

Understanding Drupal



<http://bit.ly/understanding-drupal>
<http://bit.ly/understanding-drupal-feedback>

Session recording

<https://www.youtube.com/watch?v=02fvLzPSIjc>



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drupal.org/u/dinarcon



Drupal Nicaragua





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Coming soon! ¡Muy pronto!
Prochainement!



Hello

Hola

Bonjour



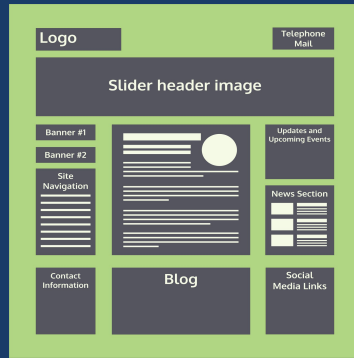
www.understanddrupal.com

Outline

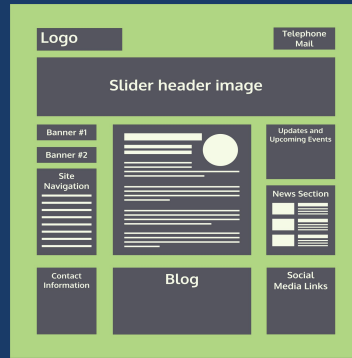


- Why Drupal?
- What is Drupal?
- Basic concepts
- Nodes
- Content types
- Fields
- Blocks
- Theme regions
- Views
- Users and permissions
- Menus
- Taxonomy

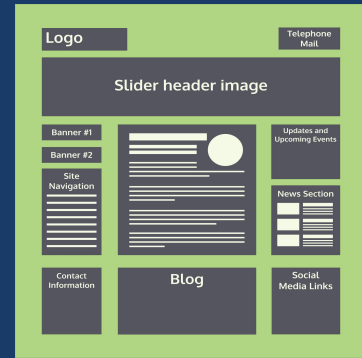
/



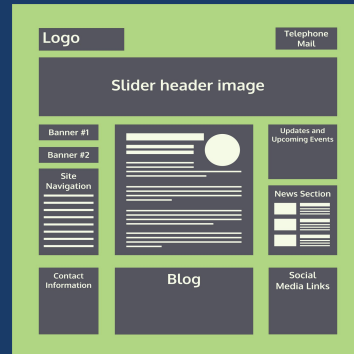
/about



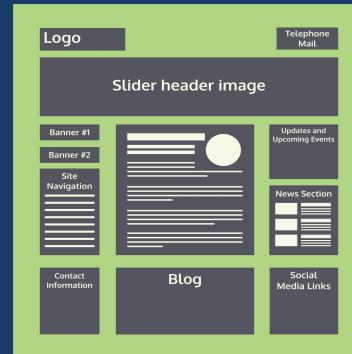
/team



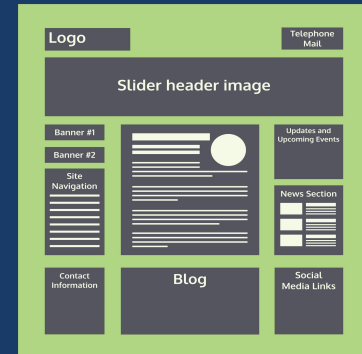
/services



/articles



/contact





Logo

Telephone
Mail

Slider header image

Banner #1

Banner #2

Site
Navigation

Updates and
Upcoming Events

News Section

Contact
Information

Blog

Social
Media Links


Why Drupal?

www.whitehouse.gov



the WHITE HOUSE PRESIDENT BARACK OBAMA


Contact Us Get Email Updates

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#AskDrH About Climate Change

Dr. John P. Holdren, the President's science advisor, wants to answer your questions about climate change.


FIND OUT MORE



#AskDrH

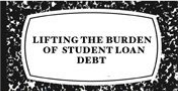
What are you looking for?

POPULAR TOPICS




Net Neutrality

President Obama is asking the FCC to protect net neutrality.



Making College Affordable

The President is making student debt more affordable and manageable to repay.



A Plan to Fight Climate Change

We have a moral obligation to lead the fight against carbon pollution.

TOP NEWS

November 13, 1:49pm
Getting Ready for Open Enrollment:

November 12, 7:48pm
President Obama Wraps Up Visit to China, Heads to Burma for Second Leg of His Trip

November 12, 3:06pm
You Can Check Out Health Care Plans and Prices for 2015 Right Now

@WHITEHOUSE

Health care open enrollment starts Saturday. See what plan works for you -- <https://t.co/c7Gci9XpHs> #GetCovered
<http://t.co/cTHHGSEJaj>

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The
Weather
Channel



79° Managua, ...



63° Santa Clar...



Search city, zip, or place



Managua, Nicaragua Weather

Observation as of 12:00 am CST



79°F

Feels Like 82°

Fair

Wind SE 5 mph

Humidity 83%

Dew Point 73°F

Pressure 29.80 in ↓

Visibility 6.2 mi

UV Index 0 out of 10

DAY	COND	TEMP	DESCRIPTION	PRECIP	WIND
TODAY		90°	PM Thunderstorms	50%	ESE 9 mph
TONIGHT		75°	Thunderstorms Early	60%	SE 5 mph
SUN		91°	Isolated Thunderstorms	30%	ESE 7 mph

www.grammy.com



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ALL ABOARD

The inaugural GRAMMY cruise has docked, but here is a list of nine upcoming music cruises
[Photo Gallery: GRAMMY Festival At Sea](#)

Countdown to GRAMMY Sunday

GUCCI
COUNTDOWN TO FEBRUARY 9, 2012
85 21 2 52
DAY HOUR MIN SEC
THE LITTLE RECORDING ACADEMY AWARDS

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PHOTOS

A horizontal row of five circular photographs. From left to right: a woman with long dark hair playing a guitar; a man with short dark hair singing into a microphone; a woman with blonde hair singing into a microphone; a person with bright pink hair wearing a camouflage jacket; and a man with long blonde hair playing a guitar.

[INICIO](#) ▾[COMPRAR](#) ▾[CONÓCEMOS](#)[VARIEDADES](#)[NARANJEA](#)[ATENCIÓN AL CLIENTE](#)[🛒 CESTA DE LA COMPRA\(1\)](#)

NUESTRA TIENDA ONLINE



NARANJAS



MANDARINAS



CAJAS MIXTAS



MIEL



MERMELADA



LIMONES

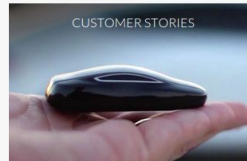
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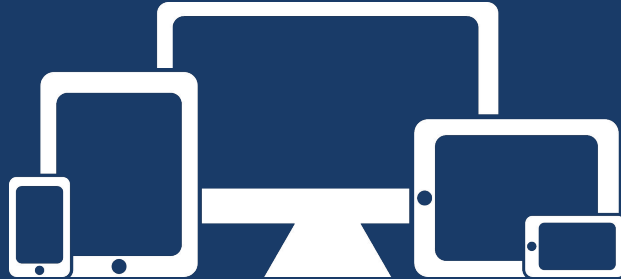
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Some features of these websites



What is Drupal?

Drupal as a CMS



Drupal is a content management system. It allows multiple people to participate in the creation of content. Also, it is possible to establish publication workflows, content revisioning, and granular access control over each piece of information.

Drupal as a Framework



Drupal is a development framework. Through custom code it is possible to extend Drupal beyond its pre-built functionality. For example, to create an ecommerce website or the backend of an application.

Drupal as a Community



- 200+ countries
- 150+ languages
- 30,000+ code contributors
- 97,000+ active users

Basic Concepts

Core



- The minimum required software to start a drupal project.
- It contains **modules** and **themes**.
- Serves as a framework to build on top of.



Modules

Add functionality



Themes

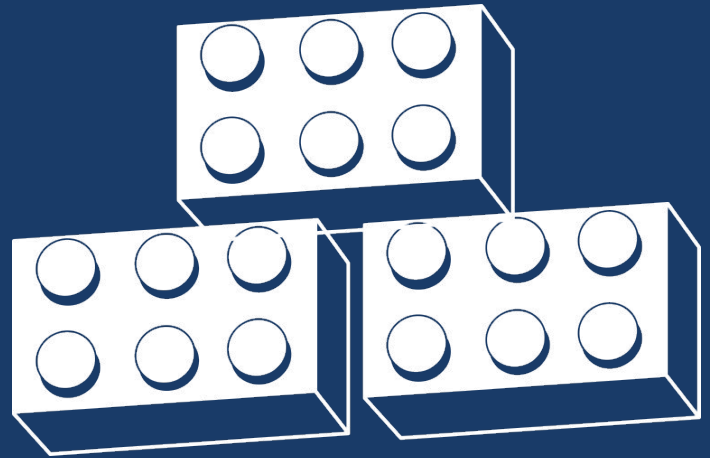
Control appearance



Contrib Repository



Community contributed **modules**, **themes**, and **distributions**. These extend Drupal beyond its pre-built functionality.



Content

What is a Node?




A piece of information that can tell a story by itself. It serves as a container of information used to describe something.





Altering views' results | Age x

← → ↺ agaric.com/blogs/altering-views-results



agaric We build online.

agaric

Altering views' results

Submitted by [Mauricio Dinarte](#) on Tue, 06/02/2015 - 09:46

The Views module provides a flexible method for Drupal site builders to present data. On a recent project we needed to filter a view's result set in a way we could not achieve by means of the module's UI. How do you programmatically alter a view's result set before rendering? Let's see how to do it using the hooks provided by the module.



CAN I HAVE



MORE WHEELS, PLZ?

memegenerator.net



Content Types

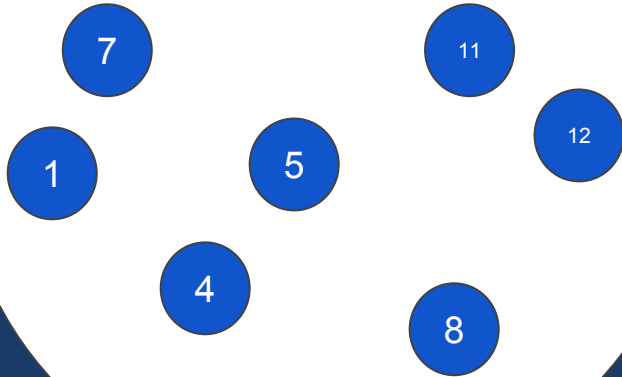


Abstraction that allows you to group nodes which share similar characteristics or describe the same idea. They serve as a template to collect information. Once collected, they ease the management of that information.

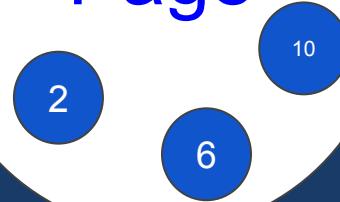
Every Node is of One Specific Content Type



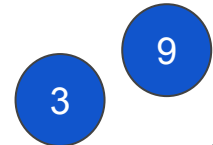
Article



Basic
Page



Car





Fields



They are **awesome!**



Status Photo / Video Life Event

What's on your mind?

Public ▼ Post

Compose new Tweet ×

What's happening?

GIF 140 Tweet

Free Text Is Not Easily Searchable



Status Photo / Video Life Event

What's on your mind?

Public

Compose new Tweet ×

What's happening?

140

Inconsistent Data Is Not Easily Searchable



November 19, 2015

Nov. 19, 2015

11/19/2015

11/19/15

11-19-15

Invalid Data Makes Drupal Cry



Age: -10 years old

Birthdate: February 31, 2000

Price: \$ 1.5 euros

Email: notareal.email

Phone: Hi, I am beautiful! :)

I want to cry



Free text

Inconsistent data

Invalid date



Drupal Can Enforce Validation Criteria



☒ Required field

▼ DEFAULT VALUE

Price

Minimum

Maximum

Prefix

Suffix

☐ Required field

► DEFAULT IMAGE

Allowed file extensions *

File directory

Maximum image resolution

× pixels

Minimum image resolution

× pixels

Maximum upload size

☒ Enable *A/t* field

☒ *A/t* field required

☐ Enable *Title* field

Drupal Can Enforce Validation Criteria



☒ Required field

▼ DEFAULT VALUE

Price

Minimum

Maximum

Prefix

Suffix

☐ Required field

► DEFAULT IMAGE

Allowed file extensions *

File directory

Maximum image resolution

 × pixels

Minimum image resolution

 × pixels

Maximum upload size

☒ Enable *A/t* field

☒ *A/t* field required

☐ Enable *Title* field

Happiness



Recipe to Make Drupal Happy



- 1) One field per piece of data to store.
- 2) Select the right type of field. Example: integer, decimal, image, phone, email, url, etc.

I ♥ you!

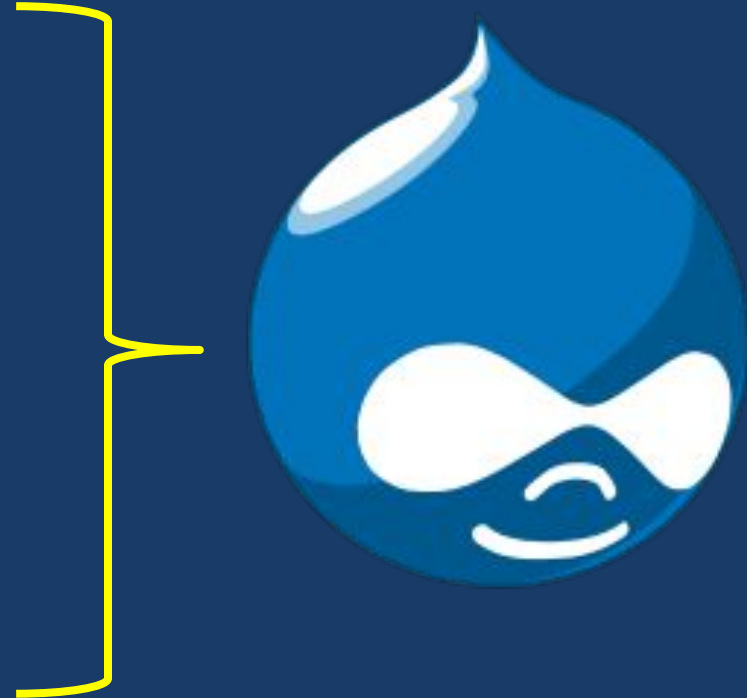


Collecting Data

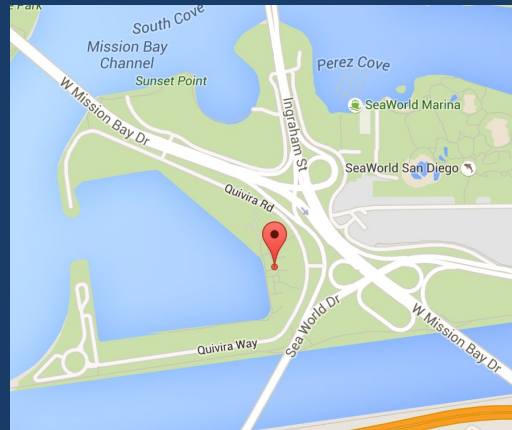
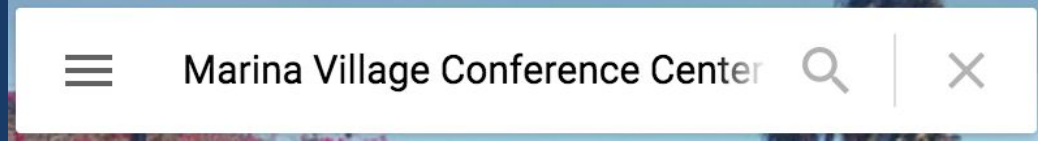
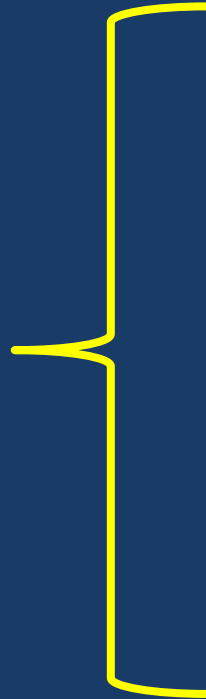


☰ Marina Village Conference Center 🔍 | ✕

☰ $32^{\circ}45'42.0''\text{N } 117^{\circ}14'02.1''\text{W}$ 🔍 | ✕



Presenting Data



Aggregating Data



Powered by Leaflet — Map data © OpenStreetMap contributors (Terms) served by Mapbox (Terms)

Find Drupal events with ease!

All Continents ▾ All Countries ▾

- Feb 25** SANDcamp 2016
United States, San Diego, CA
25-27. February 2016
- Feb 25** Fresno Drupal Meetup
United States, Fresno, CA
25. February 2016 08:25
- Feb 25** Free Training! Ready, Set, Drupal 8
United States, Waltham, MA
25-26. February 2016
- Feb 25** Drupal NYC Meetup
United States, New York, NY
25. February 2016 10:20
- Feb 25** San Gabriel Valley Meetup
United States, Monrovia, CA
25. February 2016 18:00
- Feb 25** Drupal Meetup: Introduction to Drupal 8 Module Development
Canada, Vancouver, BC
25. February 2016 18:30-20:00
- Feb 25** Drupal Cafe Lviv
Ukraine, Lviv, 46
25. February 2016 19:00
- Feb 25** Sessió d'introducció a Symfony per Marc Morera i Drupal&Beers el 25 de febrer
Spain, Barcelona

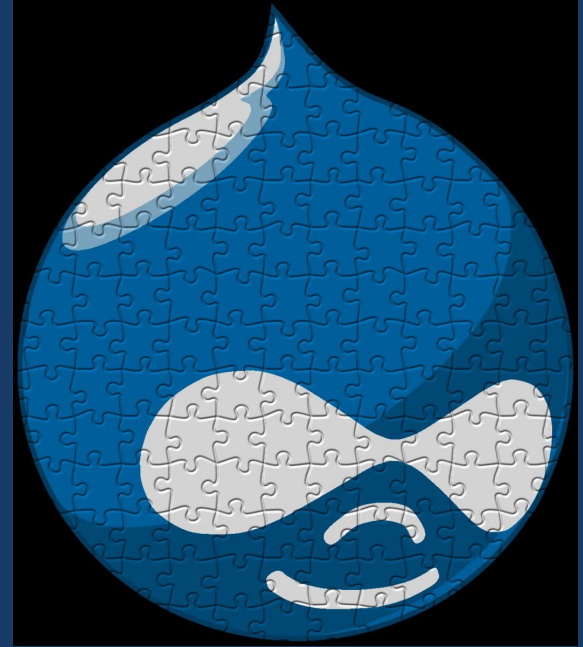
 **drupal** *Beta*

 **Drupalcon**  **Drupalcamp or Summit**  **User group meeting**  **Sprint**  **Training**  **Related event**

[about](#) • [tw](#) • [fb](#) [todo](#) • [changelog](#) 92 drupal events

Can Be Shown or Hidden Individually

Fields allow you to cherry-pick what information to show and what information to hide.



Example of Field Types



Agaric



Established in 2006

Agaric is a Drupal shop based in Boston, MA, USA with offices in Germany and Nicaragua. We are active members of the Drupal community. Our contributions include maintenance of many modules and organization of free training.

<http://agaric.com/>

ask@agaric.com

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Thu, 11/19/2015 - 08:00

Fields



They are used to **structure** the information that is being stored. They save **discrete** data which can be used for **displaying**, **filtering**, and **sorting** information. It is possible to enter and display a field's data in various ways.



Logo

Telephone
Mail

Slider header image

Banner #1

Banner #2

Site
Navigation

Updates and
Upcoming Events

News Section

Contact
Information

Blog

Social
Media Links

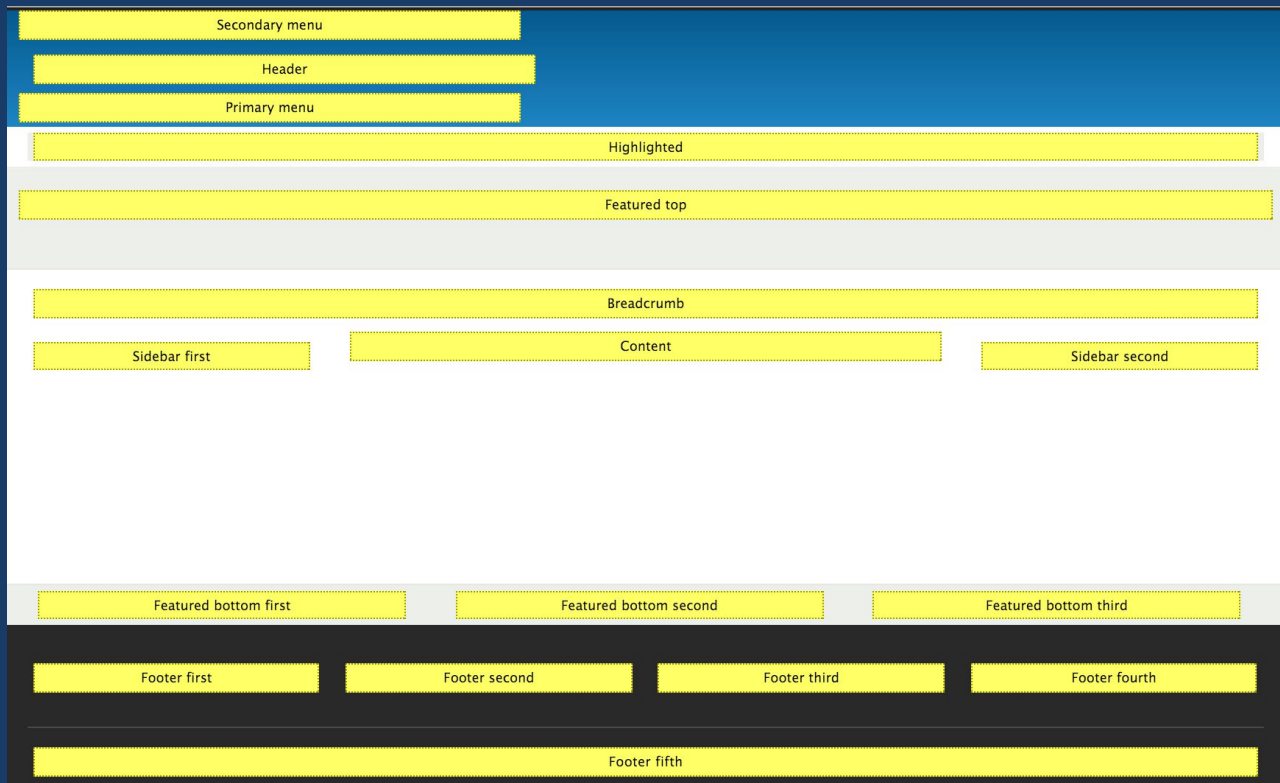
Block

What is a Block?



A container of extra information to display along the main content of your website. They are placed in a **theme region**.

Theme Region



Blocks Can Display Static or Dynamic Content



Static content

- Display the same data (almost) all the time. E.g.: copyright text or the banner of a sponsor.

Dynamic content

- Change its content regularly. E.g.: latest blog posts or newest products in the store.

Blocks Can Enforce Visibility Rules



Show or hide the block depending on certain conditions.

Language Not restricted	Content types <input type="checkbox"/> Article <input type="checkbox"/> Basic page
Content types Not restricted	
Pages Not restricted	
Roles Not restricted	

Blocks Can Be Aware of the Environment



Use data from the environment in which the block is displayed to **change the information to be presented.**

Examples:

- More posts from the same author.
- More vehicles on sale in the same city.

Blocks Can Have Fields



Similarly to content types, it is possible to define block types and add fields to them.

Example:

- A “special offer” block type with fields for title, description, image, and expiration date.

Views

What is a View?



A view is a **listing of information**. It can be a list of nodes, users, comments, taxonomy terms, files, etc.

Views scans your website using any criteria you specify and presents the results in format of your choice. For example, a HTML table, a RSS feed, a PDF document, a CSV document, an interactive map, an image slideshow, or a JSON representation to be used as a REST endpoint.



Random car

M000505 - 2008 Toyota Yaris



[Read more](#)

Search



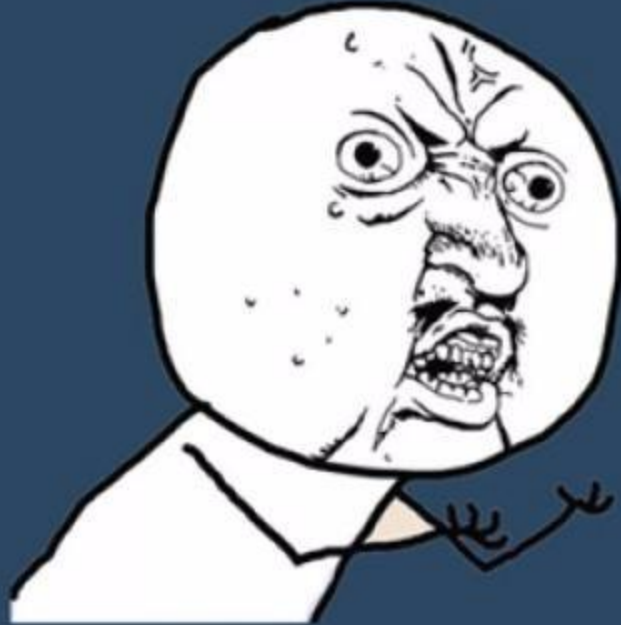
Cars

Year: - Any - ▼ Make: - Any - ▼ Model: - Any - ▼ Sort by: Year ▼ Order: Desc ▼

Apply

ID	Image	Color	Transmission	Fuel
M000123 - 2014 Toyota Corolla		White	Automatic	Gasoline
M909522 - 2013 Tesla Model S		Red	Automatic	Electric
M3075681 - 2013 Mercedes S500		Black	Manual	Gasoline
M1463982 - 2011 BMW 535i		Black	Automatic	Gasoline
M000505 - 2008 Toyota Yaris		Silver	Manual	Gasoline

WHY SO MUCH



THEORY?

Drupal Loves Nests



Markup



```
▼ <div id="page">
  ▶ <header id="header" class="header" role="banner" aria-label="Site header">...</header>
  ▶ <div class="highlighted">...</div>
  ▼ <div id="main-wrapper" class="layout-main-wrapper layout-container clearfix">
    ▼ <div id="main" class="layout-main clearfix">
      ▶ <div class="region region-breadcrumb">...</div>
      ▼ <main id="content" class="column main-content" role="main">
        ▼ <section class="section">
          <a id="main-content" tabindex="-1"></a>
          ▼ <div class="region region-content">
            ▶ <div id="block-bartik-page-title" class="contextual-region block block-core block-page-title-block">...</div>
            ▶ <div id="block-bartik-local-tasks" class="contextual-region">...</div>
            ▼ <div id="block-bartik-content" class="block block-system block-system-main-block">
              ▼ <div class="content">
                ▼ <article data-history-node-id="1" data-quickedit-entity-id="node/1" role="article" class="contextual-region
                node node--type-article node--promoted node--view-mode-full clearfix" about="/node/1" typeof="schema:Article"
                data-quickedit-entity-instance-id="0">
                  ▶ <header>...</header>
                  ▼ <div class="node__content clearfix">
                    ▼ <div property="schema:text" data-quickedit-field-id="node/1/body/en/full" class="clearfix text-formatted
                    field field--name-body field--type-text-with-summary field--label-hidden field__item quickedit-field">
                      <p>Nests FTW!</p>
                      ::after
                    </div>
```

Render Arrays



✓ •

Found 5 elements

```
... (Array, 29 elements)
  page (Array, 22 elements)
    #show_messages (Boolean) TRUE
    #theme (String, 4 characters ) page
    #theme_wrappers (Array, 1 element)
    #type (String, 4 characters ) page
    content (Array, 4 elements)
    sidebar_first (Array, 5 elements)
    system_navigation (Array, 6 elements)
    5 (Array, 7 elements)
      #theme (String, 21 characters ) menu_link__navigation
      #attributes (Array, 1 element)
      #title (String, 11 characters ) Add content
      #href (String, 8 characters ) node/add
      #localized_options (Array, 0 elements)
      #below (Array, 0 elements)
      #original_link (Array, 45 elements)
      menu_name (String, 10 characters ) navigation
```


Concepts





Theme region

Block

View

Node

Field



Logo

Telephone
Mail

Slider header image

Banner #1

Banner #2

Site
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Updates and
Upcoming Events

News Section

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Blog

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Media Links

[Back to site](#) [Manage](#) [Shortcuts](#) [admin](#)

[Content](#) [Structure](#) [Appearance](#) [Extend](#) [Configuration](#) [People](#) [Reports](#) [Help](#)

Structure ☆

[Home](#) » [Administration](#)

➤ **Block layout**

Configure what block content appears in your site's sidebars and other regions.

➤ **Comment types**

Manage form and displays settings of comments.

➤ **Contact forms**

Create and manage contact forms.

➤ **Content types**

Create content types and manage their default settings.

➤ **Display modes**

Configure what displays are available for your content and forms.

➤ **Menus**

Manage menus and menu links.

➤ **Taxonomy**

Manage tagging, categorization, and classification of your content.

➤ **Views**

Manage customized lists of content.



User

What is a User?



A visitor to the website. Depending on who is visiting the website it is possible to change the information they see.


Drupal can handle multiple users which makes account credential sharing among multiple people unnecessary. This is useful to keep track of changes to the website.



Mauricio Dinarte | Agaric

agaric.com/people/mauricio-dinarte

Mauricio Dinarte



Mauricio Dinarte is a passionate Drupal developer, consultant, and trainer with over 7 years of web development experience. After completing his BS in Computer Science, graduating with the highest GPA among 181 students, he completed a Masters in Business Administration.

Mauricio started his [Drupal journey](#) in 2011 and fell in love with Drupal right away. Through the years, he has worked on projects of large scale playing different roles such as site builder, themer, module developer, and project manager. He has great experience leveraging various core and contrib APIs, using and customizing Drupal distributions like Open Outreach and OpenChurch, as well as creating custom installation profiles and distributions. He brews top shelf modules into elegant solutions. Views, Context, Display Suite, Panels, Feeds, OpenLayers, Features, and other modules are some of the ingredients. Drush is his ally to speed up development and manage workflows among different environments.

A Role...



Is a collection of **permissions**. They are used to assign privileges to a group of users. For example: a C-level executive, a sales representative, etc.

Drupal ships with three default roles, but more can be added:

- Anonymous user
- Authenticated user
- Administrator.

A Permission...



Checks if a user can perform a specific action. For example:

- Create content of type Article.
- Revert revisions for the content type Article.
- Post comments.
- Use the site-wide contact form.

Drupal's Permission System



Note that users can have **multiple** roles!
Every permission in each role is granted.

Menu

What is a Menu?



Menus are a **collection of links** used to navigate the website. Drupal ships with default menus like the “Main Navigation” and others can be added by as needed.

Menus can be **hierarchical**. That is, a menu can be various level deep where a menu link can have other menu links under it.



agaric

We build online.

agaric

Home

Services

Blogs

About

Contact



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[About Us](#)

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[Mega menu demo](#)

[Drupal themes](#)

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DEMO CONTENT

Full Width

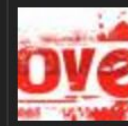
Main - Right

Superfish menu

SF NavBar



What our products'
benefits
12/28/2012 - 15:53



Easy to customize
11/30/2011 - 14:57

Taxonomy

What is Taxonomy?



It is a system used for **categorization** which allows you to **connect**, **relate**, and **classify** your website's content.

In Drupal, taxonomy **vocabularies** are containers for a set of taxonomy **terms**. Vocabularies can be **hierarchical**. That is, a vocabulary can be various level deep where a term can have other terms under it.

Vocabulary: Fruits



Apple



Strawberry



Orange

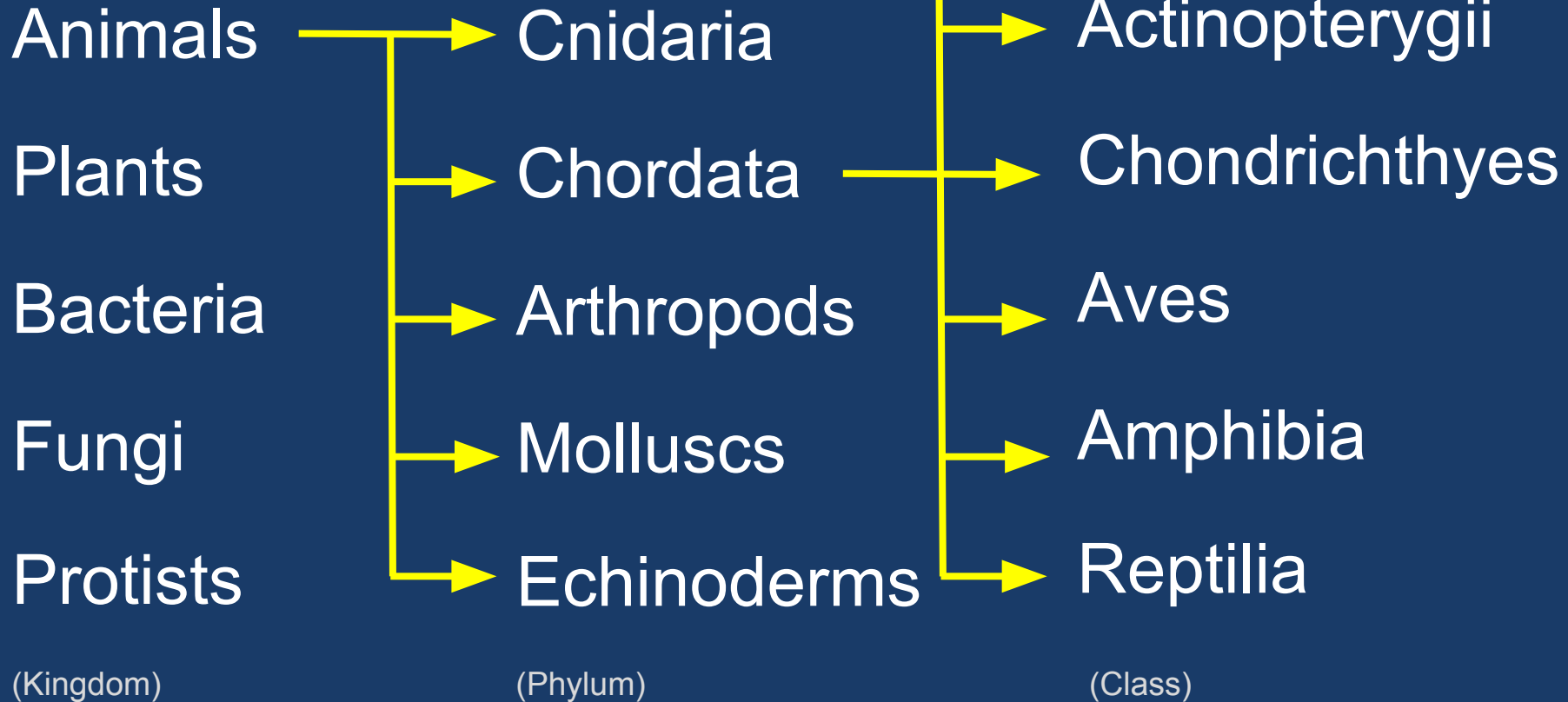


Grapes




Note that taxonomy terms can have **fields**!
In this example, an image field.

Voc.: Living Organisms



Real Life Example: Pets Cat-egorization



A photograph of an orange tabby cat sitting on a white background. A speech bubble with the word 'meow' in red cursive is positioned to the left of the cat's head.

Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Tetrapoda
Class Mammalia
Subclass Theria
Infraclass Eutheria
Order Carnivora
Suborder Feliformia
Family Felidae
Subfamily Felinae
Genus *Felis*
Species *Felis catus*

Other Example Uses



- List every piece of content tagged with a specific term.
- Show additional content with the same tags. Similar By Terms module.
- Create editorial access controls based on hierarchies. Workbench Access module.
- Associate geographic location to terms to be rendered on a map. Location Taxonomize module.



Theme region

Block

View

Node

Field

FAQ



Every time you hack core, God kills a kitten.
Please, think of the kittens!



Jeff Geerling
@geerlingguy

Is it a Good Idea to Change the Downloaded Code for a Quick Fix?



NO!

When performing updates, the new code can override your changes. Also, you might alter the framework's functionality and prevent other code from working. Instead, use the framework API to alter its behaviour as needed.

To Modify Drupal no Hacking



Check out Joe Shindelar (@eojthebrave)'s session “Altering, Extending, and Enhancing Drupal 8” at

www.youtube.com/watch?v=tMM-l70ksQA

To Learn the Basics of Drupal's Markup



Check out my “Twig recipes: Making Drupal 8 render the markup you want”

www.youtube.com/watch?v=bqfxaFLQ8D4

Tomorrow at 4:30 PM room 32-144

Get Involved with the Community!



- Create a user account

<https://www.drupal.org/user/register>

- Be part of the conversation

<https://www.drupal.org/irc>

#drupal @ freenode.net

#general @ drupal.slack.com

- Get involved with your local community

<https://groups.drupal.org/>



Thank You!



Let's continue the conversation on twitter

#UnderstandingDrupal



Please Provide Feedback



<http://bit.ly/understanding-drupal>
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