# Handling files

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# Browser restrictions

- It is **impossible** to write a piece of code that reads an arbitrary file in (server-side) Javascript

➡ Only files selected by users through file input forms can be processed

```
<form . . . >
      <input type="file" name="img" multiple>
      <input type="submit">
</form>
```

[optional] select multiple files

# Sending a file from the terminal

```
$ curl -X POST
       -H "Content-Type: multipart/form-data"
       -F "picture=@localpath/to/img.png"
       -F "username=bart"
       http://...
```

# Sending a file from the browser

- **Form action** (with page refresh)

```
<form action="/url"
      method="POST"
      enctype="multipart/form-data">
```

- **Ajax request** (without page refresh)

```
var file = document.get ...
var formdata = new FormData();
formdata.append("picture", file);
xhr.send(formdata);
```

# What is received on the server

**File metadata**

- filename
- mimetype (file type)
- size
- and others

**File content**

- Compressed binary or string

# MIME types

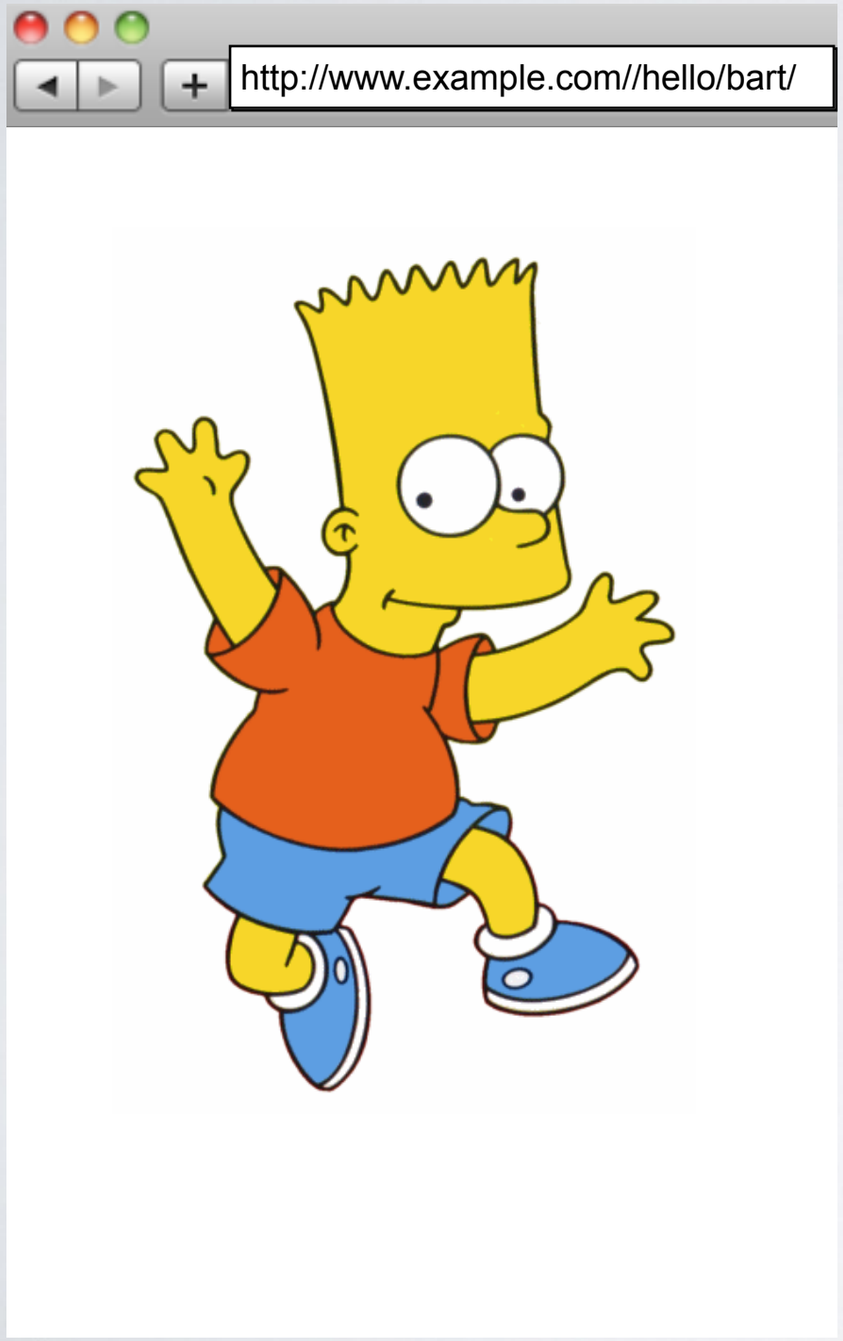
MIME (Multipurpose Internet Mail Extensions)
is also known as the **content type**

➡ Define the format of a document exchanged on internet (IETF standard) http://www.iana.org/assignments/media-types/index.html

# Examples of MIME types

- text/html
- text/css
- text/javascript
- image/jpeg - image/gif - image/svg - image/png (and so on)
- application/pdf
- application/json

# Example of how images are retrieved




*GET hello/bart/*

```
<html>
   <body>
      <img src=images/bart.jpg/>
   </body>
</html>
```

MIME : text/html




*GET images/bart.jpg*

MIME : image/jpg

# Do/Don't with files

- Do **not** send a base64 encoded file content with JSON, use **`multipart/form-data`** instead (compression)
- Do **not** store uploaded files with the static content
- Do **not** serve uploaded files statically (security)
- Do store the mimetype and set the HTTP response header mimetype when files are sent back