Overriding Configuration in Drupal 8

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- Module maintainer
  - Key
  - Encrypt
  - Real AES
  - Sodium
  - Better Exposed Filters

What is configuration?

- Collection of administrative settings for a Drupal site

- Not content

- Examples:
  - Site name
  - Content type and field definitions
  - Views

Reasons to override configuration

- Customize per environment

- Customize per language

- Prevent configuration from being changed

- Protect sensitive information

Sensitive information in configuration

- Keys

- Passwords

- Anything you wouldn't want others to see

Configuration in Drupal 7

- variable table

- Custom table(s) defined by a module

Overrides in Drupal 7

- `$conf` global variable in settings.php

  - Example:
    `$conf['site_name'] = "Overridden site name"`

- Only for overriding variables in variable table

Overrides in Drupal 7

- Override values displayed on settings forms

- Override values saved in database on form submission

Configuration in Drupal 8

- config table

- Exportable to YAML files

Types of configuration

- Simple configuration

- Configuration entities

Simple configuration

- Single instance

- Sitewide settings

- Defined in schema file

- Automatically removed on module uninstall

Naming simple configuration

- `config.id`

  - Example:
    `system.site`

  - Example of element ID:
    `name`

Configuration entities

- Multiple instances

- Not fieldable

- Integrate with configuration API

- Can declare dependencies

- Defined in entity definition and schema file

- Automatically removed on module uninstall
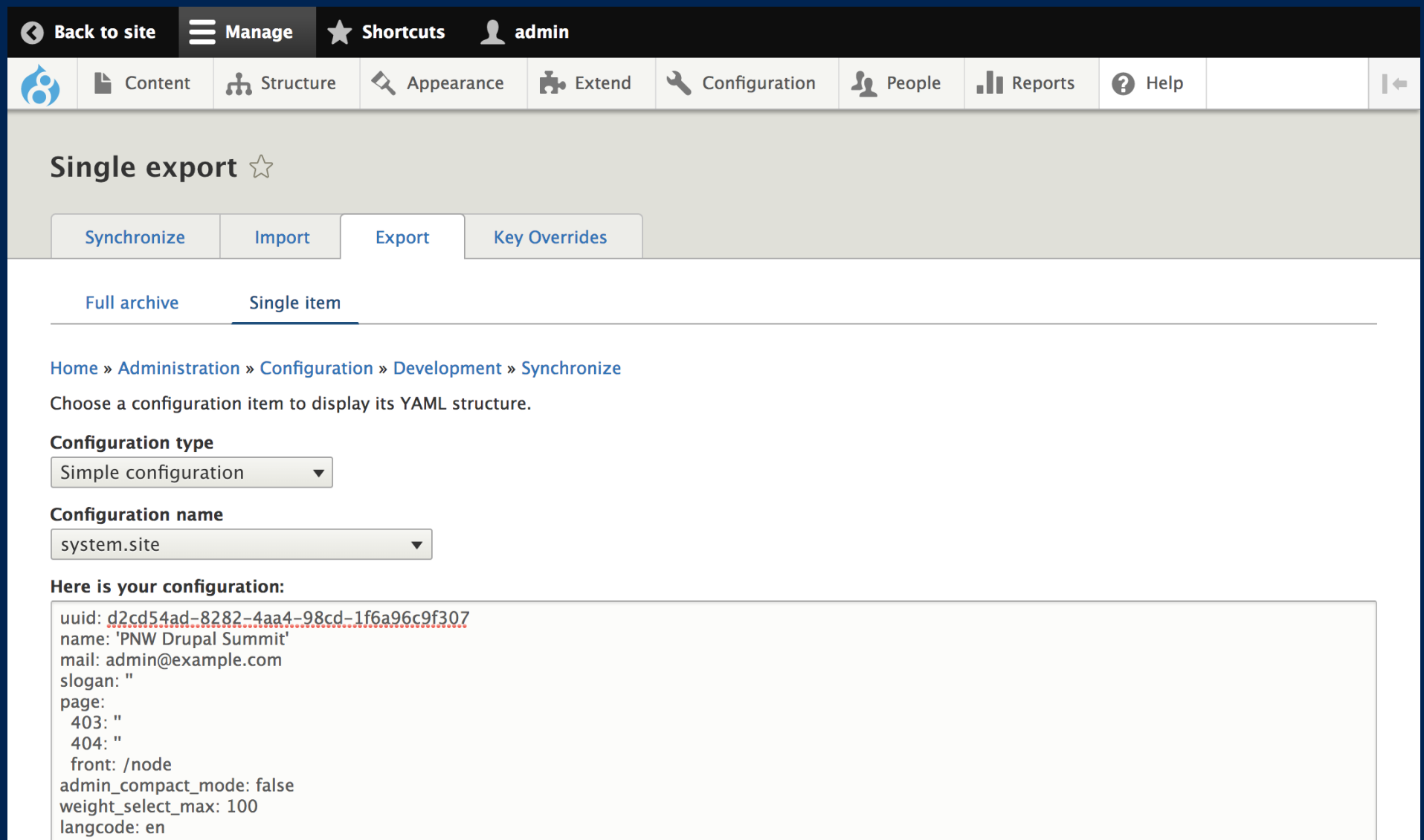
Naming configuration entities

- `entity.prefix.config.id`

  - Example:
    `views.view.frontpage`

  - Example of element ID:
    `display.default.display_options.title`

How to look up configuration ID

- Examine exported configuration files

- Use Drush's config-get command

- Use Configuration Manager module export feature

- Use Configuration Inspector module

- Use Configuration Update module

Use Configuration Manager module export feature

Use Configuration Inspector module

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Inspect ☆

Synchronize	Import	Export	Inspect	Key Overrides

Home » Administration » Configuration » Development » Synchronize

List of configuration keys to review with their configuration schema. Keys that have no schema are displayed but only raw data review is possible. Check out the configuration schema documentation for more details.

Search

[Search for a configuration key]

CONFIGURATION KEY	SCHEMA	LIST	TREE	FORM	RAW DATA
automated_cron.settings	Correct	List	Tree	Form	Raw data
block.block.bartik_account_menu	Correct	List	Tree	Form	Raw data
block.block.bartik_branding	Correct	List	Tree	Form	Raw data
block.block.bartik_breadcrumbs	Correct	List	Tree	Form	Raw data
block.block.bartik_content	Correct	List	Tree	Form	Raw data
block.block.bartik_footer	Correct	List	Tree	Form	Raw data

Overrides in Drupal 8

- Override values are not displayed on settings forms

- No indication that configuration is overridden

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Issues

There is no indication on configuration forms if there are overridden values

Problem/Motivation

As per reviews by @webchick and discussion between @alexpott, @xjm and @effulgentsia, it may be a problem that configuration forms work totally opposite in terms of overridden values compared to how they worked in Drupal 7 and before. In Drupal 7 if you had a settings.php configuration override for example, that got used to build the configuration form and whatever you changed, the change did not stick. That was a WTF, but at least it was some sort of feedback on the value not being possible to change. In Drupal 8 however, overrides are not used to build forms and you can actually change settings and they would actually be saved and then displayed again on the form as if they were persisted. They are actually persisted but overrides may still apply on them, so the operation may be moot.

Proposed resolution

Following #2392319: Config objects (but not config entities) should by default be immutable each configuration form knows about the configuration keys edited and centralizes an accessor ($this->config()) to access them. Thanks to this, we can track if there were any configuration details loaded that may have overrides applied (by loading the editable version as well and comparing the data). That way, we can detect if there are overridden values *at least under the same conditions as the admin form was displayed (eg. static global overrides)*. Using that

	Needs work
Project:	Drupal core
Version:	8.6.x–dev
Component:	configuration system
Priority:	Major
Category:	Bug report
Assigned:	Unassigned
Issue tags:	Configuration system, Configuration overrides, Usability, DevDaysSeville, Vienna2017 about tags
Reporter:	Gábor Hojtsy
Created:	16 Jan 2015 at 13:27 UTC
Updated:	15 Jan 2018 at 12:59 UTC

https://www.drupal.org/project/drupal/issues/2408549

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Issues
Add method to check if any overrides are applied to \Drupal\Core\Config\Config

Problem/Motivation

There is currently no convenient/good way to know if a config object is overwritten or not. Simply comparing `\Drupal\Core\Config\Config::getOriginal()` with and without overrides does not reveal overrides when for example the override in settings.php happens to be of the same value.
Issues that showcase the need for it: #2408549: There is no indication on configuration forms if there are overridden values (which is marked as "Major" and "Bug report", hence the classification of this issue) or #2919373: Prevent Settings Tray functionality for blocks that have configuration overrides

Proposed resolution

Add a `getOverrides()` method on the `\Drupal\Core\Config\Config` object that can answer this question.

Remaining tasks

~~write patch~~ ~~add tests~~
~~review patch~~
commit
celebrate

Closed (fixed)	
Project:	Drupal core
Version:	8.5.x-dev
Component:	configuration system
Priority:	Major
Category:	Bug report
Assigned:	Unassigned
Issue tags:	
API addition	about tags
Reporter:	bircher
Created:	13 Nov 2017 at 10:48 UTC
Updated:	24 Jan 2018 at 23:59 UTC

Log in or register to update this issue

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Most recent file

https://www.drupal.org/project/drupal/issues/2923004

New method to detect overrides

- `\Drupal\Core\Config\Config::hasOverrides($key)`

- Examples from change record:

  ```
  \Drupal::config('system.site')->hasOverrides();
  // returns TRUE

  \Drupal::config('system.site')
  ->hasOverrides('name');
  // returns TRUE

  \Drupal::config('system.site')
  ->hasOverrides('mail');
  // returns FALSE
  ```

Ways to override configuration

- $config global variable

- Module overrides

- Language overrides

$config global variable

- Similar to `$conf` global variable in Drupal 7

  - Example:
    `$config['system.site']['name'] = "Overridden site name"`

- Configuration entities can be overridden

  - Example:
    `$config['views.view.frontpage']['display']['default']['display_options']['title'] = "Overridden view title"`

Language overrides

- Enable Language, Interface Translation, and Configuration Translation modules

- Add a language

- Edit translations for configuration

Language overrides

- Language overrides use configuration storage

- Files named after associated base file

  - Example:
    `language.config.fr.system.site`

Getting configuration without overrides

- ```
  \Drupal::config('system.site')
   ->getOriginal('name', FALSE);
  ```

- ```
  \Drupal::configFactory()
   ->getEditable('system.site')
   ->get('name');
  ```

- ```
  drush config-get system.site name
  ```

Getting configuration with overrides

- `\Drupal::config('system.site')->getOriginal('name', TRUE);`

- `\Drupal::config('system.site')->get('name');`

- `drush config-get system.site name --include-overridden`

Overriding configuration with a module

- Create a service tagged with `config.factory.override`

- Define a class that implements `ConfigFactoryOverrideInterface`

- Define overrides in the `loadOverrides` method

Config Override module

- Provides various methods to define override values

  - A site wide override folder that contains YAML files

  - YAML files provided by a module

  - Environmental variables

Key module

- Provides the ability to manage site-wide keys

- Provides the ability to define how and where keys are stored

- Allows the option of increased security

- Allows sites to meet regulatory or compliance requirements

Key security

- Storing keys in configuration is dangerous

  - Visible in settings forms

  - Stored in database

  - Exported in config files

Better key storage options

- File outside web root

- External key management service

    - Lockr service and module

    - Townsend Security Alliance Key Manager service and module

What kinds of keys?

- An API key for connecting to an external service, such as PayPal, MailChimp, Authorize.net, UPS, an SMTP mail server, or Amazon Web Services

- An encryption key to be used for encrypting data

Questions?

Thank you