

Introduction

Four-Phase Data Processing Library

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A PHP library designed to process data through four distinct phases: casting, transformation, sanitization and validation.

What Makes it Different?

Unlike traditional validation libraries that focus solely on validation, Derafu Data Processor offers:

- **Clear Phase Separation:** Each processing phase (cast → transform → sanitize → validate) has its own purpose and runs in a specific order.
- **Independent Transformations:** A dedicated transformation layer for complex data conversions, separate from basic type casting.
- **Type-Safe Operations:** Strong typing and clear error handling in each phase.
- **Extensible Rule System:** Each type of rule (caster, transformer, sanitizer, validator) follows its own interface.
- **Minimal Dependencies:** `intl` extension for specific format rules, `Carbon` for dates, and `derafu/translation` for translatable error messages (see [Translations](#)).

Features

- **Type-Safe Casting:** Convert between data types safely.
 - Basic types (string, int, float, bool).
 - Date and time handling.
- **Data Transformations:** Complex data conversions.
 - Base64 encoding/decoding.
 - JSON processing.
 - Slug generation.
 - Character transliteration.

- **Rich Sanitization Rules:** Clean and normalize input data.
 - String sanitization (trim, strip_tags, substring, etc.).
 - Regex-based cleaning (regex_remove, regex_keep).
 - HTML entity handling (htmlspecialchars, htmlentities, etc.).
 - Character set manipulation (remove_non_printable, remove_chars, etc.).
- **Comprehensive Validation:** Various validation rules.
 - String validations (required, min_length, max_length, etc.).
 - Number validations (range, gte, lte, etc.).
 - Date validations (after, before, between, etc.).
 - Format validations (email, URL, UUID, etc.).
 - File validations (file, image, mime_types).
 - Array validations (min_items, max_items, not_empty, etc.).

Installation

```
composer require derafu/data-processor
```

Basic Usage

```
use Derafu\DataProcessor\ProcessorFactory;

$processor = ProcessorFactory::create();

// Simple validation.
$result = $processor->process('test@example.com', [
    'validate' => ['email'],
]);

// Multi-phase processing.
$result = $processor->process(' TEST@EXAMPLE.COM ', [
    'transform' => ['lowercase'],
    'sanitize' => ['trim'],
    'validate' => ['email', 'max_length:255'],
]);

// Array validation.
$result = $processor->process([1, 2, 2, 3], [
    'validate' => ['unique', 'max_items:5'],
]);

// File validation.
$result = $processor->process($_FILES['upload'], [
    'validate' => ['file:2M', 'mimetype:application/pdf,image/jpeg']
```

```
]);
```

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