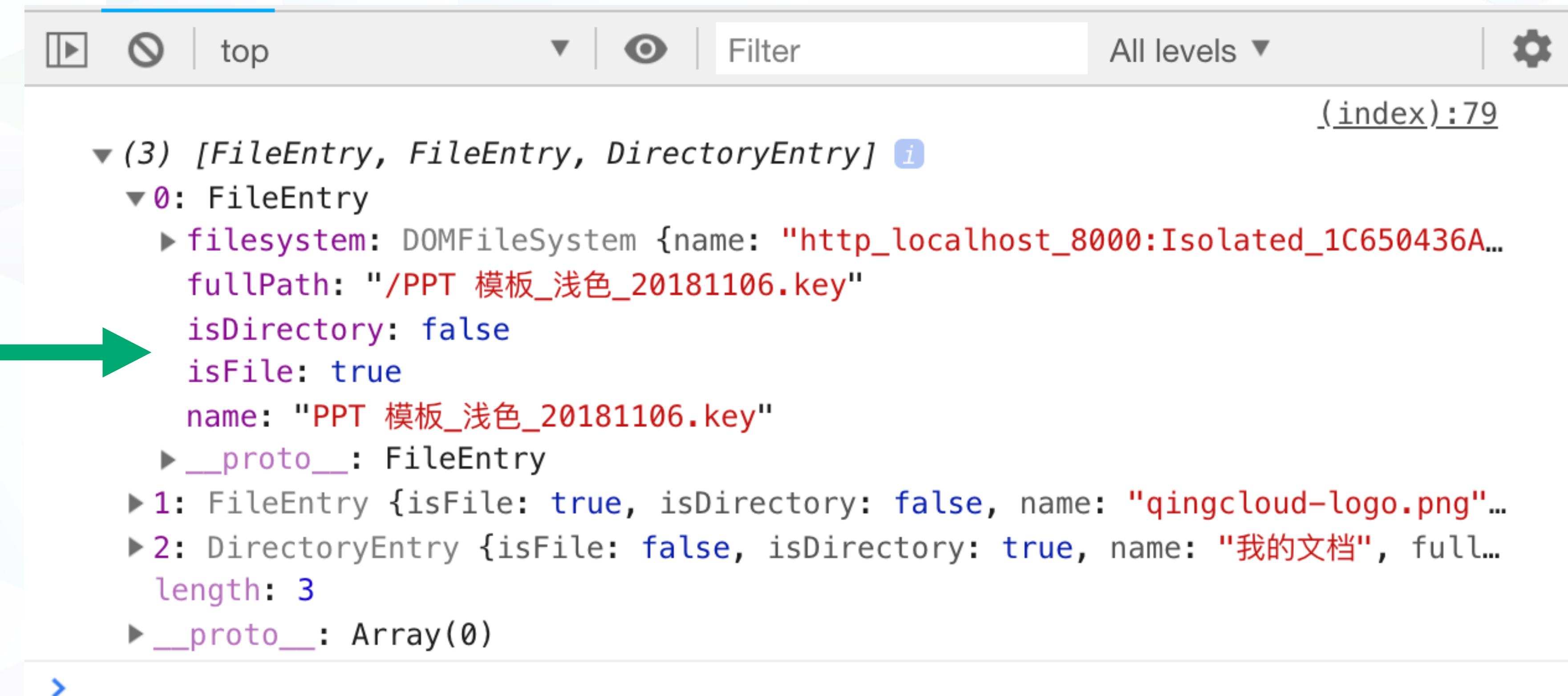
```
const entries = [...items].map((item) => {  
    return item.webkitGetAsEntry();  
});
```

- FileSystemFileEntry
- FileSystemDirectoryEntry

DataTransferItems

item.webkitGetAsEntry()

[FolderEntry, FileEntry, FileEntry, ...]

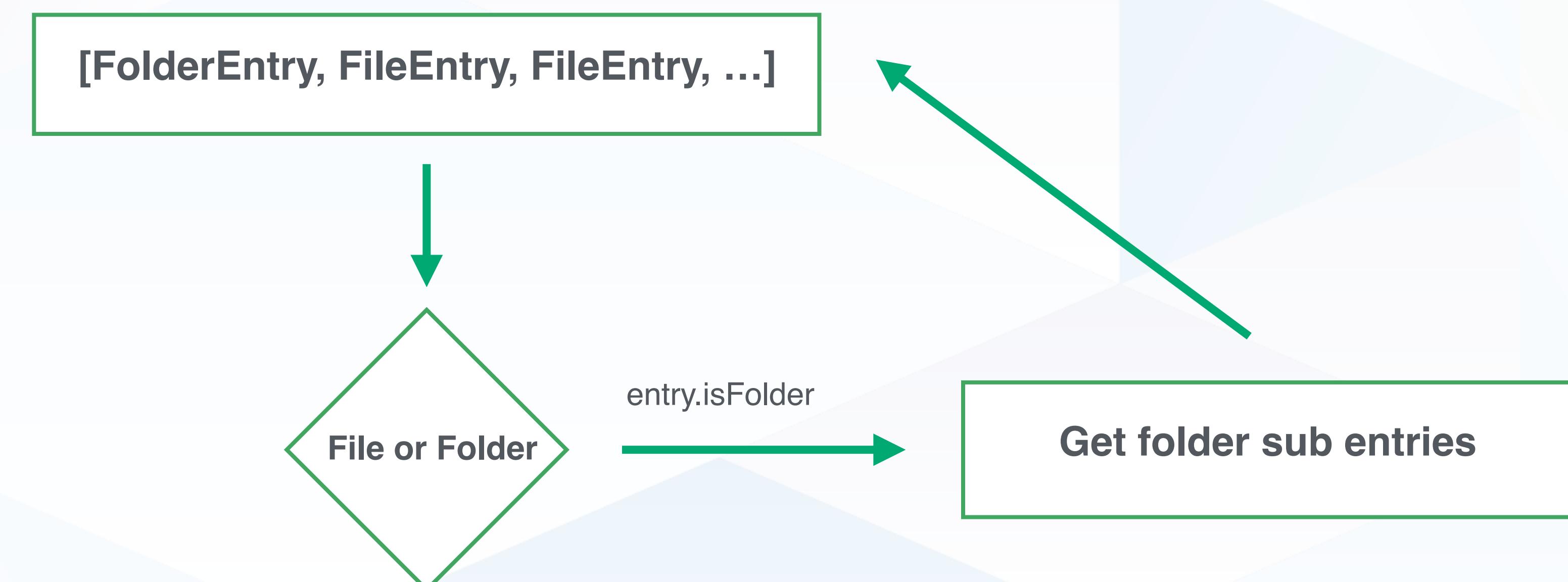


The screenshot shows a browser developer tools console with the following interface elements:

- Top bar: Includes icons for play/pause, stop, top, dropdown, eye, Filter, All levels, and settings.
- Text area: Displays the following JSON-like structure:

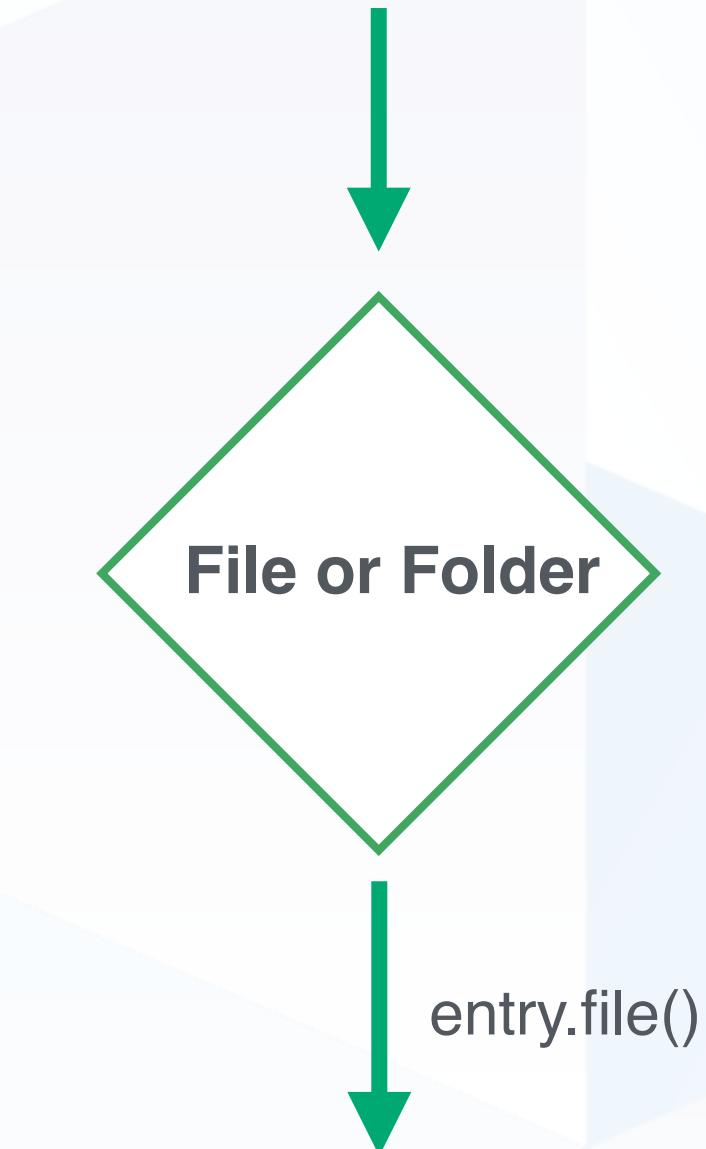
```
(index):79
▼ (3) [FileEntry, FileEntry, DirectoryEntry] ⓘ
  ▼ 0: FileEntry
    ► filesystem: DOMFileSystem {name: "http_localhost_8000:Isolated_1C650436A...", fullPath: "/PPT 模板_浅色_20181106.key", isDirectory: false, isFile: true, name: "PPT 模板_浅色_20181106.key", __proto__: FileEntry}
    ► 1: FileEntry {isFile: true, isDirectory: false, name: "qingcloud-logo.png", __proto__: FileEntry}
    ► 2: DirectoryEntry {isFile: false, isDirectory: true, name: "我的文档", fullPath: ".../我的文档", length: 3, __proto__: Array(0)}
```
- A green arrow points to the first object in the array, specifically to the `name` field of the `FileEntry`.

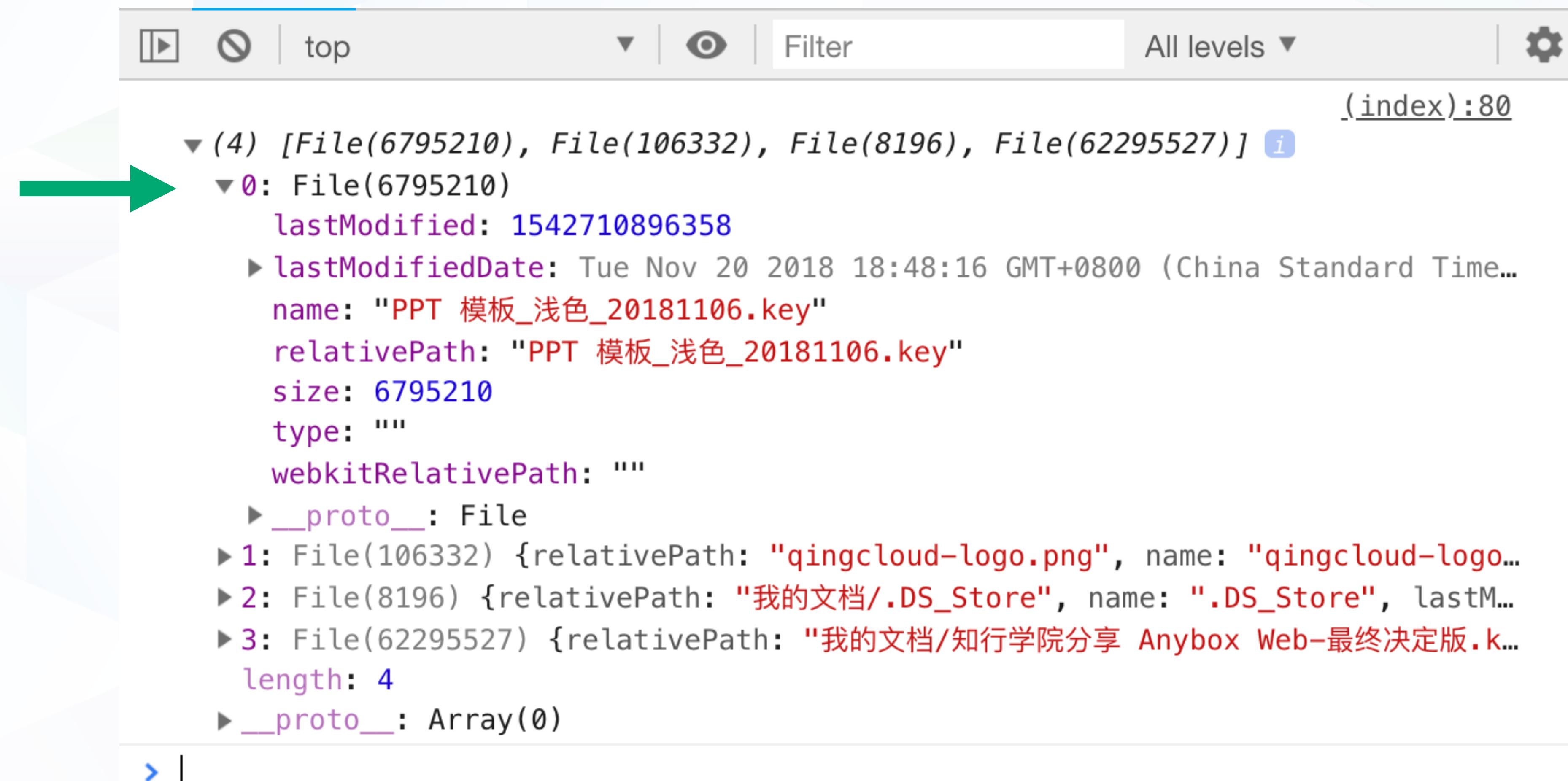
```
function getSubEntries(folderEntry) {  
    const directoryReader = folderEntry.createReader();  
  
    return new Promise((resolve, reject) => {  
        directoryReader.readEntries(resolve, reject);  
    });  
}
```



```
function getFileFromFileEntry(fileEntry) {  
    return new Promise((resolve, reject) => {  
        → fileEntry.file((file) => {  
            resolve(file);  
        }, (error) => {  
            reject(error);  
        });  
    });  
}
```

[FolderEntry, FileEntry, FileEntry, ...]

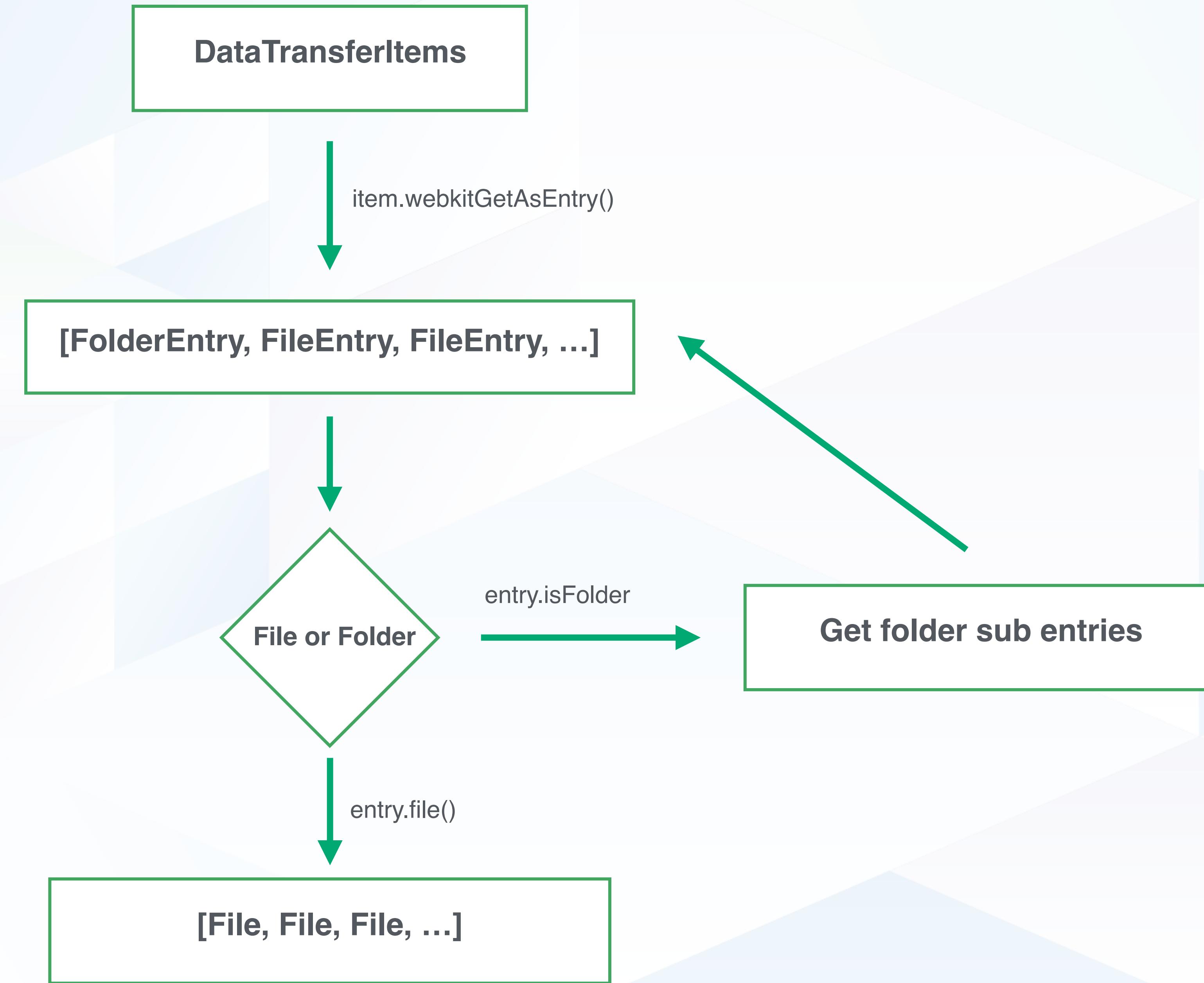




A screenshot of a browser developer tools Network tab. The interface includes standard controls like play/pause, stop, top, filter, and settings. A green arrow points to the first item in the list, which is a file object. The object has the following properties:

- (index):80
- length: 4
- 0: File(6795210)
 - lastModified: 1542710896358
 - lastModifiedDate: Tue Nov 20 2018 18:48:16 GMT+0800 (China Standard Time...)
 - name: "PPT 模板_浅色_20181106.key"
 - relativePath: "PPT 模板_浅色_20181106.key"
 - size: 6795210
 - type: ""
 - webkitRelativePath: ""
- 1: File(106332) {relativePath: "qingcloud-logo.png", name: "qingcloud-logo..."}
 - relativePath: "qingcloud-logo.png"
 - name: "qingcloud-logo..."
- 2: File(8196) {relativePath: "我的文档/.DS_Store", name: ".DS_Store", lastM...}
 - relativePath: "我的文档/.DS_Store"
 - name: ".DS_Store"
 - lastM...
- 3: File(62295527) {relativePath: "我的文档/知行学院分享 Anybox Web-最终决定版.k..."}
 - relativePath: "我的文档/知行学院分享 Anybox Web-最终决定版.k..."

> |



A screenshot of a GitHub Gist page. The URL in the browser bar is <https://gist.github.com/markyunify/b3cd78ff793e79089fe4219a0a4c1668>. The page title is "markyunify / anybox-drop-file-demo.html". The page content is a single-line script tag:

```
<script src="https://gi: </script>
```

The page also shows a snippet of HTML code for a file named "anybox-drop-file-demo.html". The code includes a CSS class ".drop-zone" with flex and center properties.

Can I use... Support tables for... X +

← → C https://caniuse.com/#search=drag

Drag and Drop file - LS

Method of easily dragging and dropping elements on a page, requiring minimal JavaScript.

Usage Global 49.24% + 4.92% = 54.16%

Current aligned Usage relative Date relative Apply filters Show all ?

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser	Blackberry Browser	Opera Mobile *
1-3 6-9		2-3			10-11.5	3.2-10.3				12
2-3 10	2 12-16	3.5-62	4-69	3.1-11.1	12.1-55	11-11.4		2.1-4.4.4	7	12.1
2-3 11	2 17	63	70	12	56	12	all	67	10	46
	18	64-65	71-73	TP						

Notes Known issues (9) Resources (9) Feedback

`dataTransfer.items` only supported by Chrome.

- ✓ better user experience
- ✓ get files asynchronously

3

文件上传

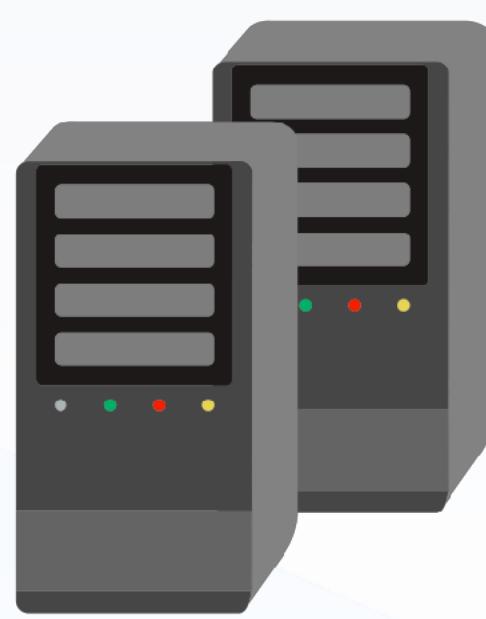
1. 获得用户的文件

2. 上传文件到服务器

- input
- drag and drop



浏览器



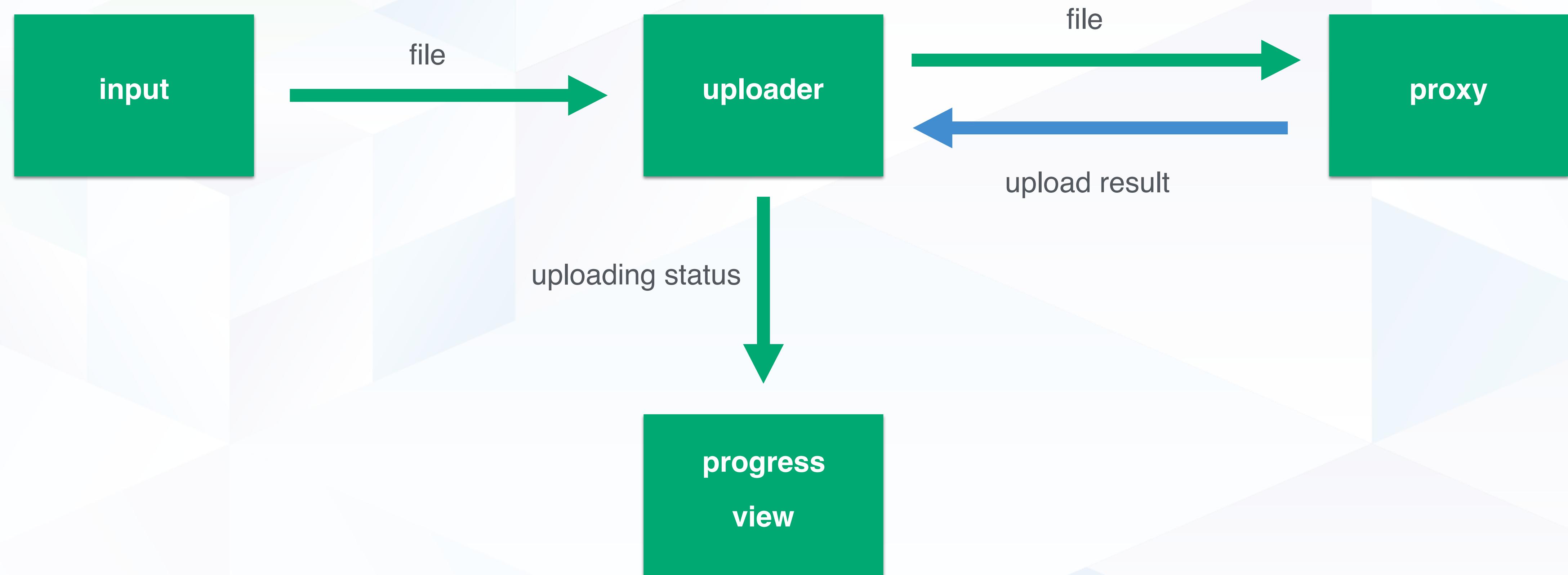
```
function sendFileDemo(file) {  
    const form = new FormData;  
    form.append('name', file.name);  
    form.append('parent_id', parentId);  
    form.append('file', file.raw);  
  
    return axios({  
        method: 'post',  
        url: 'https://example.com/file',  
        data: form,  
    }).then(() => {  
        console.log('File upload succeeded!');  
    }).catch((error) => {  
        console.log('File upload failed!', error);  
    });  
}
```

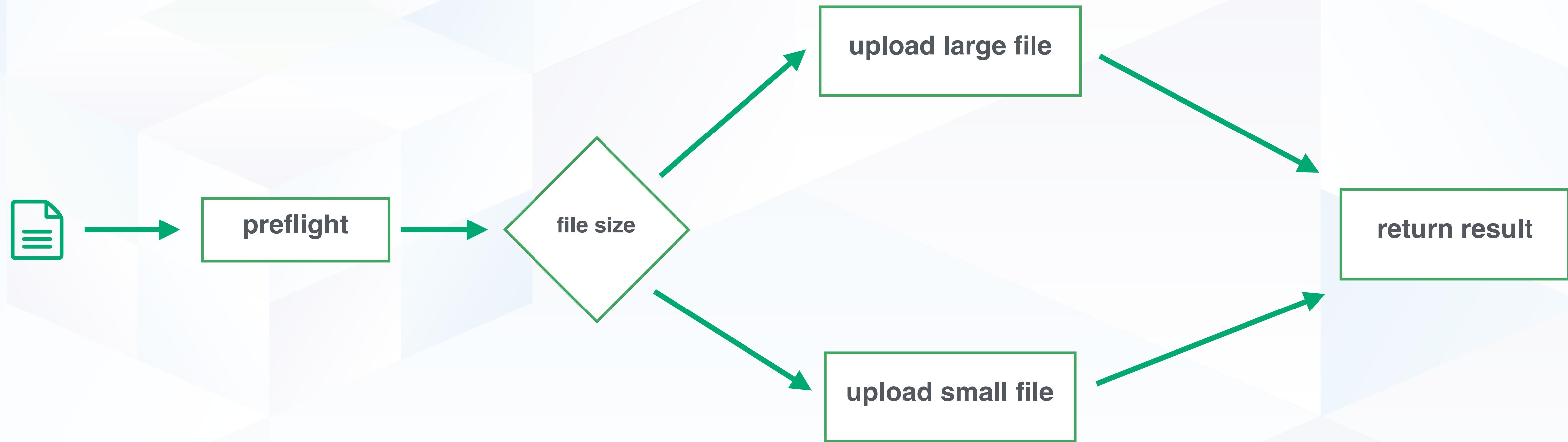
用户想要的

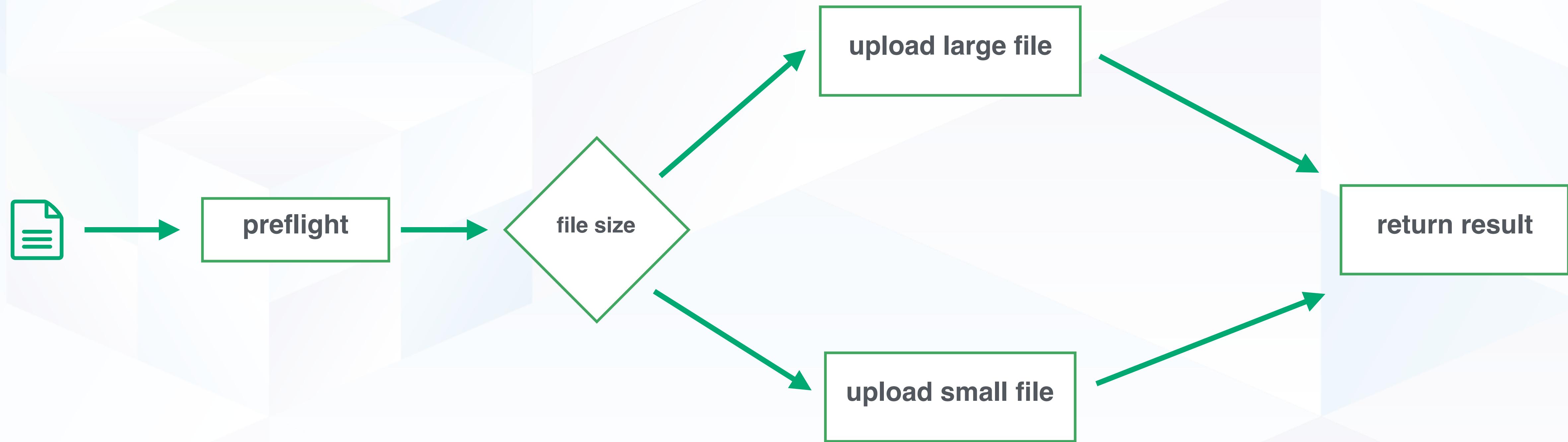
- 上传文件夹
- 同时上传多个文件
- 上传进度展示

API 提供的

- every request need signature or token
- every request has different URL
- multipart upload large files









upload large file

- 1. init multipart upload**
- 2. upload parts**
- 3. complete multipart upload**

upload large file

- 1. init multipart upload**
- 2. upload parts**
- 3. complete multipart upload**

```
initMultipartUpload() {
    apiRequest({
        path: '/api/init_multpart_upload',
        method: 'post',
        body: JSON.stringify({
            name: 'large file exempl.zip',
            parent_id: 'uxcb9832fx',
            size: 7 * 1024 * 1024 * 1024,
        }),
    }).then((result) => {
        console.log(result.upload_id);

        return result.upload_id;
    });
}
```

upload large file

- 1. init multipart upload**
- 2. upload parts**
- 3. complete multipart upload**

A screenshot of a web browser displaying the MDN web docs page for the `Blob.slice()` method. The page has a dark theme with a light header bar. The title is "Blob.slice()". The main content area includes a breadcrumb navigation bar with links to "Web technology for developers", "Web APIs", "Blob", and "Blob.slice()", followed by a detailed description of the `slice()` method. A note box highlights vendor prefix issues for older browsers. On the left sidebar, there are sections for "Related Topics" with links to "Blob", "Constructor", and "Blob()". At the bottom of the page is a horizontal footer bar.

The `Blob.slice()` method is used to create a new `Blob` object containing the data in the specified range of bytes of the source `Blob`.

Note: Be aware that the `slice()` method has vendor prefixes on some browsers and versions: `blob.mozSlice()` for Firefox 12 and earlier and `blob.webkitSlice()` in Safari. An old version of the `slice()` method, without vendor prefixes, had different semantics, and is obsolete.

```
uploadChunks() {  
    const { done, value: chunk } = this.fileChunks.next();  
  
    if (done || this.abort) {  
        return Promise.resolve(null);  
    }  
  
    return this.uploadSingleChunk(chunk, this.position).then(() => {  
        this.position += MAX_CHUNK_SIZE;  
  
        return this.uploadChunks();  
    }).catch((error) => {  
        return this.handleError(error);  
    });  
}
```



```
* getFileChunks() {
    while (this.position + MAX_CHUNK_SIZE < this.file.size) {
        yield this.file.raw.slice(this.position, this.position + MAX_CHUNK_SIZE);
    }
    yield this.file.raw.slice(this.position, this.file.size);
}
```

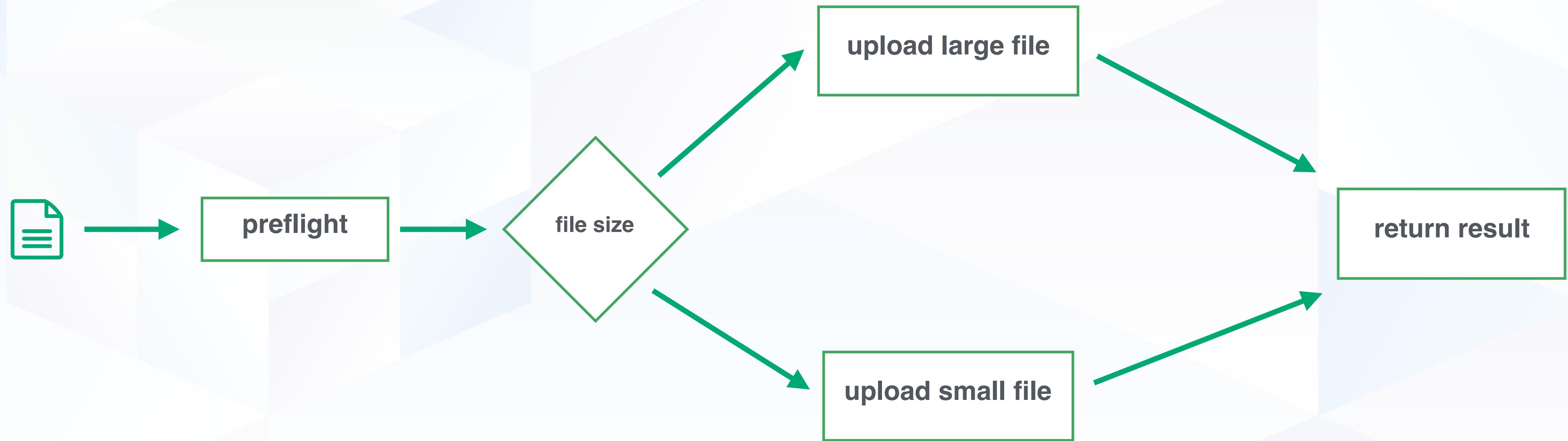
upload large file

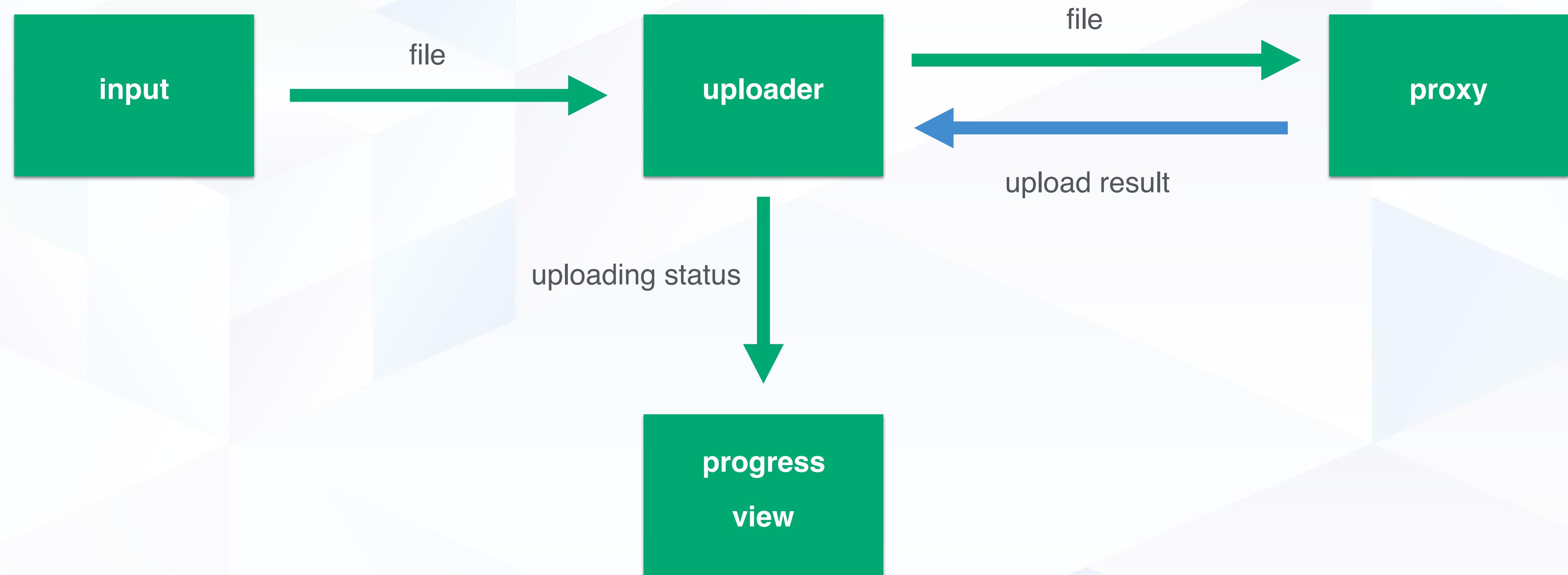
- 1. init multipart upload**
- 2. upload parts**
- 3. complete multipart upload**



upload large file

- 1. init multipart upload**
- 2. upload parts**
- 3. complete multipart upload**





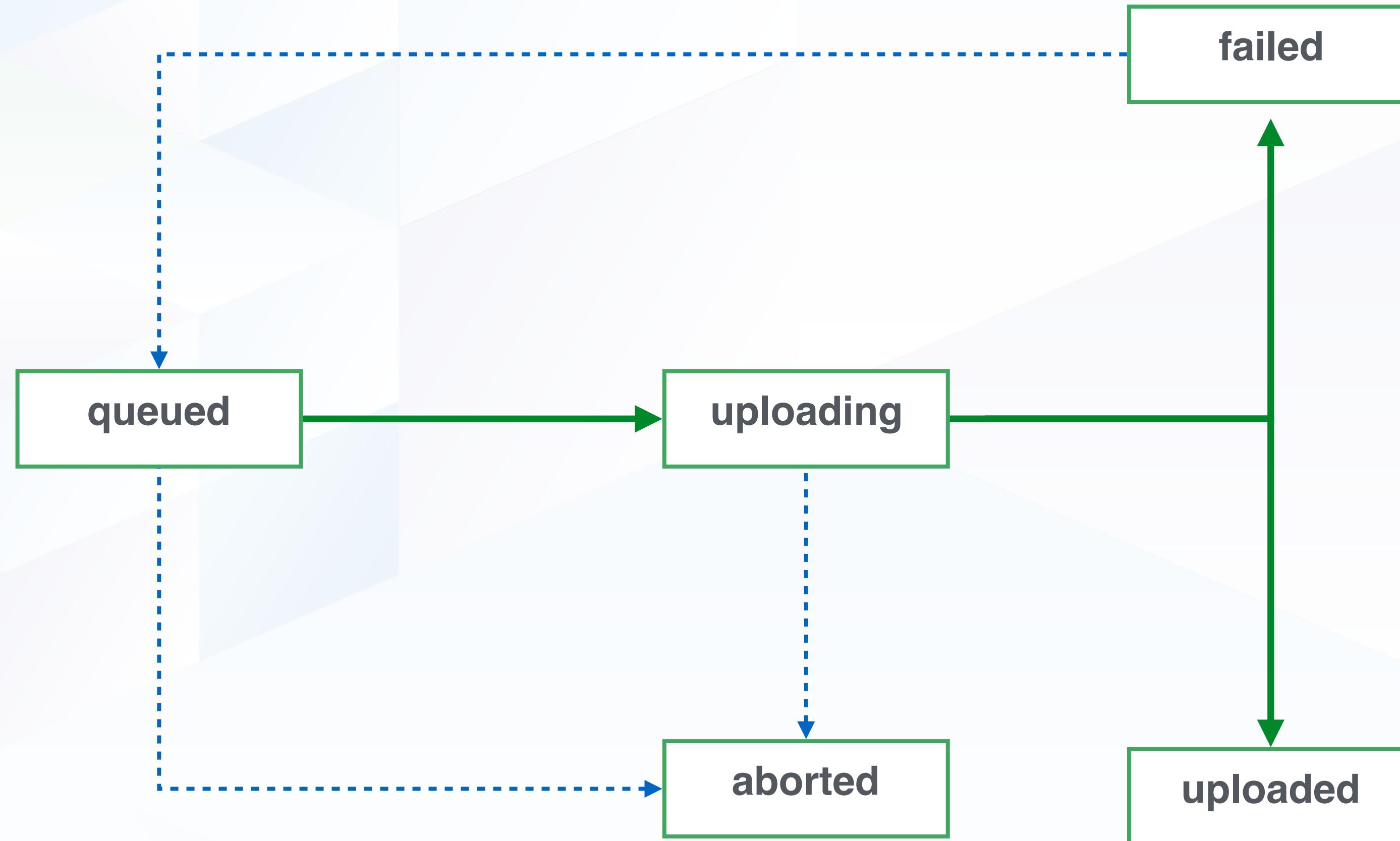
queued

uploading

uploaded

failed

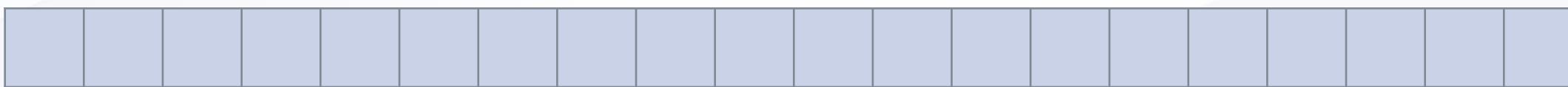
aborted



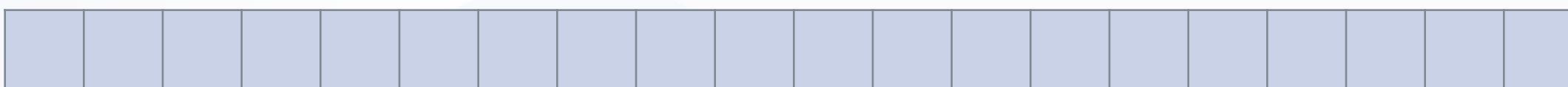
queued



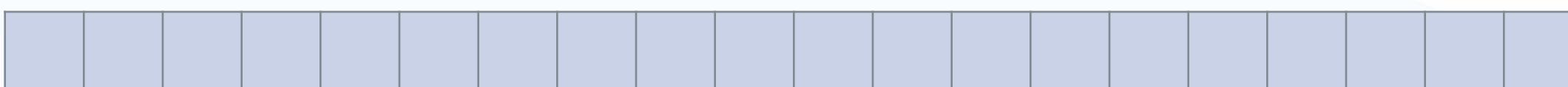
uploading



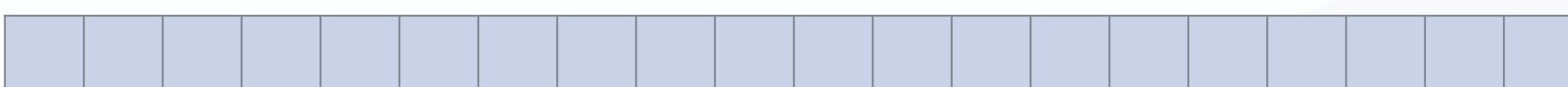
uploaded



failed



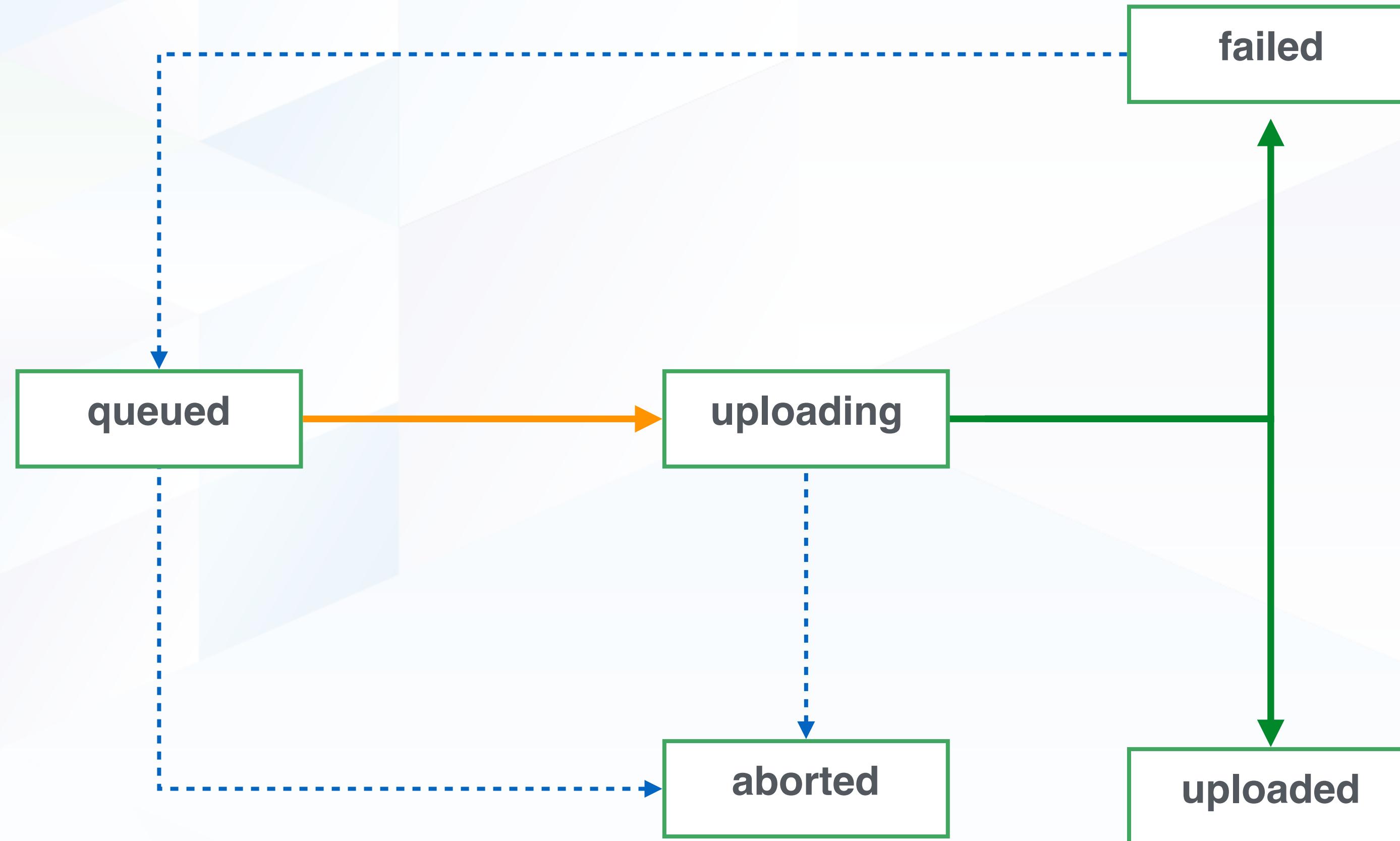
aborted





初始化的工作：

- 生成唯一的 upload ID
- 初始化文件的状态
- 记录文件上传的 target folder
- 为文件上传操作生一个 cancelToken
- 将 upload ID 放到 queued 里

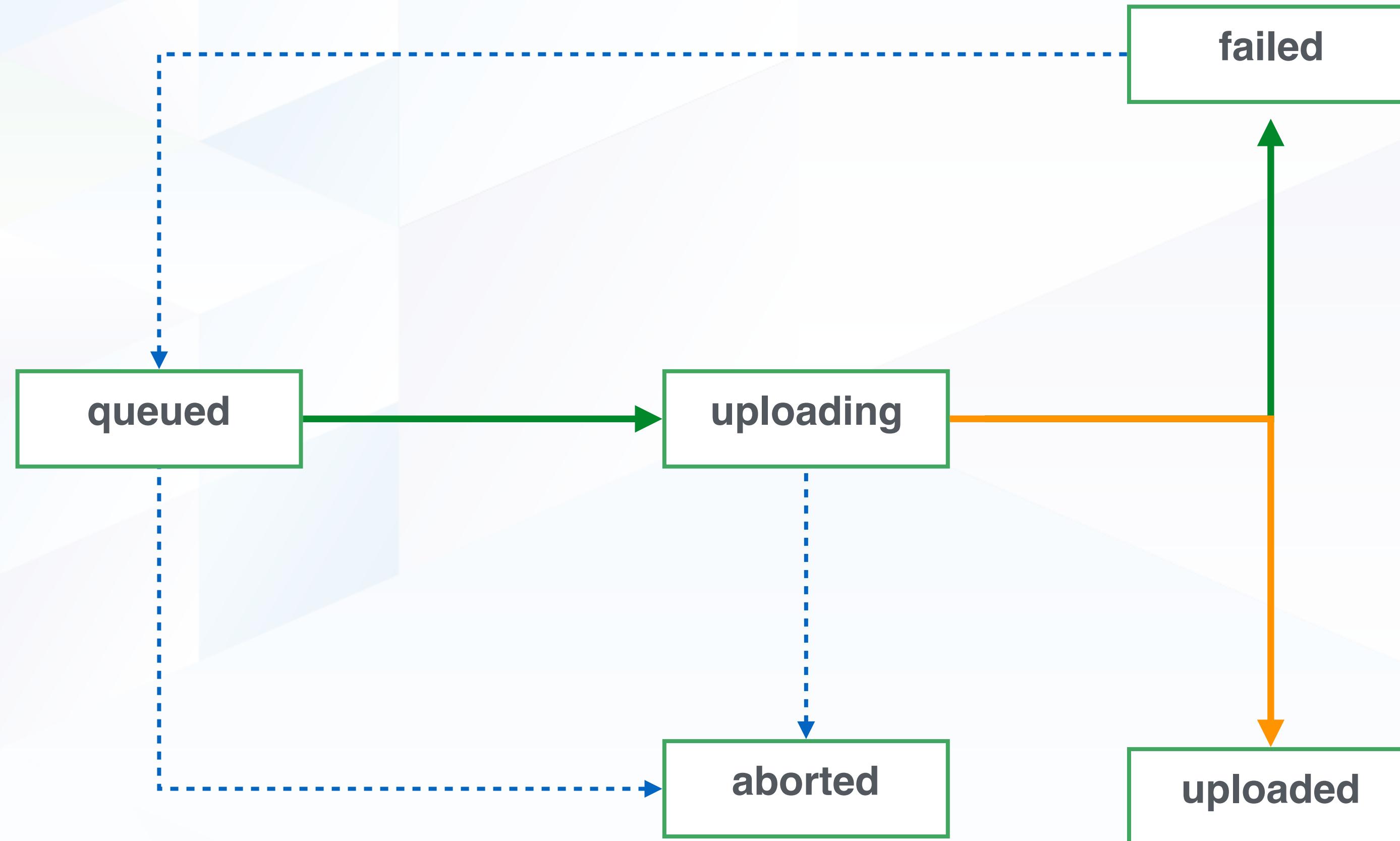


sendNextFile()

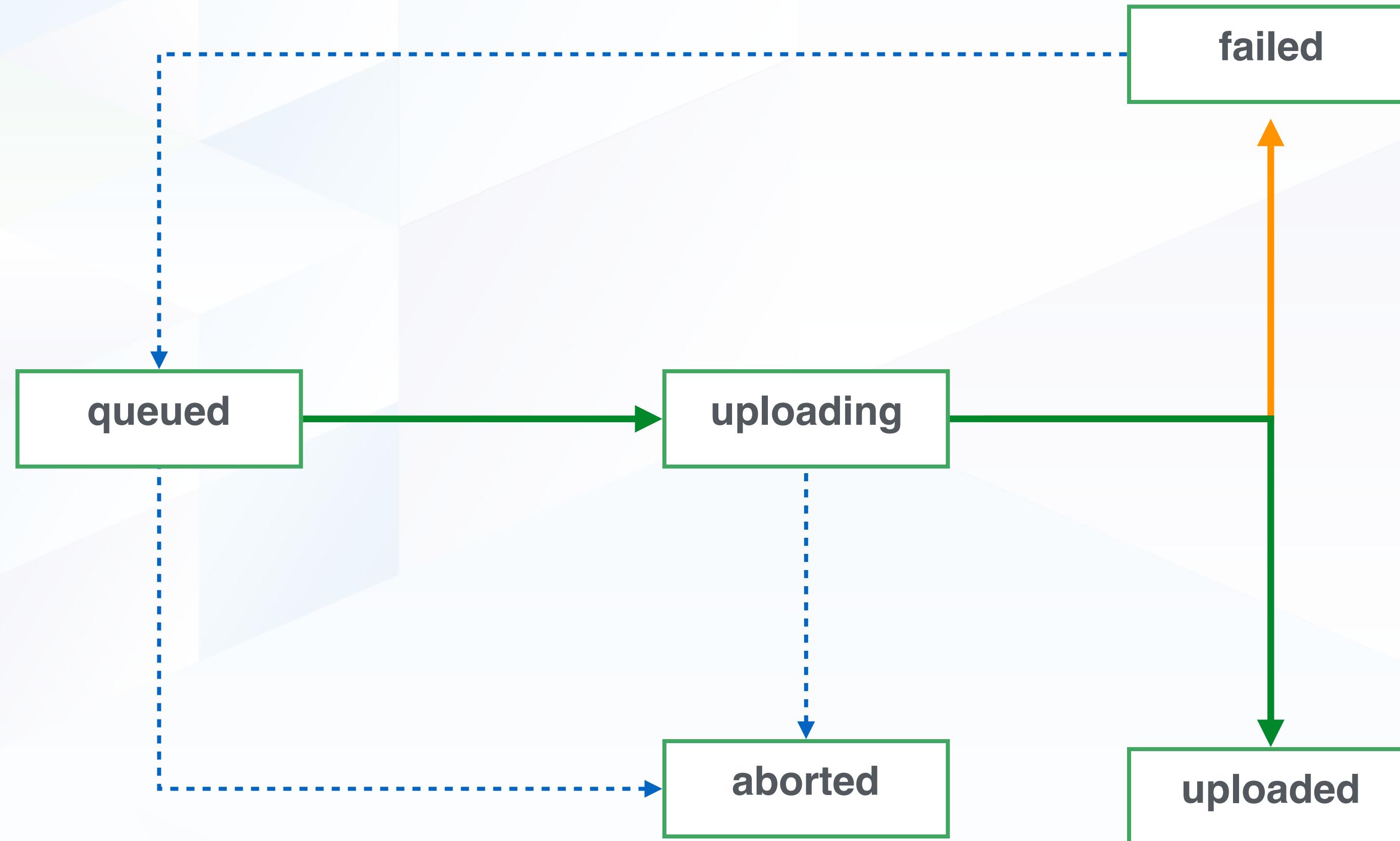
```
sendNextFile() {  
  → while (this.hasAvailableWindow()) {  
    const nextUploadId = this.queuedIds.shift();  
  
    // reduce available window  
    → this.uploadingIds.push(nextUploadId);  
  
    const nextFile = this.filesStore[nextUploadId];  
    nextFile.status = 'uploading';  
  
    this.sender(nextFile, {  
      onUploadProgress: this.onUploadProgress,  
    }, this.sharedLinkId).then(this.uploadSuccess, this.uploadFailed);  
  }  
}
```

```
hasAvailableWindow() {  
    return this.queuedIds.length &&  
        this.uploadingIds.length < MAX_CONNECTIONS;  
}
```

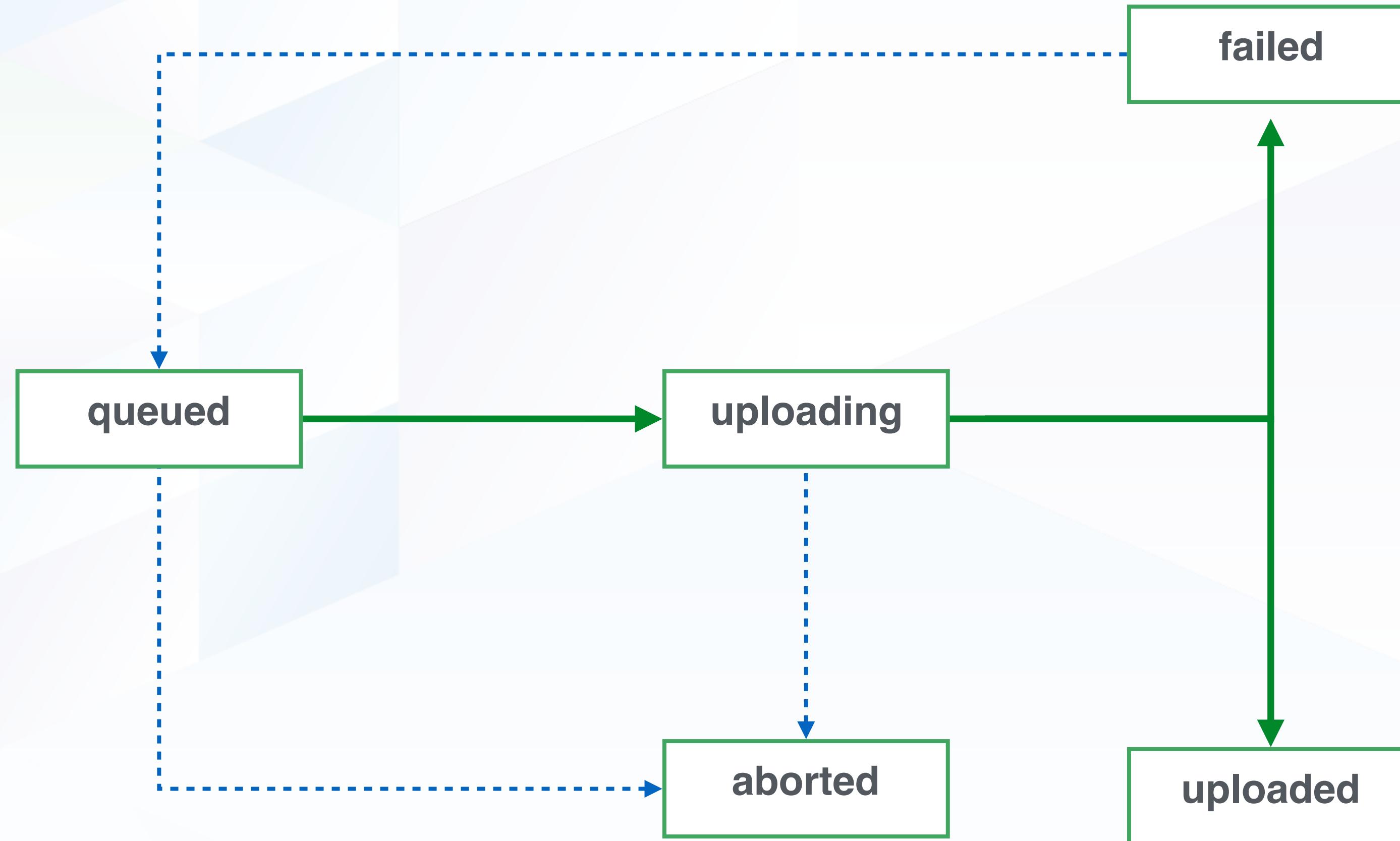
```
sendNextFile() {  
  → while (this.hasAvailableWindow()) {  
    const nextUploadId = this.queuedIds.shift();  
  
    // reduce available window  
    → this.uploadingIds.push(nextUploadId);  
  
    const nextFile = this.filesStore[nextUploadId];  
    nextFile.status = 'uploading';  
  
    this.sender(nextFile, {  
      onUploadProgress: this.onUploadProgress,  
    }, this.sharedLinkId).then(this.uploadSuccess, this.uploadFailed);  
  }  
}
```

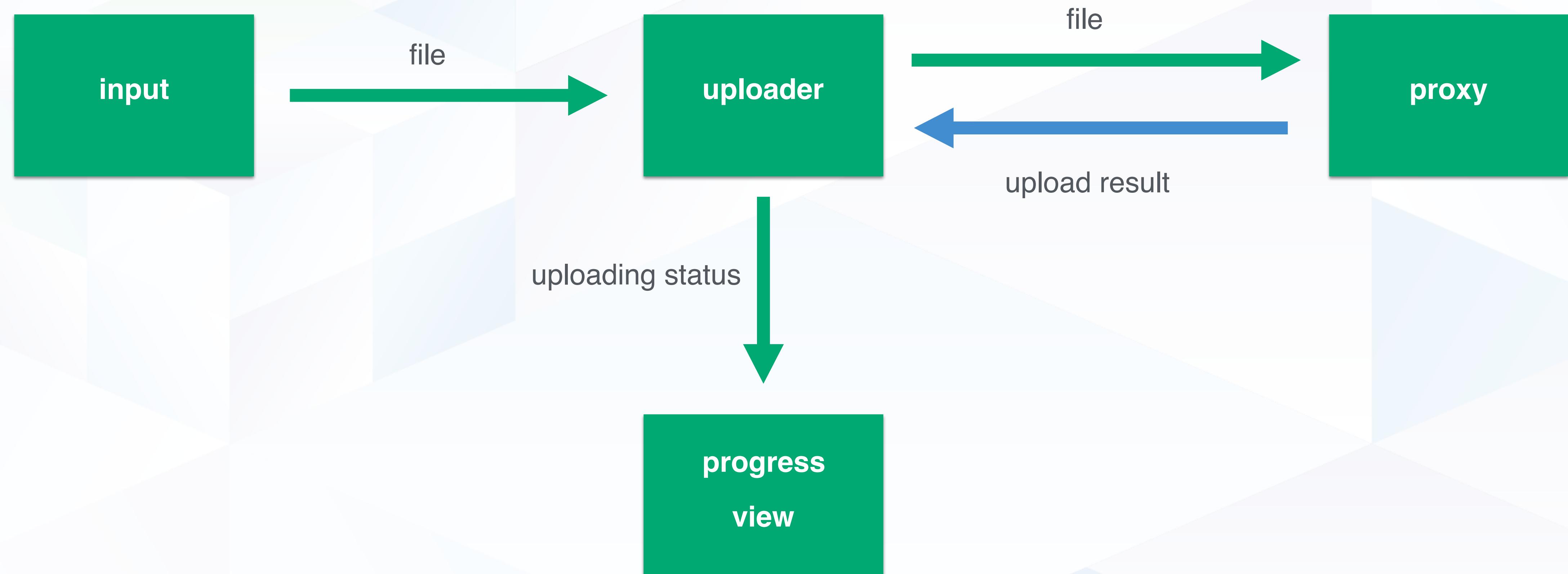


```
uploadSuccess(file) {  
    if (file.canceled) {  
        this.sendNextFile();  
        return;  
    }  
  
    const index = this.uploadingIds.indexOf(file.uploadId);  
  
    this.uploadingIds.splice(index, 1);  
    this.uploadedIds.push(file.uploadId);  
  
    this.filesStore[file.uploadId].message = '';  
    this.filesStore[file.uploadId].versionId = file.versionId;  
    this.filesStore[file.uploadId].status = 'uploaded';  
    this.filesStore[file.uploadId].id = file.fileId;  
  
    this.sendNextFile();  
}
```



```
uploadFailed(file) {  
    logger.error(file);  
  
    const index = this.uploadingIds.indexOf(file.uploadId);  
  
    this.uploadingIds.splice(index, 1);  
  
    this.failedIds.push(file.uploadId);  
  
    this.sendNextFile();  
  
    this.filesStore[file.uploadId].status = 'failed';  
    this.filesStore[file.uploadId].message = file.message;  
    this.filesStore[file.uploadId].code = file.code;  
}
```

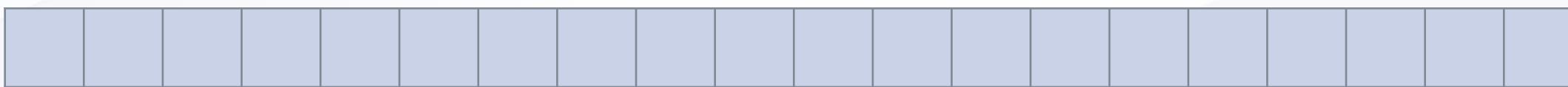




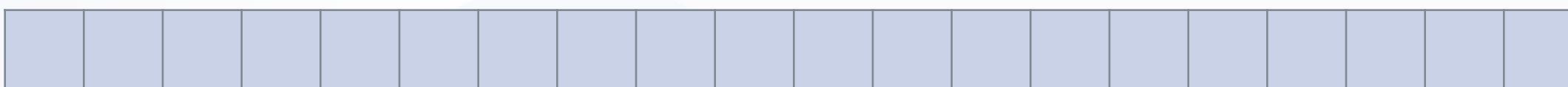
queued



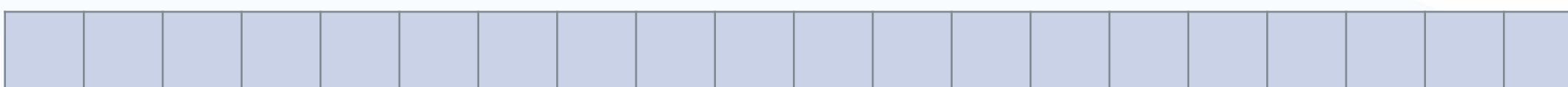
uploading



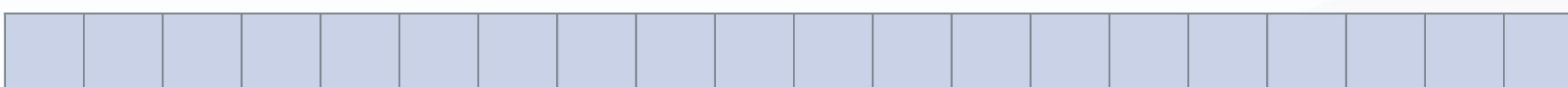
uploaded



failed



aborted



待上传文件数量

this.queuedIds.length

上传成功的文件数量

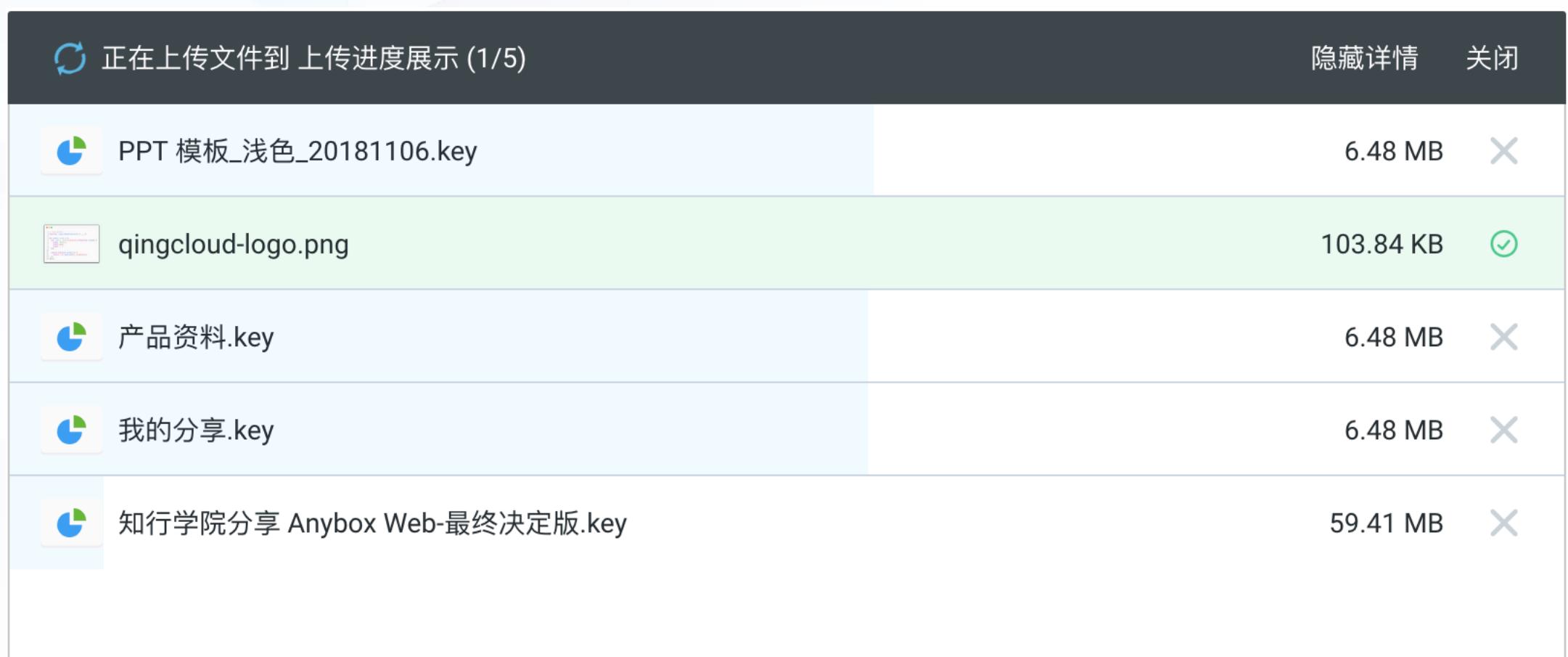
this.uploadedIds.length

上传失败的文件数量

this.failedIds.length

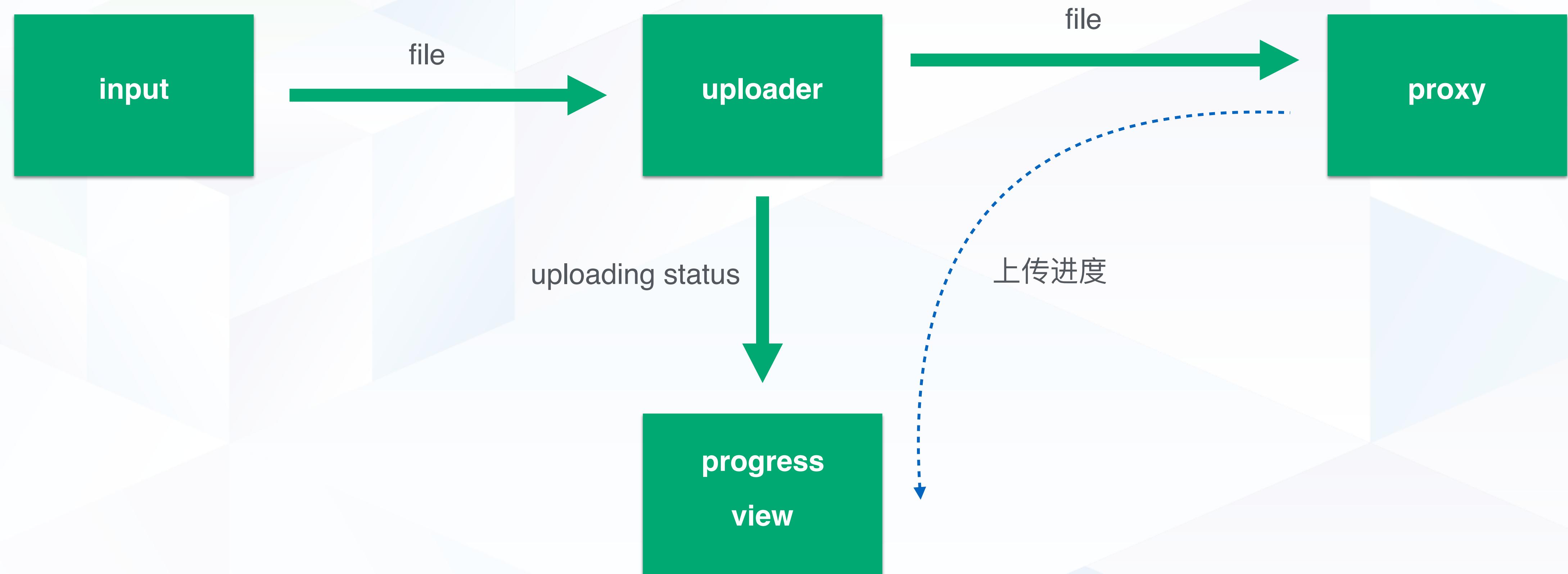
取消上传的文件数量

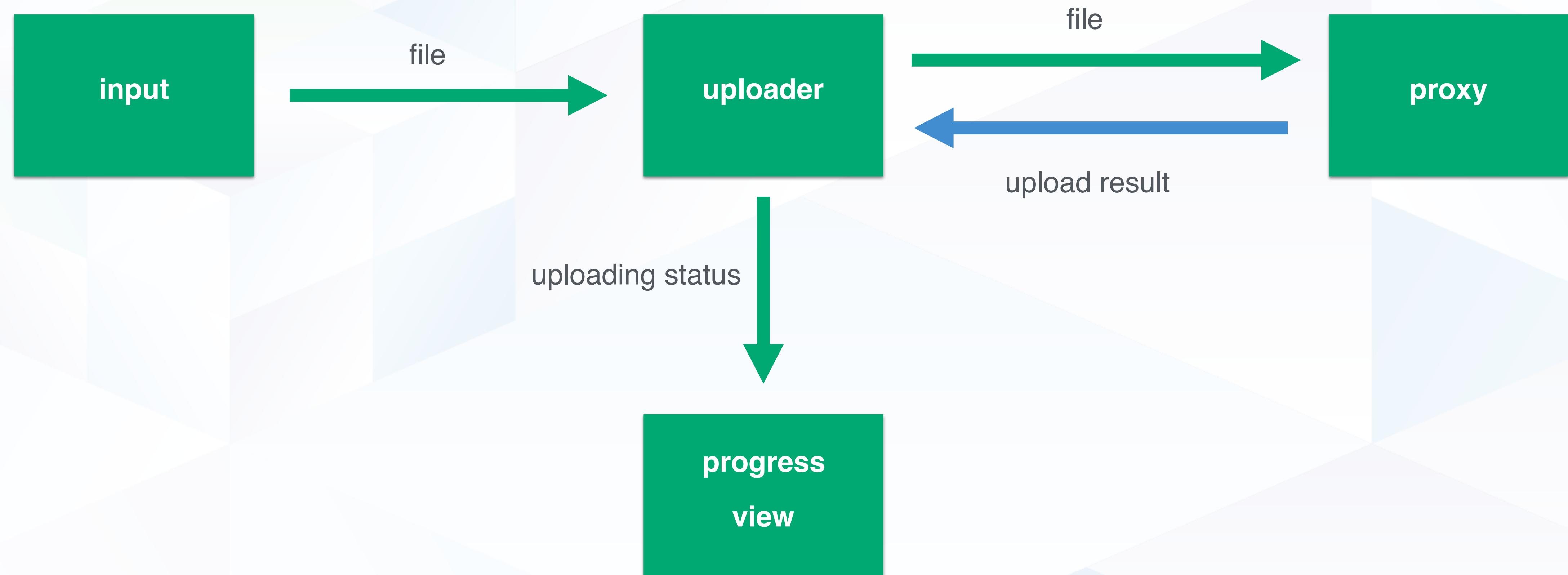
this.abortedIds.length



A screenshot of a web browser displaying the MDN web docs page for the XMLHttpRequestEventTarget.onprogress API. The page title is "XMLHttpRequestEventTarget.onprogress". The main content area includes a brief description of the event, a syntax example, and a code snippet. The code snippet shows how to set up an onprogress event listener:

```
1 | XMLHttpRequest.onprogress = function (event) {  
2 |   event.loaded;  
3 |   event.total;  
4 |};
```





1

技术栈

2

项目构建

3

文件上传



QINGCLOUD

Thank you.

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