
DRUPALCON
VIENNA
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Using typed data and configuration schema for maximum flexibility

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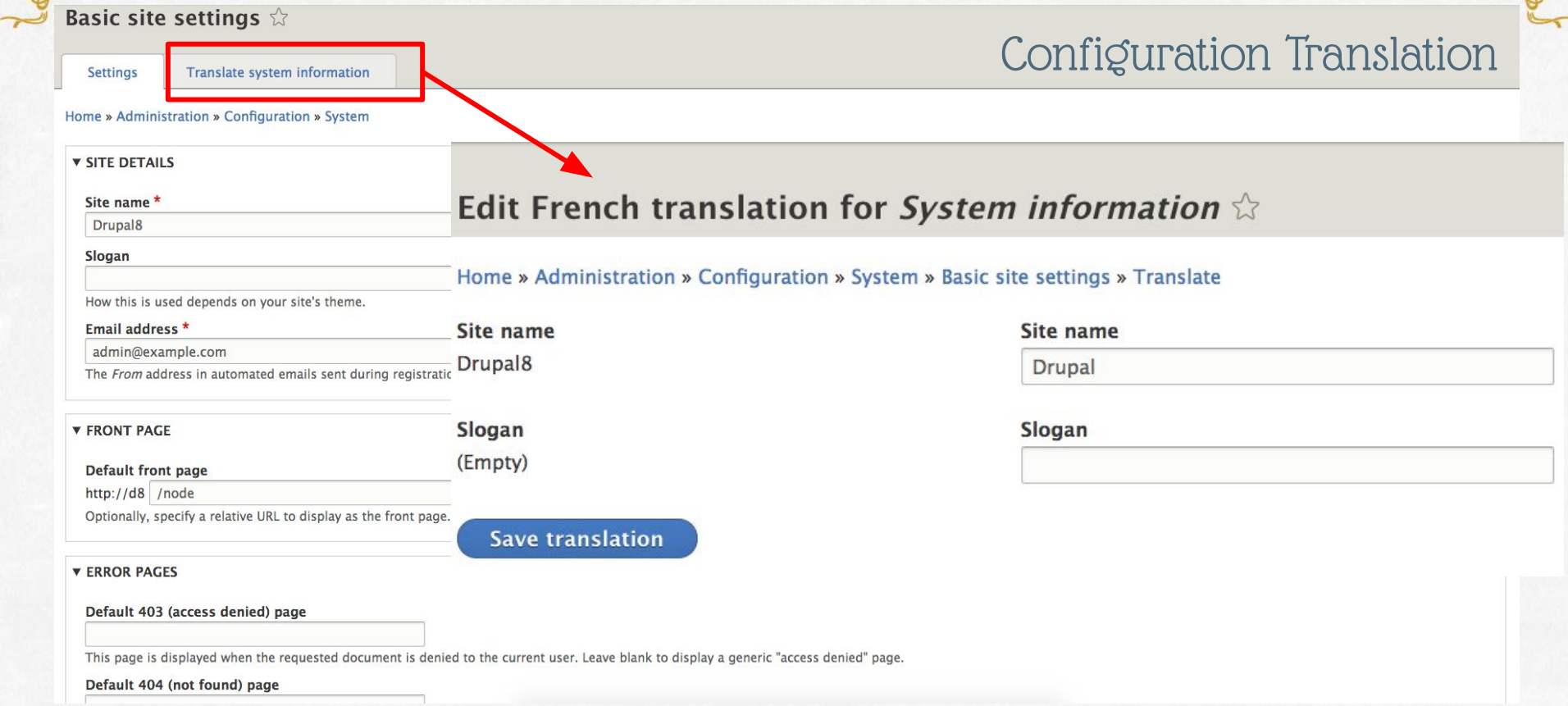
Why do I need it?

Configuration Translation



Manage fields for search index *Solr* ☆

Search API

View | Edit | Fields | Processors

Home » Administration » Configuration » Search and metadata » Search API » index

+ Add fields

The data type of a field determines how it can be used for searching and filtering. The boost is used to give additional weight to certain fields, for example titles or tags.

For information about the data types available for indexing, see the data types table at the bottom of the page.

▸ CONTENT

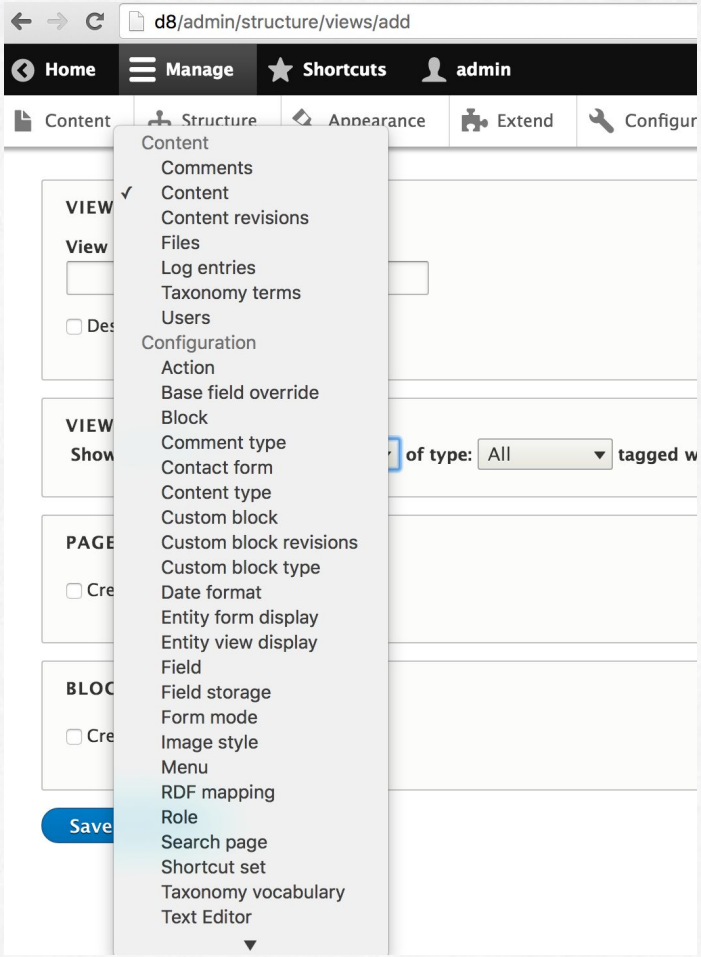
▾ DATA TYPES

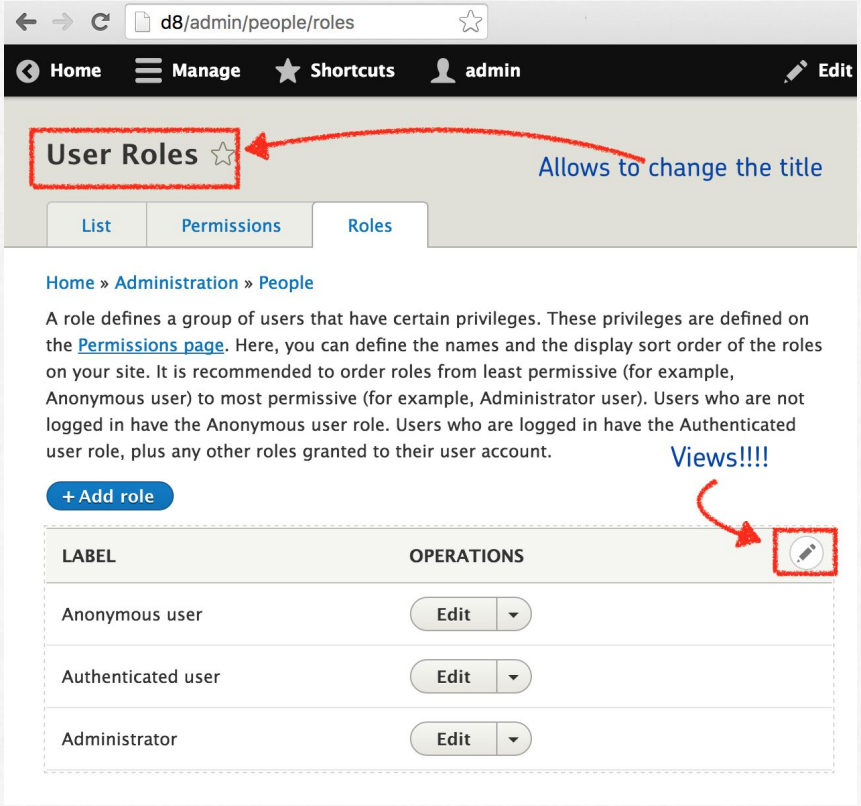
The data types which can be used for indexing fields in this index. Whether a type is supported depends on the backend of the index's server. If a type is not supported, the fallback type that will be used instead is shown, too.

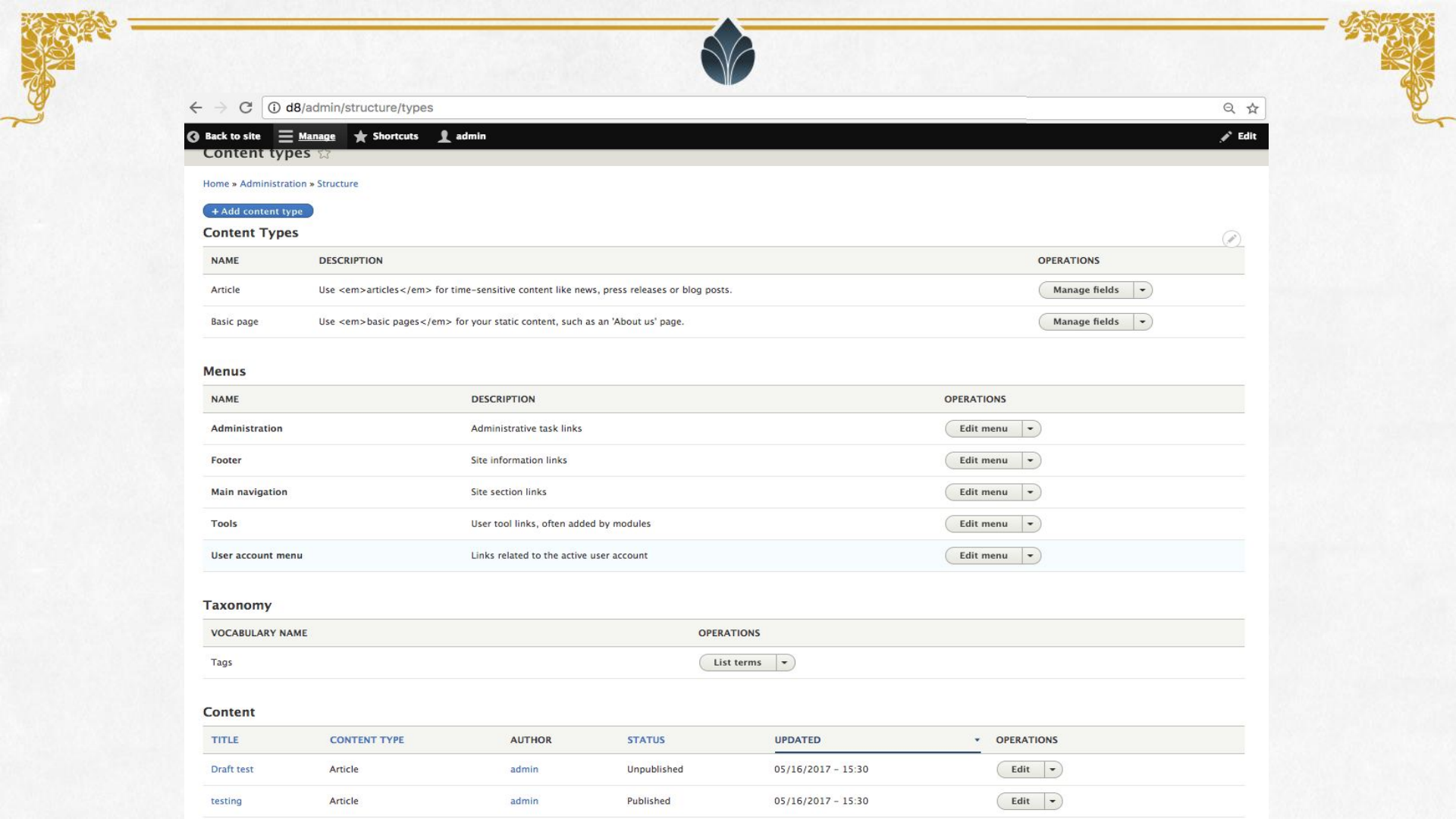
DATA TYPE	DESCRIPTION	SUPPORTED
Boolean	Boolean fields can only have one of two values: true or false.	✓
Date	Represents points in time.	✓
Decimal	Contains numeric, typically non-integer values.	✓
Integer	Contains integer values.	✓
String	String fields are used for short, keyword-like character strings where you only want to find complete field values, not individual words.	✓
Fulltext	Fulltext fields are analyzed fields which are made available for fulltext search. This data type should be used for any fields (usually with free text input by users) which you want to search for individual words.	✓

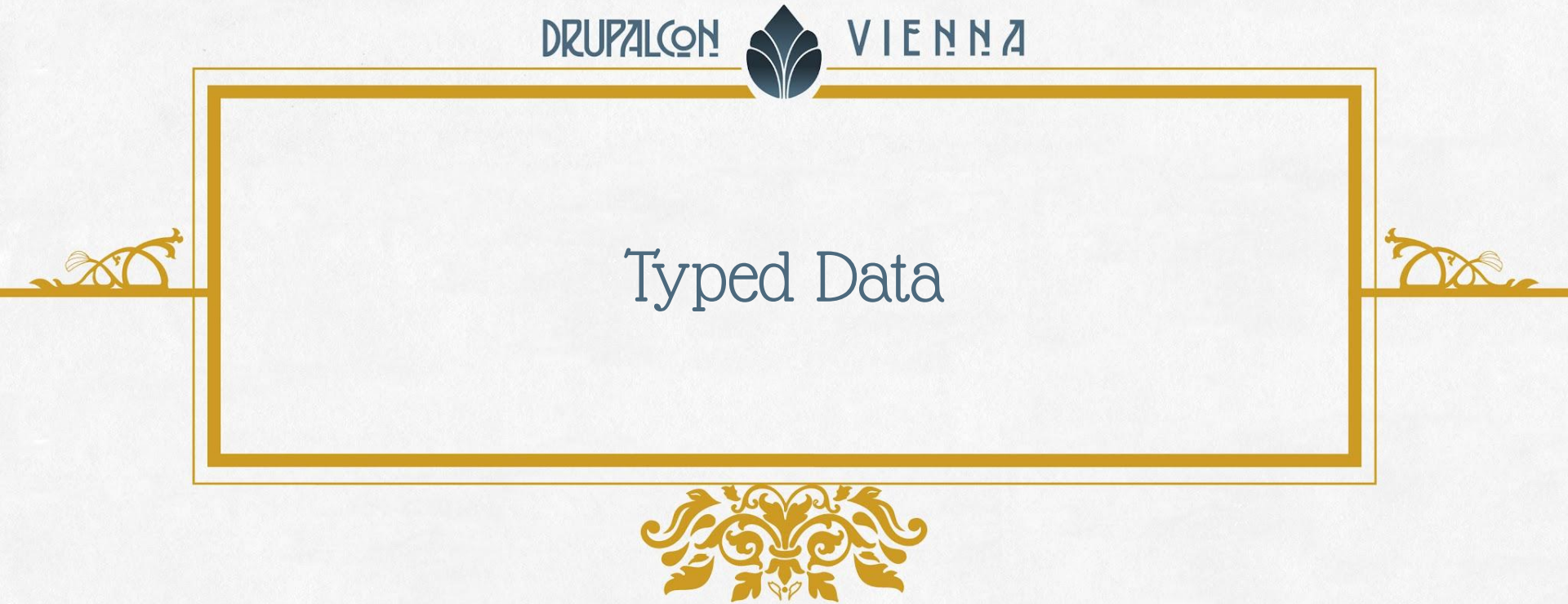
Save changes

Configuration views






d8/admin/structure/types
Back to site
Manage
Shortcuts
admin
Edit
Content types
Home » Administration » Structure
+ Add content type
Content Types
NAME
DESCRIPTION
OPERATIONS
Article
Use articles for time-sensitive content like news, press releases or blog posts.
Manage fields
Basic page
Use basic pages for your static content, such as an 'About us' page.
Manage fields
Menus
NAME
DESCRIPTION
OPERATIONS
Administration
Administrative task links
Edit menu
Footer
Site information links
Edit menu
Main navigation
Site section links
Edit menu
Tools
User tool links, often added by modules
Edit menu
User account menu
Links related to the active user account
Edit menu
Taxonomy
VOCABULARY NAME
OPERATIONS
Tags
List terms
Content
TITLE
CONTENT TYPE
AUTHOR
STATUS
UPDATED
OPERATIONS
Draft test
Article
admin
Unpublished
05/16/2017 - 15:30
Edit
testing
Article
admin
Published
05/16/2017 - 15:30
Edit



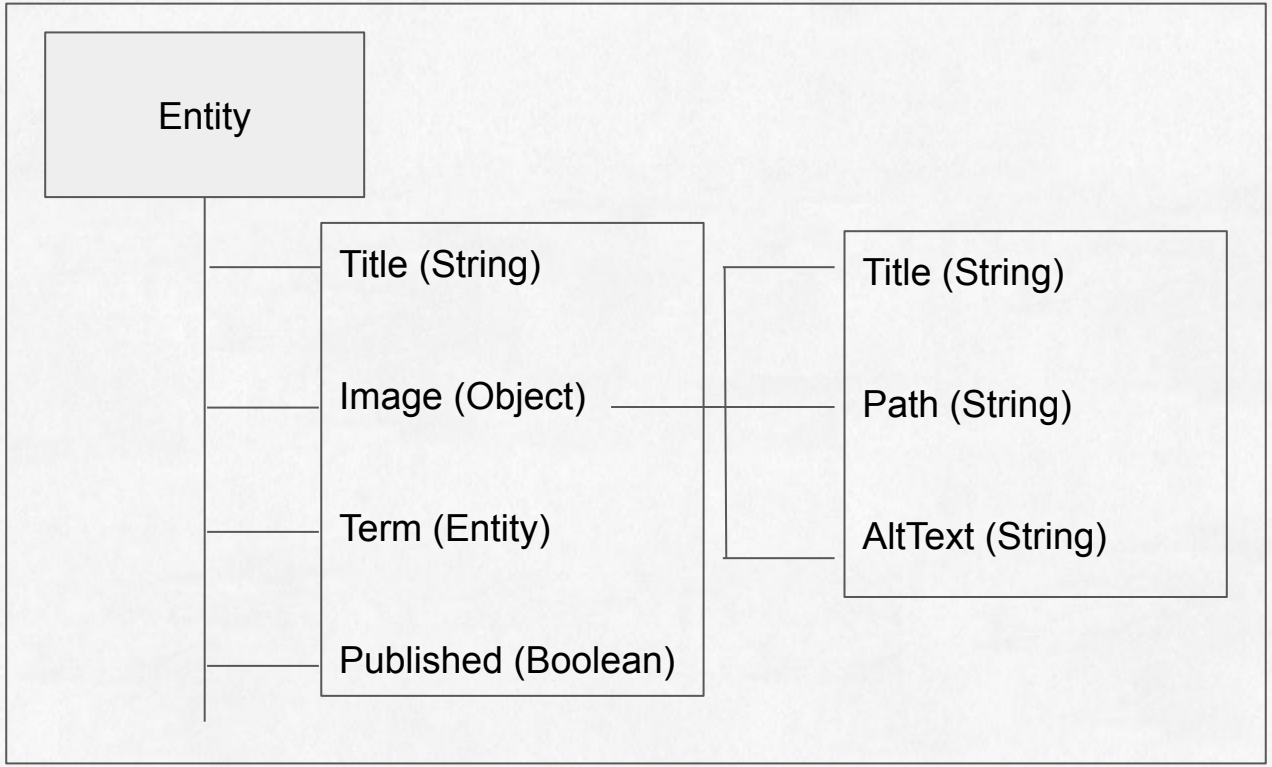
Typed Data

What is Typed Data?

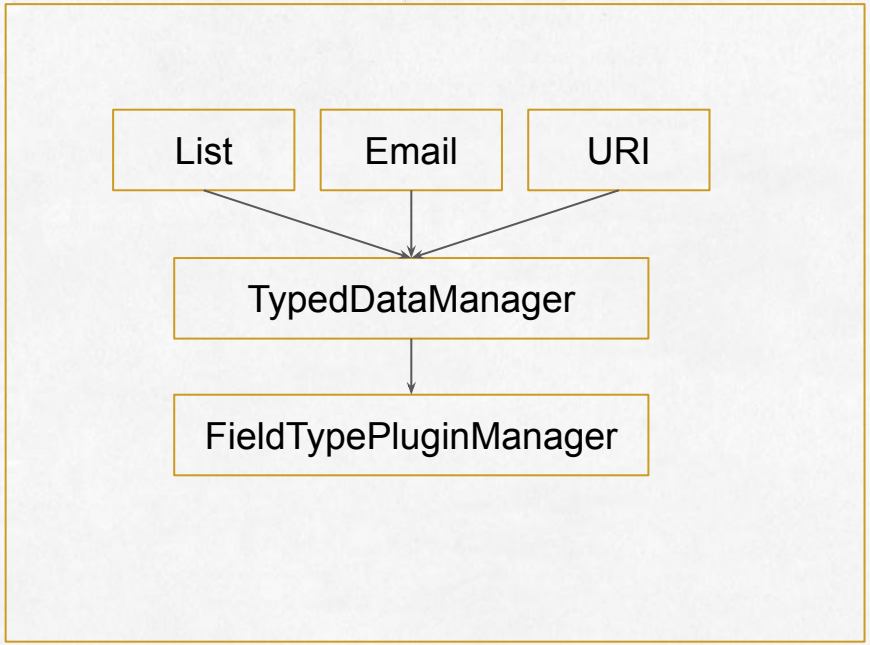
```php
// Example 1
$a = "1";  // $a is a string (‘1’)
$a *= 2;   // $a is an integer (2)
$a = $a * 1.3;  // $a is float ( 2.6)

// Example 2
$a    = 'car'; // $a is a string
$a[0] = 'b';   // $a is still a string
echo $a;       // bar
```

```php
$entity->status = "1"

$entity->status = 1

$entity->status = TRUE

$entity->status = isset($a > 1)

$entity->status = myfunction()
```

What is Typed Data?



Implementation



Data type definition

- ‘DataType’ Plugin
- TypedDataManager service
- Default data types from core
- Definitions properties, validation, data definition

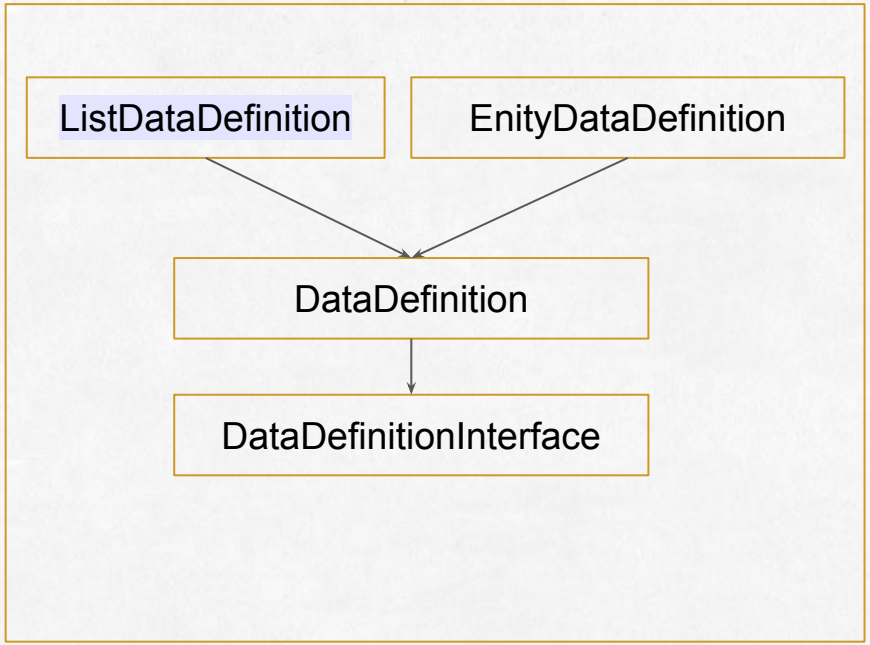
```
* @DataType(
*   id = "map",
*   label = @Translation("Map"),
*   definition_class = "\Drupal\Core\TypedData\MapDataDefinition"
* )
*/
```

Interfaces

- TypedDataInterface - Base interface
- ComplexDataInterface - named and typed properties
- PrimitiveInterface - Special treatment for base type (e.g. URL,
- Timestamp)

ListInterface - Extends TraversableTypedDataInterface

Implementation



Data definition

- Defines how to use data type
- Simple class
- Implements one of DataDefinitionInterface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Configuration Schema

What is Configuration Schema?

// Table key_value

collection	name	value
entity.definitions.installed	action.entity_type	O:42:"Drupal\Core\Config\Entity\ConfigEnt
system.schema	automated_cron	i:8000;
entity.definitions.installed	base_field_override.entity_type	O:42:"Drupal\Core\Config\Entity\ConfigEnt
system.schema	block	s:4:"8003";
entity.definitions.installed	block.entity_type	O:42:"Drupal\Core\Config\Entity\ConfigEnt
system.schema	block_content	s:4:"8300";
entity.definitions.bundle_field_map	block_content	a:1:{s:4:"body";a:2:{s:4:"type";s:17:"text_witl
entity.storage_schema.sql	block_content.entity_schema_data	a:4:{s:13:"block_content";a:2:{s:11:"primary
entity.definitions.installed	block_content.entity_type	O:36:"Drupal\Core\Entity\ContentEntityTyp
entity.storage_schema.sql	block_content.field_schema_data.body	a:2:{s:19:"block_content__body";a:4:{s:11:"d
entity.storage_schema.sql	block_content.field_schema_data.changed	a:2:{s:24:"block_content_field_data";a:1:{s:6
entity.storage_schema.sql	block_content.field_schema_data.default_langcode	a:2:{s:24:"block_content_field_data";a:1:{s:6
entity.storage_schema.sql	block_content.field_schema_data.id	a:4:{s:13:"block_content";a:1:{s:6:"fields";a:1
entity.storage_schema.sql	block_content.field_schema_data.info	a:2:{s:24:"block_content_field_data";a:1:{s:6
entity.storage_schema.sql	block_content.field_schema_data.langcode	a:4:{s:13:"block_content";a:1:{s:6:"fields";a:1
entity.storage_schema.sql	block_content.field_schema_data.revision_created	a:2:{s:24:"block_content_field_data";a:1:{s:6
entity.storage_schema.sql	block_content.field_schema_data.revision_id	a:4:{s:13:"block_content";a:1:{s:6:"fields";a:1
entity.storage_schema.sql	block_content.field_schema_data.revision_log	a:1:{s:22:"block_content_revision";a:1:{s:6:"f
entity.storage_schema.sql	block_content.field_schema_data.revision_translati…	a:2:{s:24:"block_content_field_data";a:1:{s:6
entity.storage_schema.sql	block_content.field_schema_data.revision_user	a:2:{s:24:"block_content_field_data";a:2:{s:6
entity.storage_schema.sql	block_content.field_schema_data.type	a:2:{s:13:"block_content" a:2:{s:24:"block_co
entity.storage_schema.sql	block_content.field_schema_data.uuid	a:1:{s:13:"block_content";a:2:{s:6:"fields";a:1
entity.definitions.installed	block_content.field_storage_definitions	a:13:{s:2:"id";O:37:"Drupal\Core\Field\Base
entity.definitions.installed	block_content_type.entity_type	O:42:"Drupal\Core\Config\Entity\ConfigEnt
system.schema	breakpoint	i:8000;
system.schema	ckeditor	i:8000;
system.schema	comment	s:4:"8301";
entity.definitions.bundle_field_map	comment	a:1:{s:12:"comment_body";a:2:{s:4:"type";s:9
entity.storage_schema.sql	comment.entity_schema_data	a:2:{s:7:"comment";a:1:{s:11:"primary key";a

// Database Schema (hook_schema)

```php
$schema['key_value'] = [
  'description' => 'Generic key-value storage table.',
  'fields' => [
    'collection' => [
      'description' => 'A named collection of key and value pairs.',
      'type' => 'varchar_ascii',
      'length' => 128,
      'not null' => TRUE,
      'default' => '',
    ],
    'name' => [
      'description' => 'The key of the key-value pair.',
      'type' => 'varchar_ascii',
      'length' => 128,
      'not null' => TRUE,
      'default' => '',
    ],
    'value' => [
      'description' => 'The value.',
      'type' => 'blob',
      'not null' => TRUE,
      'size' => 'big',
    ],
  ],
  'primary key' => ['collection', 'name'],
];
```

What is Configuration Schema?

```
// user.settings.yml
anonymous: Anonymous
verify_mail: true
register: visitors
password_reset_timeout: 86400
password_strength: true
```

```
// user.schema.yml
user.settings:
 type: config_object
 label: 'User settings'
 mapping:
  anonymous:
   type: label
   label: 'Name'
  verify_mail:
   type: boolean
   label: 'Require email verification when a visitor creates an account'
  register:
   type: string
   label: 'Who can register accounts?'
  password_reset_timeout:
   type: integer
   label: 'Password reset timeout'
```

Benefits (so far, I know)

- Better understanding of structure of Data
- Define additional properties/behaviours (e.g. translation)
- DX
- Generic way to access (get & set) and validate data.
- Typecasting configurations on save
- Translation of default configuration

Reference

- https://www.drupal.org/docs/8/api/typed-data-api/typed-data-api-overview
- https://www.drupal.org/docs/8/api/configuration-api/configuration-schemametadata
- https://www.drupal.org/project/search_api (code ref: #1, #2)
- https://www.lullabot.com/articles/indexing-content-from-drupal-8-to-elasticsearch
- https://www.drupal.org/project/typed_data (code ref: #1)
- https://www.drupal.org/project/config_views (code ref: #1)
- https://www.drupal.org/docs/8/api/configuration-api/configuration-schemametadata

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JOIN US FOR CONTRIBUTION SPRINT

Friday, September 29, 2017

Mentored Core Sprint

9:00-12:00
Room: Stolz 2

First time Sprinter Workshop

9:00-12:00
Room: Lehar 1 - Lehar 2

General Sprint

9:00-12:00
Room: Mall

#drupalsprints






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Thank you!