

Assignment - Hooks and Themes

Ques 1 :- Write the filename where we use and write hooks.

ySoln :- usually the hooks are implemented and written in the .module file it basically it follows the structure as follow :-

drupal>> modules>> module(module in which hook is to be implemented)>>module.module.file

Ques 2:- Write any 10 hooks name and their definition which is used by drupal 8.

soln :-

1. [hook_block_access](#) :- the hook_block_access is basically located at location core/modules/block/block.api.php and is used to control access to a block instance
 2. [hook_cache_flush](#):- hook_cache_flush is basically located at core/core.api.php and is used to flush all the persistant and static caches
 3. [hook_cron](#) :- hooks_crone is basically located at core/core.api.php and is used to perform periodically actions like triggering of emails
 4. [hook_form_alter](#) :- hooks_form_alter is located at core/lib/Drupal/Core/Form/form.api.php and is used to perform alteration as soon as the form is rendered .
 5. [hook_file_validate](#):- stored at location core/modules/file/file.api.php the hook is used to check that weather the files meet at given criteria
 6. [hook_help](#) :- the hook hook_help is stored at location core/modules/help/help.api.php and is used to provide online user help
 7. [hook_mail](#):- stored at location core/core.api.php the hook_mail is used to pepare a message based on parameters
 8. [hook_entity_bundle_info](#) : - hooks_entity_bundle info is used to describe the bundles for entity type
 9. [hook_entity_insert](#):- core/lib/Drupal/Core/Entity/entity.api.php has a hook named ad hook_entity_insert that responds to creation of a new entity
 10. [hook_path_update](#) : stored at location core/modules/path/ path.api.php Responds to a path being updated.
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Ques 3 :- Create a custom module and use any 3 hooks and their implementation.

Sol:-

A) Creating a custom module :-

step 1: - go to website >> module

step 2 :- create a folder named custom

step 3:- create a folder named module1 , and create a file module1.info .yml and add the following code

```
name: 'module1'
type: module
description: 'my first module'
core: 8.x
package: 'Custom'
```

B) Implementing Hooks in custom module

step 1:- create a php file named as module1.module and add the code to it

implenenting first hook [hook_help](#) :-

code :-

```
/** Implements hook_help()
```

Display help and module information

@param path

which path of website we are using to display help

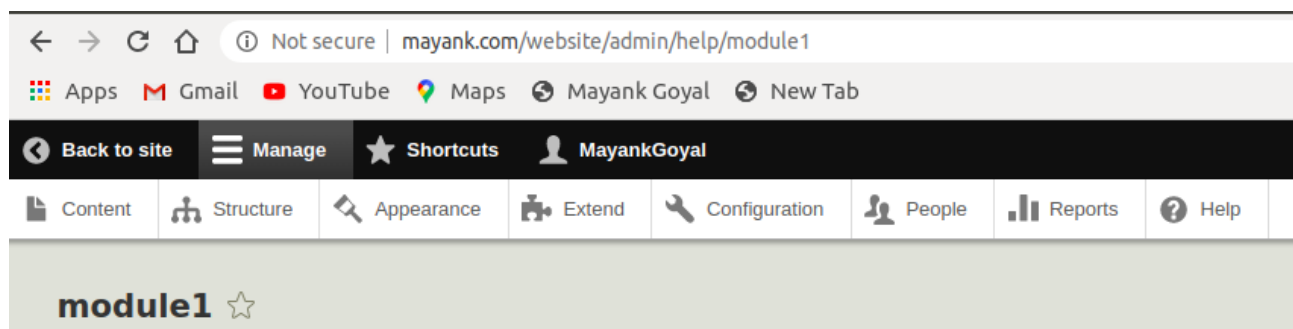
@param arg

Array that holda the current path as returned from agr() function

```
*/
function module1_help($path , $arg){

switch($path){
  case "help.page.module1":
    return ' '.t(" implemeneted my first hook "). ' ';
    break;
}
}
```

Output :-

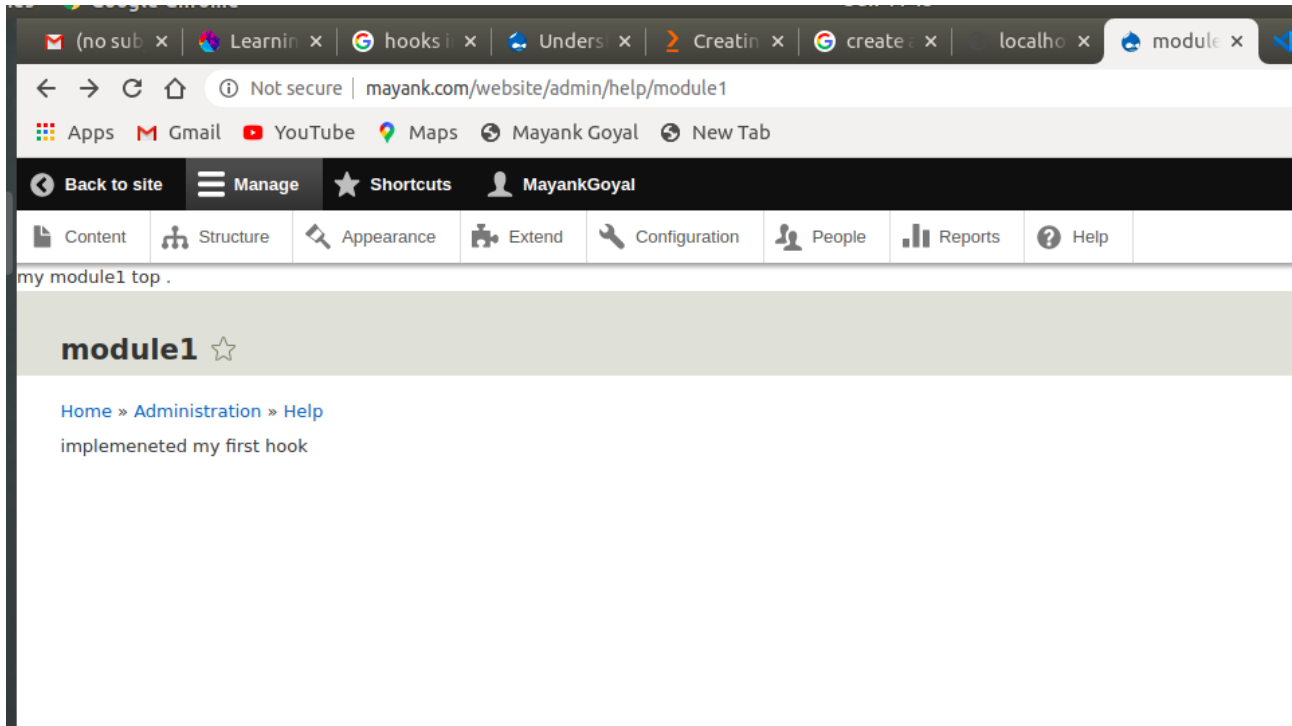


implenenting Second hook [hook_page_top](#)

code :-

```
function module1_page_top(array &$page_top){
    $page_top['module1']=[
        '#markup' => ' my module1 top . ',
    ];
}
```

output :-

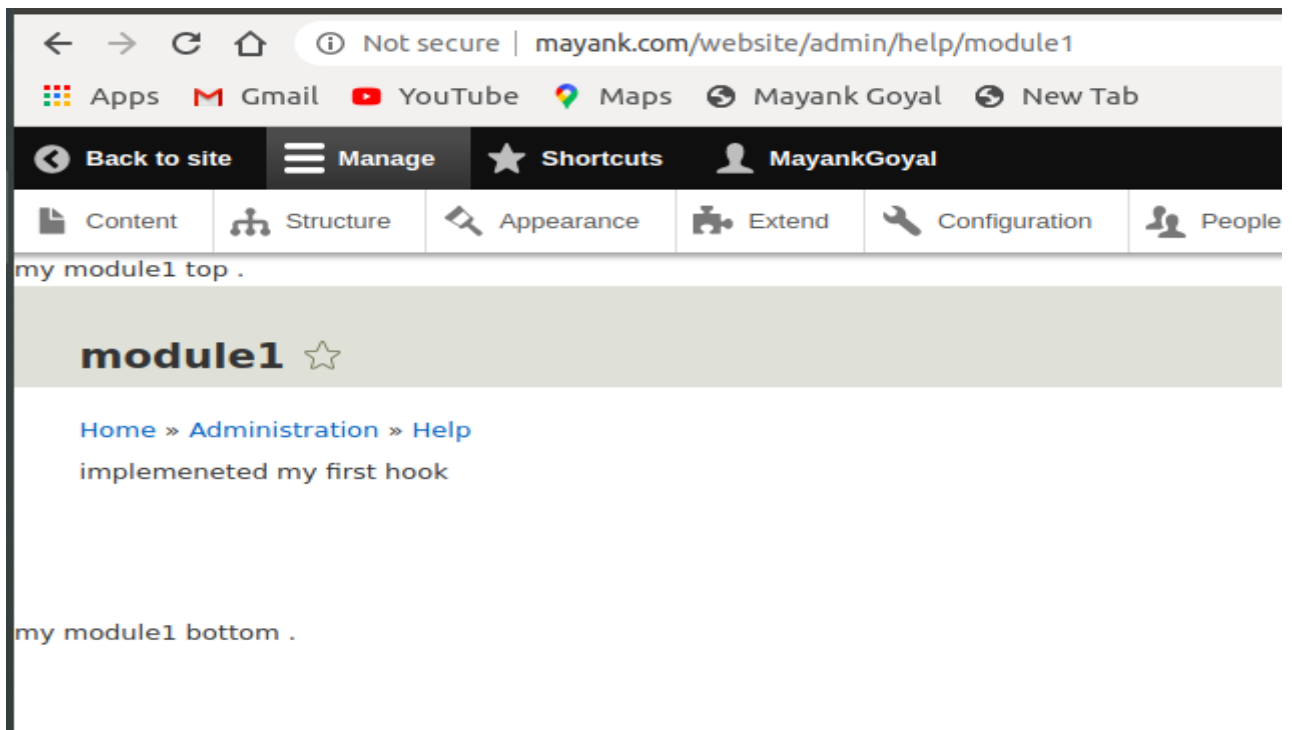


implenenting third hook [hook_page_bottom](#)

Code :-

```
function module1_page_bottom(array &$page_bottom){
    $page_bottom['module1']=[
        '#markup' => ' my module1 bottom . ',
    ];
}
?>
```

output :-



Ques 4 :- What is the use of .theme file.

Soln:- .theme file is an php file that contains theme hooks for preprocessing variables

Ques 5 :- What is theme() ?

Soln :- Drupal's theme system allows a theme to have nearly complete control over the appearance of the site, which includes both the markup and the CSS used to style the markup.

For this system to work, modules, instead of writing HTML markup directly, need to return "render arrays", which are structured hierarchical arrays that include the data to be rendered into HTML (or XML or another output format), and options that affect the markup.

Render arrays are ultimately rendered into HTML or other output formats by recursive calls to `drupal_render()`, traversing the depth of the render array hierarchy.

At each level, the theme system is invoked to do the actual rendering. See the documentation of `drupal_render()` and the Theme system and Render API topic for more information about render arrays and rendering.

Ques 6:- Why we use preprocess functions and how many type of preprocess function in drupal 8?

Soln :- Preprocess functions allow Drupal themes to manipulate the variables that are used in Twig template files by using PHP functions to *preprocess* data before it is exposed to each template. All

of the dynamic content available to theme developers within a Twig template file is exposed through a preprocess function. Understanding how preprocess functions work, and the role they play, is important for both module developers and theme developers.

Types of preprocess functions in drupal 8 :-

- **template_preprocess(&\$variables, \$hook):** Creates a default set of variables for all theme hooks with template implementations. Provided by Drupal Core.
- **template_preprocess_HOOK(&\$variables):** Should be implemented by the module that registers the theme hook, to set up default variables.
- **MODULE_preprocess(&\$variables, \$hook):** hook_preprocess() is invoked on all implementing modules.
- **MODULE_preprocess_HOOK(&\$variables):** hook_preprocess_HOOK() is invoked on all implementing modules, so that modules that didn't define the theme hook can alter the variables.
- **ENGINE_engine_preprocess(&\$variables, \$hook):** Allows the theme engine to set necessary variables for all theme hooks with template implementations.
- **ENGINE_engine_preprocess_HOOK(&\$variables):** Allows the theme engine to set necessary variables for the particular theme hook.
- **THEME_preprocess(&\$variables, \$hook):** Allows the theme to set necessary variable for all theme hooks with template implementations.
- **THEME_preprocess_HOOK(&\$variables):** Allows the theme to set necessary variables specific to the particular theme hook.

Ques 7 :- In which file we write the preprocess functions?

Soln :- the preprocess functions are usually return in the . theme file

Ques 8 :- What is template engine in drupal 8?
soln:-

In Drupal 8 [Twig replaces PHPTemplate as the default templating engine](#). One of the results of this change is that all of the theme_* functions and PHPTemplate based *.tpl.php files have been replaced by *.html.twig templating files.

Drupal loads templates based on certain naming conventions. This allows you to override templates by adding them to your theme and giving

Ques 9 :- Add one text field programatically at the last in any one content type with your name and save your name and add a validation for alphabet.

Soln :-

inside module>>custome>>module1

in file module1.module add the following code:-

```
function module1_install(){
  \Drupal\field\Entity\FieldStorageConfig::create(array(
    'field_name' => 'field_f5',
    'entity_type' => 'node',
    'type' => 'text',
    'cardinality' => -1,
  ))->save();
  \Drupal\field\Entity\FieldConfig::create([
    'field_name' => 'field_f5',
    'entity_type' => 'node',
    'bundle' => 'employee',
    'label' => 'Mayank',
  ])->save();

  entity_get_form_display('node', 'employee', 'default')
  ->setComponent('field_f5', array(
    'type' => 'text_textfield',
  ))
  ->save();

  entity_get_display('node', 'employee', 'default')
  ->setComponent('field_f5', array(
    'type' => 'text_default',
  ))
  ->save();

  //$field_config = \Drupal\field\Entity\FieldStorageConfig::loadByName('node', 'field_f5');

}
```

now unistall the module and again install the module

your field is now created :-

soln:-

Activities Google Chrome Mon 16:41

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Apps Gmail YouTube Maps Mayank Goyal New Tab

Home Manage Shortcuts Search MayankGoyal Devel

Content Structure Appearance Extend Configuration People Reports Help

+ Add Field

LABEL	MACHINE NAME	FIELD TYPE	OPERATIONS
Body	body	Text (formatted, long, with summary)	Edit
DOJ	field_doj	Date	Edit
Emp_ID	field_emp_id	Number (integer)	Edit
Images	field_images	Image	Edit
Mayank	field_f5	Text (formatted)	Edit
Name	field_name_	Text (formatted)	Edit
salary	field_salary	Number (integer)	Edit

my module1 bottom .

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Apps Gmail YouTube Maps Mayank Goyal New Tab

Manage Shortcuts Search MayankGoyal Devel

Content Structure Appearance Extend Configuration People Reports Help

Only images hosted on this site may be used in tags.

DOJ

dd/mm/yyyy --:--:--

salary

Images

Choose file No file chosen

One file only.
2 MB limit.
Allowed types: png gif jpg jpeg.

Show row weights

MAYANK

Text format Basic HTML

About text formats ?

Allowed HTML tags: <a href hreflang> <cite> <blockquote cite> <code> <ul type>

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