Handling E-mail with PHP
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When to Use Cc and Bcc

Cc is useful when:

❖We want someone to receive a copy of an email, but they aren't the primary recipients.

❖We want the recipients of the message to know the other people who have been sent the message.

Bcc is useful when:

❖We want someone to receive an email, but we don't want the primary recipients of the email to see we've sent this other person a copy.

❖We want to send a copy of an email to a large number of people.

A mail message consists of

A header : containing information about the sender, the recipient(s) and the route. Many of the header fields are not shown by default, but most programs used to read email will allow full headers to be displayed.

The body of the message : Containing whatever the sender wishes. In case of a formal message, it is customary to finish with your name, return address and other useful information as a signature.

E-mail protocols

Outgoing

SMTP (Simple Mail Transfer Protocol) is the protocol used in sending (outgoing) emails.
SMTP is the protocol always used for sending (outgoing) emails.

Incoming

POP (Post Office Protocol) and IMAP (Internet Message Access Protocol) are two different protocols that do the same thing *differently*.
They are both used in receiving emails from a mail server.

1. POP (Post Office Protocol):

When using the POP protocol all our eMail messages will be downloaded from the mail server to our local computer.

2. IMAP (Internet Message Access Protocol):

IMAP is another email accessing protocol however it is used to access the mails from the server itself. Applications like Outlook and Outlook Express using IMAP will synchronize a copy of the mail on the server to the user’s computer.

SSL (Secure Socket Layer):

SSL creates a secure, encrypted connection between our email application and the email server.

If SSL is enabled, all email connections between our computer and the mail server will be encrypted when we read, download/receive, and send email.

Differences Between POP and IMAP

1. POP downloads the mails in **to the user's computer,** IMAP keeps email **on the server** and provides view from **multiple places** simultaneously.
2. Port number used by POP, IMAP is 110, 143 respectively.
3. POP downloads and disconnects from the server while IMAP stays connected for a longer period of time and sends notifications as new mail arrives.
4. All the email folders and data are in the server in IMAP, using POP email is downloaded and stored in the user's computer.
5. In IMAP, changes made are synchronized to the mail server so they are visible from any IMAP client whereas in POP once we have downloaded the email to a computer, access is not available from other devices.
6. There is an option in POP mail applications which we can set to leave the mails on the server for certain period of time and then delete it.

Considerations when choosing between IMAP and POP3

Server storage space

Since IMAP leaves messages on the server, it can consume storage space faster than POP3.
Advantage: POP3

Anytime, anywhere access
IMAP is meant to enable retrieval of messages from multiple devices, sometimes, even simultaneously.
Advantage: IMAP

Synchronization

If we access email messages from multiple devices, we'll likely want all devices to reflect whatever action we performed on one device.

All these synchronizations can only be achieved if we're using IMAP.

Advantage: IMAP

Organization

Because IMAP allows users to arrange messages in a hierarchical fashion and place them in folders, it's certainly better at helping users organize.

Advantage: IMAP

Computational overhead

Of course, all that IMAP functionality comes at a price. It's arguably more difficult to implement and certainly consumes a lot more CPU and RAM, especially when it performs those synchronizations.

Advantage: POP3

Privacy

This is one concern that matters most for the end users who frequently deal with confidential information. These users would prefer to download all email messages and leave no copies behind on the server.

Advantage: POP3

Speed

POP3 downloads all mail messages upon connection, IMAP may optionally download just the message headers or certain portions and leave(e.g. the attachments on the server). When the user decides the remaining portions to download, those portions are downloaded. In this regard, IMAP can be considered faster.

But, if all messages on the server are supposed to be downloaded every single time, then POP3 would be faster.

Advantage: Depends on the situation

PHP makes use of **mail()** function to send an email. This function requires three mandatory arguments that specify the recipient's email address, the subject of the message and the actual message additionally there are other two optional parameters.

```
mail( to, subject, message, headers, parameters );
```

Sr.No	Parameter & Description
1	**to** Required Receiver / receivers of the email
2	**subject** Required The subject of the email
3	**message** Required Lines should not go beyond 70 characters
4	**headers** Optional Additional headers like From, Cc, and Bcc.
5	**parameters** Optional

Error Handling

- Simple "die()" statements
- Custom errors and error triggers
- Error reporting

Using the die() function

```php
<?php
if(!file_exists("welcome.txt")){
 die("File not found");
}else{
 $file=fopen("welcome.txt","r");
}
?>
```

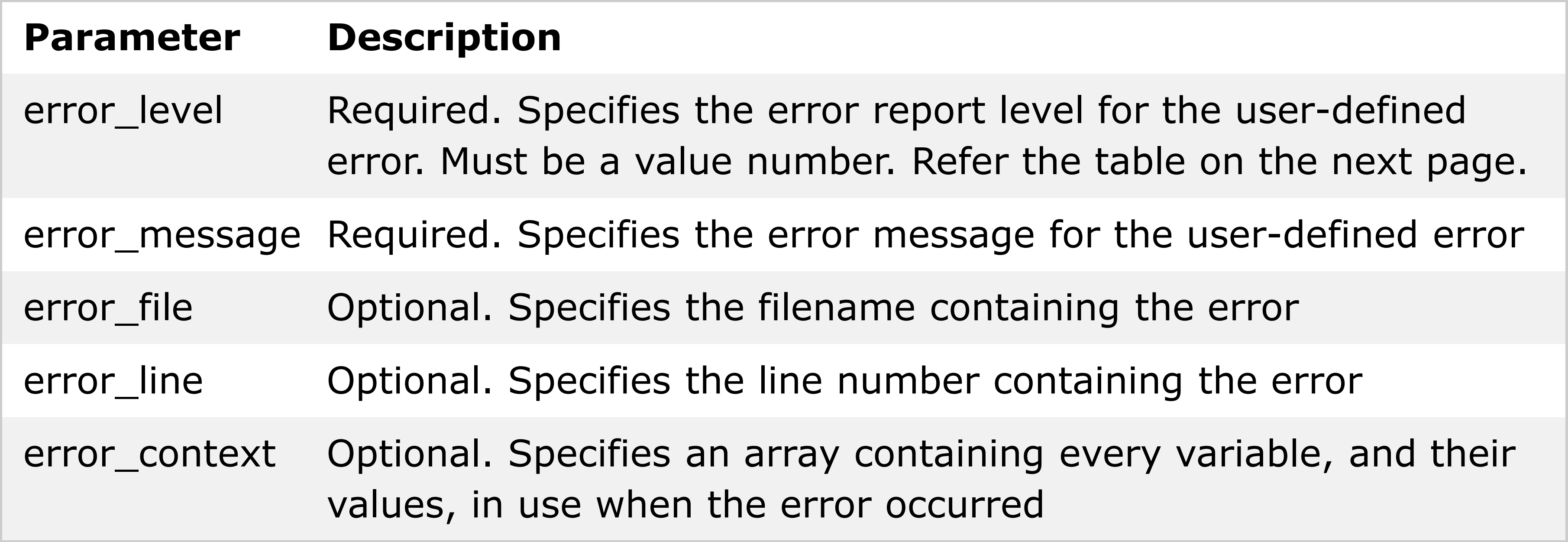
Now if the file does not exist you get an error like this:

```
File not found
```

Creating a Custom Error Handler

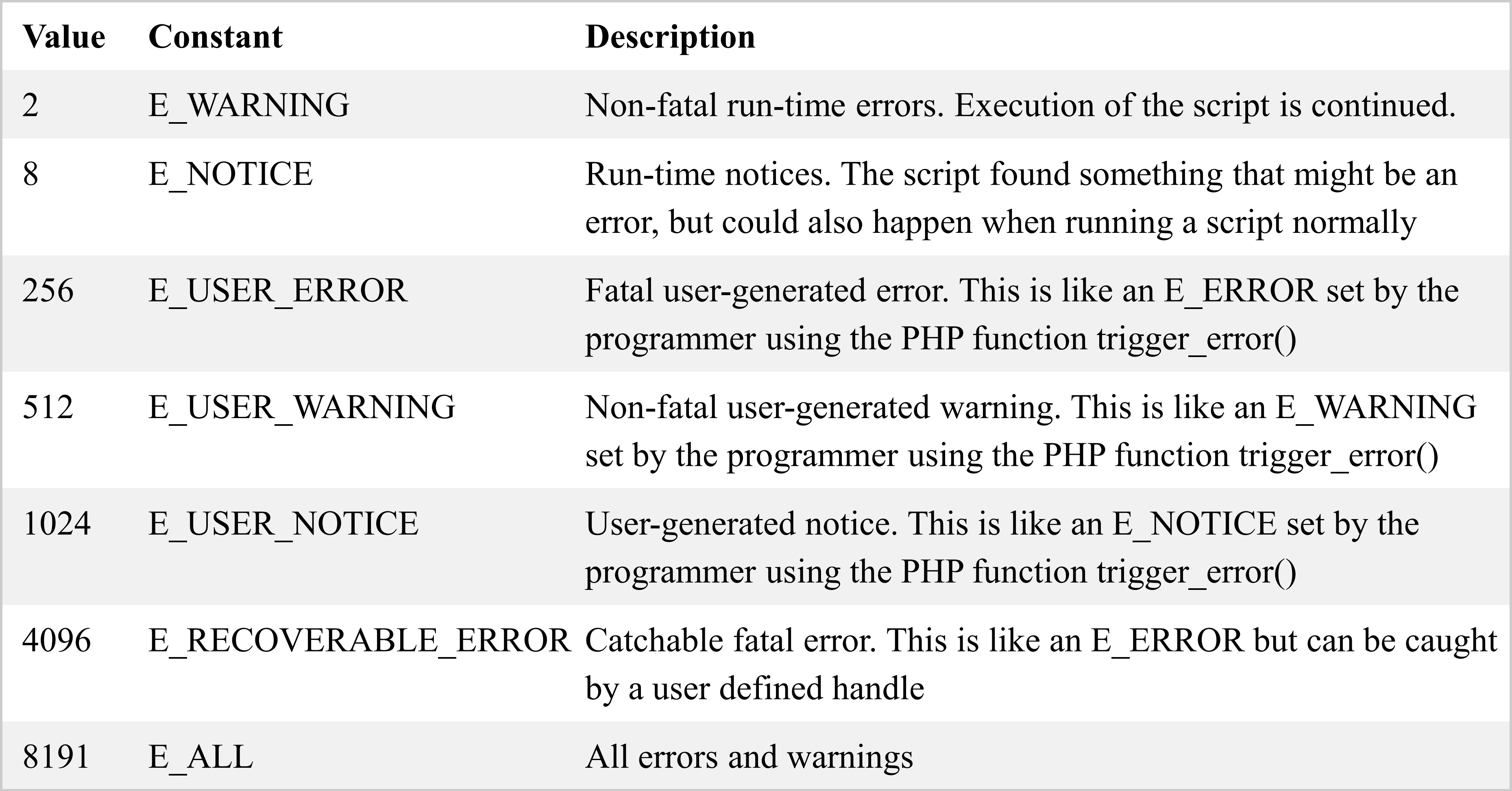
Syntax

```
error_function(error_level,error_message,
error_file,error_line,error_context)
```



Parameter	Description
error_level	Required. Specifies the error report level for the user-defined error. Must be a value number. Refer the table on the next page.
error_message	Required. Specifies the error message for the user-defined error
error_file	Optional. Specifies the filename containing the error
error_line	Optional. Specifies the line number containing the error
error_context	Optional. Specifies an array containing every variable, and their values, in use when the error occurred

Error Report levels



Value	Constant	Description
2	E_WARNING	Non-fatal run-time errors. Execution of the script is continued.
8	E_NOTICE	Run-time notices. The script found something that might be an error, but could also happen when running a script normally
256	E_USER_ERROR	Fatal user-generated error. This is like an E_ERROR set by the programmer using the PHP function trigger_error()
512	E_USER_WARNING	Non-fatal user-generated warning. This is like an E_WARNING set by the programmer using the PHP function trigger_error()
1024	E_USER_NOTICE	User-generated notice. This is like an E_NOTICE set by the programmer using the PHP function trigger_error()
4096	E_RECOVERABLE_ERROR	Catchable fatal error. This is like an E_ERROR but can be caught by a user defined handle
8191	E_ALL	All errors and warnings

Set Error Handler

Example

Testing the error handler by trying to output variable that does not exist:

```php
<?php
//error handler function
function customError($errno, $errstr) {
 echo "<b>Error:</b> [$errno] $errstr";
}
//set error handler
set_error_handler("customError");
//trigger error
echo($test);
?>
```

The output of the code above should be something like this:

```
Error: [8] Undefined variable: test
```

Trigger an Error

Example

In this example an error occurs if the "test" variable is bigger than "1":

```
<?php
$test=2;
if ($test>=1) {
  trigger_error("Value must be 1 or below");
}
?>
```

Additional References

www.w3schools.com

www.tutorialspoint.com