Preprocess All The Things!

Slides and info at taco.ist

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Works for: CodeKoalas

Preprocess Functions

- What they do
- How to use them
- Helpful tools and tips to make your life easier

Privacy Policy

What are preprocess functions?

- Set up variables to be placed in a template
- Change how content is rendered
- Change what information is served up to the page
- Add custom logic before it hits the page

Turn on Debugging

In /sites/default/services.yml, modify under Twig: debug:false to be debug:true

```
twig.config:
    # Twig debugging:
    #
    # When debugging is enabled:
    # - The markup of each Twig template is surrounded by HTML comments that
    #   contain theming information, such as template file name suggestions.
    # - Note that this debugging markup will cause automated tests that directly
    #   check rendered HTML to fail. When running automated tests, 'debug'
    #   should be set to FALSE.
    # - The dump() function can be used in Twig templates to output information
    #   about template variables.
    # - Twig templates are automatically recompiled whenever the source code
    #   changes (see auto_reload below).
    #
    # For more information about debugging Twig templates, see
    # https://www.drupal.org/node/1906392.
    #
    # Not recommended in production environments
    # @default false
    debug: false
```

Turn on Debugging

This will now show templating suggestions and theme_hooks in comments throughout the html of your site

Useful Links:
https://www.drupal.org/docs/8/theming/twig/locating-template-files-with-debugging
https://www.drupal.org/docs/8/theming/twig/discovering-and-inspecting-variables-in-twig-templates

Theme Debug


```html
▼<section class="main-content">
  ▶<div class="highlighted">…</div>
   <a id="main-content"></a>
   <!-- THEME DEBUG -->
   <!-- THEME HOOK: 'region' -->
   <!-- FILE NAME SUGGESTIONS:
      * region--content.html.twig
      x region.html.twig
   -->
   <!-- BEGIN OUTPUT from 'themes/contrib/bootstrap/templates/system/region.html.twig' -->
  ▼<div class="region region-content">
```

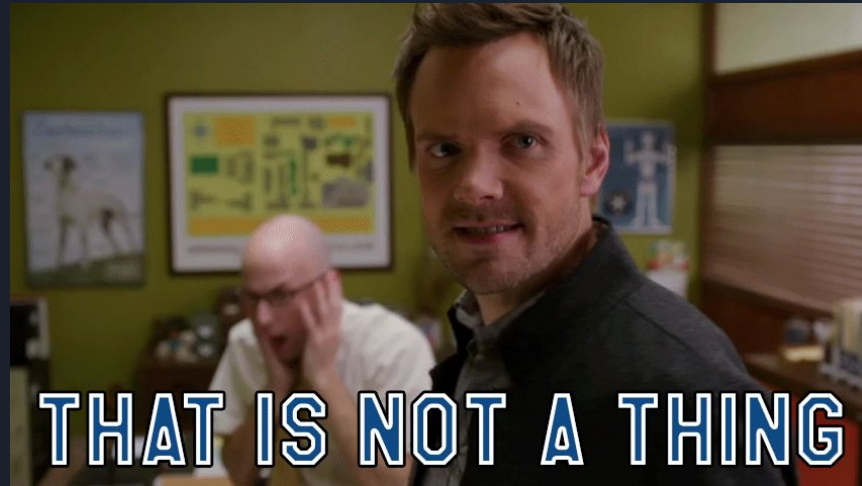# Theme Debug


```
<!-- THEME DEBUG -->
<!-- THEME HOOK: 'block' -->
<!-- FILE NAME SUGGESTIONS:
   * block--exposedformsearchpage.html.twig
   * block--views-exposed-filter-block--search-page.html.twig
   * block--views-exposed-filter-block.html.twig
   * block--views.html.twig
   x block.html.twig
-->
<!-- BEGIN OUTPUT from 'themes/contrib/bootstrap/templates/block/block.html.twig' -->
▶<section class="views-exposed-form bef-exposed-form contextual-region block block-views
page">…</section>
<!-- END OUTPUT from 'themes/contrib/bootstrap/templates/block/block.html.twig' -->
```

Theme Debug

```
<!-- THEME DEBUG -->
<!-- THEME HOOK: 'block' -->
<!-- FILE NAME SUGGESTIONS:
   * block--primary-bootstrap-page-title.html.twig
   x block--page-title-block.html.twig
   * block--core.html.twig
   * block.html.twig
-->
<!-- BEGIN OUTPUT from 'themes/contrib/bootstrap/templates/block/block--page-title-block.html.twig' -->
<!-- THEME DEBUG -->
<!-- THEME HOOK: 'page_title' -->
<!-- BEGIN OUTPUT from 'themes/contrib/bootstrap/templates/system/page-title.html.twig' -->
<div class="page-content-wrapper filters-active filters-enabled" style="min-height: 1334.5px;">
  <h1 class="js-quickedit-page-title page-header">Search</h1>
  <div class="views-element-container contextual-region form-group">…</div>
</div>
<!-- END OUTPUT from 'themes/contrib/bootstrap/templates/system/page-title.html.twig' -->
<!-- END OUTPUT from 'themes/contrib/bootstrap/templates/block/block--page-title-block.html.twig' -->
```

Template.php?

THAT IS NOT A THING

D8: themename.theme file rather than a template.php file as in D7

Try to keep logic in .theme file and out of your templates

Preprocess Function format

function themename_preprocess_HOOK(&$variables) {}

HOOK is the element you wish to preprocess

Preprocess basic things like nodes, pages, etc or get more in depth and preprocess fields, exposed filters or even forms

Use debugging to find the specific theme_hook to use

Preprocess radio button exposed filter

Find the theme_hook - bef_radios

function themename_preprocess_bef_radios(&$variables) {}

```
▼<details class="form-item type-of-resource" open="open">
    ::before
  ▶<summary role="button" aria-expanded="false" aria-pressed="false">…</summary>
    <!-- THEME DEBUG -->
    <!-- THEME HOOK: 'bef_radios' -->
    <!-- FILE NAME SUGGESTIONS:
       x bef-radios--search.html.twig
       * bef-radios.html.twig
    -->
    <!-- BEGIN OUTPUT from 'themes/custom/primary_bootstrap/templates/bef-radios--search.html.twig' -->
  ▼<div class="nano has-scrollbar">
    ▼<div data-drupal-selector="edit-resource" class="form-radios nano-content" style="right: -15px;">
```

Viewing Variables

- Devel Module
    - kint()
    - ksm() (similar to dpm)
- Xdebug

Devel module functions

- kint($variables);
- ksm($variables);
- Clear the cache
- Navigate to the page
- Profit

Kint
Ksm

```
$args array (1)
  array (25)
    'elements' => array (19)
    'theme_hook_original' => string (4) "node"
    'attributes' => array (6)
    'title_attributes' => array (1)
    'content_attributes' => array (1)
    'title_prefix' => array (0)
    'title_suffix' => array (1)
    'db_is_active' => bool TRUE
    'is_admin' => bool TRUE
    'logged_in' => bool TRUE
    'user' => Drupal\Core\Session\AccountProxy (4)
    'directory' => string (23) "themes/custom/crescendo"
    'view_mode' => string (4) "full"
    'teaser' => bool FALSE
    'node' => Drupal\node\Entity\Node (27)
    'date' => Drupal\Core\Render\Markup (1)
    'author_name' => Drupal\Core\Render\Markup (1)
    'url' => string (10) "/home-page"
    'label' => array (21)
    'page' => bool TRUE
    'content' => array (2)
    'author_attributes' => Drupal\Core\Template\Attribute (1)
    'display_submitted' => bool FALSE
    '#cache' => array (1)
    'theme_hook_suggestions' => array (2)
Called from <ROOT>/modules/contrib/devel/kint/kint.module:18 [kint()]
```

Kint
Ksm

Xdebug

- Add a breakpoint inside your function
- Clear cache
- Run Xdebug
- Navigate to the page
- Profit

Setting up Xdebug? Not that crazy

https://joshfabean.com/blog/xdebug/

Add Classes to element or wrapper

Add or modify classes inside $variables['classes_array"]

Add Classes to element or wrapper

```php
/**
 * Implements template_preprocess_html().
 *
 * Adds additional classes
 */
function mytheme_preprocess_html(&$variables) {

  if (isset($variables['elements']['#user'])) {

    // fetch user id / roll
    $account = $variables['elements']['#user'];
    $variables['user_id'] = $account->id();
    $user = User::load($variables['user_id']);
    $roles = $user->getRoles();

    //if user has role of admin, add role name to the body class for easy reference
    if (in_array('administrator', $roles)) {
      $variables['classes_array'][] = 'administrator';
    }
  }
}
```

Add exposed filter titles to wrapper classes

```php
/**
 * Implements hook_preprocess_details().
 */
function mytheme_preprocess_details(array &$variables) {

  if ($variables['element']['#type'] == 'radios' OR $variables['element']['#type'] == 'checkboxes') {
    $title = strtolower($variables['title']);
    // strip title of dashes and make lowercase to add to classes
    $title = preg_replace("/[\s_]/", "-", $title);
    $variables['attributes']['class'] .=  ' ' . $title;
  }
}
```

Preprocess a Field

```php
// Set blog taxonomy links to /blogs/term-name
if ($variables['field_name'] == 'field_blog_tags') {
    $tags_array = $variables['items'];
    $variables['blog_term_name'] = [];

    foreach ($tags_array as $key => $value) {
        $blog_term_name = $tags_array[$key]['content']['#title'];
        $blog_term_link = strtolower($blog_term_name);
        $blog_term_link = preg_replace("/[\s_]/", "-", $blog_term_link);
        $variables['blog_term_name'][$key]['link'] = $blog_term_link;
        $variables['blog_term_name'][$key]['title'] = $blog_term_name;
    }
}
```

Add Javascript to a Block

```
/**
 * Implements hook_preprocess_block()
 */
function mytheme_preprocess_block(&$variables) {
  $variables['#attached']['library'][] = 'crescendo/slickSlider';
}
```

Renderable Arrays

- Creating them
- Calling / using them in the twig template
- Why you would use them

Useful Links:
https://www.drupal.org/docs/8/api/render-api/render-arrays
https://api.drupal.org/api/drupal/core!lib!Drupal!Core!Render!theme.api.php/group/theme_render/8.2.x

Renderable Array

```php
$variables['content']['user_info'] = [
    '#type' => 'html_tag',
    '#tag' => 'div',
    '#attributes' => [
        'class' => [
            'user-info-wrapper',
            'small-12',
            'columns'
        ]
    ],
];
```

Renderable Array

```php
$variables['content']['user_info']['field_facebook_link'] = $variables['content']['field_facebook_link'];
$variables['content']['user_info']['field_twitter_link'] = $variables['content']['field_twitter_link'];
$variables['content']['user_info']['field_youtube_link'] = $variables['content']['field_youtube_link'];
```

≡ Variables

▼ $variables = {array} [16]
  ▼ elements = {array} [29]
    ▶ ≡ #user = {Drupal\user\Entity\User} [27]
      #view_mode = "full"
    ▶ #cache = {array} [5]
      #theme = "user"
      #weight = 0
    ▶ #pre_render = {array} [2]
      #entity_type = "user"
    ▶ #cache_properties = {array} [1]
    ▶ #contextual_links = {array} [1]
      #fieldgroups = {array} [0]
      #group_children = {array} [0]
    ▶ #attributes = {array} [1]
      #attached = {array} [0]
    ▶ user_picture = {array} [17]
    ▶ field_first_name = {array} [2]
    ▶ field_last_name = {array} [2]
    ▶ field_short_bio = {array} [2]
    ▶ field_paypal_email_address = {array} [2]
    ▶ field_youtube_link = {array} [2]
    ▶ field_twitter_link = {array} [2]
    ▶ field_google_link = {array} [2]
    ▶ field_facebook_link = {array} [2]
    ▶ field_soundcloud_link = {array} [2]
    ▶ field_influencer_picture = {array} [2]
    ▶ field_influencer_bio = {array} [2]
    ▶ field_composer_web_site = {array} [2]
      #sorted = true
      #children = ""
      #render_children = true
    theme_hook_original = "user"
  ▶ attributes = {array} [4]
    title_attributes = {array} [0]
    content_attributes = {array} [0]
    title_prefix = {array} [0]
  ▶ title_suffix = {array} [1]
    db_is_active = true
    is_admin = true
    logged_in = true
  ▶ ≡ user = {Drupal\user\Entity\User} [27]
    directory = "themes/custom/crescendo"
  ▶ content = {array} [13]
  ▶ #cache = {array} [1]
  ▶ #attached = {array} [1]
    user_id = "1"
▶ $_COOKIE = {array} [4]

Renderable Array - Twig

```twig
{% if content.user_info %}
    {{ content.user_info }}
{% endif %}
```

Theming Template Suggestions

- Allows you to add a specific template naming suggestion format
- Can be used globally or for specific use cases
- hook_theme_suggestions_HOOK_alter

Useful Links:
https://www.drupal.org/docs/8/theming/twig/working-with-twig-templates
https://www.drupal.org/docs/8/theming/twig/twig-template-naming-conventions
https://api.drupal.org/api/drupal/core%21lib%21Drupal%21Core%21Render%21the
me.api.php/function/hook_theme_suggestions_alter/8

```
Variables
    $hook = "field"
  ▼ $suggestions = {array} [5]
      0 = "field__string"
      1 = "field__title"
      2 = "field__node__landing_page"
      3 = "field__node__title"
      4 = "field__node__title__landing_page"
  ▼ $variables = {array} [2]
    ▼ element = {array} [20]
        #theme = "field"
      ▶ #title = {Drupal\Core\StringTranslation\TranslatableMarkup} [5]
        #label_display = "hidden"
        #view_mode = "full"
        #language = "en"
        #field_name = "title"
        #field_type = "string"
        #field_translatable = true
        #entity_type = "node"
        #bundle = "landing_page"
      ▶ #object = {Drupal\node\Entity\Node} [27]
      ▶ #items = {Drupal\Core\Field\FieldItemList} [7]
        #formatter = "string"
        #is_multiple = false
      ▶ 0 = {array} [3]
      ▶ #cache = {array} [3]
        #weight = -5
        #attached = {array} [0]
        #children = ""
        #render_children = true
      theme_hook_original = "field"
  ▶ $_COOKIE = {array} [4]
  ▶ $_GET = {array} [1]
  ▶ $_REQUEST = {array} [1]
  ▶ $_SERVER = {array} [62]
  ▶ $_SESSION = {array} [3]
  ▶ $GLOBALS = {array} [21]
  ▶ Constants
```

Theming Template Suggestions

```php
/**
 * Implements hook_theme_suggestions_container_alter().
 */
function mytheme_theme_suggestions_container_alter(array &$suggestions, array $variables) {
  $pieces = [
    $variables['element']['#type'],
    $variables['element']['#name'],
    $variables['element']['#display_id'],
  ];
  $suggestions[] = 'container__' . implode('_', $pieces);
}
```

Twig

- Variables will be called by their associative key "$variables['footer']" will be called "footer" in twig
- If thrown inside content - $variables['content']['footer'], you will use dot notation i.e. content.footer
- Can use if checks in twig {% if content.footer %}, etc

Modifying Forms

- Add a link to a form
- Be careful not to leave new form items vulnerable to XSS attack

```
Variables

▼ ╠ $form = {array} [24]
   ▶ ╠ #attributes = {array} [2]
   ▶ ╠ name = {array} [6]
   ▶ ╠ pass = {array} [4]
   ▶ ╠ actions = {array} [3]
   ▶ ╠ #validate = {array} [5]
   ▶ ╠ #cache = {array} [3]
     ⊞ #form_id = "user_login_form"
     ⊞ #type = "form"
   ▶ ╠ #attached = {array} [2]
     ⊞ #action = "form_action_p_pvdeGsVG5zNF_XLGPTvYSKCf43t8qZYSwcfZl2uzM"
     ⊞ #build_id = "form-PYTv-gL9OYJgI0YZwP64-d-sJAT_WJGLz3EggUe4Jt4"
   ▶ ╠ form_build_id = {array} [6]
   ▶ ╠ form_id = {array} [4]
     ⊞ #id = "user-login-form"
     ⊞ #method = "post"
   ▶ ╠ #theme_wrappers = {array} [1]
     ⊞ #defaults_loaded = true
     ⊞ #tree = false
     ╠ #parents = {array} [0]
   ▶ ╠ #submit = {array} [1]
   ▶ ╠ #theme = {array} [1]
   ▶ ╠ title = {array} [2]
   ▶ ╠ reset = {array} [2]
   ▶ ╠ capslock = {array} [2]
     ⊞ $form_id = "user_login_form"
 ▶ ≡ $form_state = {Drupal\Core\Form\FormState} [34]
 ▶ ╠ $_COOKIE = {array} [3]
 ▶ ╠ $_SERVER = {array} [69]
 ▶ ╠ $_SESSION = {array} [3]
 ▶ ╠ $GLOBALS = {array} [21]
 ▶ ◆ Constants
```

Modifying Forms

```php
function mytheme_form_alter(&$form, FormStateInterface $form_state, $form_id) {
  // Add sign up link to user_login_form
  if ($form_id == 'user_login_form') {
    $form['sign_up'] = [
      '#markup' => "<p class='sign-up-login-link'><a href='/user/register'>Sign Up</a></p>",
      '#weight' => 2
    ];
  }
}
```

Preprocess All The Things!

- What they do
- How to use them
- Helpful tools and tips to make your life easier

Tacos?

- Taco Joint
- Torchys
- Papasito's

HUZZAH!