Understanding Drupal

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Nicaraguan Drupal community lead
Outline

- Why Drupal?
- What is Drupal?
- Basic concepts
- Nodes
- Content types
- Fields

- Blocks
- Theme regions
- Views
- Users and permissions
- Menus
- Taxonomy
Why Drupal?
Managua, Nicaragua Weather
Observation as of 12:00 am CST

Fair
Feels Like 82°

<table>
<thead>
<tr>
<th>DAY</th>
<th>COND</th>
<th>TEMP</th>
<th>DESCRIPTION</th>
<th>PRECIP</th>
<th>WIND</th>
</tr>
</thead>
<tbody>
<tr>
<td>TODAY</td>
<td>☁️ □️</td>
<td>90°</td>
<td>PM Thunderstorms</td>
<td>/ 50%</td>
<td>ESE 9</td>
</tr>
<tr>
<td>TONIGHT</td>
<td>☁️ □️</td>
<td>75°</td>
<td>Thunderstorms Early</td>
<td>/ 60%</td>
<td>SE 5</td>
</tr>
<tr>
<td>SUN</td>
<td>☁️ □️</td>
<td>91°</td>
<td>Isolated</td>
<td>/ 30%</td>
<td>ESE 7</td>
</tr>
</tbody>
</table>

Wind: SE 5 mph
Humidity: 83%
Dew Point: 73°F
Pressure: 29.80 in ↓
Visibility: 6.2 mi
UV Index: 0 out of 10
ALL ABOARD

The inaugural GRAMMY cruise has docked, but here is a lot of live music on the ocean. Click here. Photo Gallery: GRAMMY Festival At Sea

PHOTOS
How should CEOs be paid?

It's not just the level of pay. It's whether incentives work for the long-term benefit of companies and societies, argues LSE's Professor Alex Edmans. [more]

The World Economic Forum is an international institution committed to improving the state of the world through public-private cooperation.
Massive rock lobster breaks records, $95K price snagged

A rock lobster weighing 56 pounds that was caught off the shores of China has clawed its way into headlines this week, breaking records and fetching a massive sum. Lobsters can sometimes be considered prizes to showcase instead of to dine on, but this was one pricey purchase.

Drummer Mick Fleetwood exposes himself again in new autobiography

Musical intuition has certainly paid off for the ‘Big Daddy’ behind Fleetwood Mac. In his new autobiography, the towering 1998 Rock and Roll Hall of Fame inductee divulges the secrets behind his forty-plus year career and clarifies the myths surrounding his love life and interpersonal band relationships.

POPULAR VIDEOS

- Woman Donates Kidney, Gets Incredible Gift in Return
- Facebook Gives Its Privacy Policy a Makeover
- 10 Of The World’s Most Venomous Creatures
- For ‘Dumb and Dumber To’ Directors, Bad...
NUESTRA TIENDA ONLINE

NARANJAS

MANDARINAS

CAJAS MIXTAS

MIEL

MERMELADA

LIMONES
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 and themes. 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.
Alter 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?
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.
Fields

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

Marina Village Conference Center

32°45'42.0"N 117°14'02.1"W

KML
Presenting Data

Marina Village Conference Center

32°45'42.0"N 117°14'02.1"W

KML
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
+1 508 283 3557

Services: Custom development | Migrations | Training | Maintenance

Thu, 11/19/2015 - 08:00
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 and the banner of a sponsor.

Dynamic content

- Change its content regularly. E.g.: latest blog posts and newest products in the store.
Blocks Can Enforce Visibility Rules

Show or hide the block depending on certain conditions.

<table>
<thead>
<tr>
<th>Language</th>
<th>Not restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content types</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Article</td>
</tr>
<tr>
<td></td>
<td>Basic page</td>
</tr>
<tr>
<td>Pages</td>
<td>Not restricted</td>
</tr>
<tr>
<td>Roles</td>
<td>Not restricted</td>
</tr>
</tbody>
</table>
Blocks Can Be Aware of the Context

Use data from the context 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.
**Block 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 allows to search your website and present the results in different formats. For example, a HTML table, a RSS feed, a PDF document, a CSV document, an interactive map, an image slideshow, and a JSON representation to be used as a REST endpoint.
<table>
<thead>
<tr>
<th>ID</th>
<th>Make</th>
<th>Model</th>
<th>Color</th>
<th>Transmission</th>
<th>Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>M000123</td>
<td>Toyota</td>
<td>Corolla</td>
<td>White</td>
<td>Automatic</td>
<td>Gasoline</td>
</tr>
<tr>
<td>M909522</td>
<td>Tesla</td>
<td>Model S</td>
<td>Red</td>
<td>Automatic</td>
<td>Electric</td>
</tr>
<tr>
<td>M3075681</td>
<td>Mercedes</td>
<td>S500</td>
<td>Black</td>
<td>Manual</td>
<td>Gasoline</td>
</tr>
<tr>
<td>M1463982</td>
<td>BMW</td>
<td>535i</td>
<td>Black</td>
<td>Automatic</td>
<td>Gasoline</td>
</tr>
<tr>
<td>M000505</td>
<td>Toyota</td>
<td>Yaris</td>
<td>Silver</td>
<td>Manual</td>
<td>Gasoline</td>
</tr>
</tbody>
</table>
WHY SO MUCH

THEORY?
Drupal Loves Nests
Render Arrays
Concepts
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

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:

- 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

Permissions → Role → User
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.
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
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.
FAQ
Every time you hack core, God kills a kitten.

*Please, think of the kittens!*
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.
What is a Hook?

A mean by which modules can interact with Drupal to alter or extend its pre-built functionality. They allow modules to define new pages, add content to pages, set up custom database tables, and more. They are a pause in the code execution to let modules and themes act upon the operation being performed.
How is a Hook Implemented?

In your module create a function named after the hook to implement and replace the ‘hook’ prefix with the name your module.

A module called ‘nicaragua’ implementing ‘hook_node_presave’ would define a function called ‘nicaragua_node_presave’.
/**

* Implements hook_node_presave().

*/

function nicaragua_node_presave($node) {
    /* custom code */
}
What is Cron?

Cron is a system used to run resource intensive tasks at specified time intervals. These can be divided into smaller batches processed each cron run.
Example Uses for Cron

- Website’s content indexation for search.
- Schedule tasks, such as email reminders.
- Temporary files removal.
- Cache invalidation.
What is an Entity?

It is an **abstraction** that allows you to model your website’s data into elements with shared characteristics. Entities have a very rich API which make them appealing to use. The ability to attach **fields** to them make entities extremely flexible for data modeling. An entity can have one or more variations called **bundles**.
Bundle vs Content Types?

Entity: Node

Bundles: Basic page, Articles, Blog post, Forum, etc.

Content types are bundles of the Node entity.
CONFIG VS. CONTENT

ENTITIES

CONTENT
- Nodes
- Comments
- Contact Messages
- Users
- Terms
- Menu Items

CONFIGURATION
- Views
- Vocabulary
- Contact Categories
- Fields
- Menus
- Site Info
- User Mails

Others
- Path Aliases

Gábor Hojtsy
@gaborhojtsy
Acquia Podcast 144
<table>
<thead>
<tr>
<th>Configuration</th>
<th>vs</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is supposed to be shared between environments. Dev → Test → Live</td>
<td></td>
<td>Is relevant to a single environment.</td>
</tr>
<tr>
<td>Can be stored in files.</td>
<td></td>
<td>Lives in the database only.</td>
</tr>
<tr>
<td>Ej: site name</td>
<td></td>
<td>Ej: last time cron ran</td>
</tr>
</tbody>
</table>
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

● Get involved with your local community
  https://groups.drupal.org/
Please Provide Feedback

@dinarcon

mauricio@agaric.com
Thank You!

Let’s continue the conversation on twitter

#UnderstandingDrupal