

# Mastering Drupal 8 Views

Gregg Marshall  
<http://bit.ly/D8Views>



## About me

- drupal.org since 2006
- 1<sup>st</sup> DrupalCon 2010 San Francisco
- Contract Developer  
Senior Drupal Architect



**NEW YORK**  
STATE OF  
OPPORTUNITY.

**WebNY**



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Aided by Jackson



## What is Views?

- Views == Views module  
(before D8 <http://drupal.org/project/views>)
- Creates dynamic lists
- A “report writer”
- View == a single list



## Why Views?

### 5 Most recent blog posts block

- Manual
  - Add blog post
  - Edit block with title and link
- Automatic (aka Views)
  - Add blog post
  - Block updates



## Views is in Drupal 8 Core

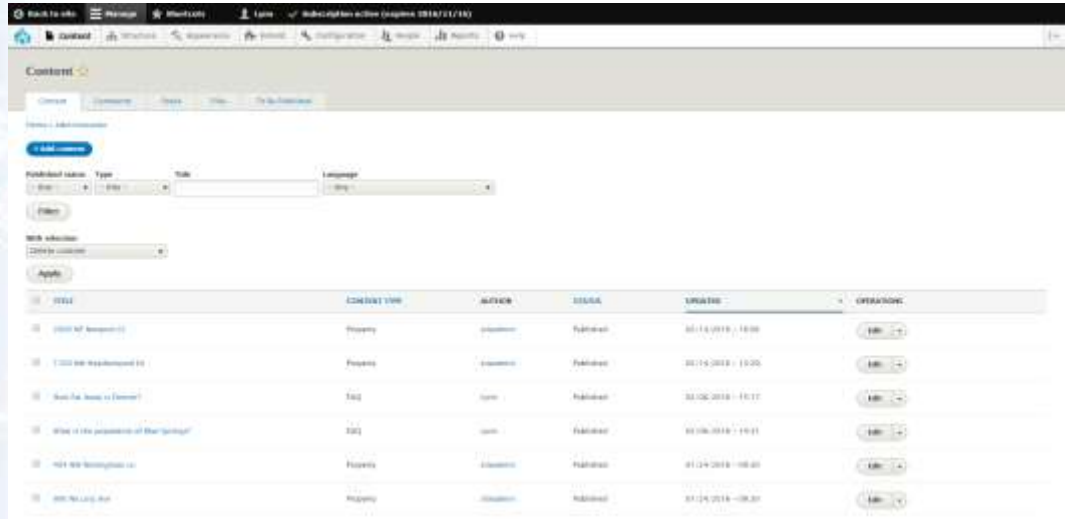
- Views was #1 Drupal 7 contributed module
- D7 required Views and CTools contributed modules
- Many Drupal administration pages are now views



# Drupal 8 Views Examples Front Page

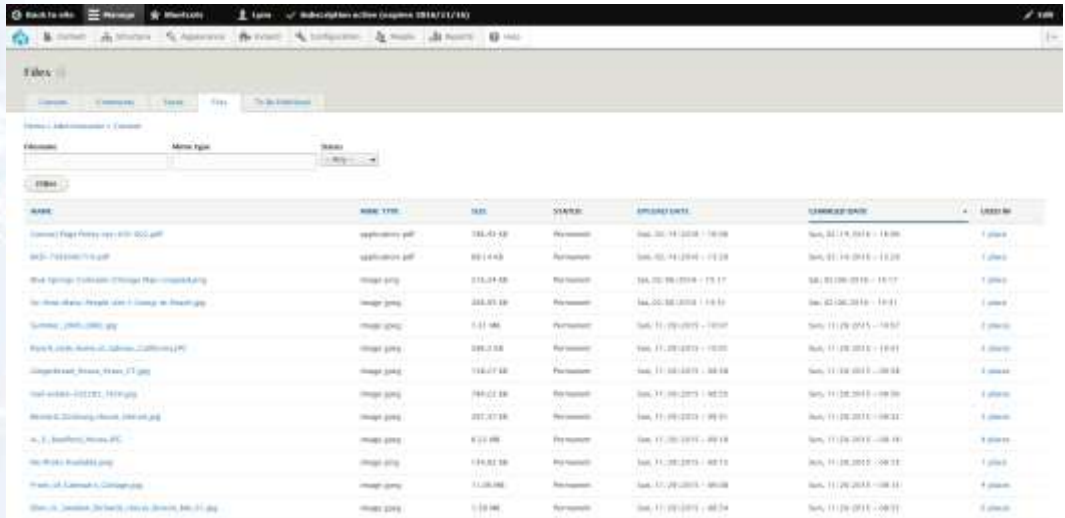


# Drupal 8 Views Examples Content List



# Drupal 8 Views Examples

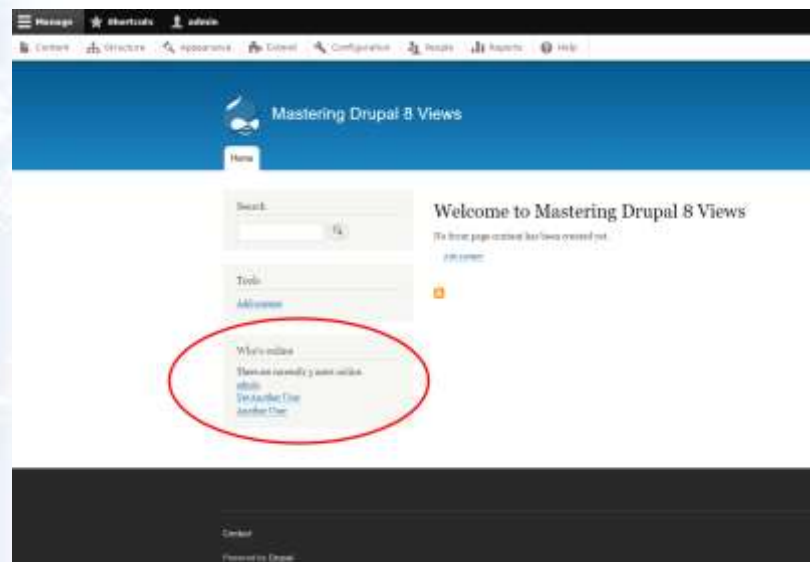
## Files View



| NAME                            | FILE TYPE       | SIZE      | STATUS    | UPLOAD DATE             | UPLOAD USER             | EDIT      |
|---------------------------------|-----------------|-----------|-----------|-------------------------|-------------------------|-----------|
| Common Page Header 010-002.pdf  | application/pdf | 333,41 KB | Permanent | Sun, 02/19/2016 - 16:08 | Sun, 02/19/2016 - 16:08 | 1 action  |
| 001-0000010.pdf                 | application/pdf | 801,44 KB | Permanent | Sun, 02/14/2016 - 11:20 | Sun, 02/14/2016 - 11:20 | 1 action  |
| 001-0000010-0000010.pdf         | image/png       | 213,24 KB | Permanent | Sun, 02/14/2016 - 15:17 | Sun, 02/14/2016 - 15:17 | 1 action  |
| 001-0000010-0000010-0000010.pdf | image/png       | 243,25 KB | Permanent | Sun, 02/14/2016 - 14:53 | Sun, 02/14/2016 - 14:53 | 1 action  |
| Common Page Header 010-002.jpg  | image/jpeg      | 5,11 KB   | Permanent | Sun, 11/29/2015 - 19:57 | Sun, 11/29/2015 - 19:57 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 205,2 KB  | Permanent | Sun, 11/29/2015 - 19:57 | Sun, 11/29/2015 - 19:57 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 114,27 KB | Permanent | Sun, 11/29/2015 - 19:58 | Sun, 11/29/2015 - 19:58 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 244,22 KB | Permanent | Sun, 11/29/2015 - 19:58 | Sun, 11/29/2015 - 19:58 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 207,27 KB | Permanent | Sun, 11/29/2015 - 19:57 | Sun, 11/29/2015 - 19:57 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 82,2 KB   | Permanent | Sun, 11/29/2015 - 19:58 | Sun, 11/29/2015 - 19:58 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 114,22 KB | Permanent | Sun, 11/29/2015 - 19:58 | Sun, 11/29/2015 - 19:58 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 11,26 KB  | Permanent | Sun, 11/29/2015 - 19:58 | Sun, 11/29/2015 - 19:58 | 2 actions |
| 001-0000010-0000010-0000010.jpg | image/jpeg      | 1,18 KB   | Permanent | Sun, 11/29/2015 - 19:58 | Sun, 11/29/2015 - 19:58 | 2 actions |

# Drupal 8 Views Examples

## Who's Online



Mastering Drupal 8 Views

Home

Search

Tools

Who's online

There are currently 2 users online.

User1

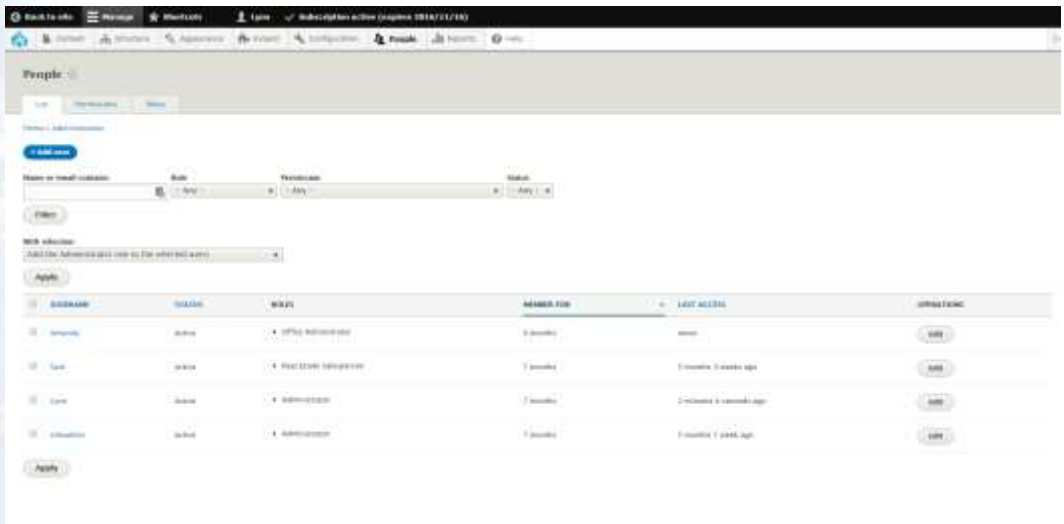
User2

Powered by Drupal



# Drupal 8 Views Examples

## People List



People

Home » Administration » Structure » Views

Always show the master (default) display

Always show advanced display settings

Allow embedded displays

Label query values in non-required single-select exposed filters

Automatically update preview on changes

Show information and statistics about the view during live preview

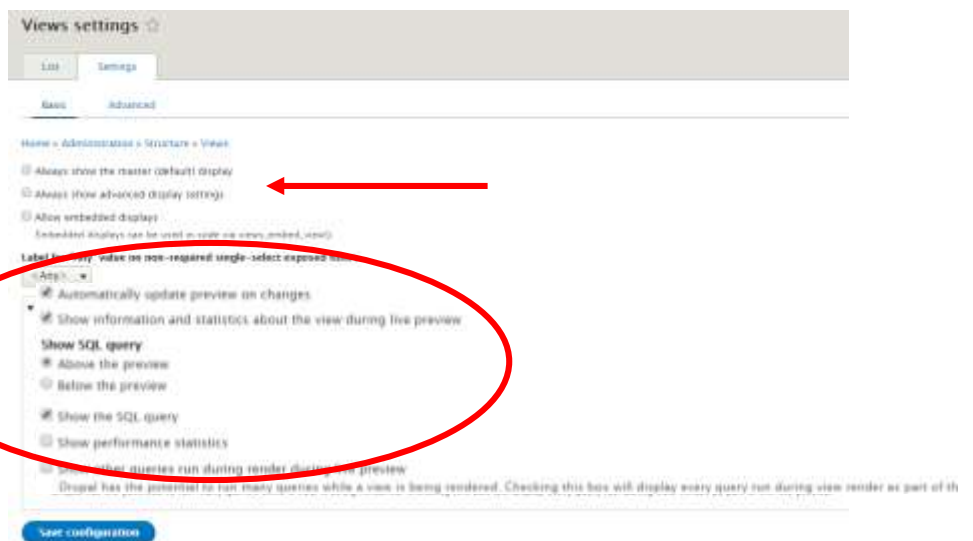
Show SQL query

Show performance statistics

Drupal has the potential to run many queries while a view is being rendered. Checking this box will display every query run during view render as part of the

# Using Views

## Views Settings



Views settings

List Settings

Basic Advanced

Home » Administration » Structure » Views

Always show the master (default) display

Always show advanced display settings

Allow embedded displays

Label query values in non-required single-select exposed filters

Automatically update preview on changes

Show information and statistics about the view during live preview

Show SQL query

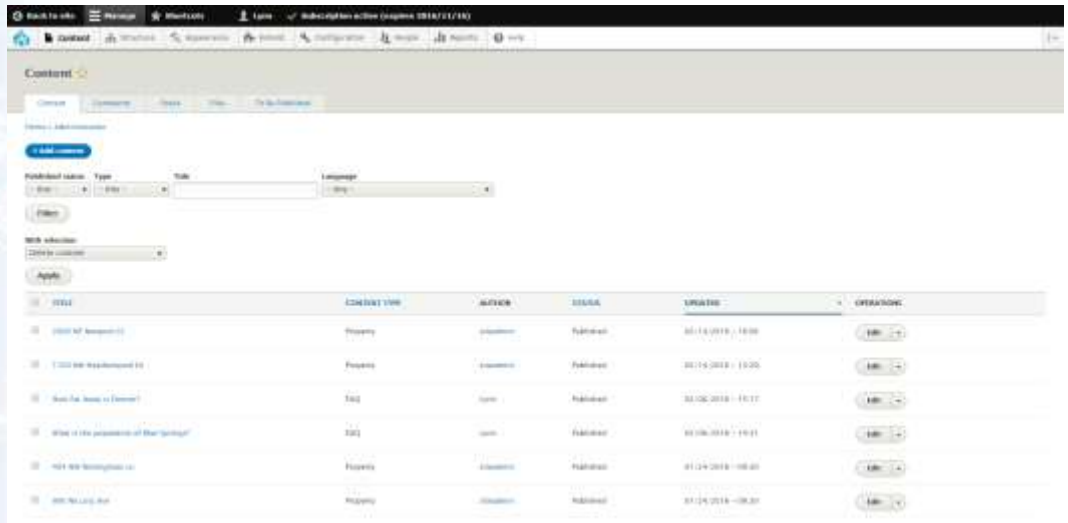
Show performance statistics

Drupal has the potential to run many queries while a view is being rendered. Checking this box will display every query run during view render as part of the

Save configuration

## Editing an Existing View

### Content List



The screenshot shows the 'Content List' configuration page in Drupal. The page title is 'Content List' and it includes navigation tabs for 'Content', 'Settings', 'Views', 'Other', and 'The Sub-Interface'. Below the navigation, there are sections for 'Add content', 'Published status', 'Type', 'Title', 'Language', and 'With education'. A table below shows the configuration for the 'Content List' view.

| VIEW         | CONTENT VIEW | ACTION  | STATUS    | UPDATED            | OPERATIONS |
|--------------|--------------|---------|-----------|--------------------|------------|
| Content List | Property     | Content | Published | 01/14/2016 - 19:08 | EDIT       |
| Content List | Property     | Content | Published | 01/14/2016 - 19:20 | EDIT       |
| Content List | Tag          | Content | Published | 01/14/2016 - 19:17 | EDIT       |
| Content List | Tag          | Content | Published | 01/14/2016 - 19:21 | EDIT       |
| Content List | Property     | Content | Published | 01/14/2016 - 19:21 | EDIT       |
| Content List | Property     | Content | Published | 01/14/2016 - 19:21 | EDIT       |

## Editing an Existing View

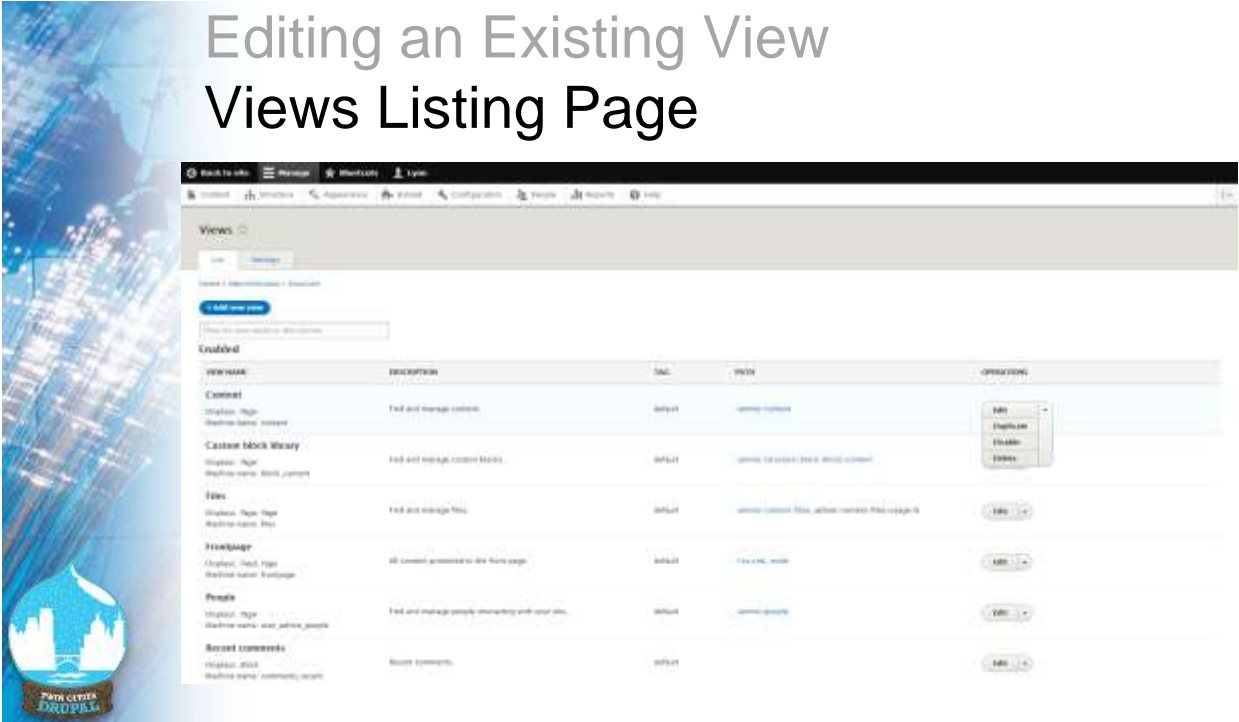
### Preview Results



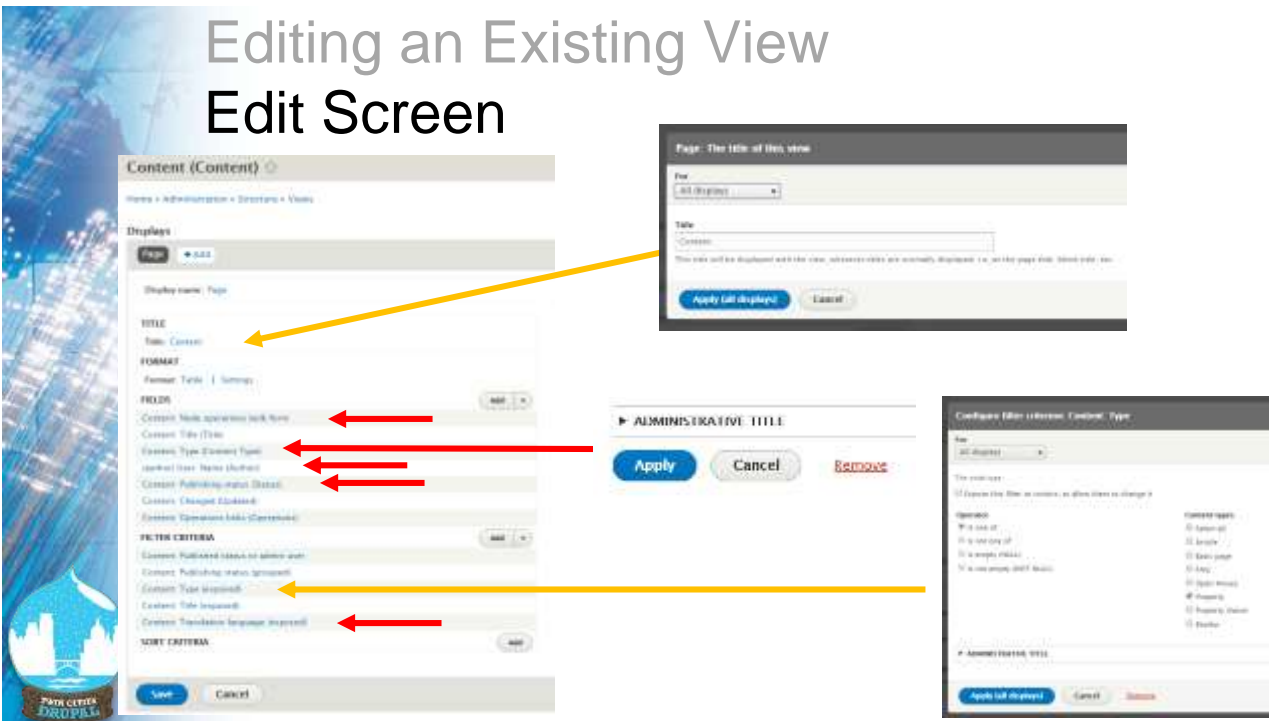
The screenshot shows the 'Preview Results' configuration page in Drupal. The page title is 'Preview Results' and it includes a 'Preview' button. Below the navigation, there are sections for 'Published status', 'Title', 'Language', and 'With education'. A table below shows the configuration for the 'Preview Results' view.

| VIEW            | CONTENT  | LAST UPDATED       | OPERATIONS |
|-----------------|----------|--------------------|------------|
| Preview Results | Property | 01/14/2016 - 19:08 | EDIT       |
| Preview Results | Property | 01/14/2016 - 19:20 | EDIT       |
| Preview Results | Property | 01/14/2016 - 19:21 | EDIT       |

# Editing an Existing View Views Listing Page



# Editing an Existing View Edit Screen





## Editing an Existing View Edit Screen

## Why Views – Structured Content

- Drupal 7 added Fields before D7, CCK module added Fields
- Relationships  
D7 Entity Reference module (Node Reference module)
- Text, Number, Boolean, File, Image, Reference
- Contributed – e.g. Geolocation

# Example Data Structure Real Estate Agency website

## Property

| Label                     | Machine name                    | Field type                           |
|---------------------------|---------------------------------|--------------------------------------|
| Property Address 2        | field_property_address_2        | Text (plain)                         |
| Property Asking Price     | field_property_asking_price     | Number (decimal)                     |
| Property City             | field_property_city             | Text (plain)                         |
| Property County           | field_property_county           | Entity reference (County)            |
| Property Description      | body                            | Text (formatted, long, with summary) |
| Property Featured         | field_property_featured         | Boolean                              |
| Property Featured Image   | field_property_featured_image   | Image                                |
| Property Geolocation      | field_property_geolocation      | Geolocation                          |
| Property Image Gallery    | field_property_image_gallery    | Image                                |
| Property Listed Date      | field_property_listed_date      | Date                                 |
| Property Neighborhood     | field_property_neighborhood     | Entity reference (Neighborhood)      |
| Property Number Bathrooms | field_property_number_bathrooms | List (text)                          |
| Property Number Bedrooms  | field_property_number_bedrooms  | Number (integer)                     |
| Property Owners           | field_property_owners           | Entity reference (Property Owner)    |
| Property PDF Listing      | field_property_pdf_listing      | File                                 |
| Property Realtors         | field_property_realtors         | Entity reference (Realtor)           |
| Property Square Footage   | field_property_square_footage   | Number (integer)                     |
| Property State            | field_property_state            | Text (plain)                         |
| Property Status           | field_property_status           | List (text)                          |
| Property Zip              | field_property_zip              | Text (plain)                         |

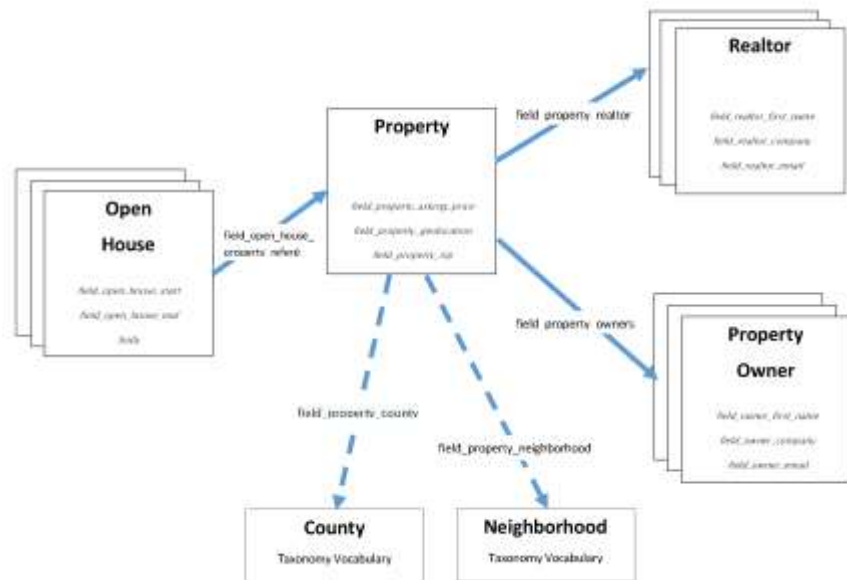
## Owner (Realtor)

| Label            | Machine name           | Field type       |
|------------------|------------------------|------------------|
| Owner Address 1  | field_owner_address_1  | Text (plain)     |
| Owner Address 2  | field_owner_address_2  | Text (plain)     |
| Owner City       | field_owner_city       | Text (plain)     |
| Owner Company    | field_owner_company    | Text (plain)     |
| Owner Email      | field_owner_email      | Email            |
| Owner First Name | field_owner_first_name | Text (plain)     |
| Owner Last Name  | field_owner_last_name  | Text (plain)     |
| Owner Phone      | field_owner_phone      | Telephone number |
| Owner State      | field_owner_state      | Text (plain)     |
| Owner Zip        | field_owner_zip        | Text (plain)     |

## Open House

| Label                         | Machine name                     | Field type                           |
|-------------------------------|----------------------------------|--------------------------------------|
| Notes                         | body                             | Text (formatted, long, with summary) |
| Open House End                | field_open_house_end             | Date                                 |
| Open House Property Reference | field_open_house_property_refere | Entity reference (Property)          |
| Open House Start              | field_open_house_start           | Date                                 |

# Real Estate Relationships



## Components of a View

- Base / View Type
- Display
- Format
- Display type
- Filter
- Sort



## Creating a New View

- Wizard page
- Expanding form!
- Not all displays can be created via wizard



# Creating a New View



**Add new view** ⌵

Home » Administration » Structure » Views

**VIEW BASIC INFORMATION**

View name \*

Description

**VIEW SETTINGS**

Show:  of type:  tagged with:  sorted by:

**PAGE SETTINGS**

Create a page

**BLOCK SETTINGS**

Create a block

**REST EXPORT SETTINGS**

Provide a REST export

# Creating a New View



**Add new view** ⌵

Home » Administration » Structure » Views

**VIEW BASIC INFORMATION**

View name \*

Description

**VIEW SETTINGS**

Show:  of type:  tagged with:  sorted by:

**REST EXPORT**

Create a block

Page view

Block

**PAGE DISPLAY SETTINGS**

Display format

of fields

View as display

Show a page

Enable a display view

Block

Block view

Block layout

Block as view

**BLOCK SETTINGS**

Create a block

**REST EXPORT SETTINGS**

Provide a REST export

## Creating a New View



**PAGE SETTINGS**

Create a page

Page title  
Available Property Listing

URL  
available-property-listing

---

**PAGE DISPLAY SETTINGS**

Display format  
Table of fields

---

Items to display  
10

Use a page

Create a view tab

Name  
Main navigation

Link text  
What's For Sale

Include an RSS feed

Feed path  
available-property-listing.rss

Feed view style  
Print!

## Base / View Type

- Content
- Content Revisions
- Comments
- Log Entries
- Files
- Taxonomy Terms
- Users
- Custom Blocks
- Custom Block Revisions
- (types added by contributed or custom modules)

## Displays

- Page
- Block
- Master
- Attachment
- Embed
- Entity Reference
- Feed
- REST Export

## Format Options

- Grid
- HTML List
- Unformatted List
- Table
- Contributed Modules
  - Accordion
  - Slide Show
  - Map

# Format Options Have Settings



**Page: Table options**

Please select the content in the top section. You can also edit the table options. If you do, the content in the bottom section will be used to replace the formatting of the content. You can also edit the content in the bottom section. If you do, the content in the top section will be used to replace the content.

| FIELD        | COLUMN       | AXIS   | OPERATION | COLUMNS      | DEFAULT VALUE | ADD EMPTY COLUMN         | REMOVE COLUMN                         |
|--------------|--------------|--------|-----------|--------------|---------------|--------------------------|---------------------------------------|
| Title        | Title        | Column | +         | Asking Price | Asking Price  | <input type="checkbox"/> | <input type="button" value="Remove"/> |
| Asking Price | Asking Price | Column | +         | # Bedrooms   | # Bedrooms    | <input type="checkbox"/> | <input type="button" value="Remove"/> |
| # Bedrooms   | # Bedrooms   | Column | +         | Square Feet  | Square Feet   | <input type="checkbox"/> | <input type="button" value="Remove"/> |
| Square Feet  | Square Feet  | Column | +         | Neighborhood | Neighborhood  | <input type="checkbox"/> | <input type="button" value="Remove"/> |
| Neighborhood | Neighborhood | Column | +         |              |               | <input type="checkbox"/> | <input type="button" value="Remove"/> |

**Empty field help**

Empty field help text:

**Table settings**

- Show the empty field on the page. The text will appear as part of the table's content.
- Show the empty field on the table. The text will appear as part of the table's content.

Buttons:



## Fields

### FORMAT

Format: Table | Settings

### FIELDS

Add

Content: Title (Title)

Content: Property Asking Price (Asking Price)

Content: Property Number Bedrooms (# Bedrooms)

Content: Property Square Footage (Square Feet)

Content: Property Neighborhood (Neighborhood)

### FILTER CRITERIA

Add

## Field Settings

Configure field: Watchdog Timestamp

For: All Displays

Date when the event occurred

Create a label

Exclude from display  
Enables to load this field as hidden. Often used to group fields, or to use as token in another field.

Date format  
Fallback date format format: Sat, 12/12/2015 - 16:38

Timezone  
- Default site user timezone -  
Timezone to be used for date output.

► STYLE SETTINGS

► REWRITE RESULTS

► NO RESULTS BEHAVIOR

► ADMINISTRATIVE TITLE

Apply (all displays) Cancel Remove

## Field Rewrites

Configure field: Watchdog Timestamp

Field Rewrite Settings

Override the output of this field with custom text  
Text

Display this field as a custom link  
Link path

Use absolute path

Replace spaces with dashes

External server URL

► REPLACEMENT PATTERNS

You must add some additional fields to this display before using this field. These fields may be marked as *Exclude from display* if you prefer. Note that some occur after this field; if you need a field not listed here, rearrange your fields.

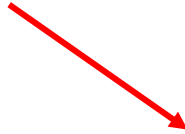
The following replacement tokens are available for this field. Note that due to rendering order, you cannot use fields that come after this field; if you use

- `%% token %%`
- `%% field_property_asking_price %%`
- `%% field_property_number_bedrooms %%`
- `%% field_property_square_footage %%`
- `%% field_property_neighborhood %%`
- `%% field_property_neighborhood_target_id %%`
- `%% arguments.field_property_neighborhood_target_id %%`
- `%% raw_arguments.field_property_neighborhood_target_id %%`



## Field Rewrites Power Tip

```
{% for letter in 'a'|upper..'m'|upper %}
  * {{ letter }}
{% endfor %}
```



\* A \* B \* C \* D \* E \* F \* G \* H \* I \* J \* K \* L \* M



## Filter Criteria

Configure filter criteria: Content, Property Square Footage (field\_property\_square\_footage)

Full  
This page overrides

Applies to groups:  
 Exclude this filter to visitors, to allow them to change it

Filter type to expose:  
 Single filter  
 Grouped filters  
Grouped filters allow a client to select predefined queries (see API).

Required

Label  
Property Square Footage (field\_property\_square\_footage)

Description

Operator  
is between

Reverse operator  
Allow the user to choose the operator

Min

And max

Remember the last selection  
Enable to remember the last selection made by the user

Filter identifier  
field\_property\_square\_footage\_value  
This will appear in the URL after the ? to identify this filter. Cannot be blank.

ADMINISTRATIVE TITLE

Apply this (help) Cancel Action



## Exposed Filters

Available Property Listing

Square Footage  And  Asking Price  And

# Bedrooms  And  Neighborhood 

- City Center
- Route 40
- Route 7 and Park 10E Road
- U.S. Route 40 and 10th Street

Apply

| Title                       | Asking Price | # Bedrooms | Square Feet | Neighborhood |
|-----------------------------|--------------|------------|-------------|--------------|
| 1808 SE Karamond Dr         | \$140,000.00 | 6          | 1,871 sq ft |              |
| 1100 NW Weatherwood Dr      | \$107,000.00 | 3          | 2,052 sq ft | City Center  |
| 2008 NE Newport Dr          | \$101,000.00 | 3          | 2,838 sq ft | City Center  |
| 2700 NE Sunnyside Valley Dr | \$57,000.00  | 1          | 1,117 sq ft | City Center  |
| 1308 SW Sunrise Dr          | \$45,000.00  | 1          | 499 sq ft   | Route 40     |

1 2 Next Last

## Contextual Filters

### Filters configured via URL

<http://....com/available-property-listing-neighborhood/City%20Center>

Blue Drop Realty

Home Blue Listings What's For Sale About Us My Account

Home > Available Property Listing

Search:

Tools: [Export results](#)

Available Property Listings for City Center

Square Footage  And  Asking Price

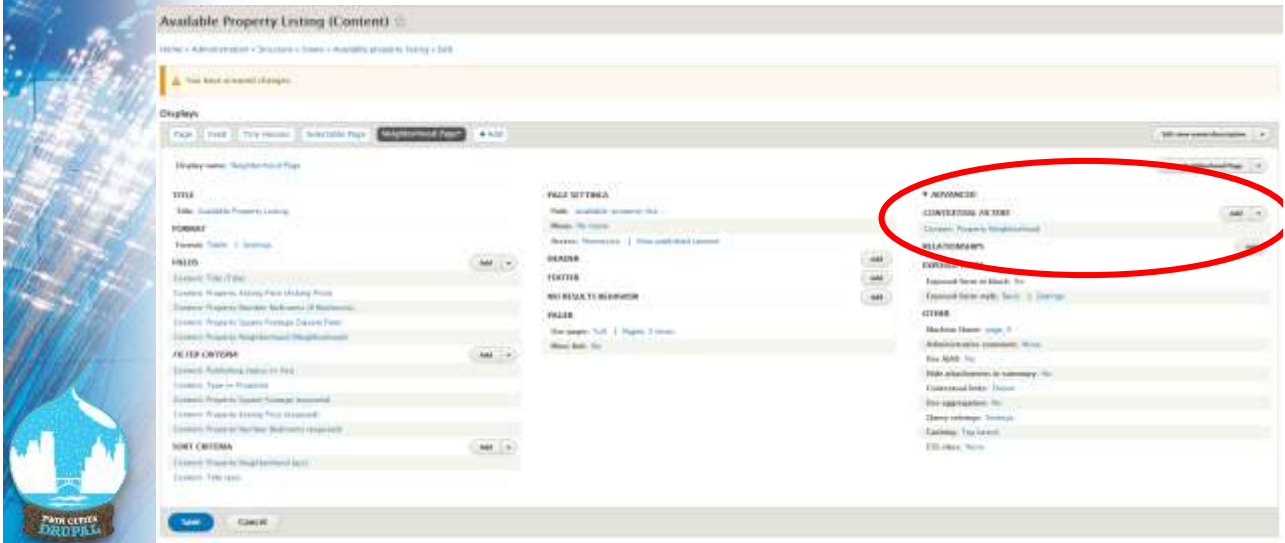
And  # Bedrooms  And

Apply

| Neighborhood: City Center   |              |            |             |              |
|-----------------------------|--------------|------------|-------------|--------------|
| Address                     | Asking Price | # Bedrooms | Square Feet | Neighborhood |
| 1100 NW Weatherwood Dr      | \$107,000.00 | 3          | 2,052 sq ft | City Center  |
| 2008 NE Newport Dr          | \$101,000.00 | 3          | 2,838 sq ft | City Center  |
| 2700 NE Sunnyside Valley Dr | \$57,000.00  | 1          | 1,117 sq ft | City Center  |

# Contextual Filters

## Filters configured via URL



Available Property Listing (Content)

Home » Administration » Structure » Views » Available property listing » Edit

⚠ You have unsaved changes.

Displays

Display name: Neighborhood Page

**TITLE**  
Title: Available Property Listing

**FORMAT**  
Format: Table (2 columns)

**FIELDS**  
 Location Title (Text)   
 Available Property Listing Page (Text)   
 Available Property Neighborhood Submissions (Text)   
 Available Property Listing Page Content (Text)   
 Available Property Neighborhood Neighborhood (Text)

**FILTER OPTIONS**  
 Context: Available Property Listing   
 Context: Type (Text)   
 Context: Property Listing Page (Text)   
 Context: Property Neighborhood (Text)

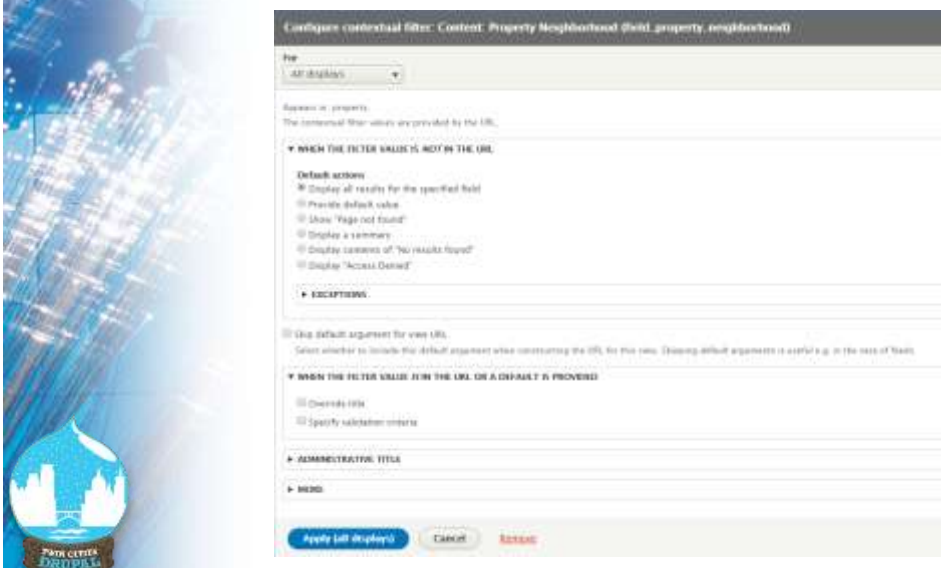
**HIDE CRITERIA**  
 Context: Property Listing Page (Text)   
 Context: Type (Text)

**PAGE SETTINGS**  
 Page: Available property listing  
 Mode: No title  
 Access: Everyone |   
 HEADER:   
 FOOTER:   
 NO RESULTS MESSAGE:   
 PAGES: No pager: Off | Pages: 2 views  
 More: Add: Off

**ADVANCED**  
**CONTEXTUAL FILTERS**  
 Context: Property Neighborhood   
**ILLUSTRATIONS**  
  
**CACHE**  
 Maximal memory usage: 0  
 Exposed filter in block: Off  
 Exposed filter in table: Off  
 Exposed filter in table: Text |   
**OTHER**  
 Module: Show page: 0  
 Administrative position: None  
 Site AAB: No  
 Hide attachments in summary: Off  
 Contented item: Show  
 Site application: No  
 Clear settings: Settings  
 Loading: Top level  
 ESI class: None

# Contextual Filters

## Filters configured via URL



Configure contextual filter: Context: Property Neighborhood (field\_property\_neighborhood)

For: All displays

Access in: property

The contextual filter value is provided by the URL.

**WHEN THE FILTER VALUE IS IN THE URL**

**Default action**

- Display all results for the specified field
- Provide default value
- Show "page not found"
- Display a warning
- Display content of "no results found"
- Display "Access Denied"

**EXCEPTIONS**

Use default argument for view URL  
 Select whether to include the default argument when constructing the URL for this view. (Using default arguments is useful e.g. in the case of Views.)

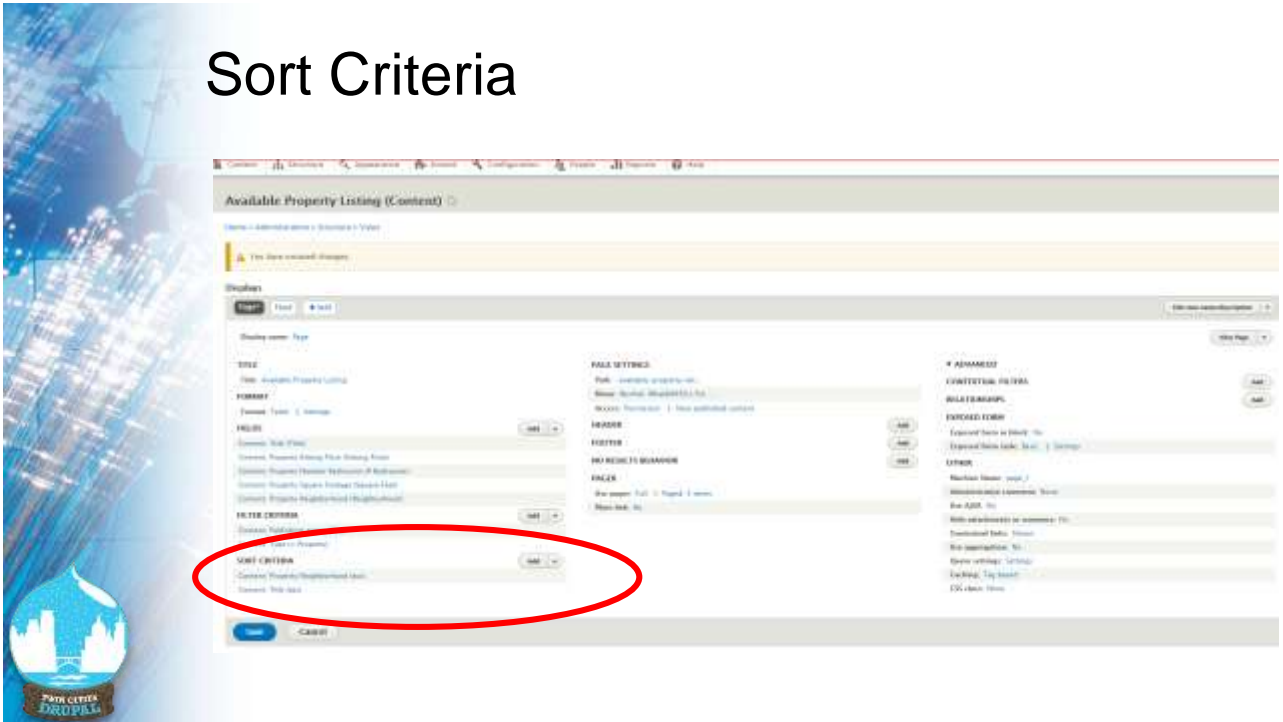
**WHEN THE FILTER VALUE IS IN THE URL OR A DEFAULT IS PROVIDED**

- Overrides filter
- Specify validation criteria

**ADMINISTRATIVE TITLE**

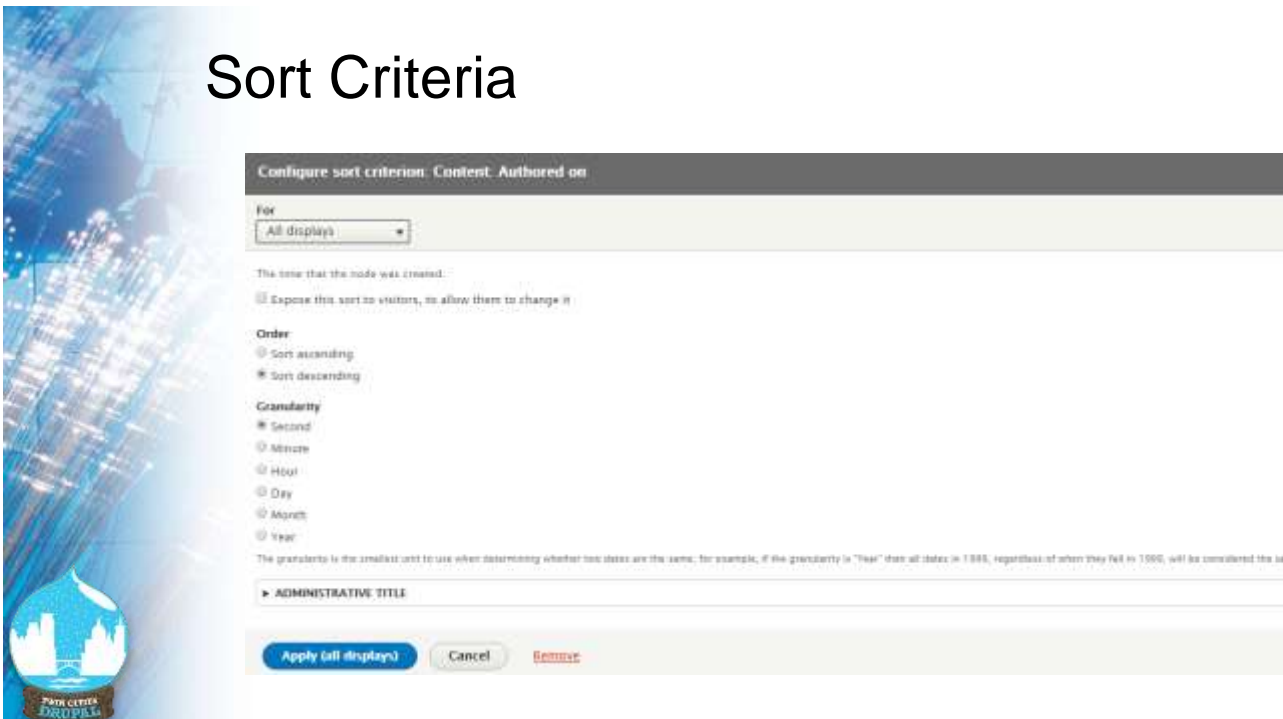
**INFO**

# Sort Criteria



The screenshot shows the Drupal 7 administrative interface for configuring the 'Available Property Listing (Content)' display. The 'SORT CRITERIA' section is highlighted with a red circle. The configuration includes various fields for title, format, fields, filter criteria, and sort criteria. The 'SORT CRITERIA' field is currently set to 'Content: Property/Region/State/Zip'.

# Sort Criteria



The screenshot shows the configuration for the 'Content: Authored on' sort criterion. The 'For' field is set to 'All displays'. The 'Expose this sort to visitors, to allow them to change it' checkbox is checked. The 'Order' section is set to 'Sort descending'. The 'Granularity' section is set to 'Second'. The 'Administrative title' field is empty.

# Relationships

Available Property Listing (Content)

Home » Administration » Structure » Views » Available property listing » Edit

⚠️ You have unsaved changes.

Displays

Page: 1 of 1 | This view has 1 Subtable Page | **Available Property Listing** | Add

Display name: Neighborhood Page

**TITLE**  
Title: Available Property Listing

**FORMAT**  
Format: Table | Settings

**FIELDS**

- Content: Title (Text)
- Content: Property Address (Text)
- Content: Property Number (Text)
- Content: Property Square Footage (Text)
- Content: Property Neighborhood (Text)

**FIELD OPTIONS**

- Content: Available (Text)
- Content: Type (Text)
- Content: Property Square Footage (Text)
- Content: Property Listing Price (Text)
- Content: Property Number (Text)

**HINT CRITERIA**

- Content: Property Neighborhood (Text)
- Content: Title (Text)

**PAGE SETTINGS**

Path: available-property-listing

Menu: No menu

Access: Everyone | Show unauthenticated content

**HEADER**

**FOOTER**

**NO RESULTS MESSAGE**

**PAGES**

Use pager: Full | Pages: 0 items

More: Add | No

**ADVANCED**

**ATTACHING FILTERS**

- Content: Property Neighborhood

**RELATED ITEMS**

**EXPOSED FORMS**

- Content: Form in block: No
- Content: Form in block: Settings

**OTHER**

- Machine Name: page-0
- Administrative structure: None
- Use AJAX: No
- Hide attachments in summary: No
- Contented later: None
- Use application: No
- Clear settings: Settings
- Cacheing: Top level
- Full cache: None

# Relationships

Add relationships

For: All displays (except overrides) | Search: open | Type: - All -

| TITLE   | CATEGORY | DESCRIPTION  |
|---|----------|--|
| Content referenced from field_open_house_property_refer | Content  | Appears in: open_house...  |
| Content using field_open_house_property_refer           | Content  | Relate each Content with a field_open_house_property_refer set to the content... |

Selected: Content using field\_open\_house\_property\_refer

# Relationships

Configure field: Content: Open House Start

File  
This attachment override

Summary: open\_house

Relationship:  
field\_open\_house\_property\_refere

Create a label

Label  
Date

Place a token after the label

Exclude from display  
Enable to hide this field as hidden. Often used to group fields, or to use as token in another field.

Formatter  
Default

Time zone override  
- NONE SELECTED -  
The time zone selected here will always be used.

Date format  
HTML Date (D/M/Y)

Choose a format for displaying the date. Be sure to set a format appropriate for the field, i.e. picking time for a field that only has a date.

► STYLE SETTINGS

► REWRITE RESULTS

Apply (this display) Cancel Restore

# Relationships

Format: Table | Settings

**FIELDS** Add ▼

Content: Title (Address) ←

Content: Property Asking Price (Asking Price)

Content: Property Number Bedrooms (# Bedrooms)

Content: Property Square Footage (Square Feet)

Content: Property Neighborhood (Neighborhood)

Content: Title (Realtor) [hidden] ←

Content: Realtor Phone

**FILTER CRITERIA** Add ▼

Content: Publishing status (= Yes)

Content: Type (= Property)

## Other View Settings

- Menu
- Permissions
- Header / Footer / No Results
- Pager



## Questions?

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<http://drupal.org/u/greggmarshall>

<http://bit.ly/D8Views>

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