

INLS 672

Web Development 2

Application Design: Validate Data



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Validating Data

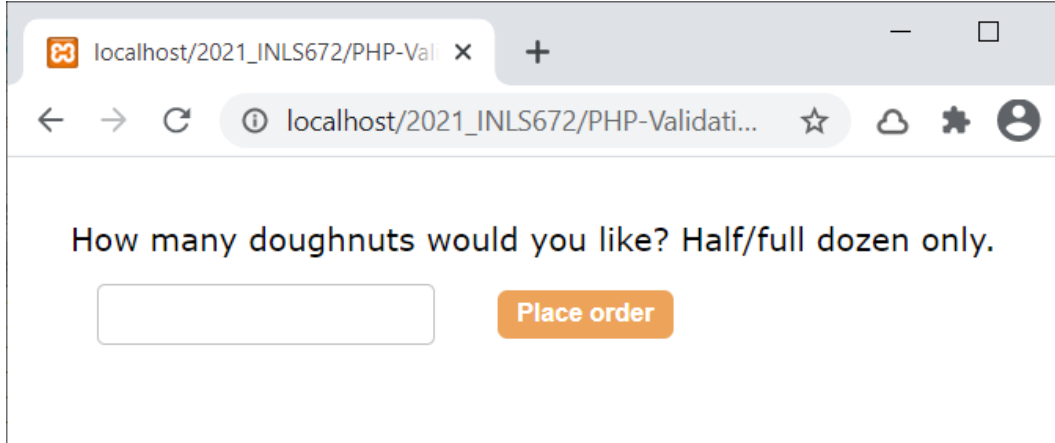
Why?

- To ensure that forms are filled out with correct data that will work successfully with your application
- Provide feedback – if validation fails, then an error message is displayed that explains what corrections need to be made

How?

- Client-side validation occurs in the browser, before data is submitted to the server. This can be more user-friendly because it provides an instant response. Two approaches:
 - Built-in form validation using HTML5 form validation features such as [HTML5 input types](#) and [HTML input attributes](#)
 - JavaScript validation using the [HTML5 Constraint validation API](#)
- Server-side validation occurs on the server, after the data has been submitted. If validation fails, a response is sent back to the user with error messages explaining corrections to be made.

Client-side (HTML) vs. Server-side (PHP) Data Validation



localhost/2021_INLS672/PHP-Vali x +

localhost/2021_INLS672/PHP-Validati...

How many doughnuts would you like? Half/full dozen only.

doughnut_validation_HTML.php
doughnut_validation_PHP.php

PHP Form Validation Example

* required field.

Name

 *

Email

 * Email is required

Website

Comment

Your Input:

Hello World

validate_form.php

Adding Data Requires Validation

Award Winning Reads

ISBN

Title

Author

Publisher

Format

Category

Description

Rating

© Award Winning Reads

What is the validation criteria for a book?

The DDL specifies some minimum criteria

- All attributes, except **Description**, are required because of the **NOT NULL** constraint
- The **ISBN** is the **PRIMARY KEY** so it must be unique

```
CREATE TABLE "BOOK" (  
  "ISBN"          VARCHAR ( 20 ) NOT NULL,  
  "Title"         VARCHAR ( 50 ) NOT NULL,  
  "Author"        VARCHAR ( 20 ) NOT NULL,  
  "Publisher"     VARCHAR ( 20 ) NOT NULL,  
  "Format"        VARCHAR ( 20 ) NOT NULL,  
  "Category"      VARCHAR ( 20 ) NOT NULL,  
  "Description"   VARCHAR,  
  "Rating"        INTEGER NOT NULL DEFAULT 0,  
  PRIMARY KEY ("ISBN")  
);
```

DDL

Some examples of more specific validation criteria

- ISBN must be unique with a '978-' prefix, followed by 10 digits
- Title has at least 1 alphanumeric character
- Author has at least 3 alphanumeric characters
- Publisher has at least 5 alphanumeric characters
- Format is one of these values: Audio, Hardcover, Paperback, eBook
- Category is one of these values: Biography, Children, Fiction, Historical Fiction, History, Literary Fiction, Literature, Novel, Poetry
- Description has at least 20 alphanumeric characters.
- Rating is a numeric value between 1 and 5 inclusive.

When validation fails, tell the user!

The image displays three screenshots of a web form titled "Award Winning Reads".

- Top Left Screenshot:** Shows the form with several fields marked as required but empty: ISBN, Title, Author, and Publisher. Red text labels like "ISBN is required" and "Title is required" are placed next to the empty input boxes. The "Format" dropdown is set to "Audio" and "Category" to "Biography".
- Top Right Screenshot:** Shows the form with "ISBN" filled with "978-19341371". A tooltip with an exclamation mark icon and the text "Please match the requested format." is displayed over the ISBN input field.
- Bottom Screenshot:** Shows the form with "ISBN" filled with "978-1476746586". A red label "Duplicate ISBN" is placed next to the input field.

Red annotations are present:

- A red arrow points from the text "Server-side validation" to the bottom of the top-left screenshot.
- A red box with the text "Client-side validation" is overlaid on the tooltip in the top-right screenshot.

Each screenshot includes "Browse" and "Save Book" buttons at the top and a footer with "© Award Winning Reads".

Important note: if the user enters an ISBN that already exists in the database, then this will generate an SQL error because the ISBN must be unique.

This validation can only be performed on the server-side.