

Configuration Management

A True Life Story



CHROMATIC

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What is configuration?



”

In Drupal, configuration is the collection of admin settings that determine how the site functions, as opposed to the content of the site.

<https://www.drupal.org/docs/8/configuration-management>

Configuration vs. Content

Configuration	Content
Content types	Nodes
Taxonomy vocabulary	Taxonomy terms
Menus	Menu links
Blocks	Block content
Media types	Media



Pantheon Workflow

Code Moves Up, Content Moves Down



<https://pantheon.io/docs/pantheon-workflow/#code-moves-up-content-moves-down>

Other types of configuration

- Fields
- Views
- Display modes
- Image styles
- Language settings
- System settings
- User roles
- Module settings

Where is configuration stored?



Configuration Storage: Database

- Active configuration
- Stored in a relational database
- Changes applied immediately
- Benefits:
 - Performance
 - Security



Configuration Storage: Filesystem

- Staged configuration
- Stored on the filesystem as YAML files
- Changes applied by export or import
- Benefits:
 - Portability
 - Security



Configuration Manager



Configuration Manager

- Core module
- Import and export a single set of configuration to the filesystem
 - User Interface
 - Drush
- Install configuration from modules, profiles and themes
 - Required config
 - Optional config

Synchronize

[Synchronize](#)[Import](#)[Export](#)

[Home](#) » [Administration](#) » [Configuration](#) » [Development](#)

Used config split configuration: Local

1 new

Name	Operations
saml.service_provider.plan	View differences

5 changed

Name	Operations
config_split.config_split.dev	View differences
config_split.config_split.local	View differences
config_split.config_split.prod	View differences
saml.service_provider.member	View differences
config_split.config_split.stage	View differences

language.es configuration collection

[Import all](#)



View changes of core.extension

ACTIVE	STAGED
commerce_paypal: 0	commerce_paypal: 0
commerce_price: 0	commerce_price: 0
- commerce_pricelist: 0	
commerce_product: 0	commerce_product: 0
commerce_promotion: 0	commerce_promotion: 0

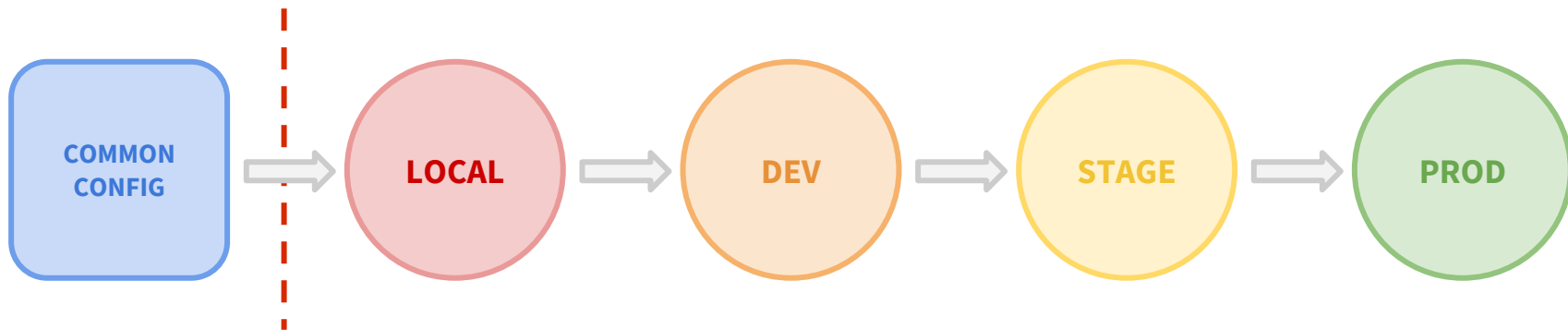
[Back to 'Synchronize configuration' page.](#)

View Differences



Configuration Manager: Workflow

The Configuration Management module offers a linear workflow where each environment shares the same set of configuration.



Configuration Split



Configuration Split

- Contributed module
- Import and export multiple sets (splits) of configuration to the filesystem
 - User Interface
 - Drush
- Enable/disable modules or themes for different environments
- Store different configuration values for different environments
 - Complete Split / Blacklist
 - Conditional Split / Graylist

Configuration Split Setting

[Home](#) » [Administration](#) » [Configuration](#) » [Development](#) » [Synchronize](#)

[Add Configuration Split Setting](#)

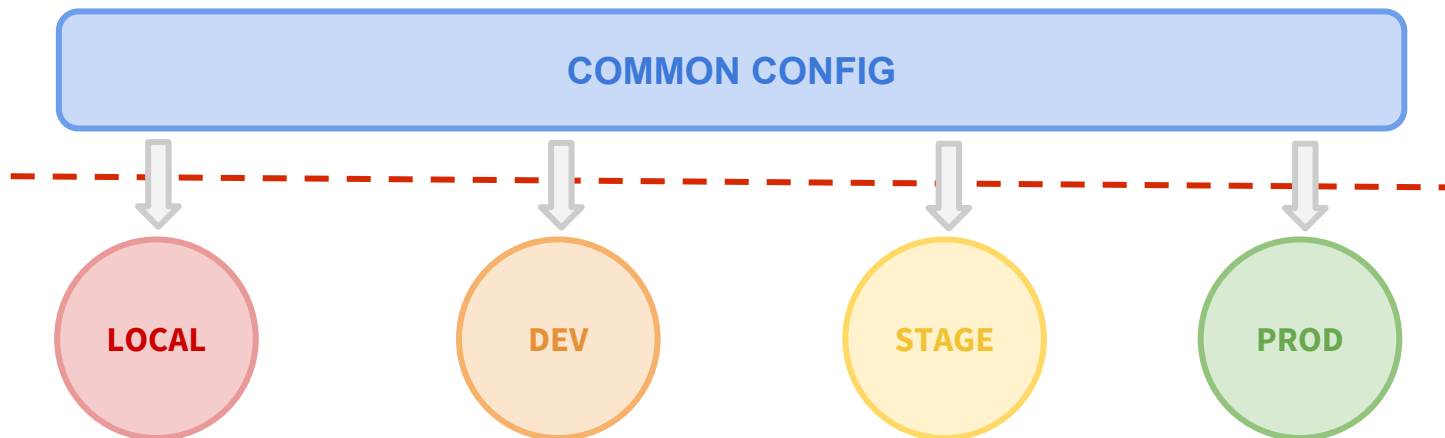
Configuration Split Setting	Machine name	Status	Operations
Development	dev	inactive	Edit ▼
Local	local	active (overwritten)	Edit ▼
Production	prod	inactive	Edit ▼
Staging	stage	inactive	Edit ▼

```
// Add default config split settings for local development.  
$config['config_split.config_split.local']['status'] = TRUE;  
$config['config_split.config_split.dev']['status'] = FALSE;  
$config['config_split.config_split.uat']['status'] = FALSE;  
$config['config_split.config_split.prod']['status'] = FALSE;
```



Configuration Split: Workflow

The Configuration Split module offers a distributed workflow where each environment has an independent set of configuration built on top of a common config.



Name	^	Date Modified	Size	Kind
▶ common		Jun 26, 2018 at 9:36 AM	--	Folder
▼ development		Jan 23, 2018 at 1:46 PM	--	Folder
system.performance.yml		Jan 23, 2018 at 1:46 PM	536 bytes	Visual...ocument
system.site.yml		Jan 23, 2018 at 1:46 PM	324 bytes	Visual...ocument
▼ local		May 8, 2018 at 12:45 PM	--	Folder
system.performance.yml		May 8, 2018 at 12:45 PM	536 bytes	Visual...ocument
system.site.yml		May 8, 2018 at 12:45 PM	340 bytes	Visual...ocument
▼ production		May 15, 2018 at 1:15 PM	--	Folder
google_analytics.settings.yml		May 15, 2018 at 1:15 PM	1 KB	Visual...ocument
xmlsitemap_engines.settings.yml		May 15, 2018 at 1:15 PM	153 bytes	Visual...ocument
xmlsitemap.settings.menu_link_content.menu_link_content.yml		May 15, 2018 at 1:15 PM	42 bytes	Visual...ocument
xmlsitemap.settings.node.equipment.yml		May 15, 2018 at 1:15 PM	42 bytes	Visual...ocument
xmlsitemap.settings.node.job_posting.yml		May 15, 2018 at 1:15 PM	42 bytes	Visual...ocument
xmlsitemap.settings.node.news.yml		May 15, 2018 at 1:15 PM	42 bytes	Visual...ocument
xmlsitemap.settings.node.page.yml		May 15, 2018 at 1:15 PM	42 bytes	Visual...ocument
xmlsitemap.settings.node.resource.yml		May 15, 2018 at 1:15 PM	42 bytes	Visual...ocument
xmlsitemap.settings.yml		May 15, 2018 at 1:15 PM	407 bytes	Visual...ocument
xmlsitemap.xmlsitemap.g3XYqcXbSKPVBODDwnT6pq7oqhCFkPryj4vVqrl_Kfc.yml		May 15, 2018 at 1:15 PM	251 bytes	Visual...ocument
▶ staging		Jan 23, 2018 at 1:46 PM	--	Folder

Why is config split
helpful?



COMPLETE SPLIT

Modules

- Admin Toolbar
- Admin Toolbar Links Access Filter
- Admin Toolbar Extra Tools
- Automated Cron
- Backup and Migrate

Select modules to split. Configuration depending on the modules is automatically split off completely as well.

Configuration items

- domain.record.store_leica_geosystems_com_it
- domain.record.store_leica_geosystems_com_jp
- domain.settings
- domain_access.settings
- domain_alias.alias.leicastore_Indo_site

Select configuration to split. Configuration depending on split modules does not need to be selected here specifically.

Additional configuration

Select additional configuration to split. One configuration key per line. You can use wildcards.

Complete Split/Blacklist: Configuration listed here will be removed from the sync directory and saved in the split directory instead. Modules will be removed from core.extension when

Complete Split



CONDITIONAL SPLIT

Configuration items

```
block_content.type.card_callout
block_content.type.card_callout_display
coffee.configuration
comment.type.comment
commerce_avatax.settings
```

Select configuration to split conditionally.

Additional configuration

Select additional configuration to conditionally split. One configuration key per line. You can use wildcards.

☒ Include dependent configuration

If this is set, conditionally split configuration will also include configuration that depends on it.

☒ Split only when different

If this is set, conditionally split configuration will not be exported to the split directory if it is equal to the one in the main sync directory.

Conditional Split/Graylist: Configuration listed here will be left untouched in the main sync directory. The *currently active* version will be exported to the split directory. Use this for configuration that is different on your site but which should also remain in the main sync directory.

Conditional Split

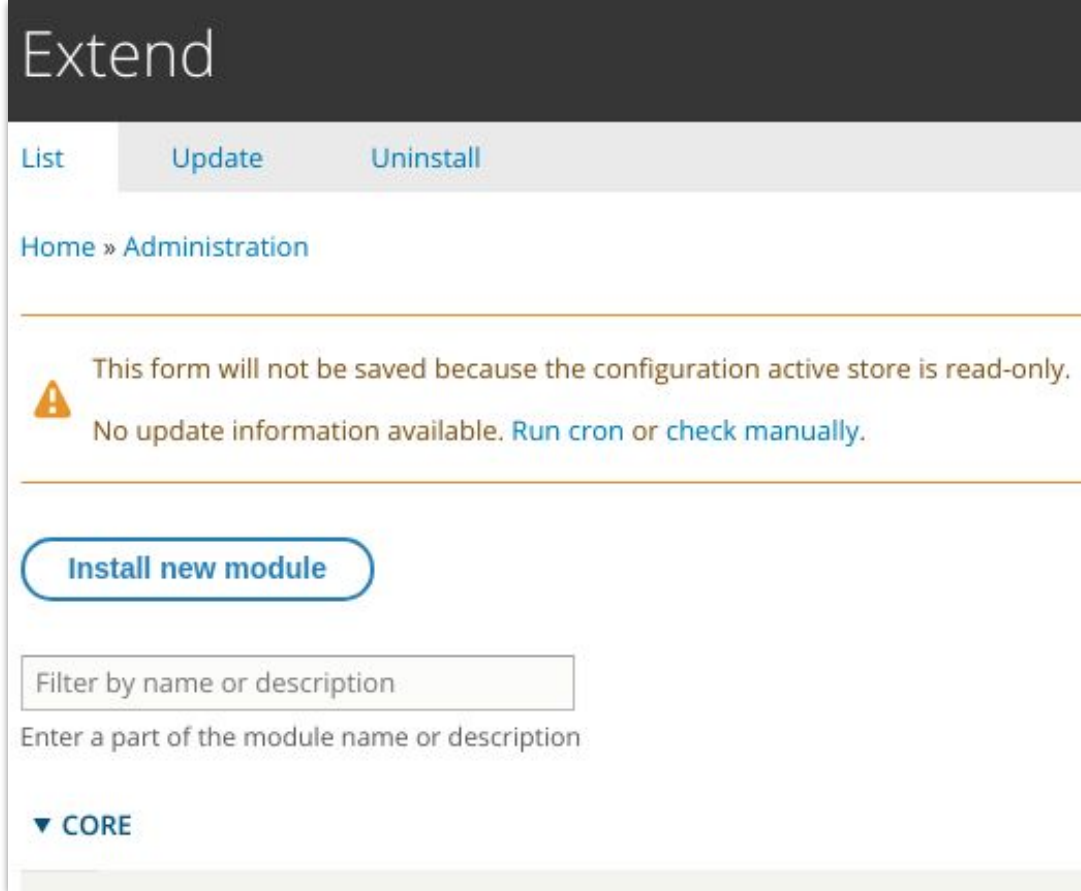


Configuration Readonly



Configuration Readonly

- Contributed module
- Prevents administrators from editing active configuration through the User Interface
- Module can be enabled per environment with Configuration Split
- **Warning:** Have a solid continuous integration pipeline and testing procedures in place before enabling in a production environment.



Configuration Installer



Configuration Installer

- Contributed install profile
- Install a new instance of Drupal from an existing set of configuration
- **Note:** Not compatible with Configuration Split. Manually importing configuration after install works

Configuration installer

[View](#)[Version control](#)

Posted by [alexpott](#) on 3 December 2014, updated 8 March 2018

Introduction

The Configuration Installer project provides a means to install a Drupal 8 site using existing configuration.

This is not a module, Configuration Installer is an installation profile that loads configuration from a specified folder to 'install' the site. This is not a real installation profile either, it helps to install a real installation profile (e.g. minimal) along with an existing set of configuration.

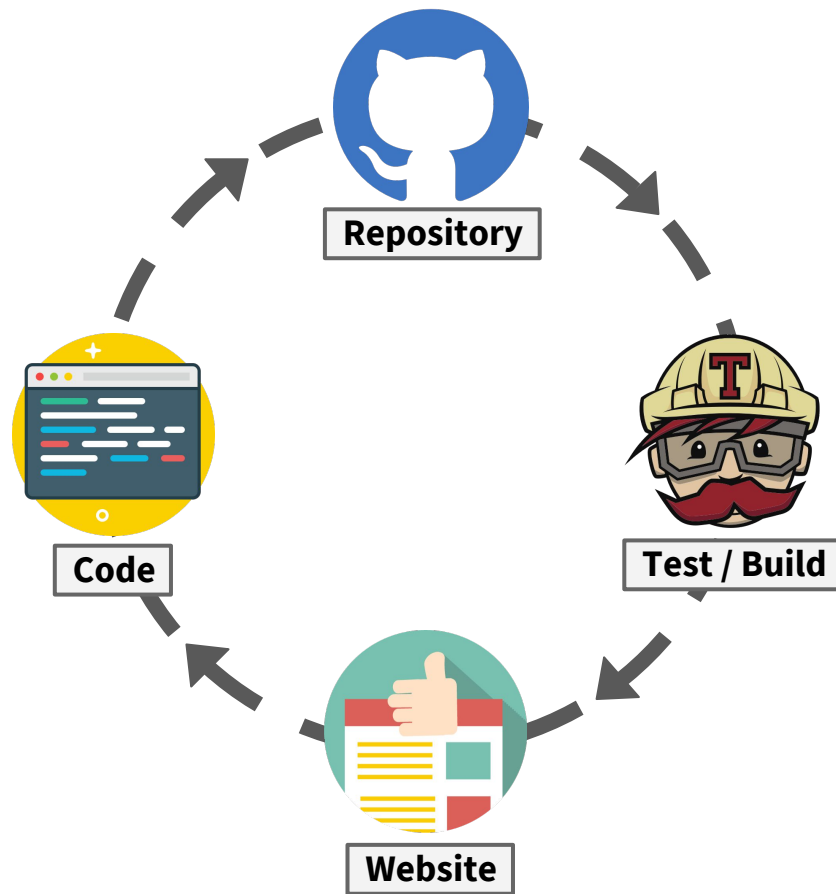


Configuration & Continuous Integration



What is Continuous Integration?

- The process of automating the build and testing of code in a shared code repository
- Developers can focus on code and less on environment management
- Developers can confidently merge in code changes to a project while working on a team



Continuous Integration: Code

- Developers can use the Configuration Manager module to export Drupal configuration to version control and easily share configuration changes with other team members
- Developers can use the Configuration Split module to test configuration changes locally for different environments
- Code syntax validators can be executed with git hooks or manual invocation locally

```
! field.storage.node.body.yml x
1  uuid: c71add91-bde0-40e0-a824-6b493979356f
2  langcode: en
3  status: true
4  dependencies:
5    module:
6      - node
7      - text
8  _core:
9    default_config_hash: EBUo7q0WqaiZaQ_RC9sLY5IoDKphS34v77VIHSAcmVY
10 id: node.body
11 fileds name: body

[18:46:59] Using gulpfile /app/gulpfile.js
[18:46:59] Starting 'build:js'...
[18:46:59] Starting 'build:sass'...
[18:47:02]
/app/web/modules/custom/blue_slideshow/assets/js/slideshow.es6.js
38:9  warning  Unexpected console statement  no-console

/app/web/modules/custom/blue_tivity/assets/scripts/gym-search.es6.js
25:23  warning  Too many nested callbacks (4). Maximum allowed is 3  max-nested-callbacks
30:23  warning  Too many nested callbacks (4). Maximum allowed is 3  max-nested-callbacks

/app/web/modules/custom/blue_user/assets/scripts/okta-login-and-redirect-command.es6.js
29:9  warning  Unexpected alert  no-alert

/app/web/themes/custom/blue_site_theme/assets/scripts/offer-waypoints.es6.js
3:2   warning  Unexpected unnamed function  func-names
10:17 warning  'sticky' is assigned a value but never used  no-unused-vars
19:17 warning  'scrollToBottom' is assigned a value but never used  no-unused-vars
21:21 warning  'direction' is defined but never used  no-unused-vars

/app/web/themes/custom/blue_site_theme/assets/scripts/smooth-scroll.es6.js
1:2   warning  Unexpected unnamed function  func-names
7:51  warning  Unexpected unnamed function  func-names

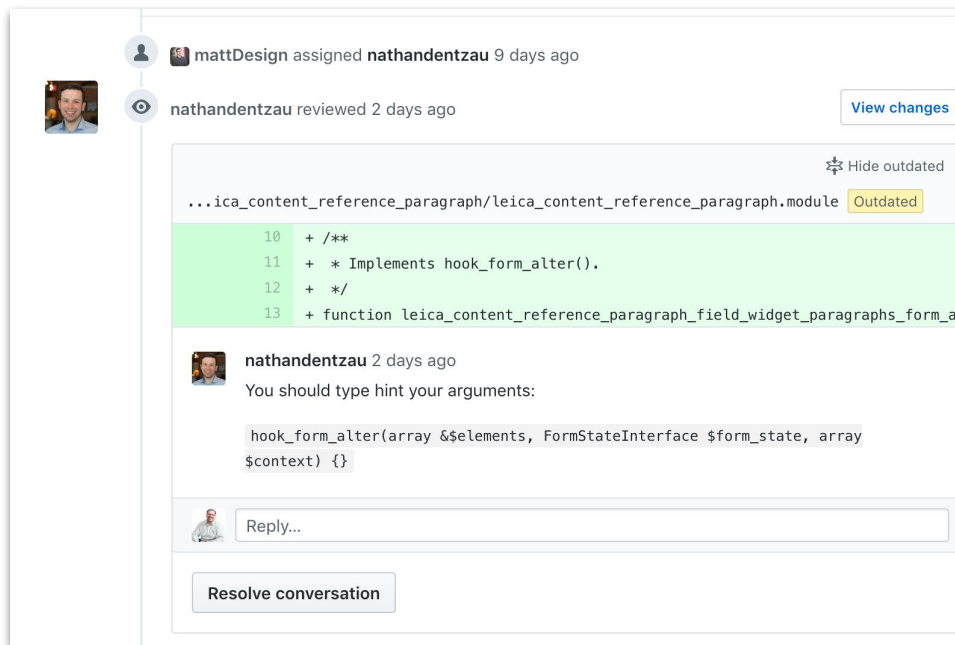
/app/web/themes/custom/blue_site_theme/assets/scripts/user-password.es6.js
142:7  warning  Unary operator '++' used  no-plusplus
145:7  warning  Unary operator '++' used  no-plusplus
148:7  warning  Unary operator '++' used  no-plusplus
151:7  warning  Unary operator '++' used  no-plusplus

x 14 problems (0 errors, 14 warnings)
```



Continuous Integration: Repository

- Developers push and pull code from a central code repository like Github
- Pull requests are created by the developer making the change and reviewed by other team members
- Automated build and tests are triggered when new commits are pushed
- Results are posted in the pull request and prevent developers from merging changes until tests pass



Continuous Integration: Test / Build

- Continuous integration services like Travis-CI can run code syntax validators, automated tests, and deployments in a CI pipeline
- The Configuration Installer profile can be used to install a new instance of Drupal testing the validity of configuration changes and to run automated functional tests
- If a failure occurs in any step in the pipeline, the build is halted

```
1700 Testing unit
1701 ..... 63 / 968 ( 6%)
1702 ..... 126 / 968 ( 13%)
1703 ..... 189 / 968 ( 19%)
1704 ..... 252 / 968 ( 26%)
1705 ..... 315 / 968 ( 32%)
1706 ..... 378 / 968 ( 39%)
1707 ..... 441 / 968 ( 45%)
1708 ..... 504 / 968 ( 52%)
1709 ..... 567 / 968 ( 58%)
1710 ..... 630 / 968 ( 65%)
1711 ..... 693 / 968 ( 71%)
1712 ..... 756 / 968 ( 78%)
1713 ..... 819 / 968 ( 84%)
1714 ..... 882 / 968 ( 91%)
1715 ..... 945 / 968 ( 97%)
1716 ..... 968 / 968 (100%)
1717
1718 Time: 48 seconds, Memory: 82.00MB
1719
1720 OK (968 tests, 2784 assertions)
...
2290 TASK [drupal : Synchronize configuration] *****
2291 skipping: [lmp01.stage.pub.blue365deals.com]
2292
2293 TASK [drupal : Rebuild cache] *****
2294 changed: [lmp01.stage.pub.blue365deals.com]
2295 [WARNING]: Unable to use /usr/share/httpd/.ansible/tmp as temporary directory,
2296 failing back to system: [Errno 13] Permission denied:
2297 '/usr/share/httpd/.ansible'
2298
2299
2300 PLAY RECAP *****
2301 lmp01.stage.pub.blue365deals.com : ok=24  changed=15  unreachable=0  failed=0
2302
2303 [OK] Successfully deployed to stage
2304
2305
2306
2307 Done. Your build exited with 0.
```










Continuous Integration: Website

- Importing configuration changes, database updates and entity updates handled automatically during the deployment process
- Developers can enable the Configuration Readonly module in Production
- Improved site reliability and uptime



Smooth sailing!

Nothing to report here. Slack is up and running normally.

Current Status by Service	
 No Issues	 Maintenance
 Notice	 Incident
 Outage	
Login/SSO	
No issues	
	
Connections	
No issues	
	



Thank You!

Thank you for listening. If you have any questions feel free to contact us.



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