Theming with Twig in Drupal 8

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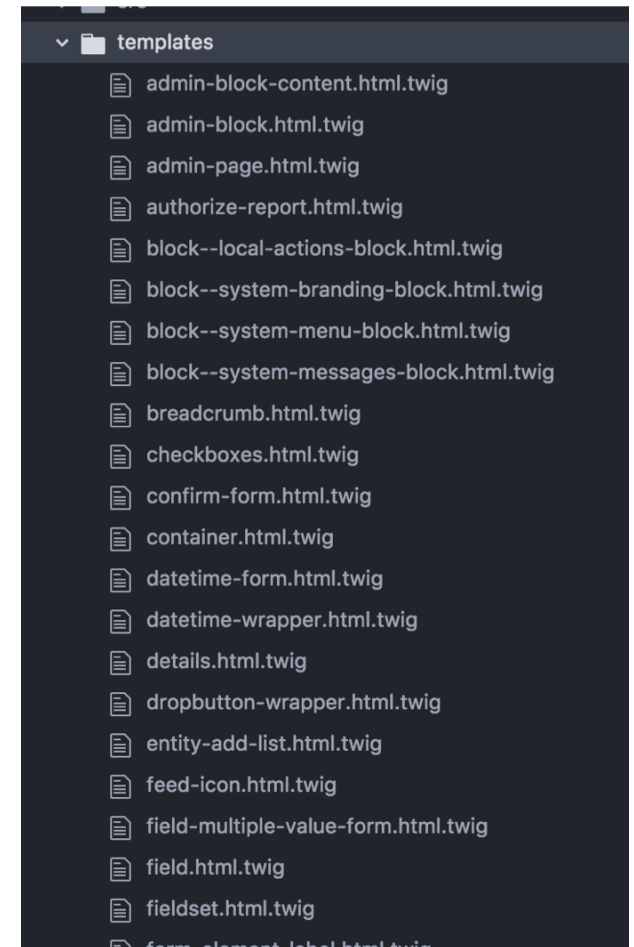Developer, Johnson & Johnson

What is Twig?

- From SensioLabs, the developers about Twig:
  - A templating engine for PHP, thus requiring PHP (v. 5.3.3 minimum)
    - Compiles to optimized PHP code
  - Uses its own syntax that is distinct from PHP syntax
  - Similar in syntax to Smarty, Django, and Jinja (other templating engines)
  - Part of the Symfony2 framework
  - Intended to be used for presentation, not programming
    - Separates programming logic from the presentation of data

Twig in Drupal 8

- Remember, Drupal 8 uses Twig version 1.x, not the latest Twig version 2.x, when doing research

- Twig is used in the view rendering of pages through template files, which have an extension *.html.twig*

- Twig is replacing PHPTemplate as the default templating system in Drupal 8
  - Twig has a different syntax versus PHP, but there are many equivalent components
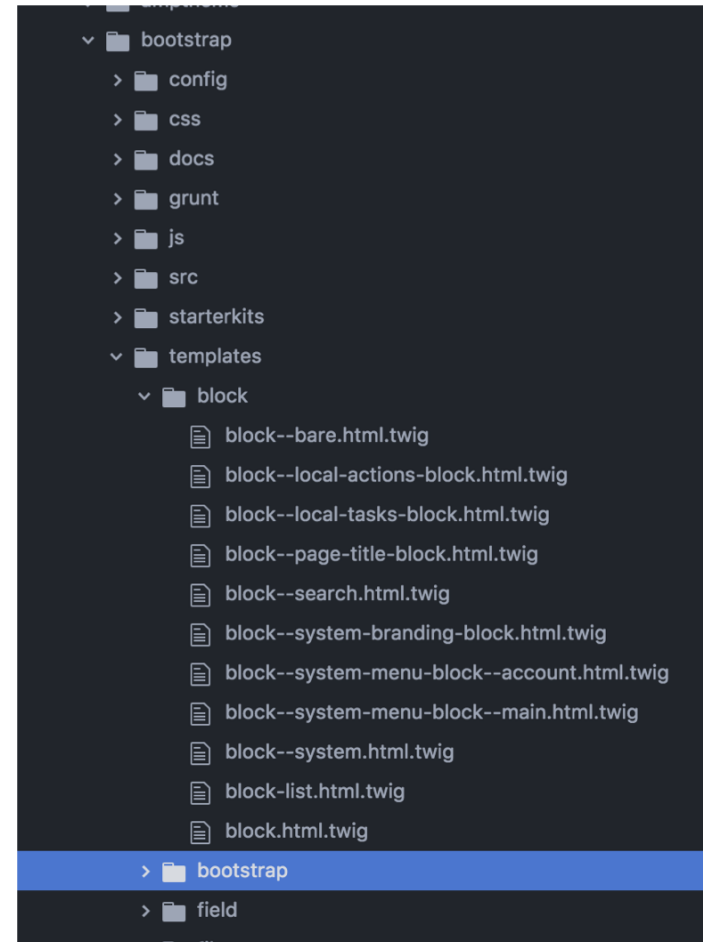
Template uses

- System – html.twig.html

- Page/node – page.twig.html

- Views – region.html.twig

- Blocks – block.html.twig

- Menus – menu.html.twig

- Fields – field.html.twig

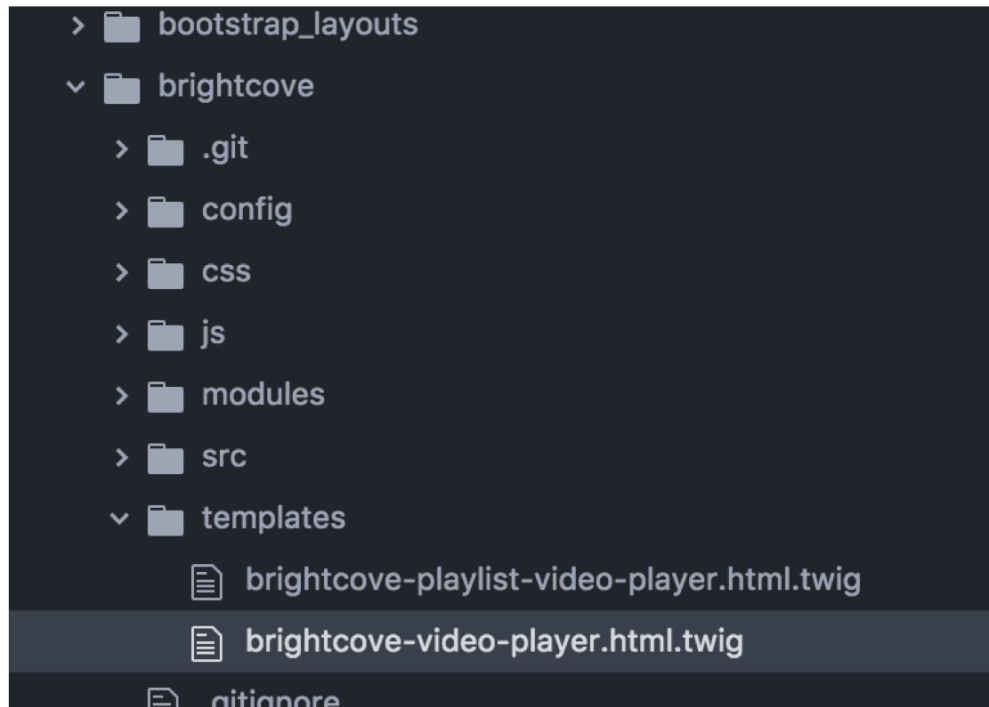- And many more! – some are represented to the right ->

Template locations

- Twig templates are used in themes and modules
  - Used in both core and in contributed/custom
- Template files are located in a *templates* directory inside the root directory of a module/theme. For instance:
  - (web)/themes/(contrib)/bootstrap/templates
  - (web)/modules/(contrib)/brightcove/templates
  - (web)/core/themes/classy/templates
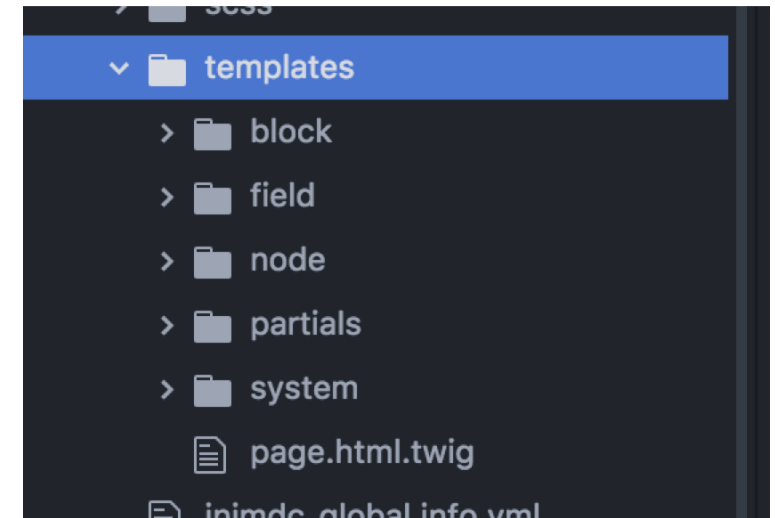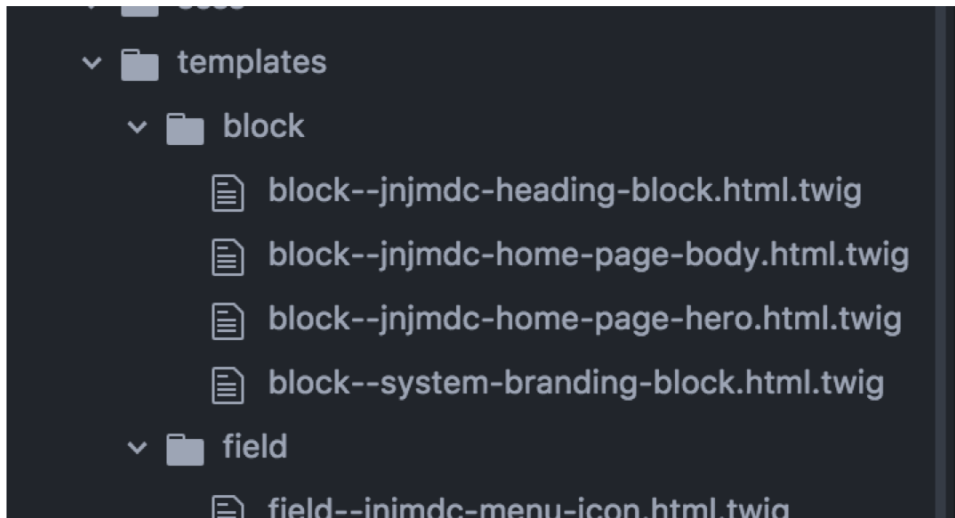 - (web)/core/modules/views/templates

Template locations

- Templates may also display custom Drupal elements that are added via a contributed module:

Template locations

- Additional directory structure inside *templates* is not necessary, but helpful

- The additional structure can group similar templates (such as all blocks) into a directory

Template locations

- Drupal core also contains templates needed to render pages, so if your theme and/or your parent theme does not contain a needed template, there is always a fallback
  - Template location is (web)/core/modules/system/templates
  - Also could be in (web)/core/modules/(module)

```
138
139  <!-- THEME DEBUG -->
140  <!-- THEME HOOK: 'page' -->
141  <!-- FILE NAME SUGGESTIONS:
142     * page--global.html.twig
143     x page.html.twig
144  -->
145  <!-- BEGIN OUTPUT from 'core/modules/system/templates/page.html.twig' -->
146  <div class="layout-container">
147
```

Template file names

- Drupal template names follow a pattern specific to the type of template being called and its attributes. For instance in a page:
  - page.html.twig – most basic
  - page--node.html.twig – page rendered from a node
  - page--node--1.html.twig – page rendered from a node of ID "1"
  - page--front.html.twig – page used as the front page
- For reference and additional scenarios, visit https://www.drupal.org/docs/8/theming/twig/twig-template-naming-conventions

Template naming suggestions

- In developing a theme, it is a good idea to turn on theme debugging
    - Gives theme hook information and, importantly, file name suggestions and what Twig file was loaded in page rendering

```
138
139  <!-- THEME DEBUG -->
140  <!-- THEME HOOK: 'page' -->
141  <!-- FILE NAME SUGGESTIONS:
142     * page--contact-us.html.twig
143     x page.html.twig
144  -->
145  <!-- BEGIN OUTPUT from 'profiles/jnjmdc/themes/jnjmdc_global/templates/system/page.html.twig' -->
146
```

- Name suggestions are in hierarchical order
- An 'X' is displayed next to the named Twig file actually used

Turn on debugging

- Look for a local development YAML file in (web)/sites, such as development.services.yml

```
 5 ∨    parameters:
 6          http.response.debug_cacheability_headers: true
 7 ∨        twig.config:
 8              debug: true
 9              auto_reload: true
10              cache: false
11 ∨    services:
```

- Make sure to activate in (web)/sites/default/settings.local.php

```
    /**
     * Enable local development services.
     */
    $settings['container_yamls'][] = DRUPAL_ROOT . '/sites/development.services.yml';
```

Template hierarchy

- File names run from specific to general (generally)
- Template files with the same name will load child to parent
- Even if you have a more "basic" template in your theme, if a parent has a more specific version Drupal will load it, not the child theme's template

```
136
137
138  <!-- THEME DEBUG -->
139  <!-- THEME HOOK: 'page' -->
140  <!-- FILE NAME SUGGESTIONS:
141     x page--global.html.twig
142     * page.html.twig
143  -->
144  <!-- BEGIN OUTPUT from 'themes/contrib/bootstrap/templates/system/page--global.html.twig' -->
145  HA!
```

Syntax

- {{ ... }} – "Say"
  - Print/echo a variable or result from an expression
  - Print/echo elements of an array or object
- {% ... %} – "Do"
  - Assign a variable/object/array
  - Conditionals
  - Loops
  - Extends
- {# ... #} – "Comment"
  - Comments
  - Docblock

Operators

- Logic
  - and, or, not
  - Group with ()
- Comparison
  - ==, !=, <, >, >=, and <=
  - starts with, ends with
- in
  - {% for key, element in array %}
- is
  - {% if prefix is not empty %}

Syntax Examples

- {{ content }}
- {{ item.url }}
- {% set heading_id = attributes.id ~ '-menu' %}
- {% for item in items %}
      {{ item.title }}
  {% endfor %}
- {% if menu_level == 0 %}
      {# Do something #}
  {% endif %}

Common Filters

- Translate
  - {{ 'string'|t }}
  - Return a translated string

- Clean Class (Clean ID)
  - {{ theme.settings.navbar_position|clean_class }} (clean_id)
  - Prepares the string to be a valid class name / ID

- Join
  - {{ head_title|safe_join(' | ') }}
  - Output each string with the supplied separator in between
  - Argument of '|' for the filter

Common filters

- Without
    - {{ items.previous.attributes|without('href', 'title', 'rel') }}
    - Takes elements of array and returns a copy of array w/o the elements specified
    - {{ content|without(jnjmdc_company_links') }}
    - Takes content/fields from a node and renders them w/o a specified field

Label	Machine name	Field type
Company Links	jnjmdc_company_links	Link
Company Logo	jnjmdc_company_logo	Image
Company Name	jnjmdc_company_name	Text (plain)
Email Support	jnjmdc_company_email	Email

Common filters and functions

- Filter chain
  - {{ item.content|first|lower }}
  - first and lower are common Twig filters
  - Filters are applied in the order they are written
- Many more filters
  - List at https://twig.symfony.com/doc/1.x/
- Block function
  - {% block content %}
    {% endblock %}

Drupal-specific Twig functions

- Common function used in Drupal:
  - link() – Used extensively in menu templates
  - path() – Used to generate a relative URL path
  - file_url() – Used to generate a relative path to a file, commonly an image or flat file
- Additional Drupal-specific Twig functions can be found at https://www.drupal.org/docs/8/theming/twig/functions-in-twig-templates
- Additional core Twig functions can be found at https://twig.symfony.com/doc/1.x/

Common uses of templates

- Menu (menu.twig.html)

```
1    {#
2    /**
3     * @file
4     * Default theme implementation to display
5     *
6     * Available variables:
7     * - menu_name: The machine name of the me
8     * - items: A nested list of menu items. Ea
9     *   - attributes: HTML attributes for the
10    *   - below: The menu item child items.
11    *   - title: The menu link title.
12    *   - url: The menu link url, instance of
13    *   - localized_options: Menu link localiz
14    *   - is_expanded: TRUE if the link has v
15    *     menu tree.
16    *   - is_collapsed: TRUE if the link has
17    *     that are not currently visible.
18    *   - in_active_trail: TRUE if the link is
19    *
20    * @ingroup themeable
21    */
22    #}
23    {% import  self as menus %}
```

```
3        {% if items %}
4            {% if menu_level == 0 %}
5                <ul{{ attributes }}>
6            {% else %}
7                <ul>
8            {% endif %}
9            {% for item in items %}
0                <li{{ item.attributes }}>
1                    {{ link(item.title, item.url) }}
2                    {% if item.below %}
3                        {{ menus.menu_links(item.below, attributes, menu_level + 1) }}
4                    {% endif %}
5                </li>
6            {% endfor %}
7            </ul>
8        {% endif %}
```

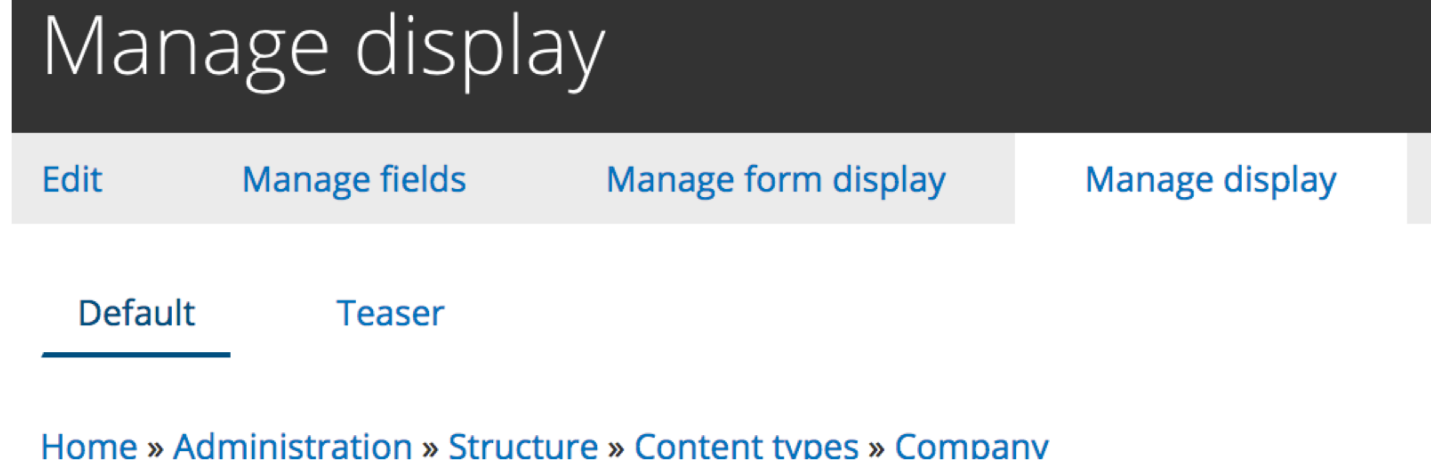# Common uses of templates

- Page (page.html.twig)

```
30    * Regions:
31    * - page.header: Items for the header region.
32    * - page.primary_menu: Items for the primary menu region.
33    * - page.secondary_menu: Items for the secondary menu region.
34    * - page.highlighted: Items for the highlighted content region.
35    * - page.help: Dynamic help text, mostly for admin pages.
36    * - page.content: The main content of the current page.
37    * - page.sidebar_first: Items for the first sidebar.
38    * - page.sidebar_second: Items for the second sidebar.
39    * - page.footer: Items for the footer region.
      * - page.breadcrumb: Items for the breadcrumb region.
```

```
48    <div class="layout-container">
49
50      <header role="banner">
51        {{ page.header }}
52      </header>
53
54        {{ page.primary_menu }}
55        {{ page.secondary_menu }}
56
57        {{ page.breadcrumb }}
58
```

Other options

- Use advances CSS layout techniques (flexbox, grid)
- Make another display

Other options

- If a view, add a field to tweak display

Resources

- Drupal 8
  - https://www.drupal.org/docs/8/theming/twig
- Twig
  - https://twig.symfony.com/doc/1.x/
- Symfony (2)
  - http://symfony.com/doc/2.7/templating.html

Thanks!
AND CLEAR CACHE!