# Layout Builder and Drupal.offCanvas

An intro with extra tricks and no extra modules

DrupalSouth 2022 Brisbane

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The better the question. The better the answer. The better the world works.

#### About the Speaker



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Originally from Wagga Wagga NSW, I graduated From Charles Sturt University with Bachelor of IT before moving to Canberra. I have been developing websites with Drupal for over six years and with the same organisation – then Adelphi Digital now EY.

I have worked various technologies including, GovCMS Drupal 7/8/9, Migrate Plus, Apache SOLR, Docker/Lando, Active Directory and Hyper-V. Websites I have developed include the Defence International Training Centre and State of the Environment Report 2021.

I enjoy having coffee with friends, Saturday parkruns, playing soccer and board games.



#### Agenda

- 1. View modes
- 2. Drupal core field layout
- 3. Layout builder
- 4. Why not use Display suite?
- 5. Field groups & Revisions (a note about that...)
- 6. Customisation: Adding html classes
- 7. Customisation: Sections and their editing form
- 8. Drupal.offCanvas
- 9. Layout builder & Drupal.offCanvas
- 10. Demo
- 11. Questions

#### Timings

Overview - 26 minutes

Demo - 4 minutes

Questions: 5 minutes



#### View modes

A view mode is a way in that a specific layout is used to display a content entity in a specific context.

#### For example:

- On the homepage you could have a 'news' node showing only a title and a teaser of the body.
- But on its full page view, show it's title, an image and the full body.

#### Configurations that can be different per view mode:

- 1. Field visibility, order, formatter and grouping
- 2. Template
- 3. Which preprocess is run
- 4. And which display plugin is used (etc.)

View mode B

View mode A

https://www.drupal.org/docs/drupal-apis/entity-api/display-modes-view-modes-and-form-modes

#### **Entity View Display**

The original out-of the box way to display fields in a view mode. It's simple and no-frills.

#### Good:

Can show/hide/reorder fields

#### Bad

- Limited to only showing Field UI added configuration fields, can't add a block between instead of fields and can't repeat a field.
- Can't group fields in an html element without extra contributed modules or a template file override

#### Limited Workarounds

 Can't re-order extra fields, but can add current page node's field directly to the whole page's block layout (but only if ctools\_blocks is enabled - it comes with pathauto)



#### Layout builder

Introduced in 8.5 and marked stable in 8.7, Layout builder is a plugin to create and display layouts visually from the administration interface for a view mode.

#### Features:

- Can show/hide/reorder fields
- Can add any "block" as field on display between fields
- Can add a Drupal core views module block to be able to:
  - Group fields in a html element.
  - Show dynamic text etc.
- Allows a preview of the layout
- Can override the placement of fields of per entity (must use the same base layout)
- Can use in the GovCMS distribution



#### Display Suite (why not?)

Display Suite is a contributed module which provides a layout plugin for view modes.

Why not - an opinion: It's heavy handed, it's features are quite specific, has issues outstanding and its an extra module to upgrade with Drupal core.

#### Pros/Cons:

- Can show/hide/reorder fields
- Can show dynamic text via token plugin (but has caching issues) \*
- Can add any "block" as a field on display (but node ID context not isn't known.)
- Can group fields into a html element if also using contrib field\_group module
- No preview of layout
- Extra field logic is duplicated instead of reused (e.g. book navigation)
- Deprecated in GovCMS



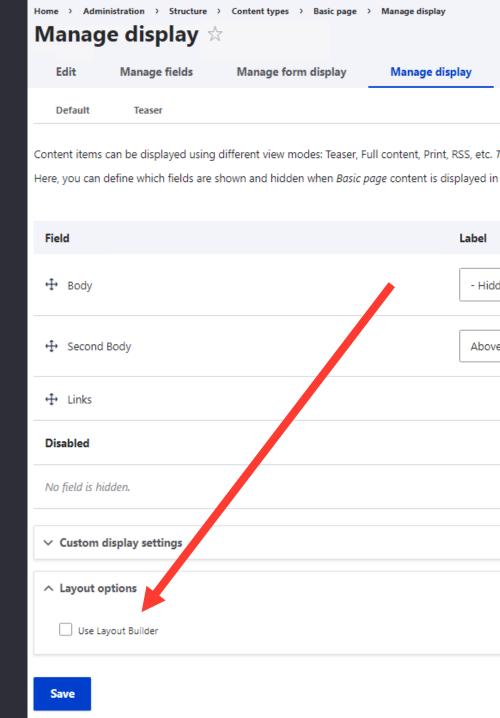
<sup>\*</sup> Has caching issues if using a Block display plugin without a Lazy Builder (e.g. context module)
https://www.drupal.org/project/context/issues/2919934 | https://www.drupal.org/project/ds/issues/2939322 | https://www.drupal.org/project/ds/issues/3174246

### Layout builder - Set for a node display

#### Example:

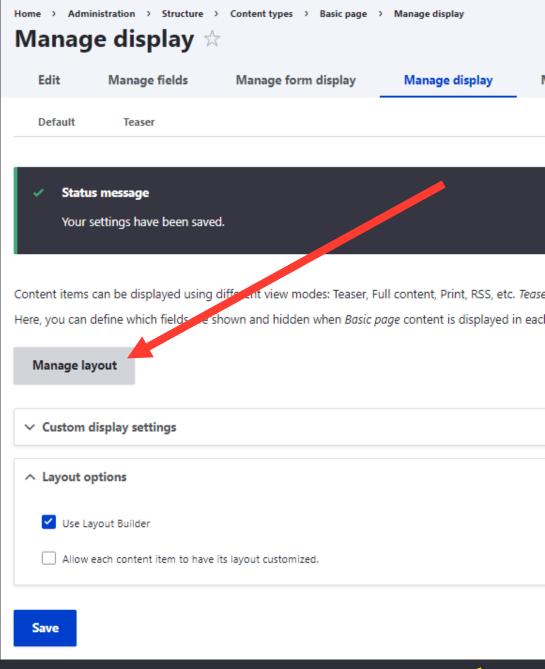
How to configure layout builder for the default view mode for Node:

- 1. Enable the Layout Builder module
- 2. Go to the default view mode
- 3. Check "Use Layout Builder"



# Layout builder - Manage layout

Once enabled, click "Manage layout"





# Layout builder -Editing screen

#### Dummy content:

Toggle "Show content preview" to switch between dummy content and field name

#### Reorder:

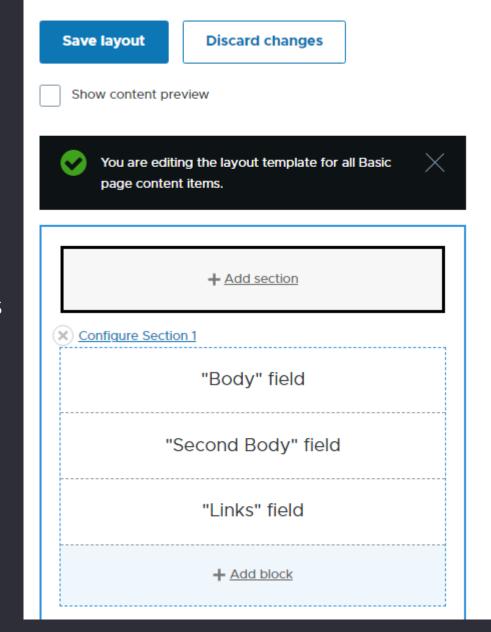
 Drag and Drop the dotted rectangles to re-order fields

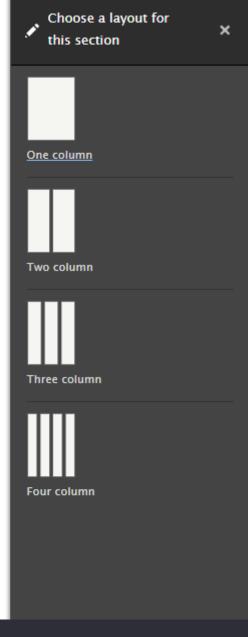
#### Add section

- Click "Add section" to add additional layouts to the view mode.
- Available view modes are shown on the right

#### Save layout

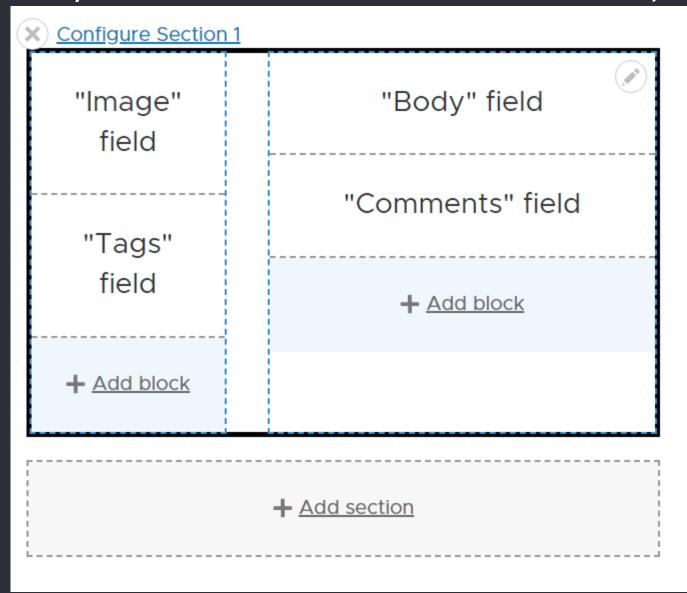
Click "save layout" to save the changes

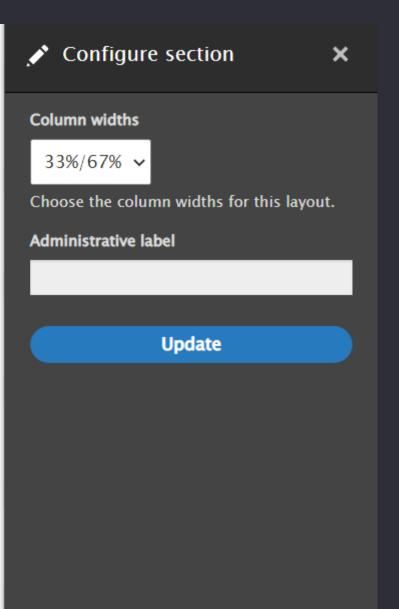






#### Layout builder - Two Column Example







### Field groups & Revisions (a note about that...)

Layout builder supports revisions for top level fields (hurray!)

Sometimes you want a HTML element around two or more elements, commonly referred to as a "field group" for the field\_group module that's is used, but it cannot be used as the field\_group module is not compatible with layout builder.

So without wanting to write a preprocess hook or override a twig template.... There are two common options:

- 1. Use a View block with Content ID for the block context. You also add extra custom html if you use the rewrite option but <u>retrieving the current revision isn't supported natively.</u>
- 2. Use the contributed ctools module since you are likely to have pathauto installed anyway and it's a dependency, to show the same entity in a different view mode in a nested fashion. This supports revisions too. (okay I lied, a small preprocess hook is required to hide the nested title, or you could CSS hide it)

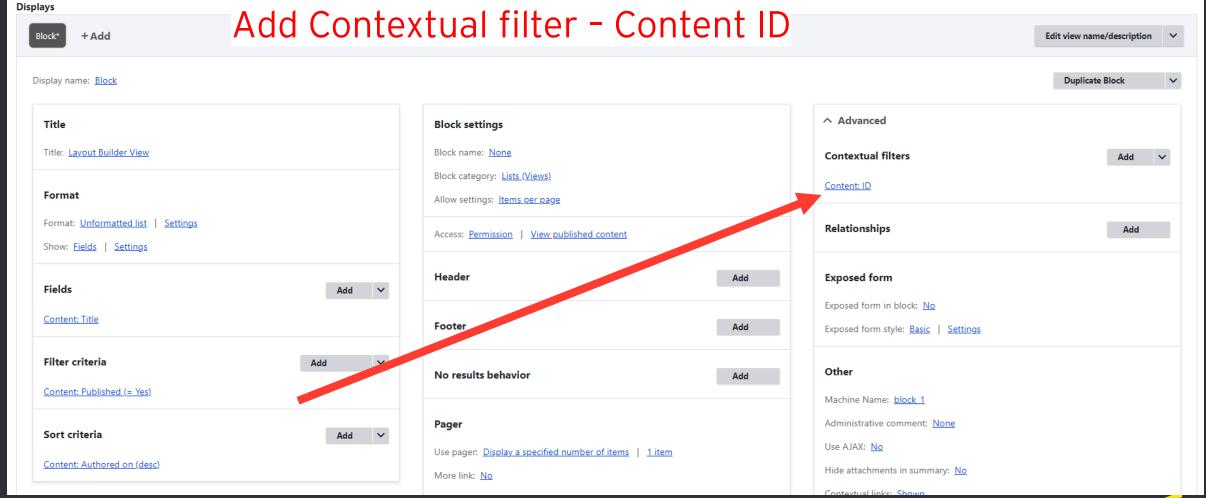
https://www.drupal.org/project/field\_group/issues/3176317



### Field groups & Revisions (view block setup)

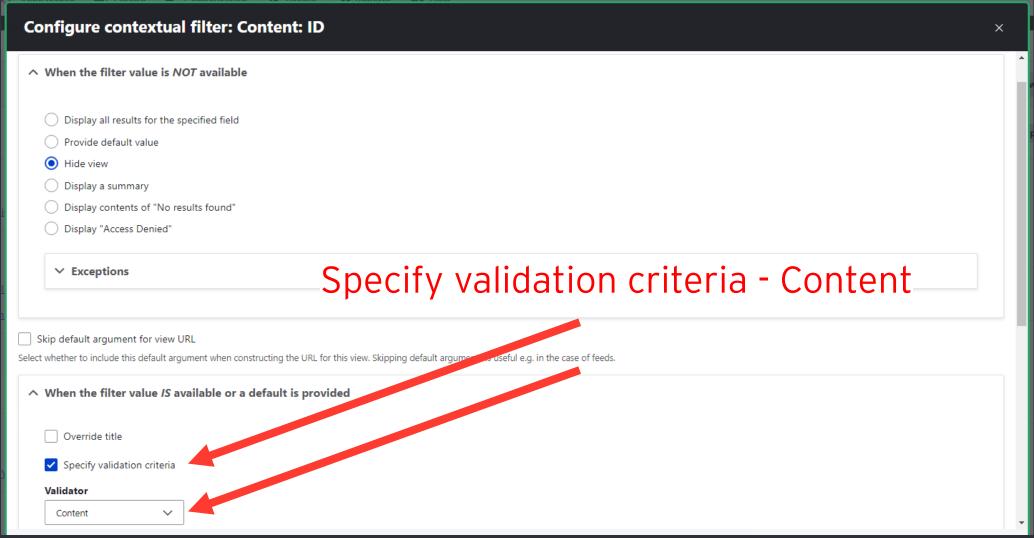
How to setup a view block with content ID context - use the same method as block layout.

=> Add "Content: ID" contextual filter.



# Field groups & Revisions (view block setup cont.)

Tick "Specify validation criteria" and select "Content" from the dropdown.



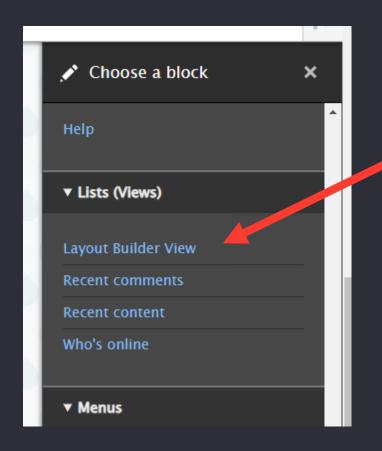


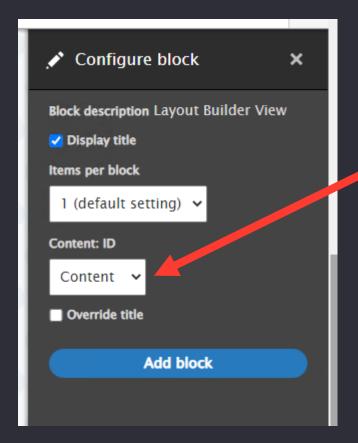
### Field groups & Revisions (view block setup cont.)

Then add the views block to the layout builder manage display screen.

Ensure the context of "Content" is selected to be passed.

My example view is called "Layout Builder view", the name is could be anything though.

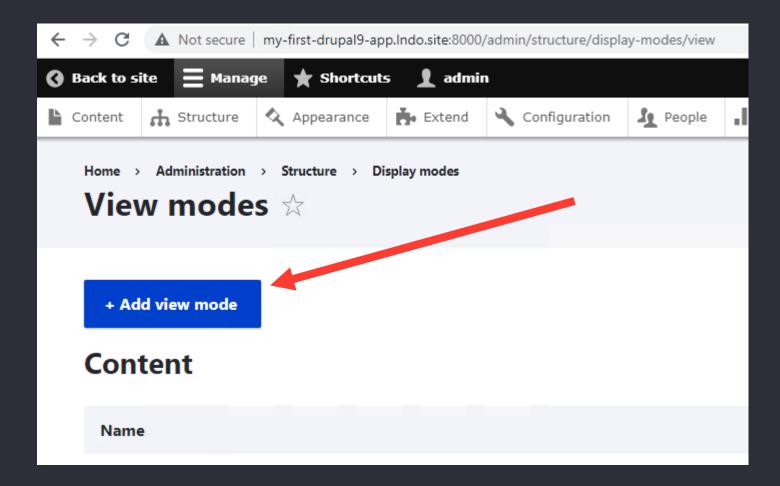






# Field groups & Revisions (entity view setup)

How to setup a field group via ctools module (because you have already pathauto installed right?) => First click "Add view mode".

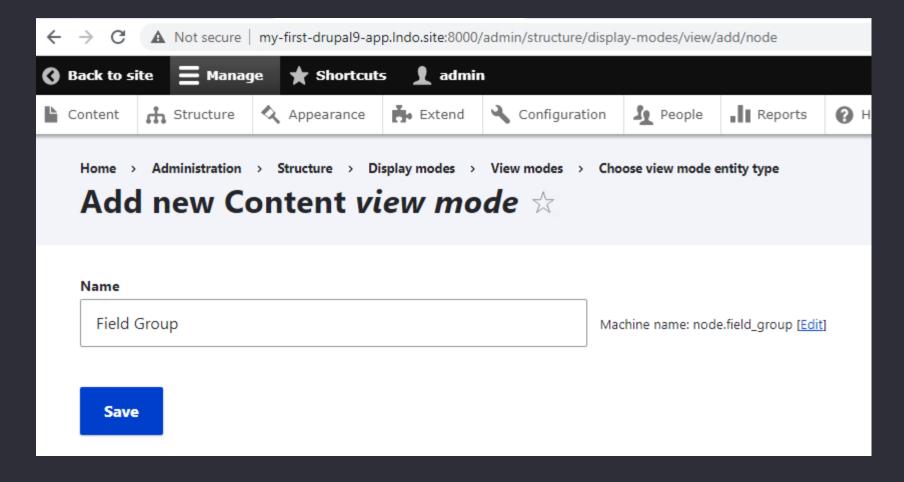




# Field groups & Revisions (entity view setup cont.)

Type the name of the new view mode.

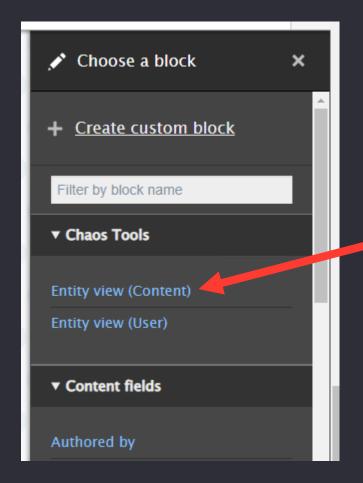
My example view mode is called "Field Group", the name is could be anything though.

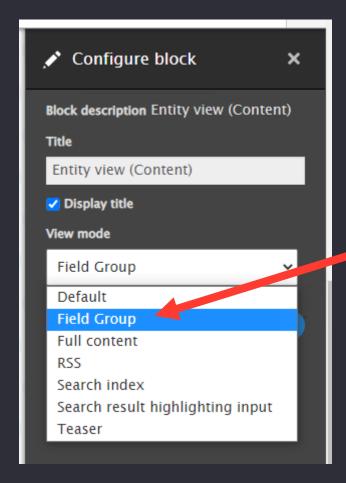


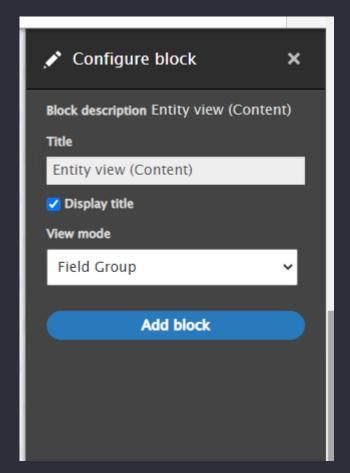


# Field groups & Revisions (entity view setup cont.)

On the layout builder screen, select the Chaos tools (ctools) block "Entity view (content)" and then set the view mode to your new one. (Don't forget to configure your new nested view mode!)









# Field groups & Revisions (entity view setup cont.)

How to Hide duplicate title caused by nesting a node withing a node.

Template: node--my-view-mode.html.twig | node--my-bundle--my-view-mode.html.twig

Preprocess hook: hook\_preprocess\_node()

```
8
     * Implements hook preprocess node().
10
    function my_theme_preprocess_node(&$variables, $hook) {
      $view_modes_to_hide_title = [
12
        'view mode to hide',
13
14
        'another view mode to hide',
15
      if (in_array($variables['view_mode'], $view_modes_to_hide_title)) {
16
17
        $variables['page'] = TRUE;
18
19
```



### Customisation: Adding html classes

HTML classes can be added to layout builder such the content type and view mode classes which are missing on each section. Otherwise CSS selectors can get unnecessarily long.

```
1 .node--type-page > .node__content > .layout {
2    /* CSS Rules */
3 }
```



```
5 .layout--node--type--page {
6   /* CSS Rules */
7 }
```



### Customisation: Adding html classes

How to add classes to sections:

Copy: web/core/modules/layout\_discovery/layouts/onecol/layout--onecol.html.twig
To: web/themes/[my\_theme]/templates/custom/layout/layout--custom--onecol.html.twig
(Can be in any location in templates folder but path must match layouts.yml "path" key location)

Create: web/themes/[my\_theme]/my\_front.layouts.yml

Create: web/themes/my\_theme]/src/Plugin/Layout/CustomDefaultLayoutPlugin.php

(Can be in any location in src folder but namespace must match layouts.yml "class" key)



Contents: web/themes/[my\_theme]/templates/custom/layout/layout--custom--onecol.html.twig *No changes required from the original template*.

```
{%
13
14 set classes = [
15 'layout',
16
    'layout--onecol',
17
18 %}
   {% if content %}
     <div{{ attributes.addClass(classes) }}>
20
       <div {{ region_attributes.content.addClass('layout__region', 'layout__region--content') }}>
21
         {{ content.content }}
22
23 </div>
24 </div>
   {% endif %}
```



Contents: web/themes/my\_front/my\_front.layouts.yml

```
layout custom onecol:
      label: 'Custom: One column'
      path: templates/custom/layout
      template: layout--custom--onecol
      class: '\Drupal\my_front\Plugin\Layout\CustomDefaultLayoutPlugin'
      library: layout_discovery/onecol
      category: 'Columns: 1'
      default_region: content
     icon map:
        - [content]
10
11
      regions:
12
        content:
         label: Content
13
```



```
<?php
 2
 3
    namespace Drupal\my front\Plugin\Layout;
 5
    use Drupal\Core\Entity\Display\EntityDisplayInterface;
    use Drupal\Core\Form\FormStateInterface;
 6
    use Drupal\Core\Form\SubformStateInterface;
    use Drupal\Core\Layout\LayoutDefault;
 8
    use Drupal\Core\Plugin\PluginFormInterface;
 9
10
    use Drupal\layout builder\DefaultsSectionStorageInterface;
11
12
13
     * Custom default layout class plugin.
14
15
    class CustomDefaultLayoutPlugin extends LayoutDefault implements PluginFormInterface {
16
      // Code.
```



```
17 ▼ /**
     * {@inheritdoc}
19
      public function defaultConfiguration() {
20 ▼
        return parent::defaultConfiguration() + [
21 ▼
          'custom_entity_bundle' => '',
22
          'custom_entity_type' => '',
23
          'custom_entity_view_mode' => '',
24
25
        ];
26
```



Contents: web/themes/my\_front/src/Plugin/Layout/CustomDefaultLayoutPlugin.php *I added an optional display only form item as the section form does not show which layout is being used.* 

```
28 ▼
       * {@inheritdoc}
30
      public function buildConfigurationForm(array $form, FormStateInterface $form state) {
31 ▼
        $form = parent::buildConfigurationForm($form, $form state);
32
        // Optional. Add section name, so we know what we are editing.
33
        $form['custom display only title'] = [
34 ▼
          '#type' => 'item',
35
          '#title' => $this->t('@title <br /> (%machine_name)', [
36 ▼
            '@title' => $this->getPluginDefinition()->getLabel(),
37
            '%machine name' => $this->getPluginId(),
38
          ]),
39
40
        return $form;
42
```



```
50
51
       * {@inheritdoc}
52
53
      public function validateConfigurationForm(array &$form, FormStateInterface $form state) {
        parent::validateConfigurationForm($form, $form state);
54
55
56
57
58
       * {@inheritdoc}
59
      public function submitConfigurationForm(array &$form, FormStateInterface $form_state) {
60
61
        parent::submitConfigurationForm($form, $form state);
        $extra properties = $this->getCustomExtraProperties($form state);
62
        $this->configuration['custom_entity_bundle'] = $extra_properties['bundle'];
63
        $this->configuration['custom_entity_type'] = $extra_properties['entity_type'];
64
        $this->configuration['custom_entity_view_mode'] = $extra_properties['view_mode'];
65
66
```



```
protected function getCustomExtraProperties(FormStateInterface $fs) {
106
         $return options = ['bundle' => '', 'entity type' => '', 'view mode' => ''];
107
         /** @var Drupal\Core\Form\SubformState $complete form state */
108
         $sub form state = ($fs instanceof SubformStateInterface) ? $fs : $fs->getCompleteFormState();
109
110
         $buid info = $sub form state->getBuildInfo();
111
         $args = isset($buid_info['args']) ? $buid_info['args'] : [];
         /** @var Drupal\layout builder\DefaultsSectonStorageInterface $section storage */
112
113
         $section storage = NULL;
114
         foreach ($args as $arg) {
115
           if ($arg instanceof DefaultsSectionStorageInterface) {
116
             $section storage = $arg;
117
             break:
118
119
```



```
if ($section_storage && ($context_values = $section_storage->getContextValues())) {
120 ▼
121 ▼
           if (isset($context values['display'])
             && ($context values['display'] instanceof EntityDisplayInterface)) {
122
             $return options['bundle'] = $context values['display']->getTargetBundle();
123
             $return_options['entity_type'] = $context_values['display']->getTargetEntityTypeId();
124
125
           if (isset($context_values['view_mode'])) {
126
             $return_options['view_mode'] = $context_values['view_mode'];
127
128
129
         return $return options;
130
131
```



```
62
       * {@inheritdoc}
63
64
65
      public function build(array $regions) {
        $build = parent::build($regions);
66
        // Extract short variable names.
67
68
        $entity_type = $this->configuration['custom_entity_type'];
        $bundle = $this->configuration['custom entity bundle'];
69
        $view mode = $this->configuration['custom entity view mode'];
70
        // Ensure array exists.
71
        $build['#attributes'] = $build['#attributes'] ?? [];
72
        $build['#attributes']['class'] = $build['#attributes']['class'] ?? [];
73
        // Add Classes.
74
        $build['#attributes']['class'][] = $this->getPluginDefinition()->getTemplate();
75
        $build['#attributes']['class'][] = 'layout';
76
77
        $build['#attributes']['class'][] = "layout--{$entity_type}";
        $build['#attributes']['class'][] = "layout--{$entity type}--type--{$bundle}";
78
        $build['#attributes']['class'][] = "layout--{$entity type}--view-mode--{$view mode}";
79
        return $build;
80
81
```



#### Customisation: Add field html classes

The html classes on the usual fields are not there. How to add them back:

```
8
      * Implements hook preprocess block().
10
    function my_front_preprocess block(&$variables, $hook) {
11
      // Layout builder logic.
12
      if (\Drupal::moduleHandler()->moduleExists('layout_builder') && isset($variables['plugin_id'])) {
13
        // Add classes to field block.
14
        if ((strpos($variables['plugin_id'], 'field_block:') === 0) && isset($variables['content']['#theme'])
15
           && ($variables['content']['#theme'] == 'field')) {
16
17
           $variables['attributes']['class'][] = "lb--field--name-{$variables['content']['#field name']}";
18
           $variables['attributes']['class'][] = "lb--field--type-{$variables['content']['#field_type']}";
19
           $variables['attributes']['class'][] = "lb--field--label-{$variables['content']['#label_display']}";
20
21
22
23
```



Additional options such custom extra HTML classes can be added to each layout builder section. Note: Layouts yml and template twig files are the same as before. PHP class declarations are the same.



```
27 ▼
       * {@inheritdoc}
28
29
      public function buildConfigurationForm(array $form, FormStateInterface $form state) {
30 ▼
        $form = parent::buildConfigurationForm($form, $form state);
31
        $configuration = $this->getConfiguration();
32
33 ▼
        $form['custom extra classes'] = [
          '#type' => 'textfield',
34
          '#title' => $this->t('Custom: Extra classes'),
35
          '#default value' => $configuration['custom extra classes'],
36
37
        ];
38
        return $form;
39
```



```
41
       * {@inheritdoc}
43
      public function validateConfigurationForm(array &$form, FormStateInterface $form_state) {
44
        parent::validateConfigurationForm($form, $form_state);
45
46
47
48
       * {@inheritdoc}
49
50
      public function submitConfigurationForm(array &$form, FormStateInterface $form_state) {
51
        parent::submitConfigurationForm($form, $form_state);
52
        $this->configuration['custom_extra_classes'] = $form_state->getValue('custom_extra_classes');
53
54
```

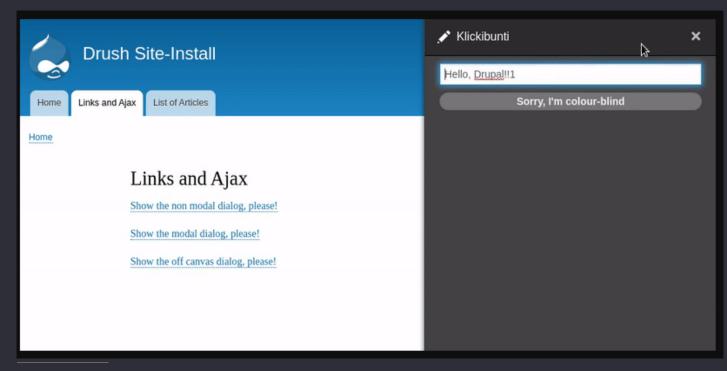


```
57 ▼
       * {@inheritdoc}
60 ▼
      public function build(array $regions) {
        $build = parent::build($regions);
61
62
63
        // Ensure array exists.
        $build['#attributes'] = $build['#attributes'] ?? [];
64
        $build['#attributes']['class'] = $build['#attributes']['class'] ?? [];
65
66
67
        // Add extra classes.
        if ($this->configuration['custom extra classes']) {
68
          $build['#attributes']['class'][] = $this->configuration['custom extra classes'];
69
70
71
        return $build;
72
```



#### Drupal.OffCanvas

Introduced in Drupal 8.5, Drupal.OffCanvas library is a great way to show additional information on a page via off-canvas style sidebar. There three types of Drupal dialogs supported: Modal, Non modal and Off canvas. Modal and non-modal are similar popup style dialogs, The logic to create all three are similar.



https://dri.es/how-to-use-drupal-8-off-canvas-dialog-in-your-modules https://www.drupal.org/docs/drupal-apis/ajax-api/ajax-dialog-boxes

19 October 2022



### Drupal.OffCanvas (a note about views before we get started)

There is an existing bug where a views page title will be returned as a render array then casted to plain text instead of being rendered to plain-text, so we must add a workaround to ensure the title is rendered before the response is retrieved.

```
use Drupal\my front\Render\Element\MyViewElement;
10
11
     * Implements hook element info alter().
12
    function my_front_element_info_alter(&$types) {
      if (isset($types['view'])) {
14
        $types['view']['#pre_render'] = $types['view']['#pre_render'] ?? [];
15
16
        // Fix title is an array in Off canvas dialog.
17
        // Remove when fixed.
18
        // @see https://www.drupal.org/project/drupal/issues/2663316
19
        $types['view']['#pre_render'][] = MyViewElement::class . '::preRender';
20
21
22
```

https://www.drupal.org/project/drupal/issues/2663316



### Drupal.OffCanvas (a note about views before we get started)

Contents: web/themes/my\_front/src/Render/Element/MyViewElement.php



### Drupal.OffCanvas (a note about views before we get started)

Contents: web/themes/my\_front/src/Render/Element/MyViewElement.php (cont.)

```
public static function preRender($element) {
20
        if (isset($element['#title']) && is_array($element['#title'])) {
21
          $title array = $element['#title'];
22
          $element['#title'] = \Drupal::service('renderer')->renderPlain($title_array);
23
          // Merge metadat such as #attached and #cache.
24
25
          BubbleableMetadata::createFromRenderArray($element)
            ->merge(BubbleableMetadata::createFromRenderArray($title_array))
26
            ->applyTo($element);
27
28
        return $element;
29
30
```



#### Drupal.OffCanvas & Layout Builder

Since View blocks can be used in layout builder, it's an easy win to show content via the off canvas dialog.

Example: views rewrite results. Assume 'tid' is a taxomony id from another field. URL query paramater is there for demonstration purposes.

https://dri.es/how-to-use-drupal-8-off-canvas-dialog-in-your-modules https://www.drupal.org/docs/drupal-apis/ajax-api/ajax-dialog-boxes



#### Drupal.OffCanvas & Layout Builder

Example: Override the link and use off canvas in a link field twig template.

```
{% extends "field.html.twig" %}
44 {# Ensure no crash on layout builder screen. #}
45 ▼ {% if element['#entity_type'] and element['#object'] %}
      {% for key, item in items %}
      {% set item = item merge({
47 ▼
          'content': link(
48 ▼
            item.content['#title'],
49
            'base:' ~ path('view.my_view.my_page', {'arg_0': tid}),
50
            create attribute()
51 ▼
52
              .addClass('use-ajax', 'my-extra-class')
53
              .setAttribute('data-dialog-type', 'dialog')
              .setAttribute('data-dialog-renderer', 'off_canvas')
54
55
          ) merge({
            '#attached': {'library': ['core/drupal.dialog.ajax', 'core/drupal.dialog.off_canvas']}
56
          })
57
     }) %}
58
        {% set items = ( {(key): item} + items ) %}
      {% endfor %}
60
      {% set items = items | reverse %}
61
    {% endif %}
```

Add HTML classes to the off canvas dialog and other elements in reaction it's activation. The variable "dialogOptions" will be shown on the next slide.

```
3 ▼ (function ($, Drupal) {
      Drupal.behaviors.MyThemeAddMyThingDialog = {
        attach: function (context, settings) {
          $(context).find('a.use-ajax.my-extra-class').once('my-extra-class-processed')
 6 ▼
            .each(function (element index, element) {
7 ▼
              $.each(Drupal.ajax.instances, function(index, instance) {
 8 ▼
                if ((!instance.element) | !$(element).is(instance.element)) {
10
                  return true;
11
                let classSuffixes = ['--mything'];
12
                // See next slide.
13
                let dialogOptions = {};
14
                // @see Drupal.ajax.bindAjaxLinks()
15
                // This built from the element data.
16
                instance.elementSettings.dialog = $.extend(true, instance.elementSettings.dialog, dialogOptions);
17
                // @see Drupal.Ajax().
18
19
                // @see web/core/misc/ajax.es6.js
20
                instance.options.data.dialogOptions = $.extend(true, instance.options.data.dialogOptions, dialogOptions);
21
              });
22
            });
23
24
    })(jQuery, Drupal);
```

The variable "dialogOptions".

```
Let dialogOptions = {
  'classes': {
                                $.map(classSuffixes, (e) => { return 'ui-dialog'.concat(e); }).join(' '),
    'ui-dialog':
    'ui-dialog-off-canvas':
                                $.map(classSuffixes, (e) => { return 'ui-dialog-off-canvas'.concat(e); }).join(' '),
                                $.map(classSuffixes, (e) => { return 'ui-dialog-titlebar'.concat(e); }).join(' '),
   "ui-dialog-titlebar":
   "ui-dialog-title":
                                $.map(classSuffixes, (e) => { return 'ui-dialog-title'.concat(e); }).join(' '),
   "ui-dialog-titlebar-close": $.map(classSuffixes, (e) => { return 'ui-dialog-titlebar-close'.concat(e); }).join(' '),
   "ui-dialog-content":
                                $.map(classSuffixes, (e) => { return 'ui-dialog-content'.concat(e); }).join(' '),
                                $.map(classSuffixes, (e) => { return 'ui-dialog-buttonpane'.concat(e); }).join(' '),
    "ui-dialog-buttonpane":
  is my thing: true,
 width: 450.
};
```



Add a HTML class to the body tag for purposes such as dimming the page.

```
(function ($, Drupal) {
      // Add body class when modal is open.
      $(window).on('dialog:beforecreate', function (e, dialog, $element, settings) {
       if (settings.is_my_thing) {
          $('body').addClass('modal-dialog-open--off-canvas--my-thing');
      });
      // Remove body class when modal is closed.
10
      $(window).on('dialog:beforeclose', function (e, dialog, $element) {
11
        let settings = $element.dialog('option');
12
        if (settings.is my thing) {
13
          $('body').removeClass('modal-dialog-open--off-canvas--my-thing');
14
15
16
      });
    })(jQuery, Drupal);
17
```



Can also react and change another element according to the sidebar width.

```
3 ▼ (function ($, Drupal) {
      // Can also change another element.
      $(window).on('dialog:aftercreate', function (e, dialog, $element, settings) {
        if (settings.is my thing) {
          // @see Drupal.offCanvas.afterCreate().
 8
          const eventData = { settings, $element, offCanvasDialog: this };
          $element.on('dialogContentResize.off-canvas', eventData, function (event) {
 9 ▼
            let settings = event.data.settings;
10
            const $element = event.data.$element;
11
            const $container = Drupal.offCanvas.getContainer($element);
12
13
            const width = $container.outerWidth();
            $('.another-element').css('right', width);
14
15
          });
16
17
      });
18
    })(jQuery, Drupal);
```

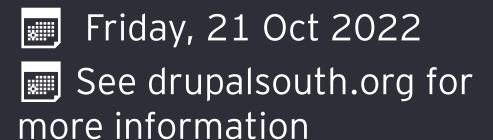


#### DEMO!

- Australian State of the Environment Report 2021
  - https://soe.dcceew.gov.au/overview/key-findings
  - Click "cite this page" on the right.
- Simple Local Development Site and code (for any questions)



# DrupalSouth 2022 sprint





## Questions?

Leave feedback at drupalsouth.org

Demo code is here: https://github.com/silverham/DrupalSouth2022Demo



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