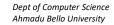


WEB APPLICATION ENGINEERING II

Lecture #6

Umar Ibrahim Enesi





Objectives

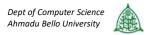
• Gain knowledge on how file upload is handled by PHP.



HTTP File Uploads

- Just as text data is sent to the server via webforms, files can also be sent to the server via standard forms too.
- This lecture explains the requirements for and process of handling file uploads.

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Client Side (HTML) Requirements

• A typical example:



Client Side (HTML) Requirements

• A typical example:

```
enctype must be multpart/form-data
```

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Client Side (HTML) Requirements

• A typical example:

```
method must
be POST
```

6

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Client Side (HTML) Requirements

• A typical example:

Optionally specify the maximum size in byte that a client can upload

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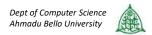
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Client Side (HTML) Requirements

• A typical example:

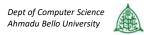
Use an input of type='file' with a unique name attribute



Handling File Upload at the Server

- When a form submission is received by the server;
 - Encoded file content is decoded and stored in a temporary location
 - Uploaded files together with all corresponding information will be made accessible to handler script.
 - Business logic in the handler script will act upon the uploaded files using the related information.

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Accessing File Upload Information

- Uploaded file information is made accessible through \$_FILES superglobal array.
 - \$_FILES['assignment']['name'] -> Original name of the file from the client machine.
 - \$_FILES['assignment']['type'] -> The mime type of the file.
 - \$ FILES['assignment']['size'] -> The size, in bytes, of the uploaded file.
 - \$_FILES['assignment']['tmp_name'] -> The temporary filename of the file in which the uploaded file was stored on the server.
 - \$_FILES['assignment']['error'] -> The error code associated with this file upload.

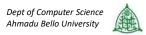
06-Nov-16 Umar Ibrahim Enesi 10



Validating Uploaded Files

- With the upload information and various filesystem functions made available to hander script, validation of file upload is made possible.
 - Use is_file_uploaded() to determine if the file was actually uploaded via HTTP POST request.
 - Examine \$_FILES['assignment']['size'] to ensure the uploaded file is within an acceptable size range.
 - Examine \$_FILES['assignment']['type'] to ensure the uploaded file is among the set of acceptable mime type.
 - Examine \$_FILES['assignment']['error'] to verify that the error code generated indicate successful upload.

06-Nov-16 Umar Ibrahim Enesi 1:



Saving Uploaded Files

- Uploaded files are usually saved in a temporary directory while the script handler executes.
- The file will be deleted from the temporary directory at the end of the request if it has not been moved away or renamed.
- Use move_uploaded_file() to move (and rename) an uploaded file to a permanent location.

06-Nov-16 Umar Ibrahim Enesi 12



Error Codes

- Sometimes upload may fail along the line. It is the responsibility of the developer to check for the status of the upload.
- PHP exposes the status of the file upload in \$ FILES['assignment']['error']
- Possible values are described by these constants:
 - UPLOAD_ERR_OK (0): There is no error, the file uploaded with success.
 - UPLOAD_ERR_INI_SIZE (1): The uploaded file exceeds the upload_max_filesize directive in php.ini.
 - UPLOAD_ERR_FORM_SIZE (2): The uploaded file exceeds the MAX_FILE_SIZE directive that was specified in the HTML form.
 - UPLOAD_ERR_PARTIAL (3): The uploaded file was only partially uploaded.
 - UPLOAD_ERR_NO_FILE (4): No file was uploaded.
 - UPLOAD_ERR_NO_TMP_DIR (6): Missing a temporary folder.
 - UPLOAD ERR CANT WRITE (7): Failed to write file to disk.
 - UPLOAD_ERR_EXTENSION (8): A PHP extension stopped the file upload.

06-Nov-16 Umar Ibrahim Enesi 13



Tweaking The File Upload Settings

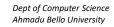
- There exists related configuration settings in php.ini that affects file upload:
 - file uploads: Indicates whether to allow http file upload or not (default = on)
 - upload tmp dir: Specifies the path to temporary directory for uploaded file
 - upload max filesize: Specifies the maximum allowed size of uploaded file
 - max_file_uploads: Specifies the maximum number of files that can be uploaded in one request.
 - post max size: Sets max size of post data allowed (files + other form data).
 - max input time: Sets the maximum time a script is allowed to parse input data.
 - memory limit: Sets the maximum memory a script may consume.
 - max_execution_time: This sets the maximum time in seconds a script is allowed to run before it is terminate.

06-Nov-16 Umar Ibrahim Enesi 14



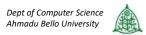
Uploading Multiple Files (method 1)

06-Nov-16 Umar Ibrahim Enesi 15





Uploading Multiple Files (method 2)



Useful File Upload Utility Functions

- basename(): Returns trailing name component of path.
- pathInfo(): Returns information about a file path.
- copy(): Copies file.
- delete(): unlink or unset a file.
- file exists(): Check if a file exists.
- move_uploaded_file(): Moves an uploaded file to a new location.
- is_uploaded_file(): Tells whether the file was uploaded via HTTP POST

06-Nov-16 Umar Ibrahim Enesi 1



Key Point

- Forms that are meant for file upload must use a method of POST.
- The enctype attribute of file upload form must be "multipart/form-data"
- PHP stores uploaded files in a temporary directory as specified in php.ini
- When a request is completed, uploaded files are deleted if they have not be moved or renamed.
- PHP makes available information about uploaded files via \$_FILES super global array.
- Multiple files can be uploaded to the server.
- The behaviour of file upload at the server can be configured from php.ini

06-Nov-16 Umar Ibrahim Enesi 18

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Reference

- PHP Documentation Manual
- Murach PHP and MySQL