

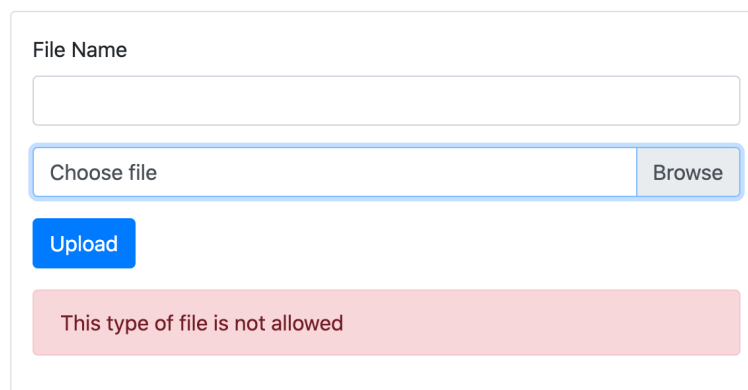
## WEB PROGRAMMING AND APPLICATIONS

(503073)

### WEEK 10

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**Exercise 1:** Implement file upload function using the given html template.



The HTML template shows a file upload form. It includes a text input field labeled 'File Name'. Below it is a file selection area with a 'Choose file' button and a 'Browse' button. An 'Upload' button is positioned below the file selection area. At the bottom, there is a red error message box that says 'This type of file is not allowed'.

The following constraints should be applied on the server side:

- Only allow uploading files with extensions: txt, doc, docx, xls, xlsx, jpg, png, mp3, mp4, pdf, rar, zip.
- Users are allowed to upload files with a maximum size of **500 MB**.
- The files should be saved in the '**uploads**' folder located in the root directory of the web server.

When file upload fails, it is necessary to display a detailed message for each case, for example:

- This file already exists
- This file type is not allowed
- file exceeds the maximum allowed size

#### Hint:

- To upload files, you need to use the **POST** method in the html form. In addition, the `<form>` tag also needs to add the following attribute: `enctype="multipart/form-data"`.
- On the server side, use the superglobal variable `$_FILES` to read the file information, similar to how you would work with `$_GET` and `$_POST`. For example: accessing the `$_FILES['my_file']` where 'my\_file' is the name of the html file tag in the client.
- The `$_FILES['my_file']` variable itself is also an associative array, containing the following keys: `name`, `size`, `tmp_name`, `type`, `error` where `tmp_name` is the path where the file is temporarily saved, `size` is the file size in bytes.
- You can use the `pathinfo()` function to get the file's extension.

- By default, the uploaded file will be saved at the path specified by the key 'tmp\_name'. If you accept the file, call the `move_uploaded_file()` function to move the file from the temporary directory to where you want it to be permanently stored.

## PHP Configuration

By default PHP only allows uploads up to 2 MB, to change this setting you need to change the settings in the `php.ini` file. If using xampp, it is located at `<xampp_folder>/php/php.ini`, for example `C:\xampp\php\php.ini`. If you are not using XAMPP, you can see the instructions in this article: <https://devanswers.co/ubuntu-php-php-ini-configuration-file/>. In the `php.ini` file, you need to find and change the values of the `upload_max_filesize` and `post_max_size` attributes to the value you want. Don't forget to restart the web server (e.g. restart xampp) after adjusting and saving the `php.ini` file.

**Exercise 2:** In exercise 1, you did check the file size and type before saving but those are server side validations. This still has some disadvantages, the file still has to be submitted to the server before you get the 'unsupported type' or 'size exceeded' error message.

You need to add client side validations (using javascript) to check the file type and size right in the browser before sending the data to the server.

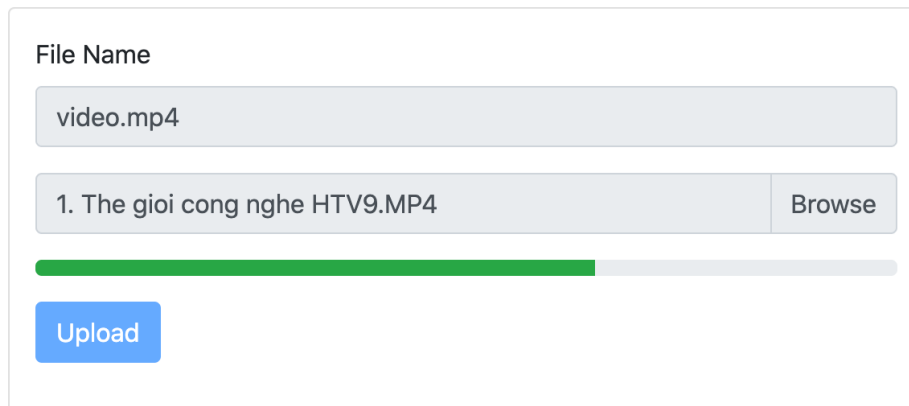
### Hint:

- You need to set up an event listener on the `onchange` event of the html `file` tag.
- Every time the user selects a file, you need to check the name and size of the file and display the appropriate message if the file is not allowed.

```
document.querySelector('#myFile').addEventListener('change', e => {  
  
    // TODO: kiểm tra số lượng tập tin đã chọn trước khi thao tác  
  
    let myFile = e.target.files[0];  
  
    // TODO: kiểm tra thông tin 'name' và 'size' của biến file  
});
```

*Example code on how to check file with javascript*

**Exercise 3:** Uploading a large file to the server takes time, especially when you have a slow network connection. Please add a progress bar while uploading files to make the upload function more user-friendly.



The image shows a file upload form. It has a label 'File Name' above a text input field containing 'video.mp4'. Below this is a file selection area with a text input containing '1. The gioi cong nghe HTV9.MP4' and a 'Browse' button. A green progress bar is shown below the file selection area, indicating the upload progress. At the bottom of the form is a blue 'Upload' button.

*All input fields should be disabled while the upload is in progress.*

#### Hint:

- To show progress bar when doing file upload, you cannot rely on default upload mechanism of html form, you have to use ajax instead.
- On the server side, you don't need to change anything. On the client side, you need to initiate an ajax post request and send the data as [form data](#).

```
// TODO: trích xuất hai thông tin 'name' và 'form' từ html form

// khởi tạo form data và đưa dữ liệu vào dưới dạng key-value
let data = new FormData();
data.append('name', name);
data.append('avatar', file);

let xhr = new XMLHttpRequest(); // khởi tạo ajax request

// TODO: thêm các event listener ở vị trí này

xhr.open('POST', 'upload.php', true); // thiết lập thông số
xhr.send(data); // gửi dữ liệu đi
```

*Example code on how to initiate an ajax request and send form-data as data.*

- To listen for progress related events, you need to set up an event listener named [progress](#) for the [xhr.upload](#) object and extract the event properties like: [loaded](#) and [total](#) to calculate the progress. Where total is the total size of the file and loaded is the number of bytes sent.

```
xhr.upload.addEventListener('progress', e => {

    let loaded = e.loaded
    let total = e.total
    let progress = loaded * 100 / total;

    // TODO: hiển thị progress lên giao diện
});
```

*Example code on how to track file upload progress*

**Exercise 4:** Implement an auto suggestion feature using [Ajax](#) and [PHP](#). When entering some text in the search box, an ajax request which contains input data will immediately be sent to a server endpoint which is simply a PHP script. This PHP script gets input parameters from the `$_POST` superglobal, filters out an array of countries based on the received input and sends back appropriate [json](#) responses.

Gợi ý tên quốc gia

Nhập ít nhất 2 ký tự

Gợi ý tên quốc gia

lia

Australia

Mongolia

Somalia

Gợi ý tên quốc gia

new

New Caledonia

New Zealand

Papua New Guinea