

TYPO3.Flow - Feature # 31277

Status:	Resolved	Priority:	Should have
Author:	Bastian Waidelich	Category:	Validation
Created:	2011-10-25	Assigned To:	Martin Ficzel
Updated:	2012-06-18	Due date:	

PHP Version:

Has patch: No
Complexity: medium

Subject: Schema based validation for arrays

Description

As discussed on the last Code Sprint, some schema based validation similar to <http://json-schema.org/> for arrays would be very useful for FLOW3.

Goal

The JSON schema should be used to verify the syntax of:

- Settings
- Routes
- Image Processing Instructions
- Content Type Definitions
- Security Settings

Currently a typo in those sometimes leads to very confusing effects. By validation against a pre-made schema, we can tell the user meaningful errors. We could even integrate that in the exception handling: If an exception happens, we could validate the configuration, as an error in configuration most likely results in exceptions.

Generally, we want to use schemata to validate arrays.

Specification

we should forward-port JSON-schema from <http://tools.ietf.org/html/draft-zyp-json-schema-03> to PHP. We are only listing the differences here. We will refer to this work as **PHP schema**. Some major differences are:

- JSON schema validation does only distinguish between **valid** and **invalid**. We should furthermore have a third, in-between style; something like "Bad smell", which hints to errors. TODO how to implement it?
- We aim for an implementation of 1. - 5.25 of JSON Schema Draft 03.

3.1. Terminology

For this specification, **schema** will be used to denote a PHP Schema definition, and an **instance** refers to a PHP value that the schema will be describing and validating.

5.8. dependencies

- TODO do we need them?

5.20 default

- We don't need this.

5.23 format

We support the following additional formats:

- classname: A class name which is **known to the object manager** // TODO: should it be classname or objectname?

5.26. extends, 5.27 id, 5.28. ref, 5.29 \$schema

- We don't need this.

6 Hyper Schema

- We don't need this.

Implementation

Implementation-wise, the validator should be split into two parts: One for the implementation of the PHP schema, the second part for the FLOW3-specific additions.

- We should use `\FLOW3\FLOW3\Error\Result`
- the system should be developed test-driven.

Future Work

The schema could even be self-learning to some extent (see <https://github.com/kore/XML-Schema-learner> for a similar example).

Related issues:

related to TYPO3.ElasticSearch - Bug # 37844: Always/Globally check response f...	New	2012-06-08
duplicated by TYPO3.Flow - Feature # 5068: Implement validation for settings ...	Resolved	2009-10-21

Associated revisions

Revision 1c8a80de - 2012-06-18 12:13 - Martin Ficzel

[FEATURE] Configuration validation through (adapted) JSON Schema

Implementation of a PHP array schema validator modeled using the JSON Schema specification as guideline.

The following CLI commands which utilize the validator are provided:

- `configuration:validate` validates the configuration of a certain type with respect to the provided schemata. The schema files are searched for in `Resources/Private/Schema` of all active packages.
- `configuration:generateschema` is a kickstarter which generates a basic schema to be used as a starting point for further adjustments

Furthermore, this change includes schemata for all FLOW3 settings and the other configuration types (Caches, Objects, Policy and Routes).

Change-Id: I542144f9af22c87a5d7712eaba85c453f736838d

Resolves: #31277

Releases: 1.1, 1.2

Revision 37145b1f - 2012-06-18 16:37 - Martin Ficzel

[FEATURE] Configuration validation through (adapted) JSON Schema

Implementation of a PHP array schema validator modeled using the JSON Schema specification as guideline.

The following CLI commands which utilize the validator are provided:

- configuration:validate validates the configuration of a certain type with respect to the provided schemata. The schema files are searched for in Resources/Private/Schema of all active packages.
- configuration:generateschema is a kickstarter which generates a basic schema to be used as a starting point for further adjustments

Furthermore, this change includes schemata for all FLOW3 settings and the other configuration types (Caches, Objects, Policy and Routes).

Change-Id: I542144f9af22c87a5d7712eaba85c453f736838d

Resolves: #31277

Releases: 1.1, 1.2

History

#1 - 2011-11-23 13:36 - Bastian Waidelich

- *Assigned To set to Rens Admiraal*

#2 - 2011-11-23 14:16 - Sebastian Kurfuerst

Rens wants to implement this :) Sebastian will be around for questions.

#3 - 2011-12-22 15:38 - Rens Admiraal

- *Assigned To changed from Rens Admiraal to Thomas Hempel*

#4 - 2012-03-19 10:51 - Karsten Dambekalns

- *Status changed from New to Accepted*

#5 - 2012-06-06 13:55 - Martin Ficzel

The development-state of this feature can be seen here <https://github.com/mficzel/FLOW3.configurationValidation>

#6 - 2012-06-06 22:50 - Gerrit Code Review

- *Status changed from Accepted to Under Review*

Patch set 1 for branch **master** has been pushed to the review server.

It is available at <http://review.typo3.org/11858>

#7 - 2012-06-07 20:18 - Gerrit Code Review

Patch set 2 for branch **master** has been pushed to the review server.

It is available at <http://review.typo3.org/11858>

#8 - 2012-06-08 13:30 - Gerrit Code Review

Patch set 3 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#9 - 2012-06-08 14:09 - Gerrit Code Review

Patch set 4 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#10 - 2012-06-08 14:35 - Martin Ficzel

- *Assigned To changed from Thomas Hempel to Martin Ficzel*

#11 - 2012-06-08 17:26 - Karsten Dambekalns

- *Target version set to 2.0 beta 1*

#12 - 2012-06-08 18:53 - Gerrit Code Review

Patch set 5 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#13 - 2012-06-09 18:33 - Gerrit Code Review

Patch set 6 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#14 - 2012-06-12 16:42 - Gerrit Code Review

Patch set 7 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#15 - 2012-06-12 18:20 - Gerrit Code Review

Patch set 8 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#16 - 2012-06-13 11:44 - Gerrit Code Review

Patch set 9 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#17 - 2012-06-18 12:13 - Gerrit Code Review

Patch set 10 for branch **master** has been pushed to the review server.
It is available at <http://review.typo3.org/11858>

#18 - 2012-06-18 12:15 - Gerrit Code Review

Patch set 1 for branch **FLOW3-1.1** has been pushed to the review server.

It is available at <http://review.typo3.org/12159>

#19 - 2012-06-18 12:37 - Martin Ficzel

- *Status changed from Under Review to Resolved*

- *% Done changed from 0 to 100*

Applied in changeset commit:1c8a80de60bff7ad0f878ade7e1cedc0f28ee365.

#20 - 2012-06-18 16:42 - Gerrit Code Review

- *Status changed from Resolved to Under Review*

Patch set 2 for branch **FLOW3-1.1** has been pushed to the review server.

It is available at <http://review.typo3.org/12159>

#21 - 2012-06-18 19:38 - Martin Ficzel

- *Status changed from Under Review to Resolved*

Applied in changeset commit:37145b1f83e3828095f2b584ecc02a0eed3cb551.