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Leveraging Drupal's ECA module to inspire and automate workflows for Site Maintainers

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Coldfront Labs - May 2nd 2025

Who am I?

My name is **Andrew Lefebvre**

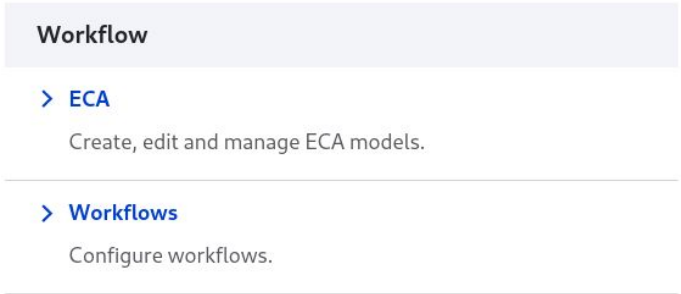
Software Developer / Project Manager for Coldfront Labs Inc

Build Web applications in Drupal since **2022**

Fan of Sci-fi, grand strategy games and tournament structures, minecraft

Drupal ECA Module

- Contributed Module for Drupal 10, 11
- Available with Drupal CMS
- Allows for automated processes to extend system workflows
- Visualizer Modeller



Isn’t this like the Rules module?

Yes.

It was very popular in the **Drupal 7** days.

The Rules module allows site administrators to define conditionally executed actions based on occurring events.

Didn’t get a proper D10 release until July ‘24

Spiritual Successor to Rules

- Both provide
  - Tools for repeated operations and procedures

- ECA has several advantages
  - Follows modern Drupal best practices
  - Very light weight on performance
  - Beautiful UI tool
  - Aligns with Symfony's event subscribers system

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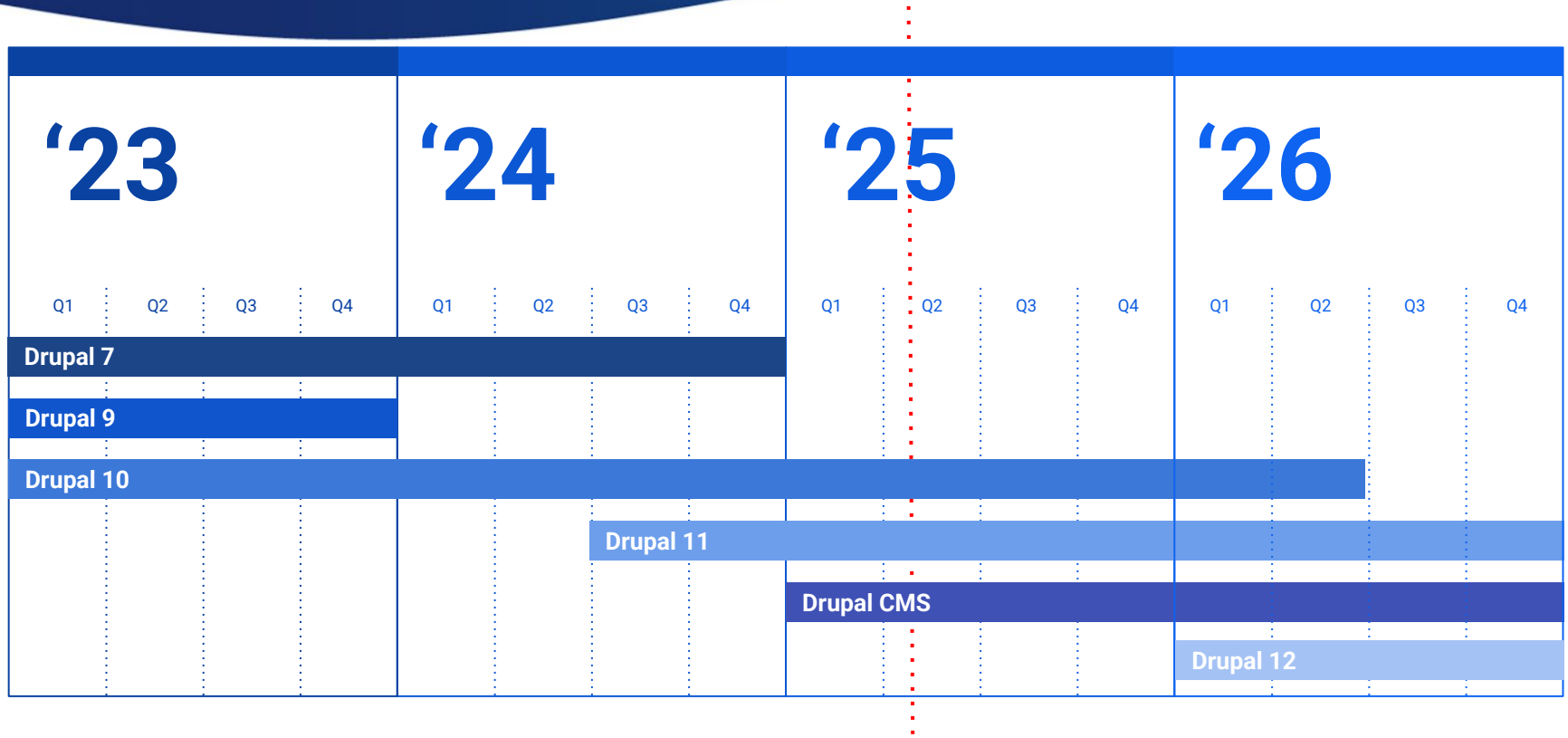


Drupal ECA

ECA is a Drupal module that processes business process models based on Drupal events. Next three slides will go over what the system does.

Events - **C**onditions - **A**ctions

E is for Events

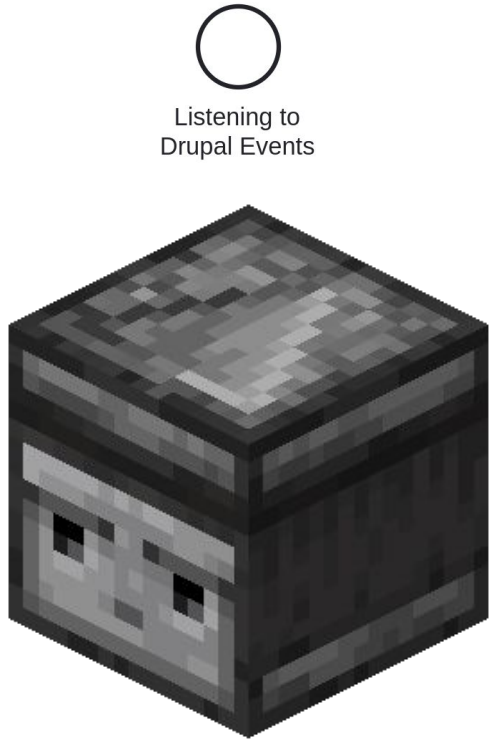
Drupal has events.

Events come from Symfony's Event system

Detect changes or triggers on the site

Events Subscribers

Event Dispatchers



C is for Conditions

Business Logic

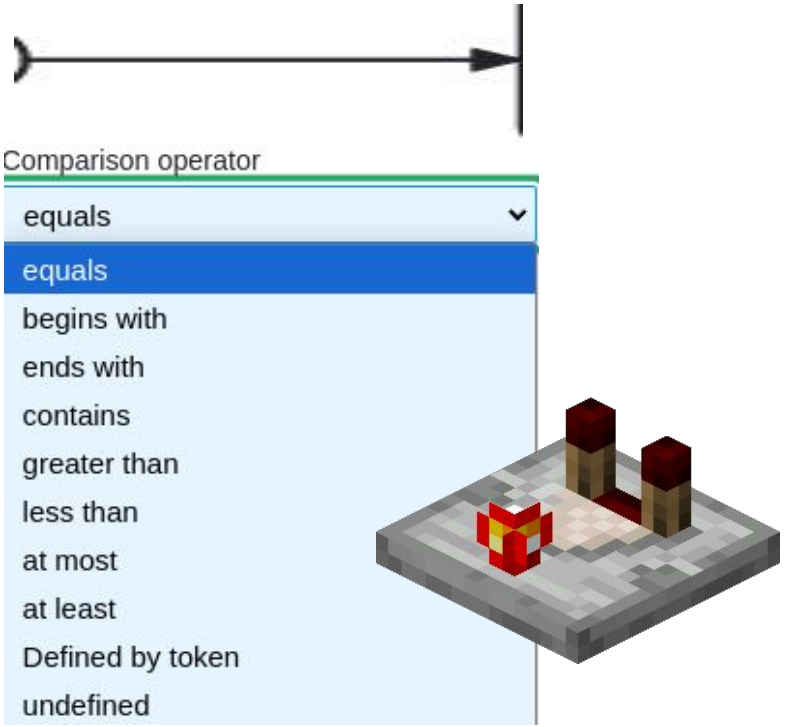
Sometimes we don't want code to run every time

Conditionals

- Equals, If's, counts

Comparators

True and false



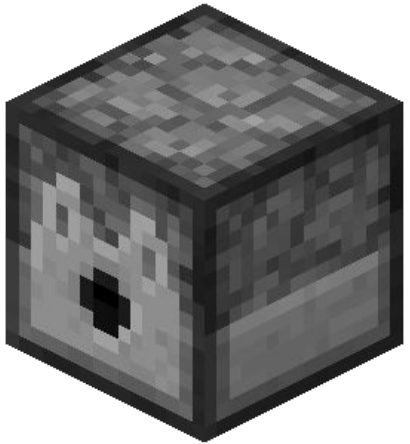
A is for Actions

Executes commands

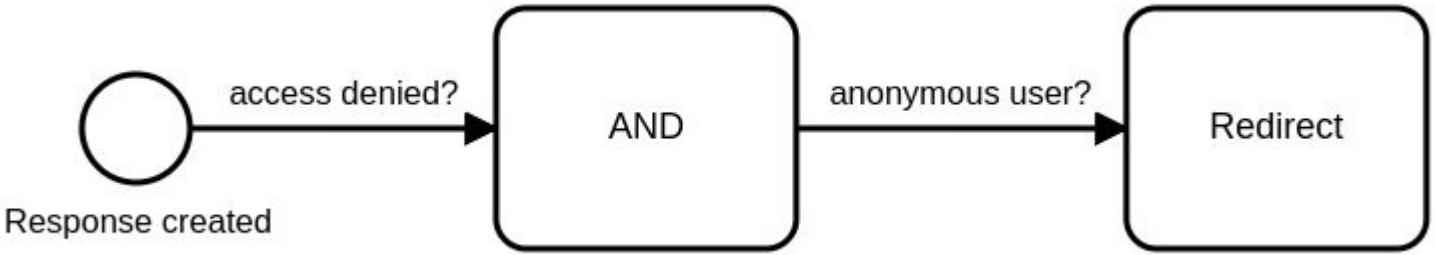
Makes changes to database, config, rendered items, user roles and much more.

Sends emails, workflow status

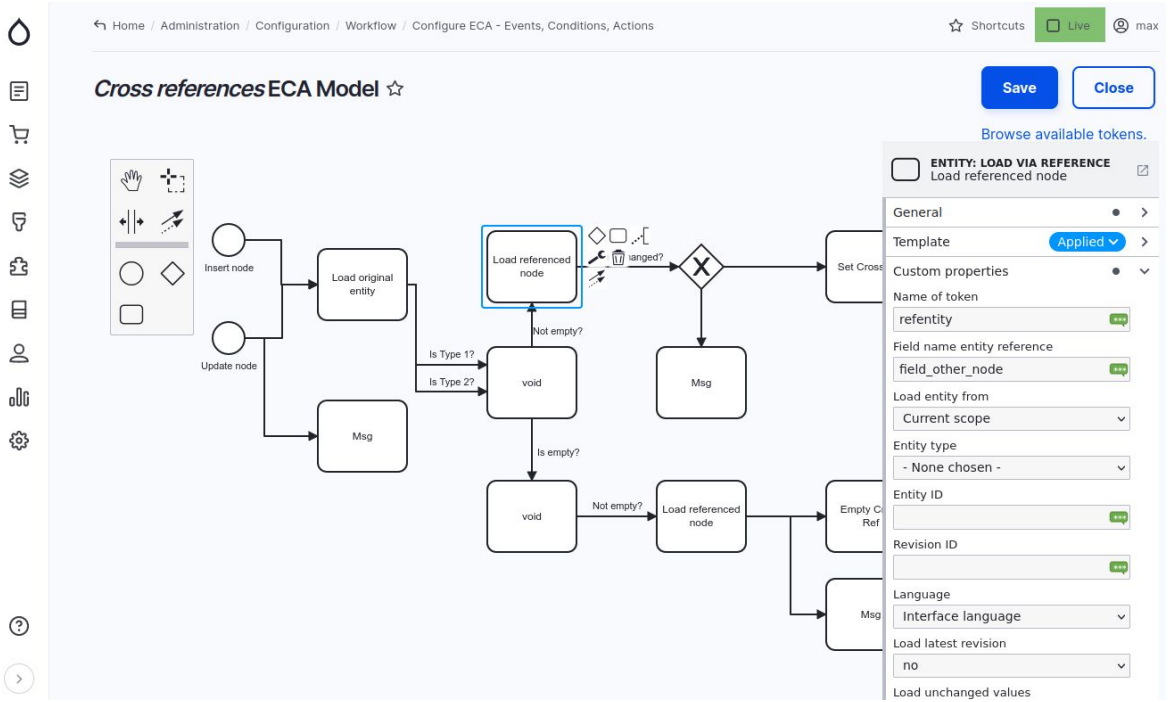
Updates field values



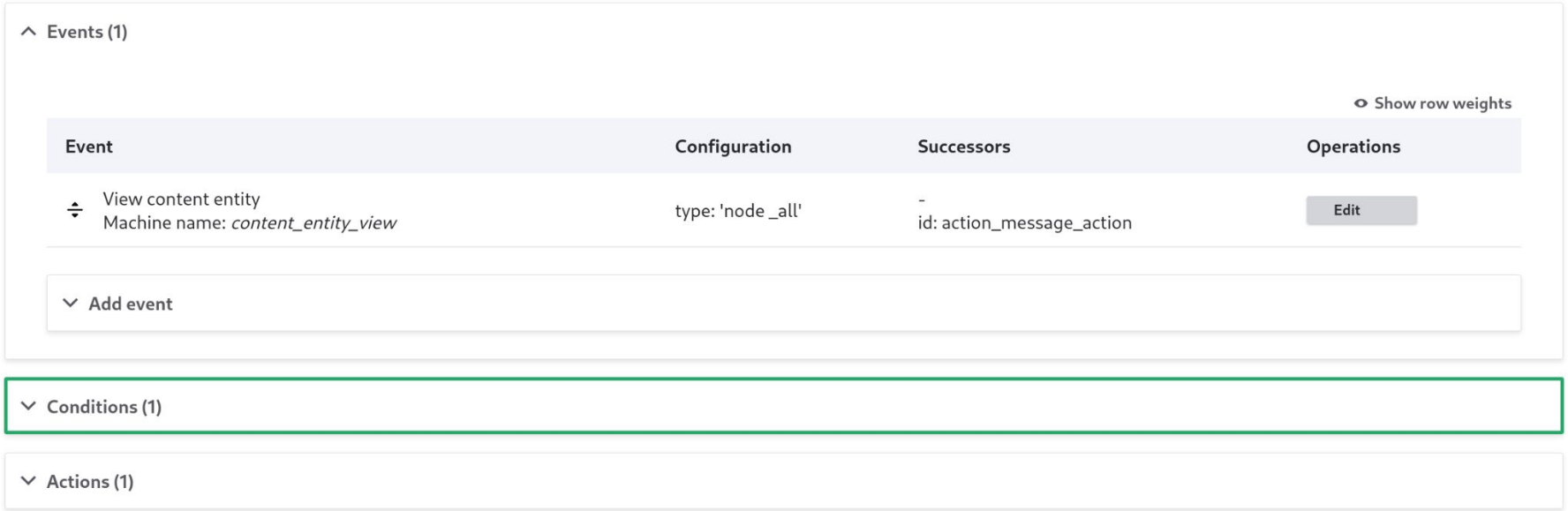
The BPMN.iO model



The BPMN.iO model



Alternative modeler



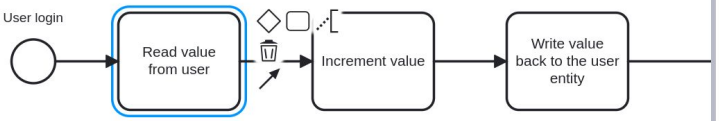
How does this work?

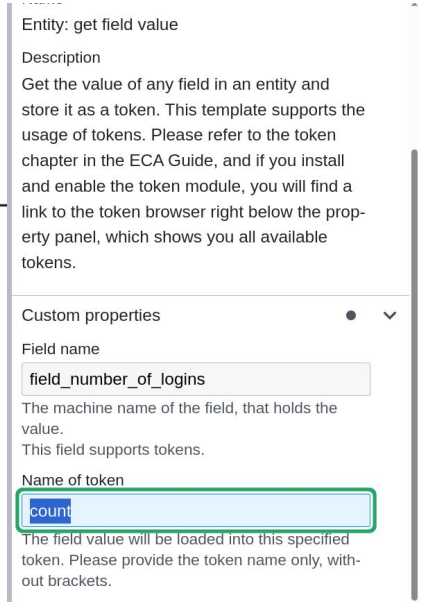
With Tokens!

But these behave more like variables, but does leverage Token system

[count]

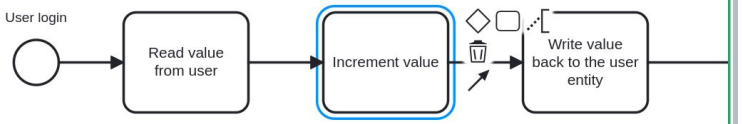
Chains of successor operations

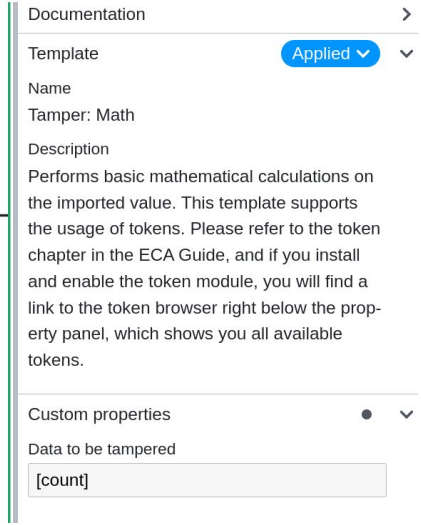




Tokens

Exists within chain.





ECA Plugins

Each of those **submodules** provides baked in events and actions available to Drupal

We don’t have to write our own custom hooks because these plugins allow us to select different types of events with the ECA module.

What sub-modules are available?

- **ECA Access:** Events and actions to control access on entities and fields
- **ECA Config:** Config events
- **ECA Content:** Content entity events, conditions and actions
- **ECA Queue:** Events, conditions and actions for queued operations.
- **ECA Render:** Events and actions to work with Render API for blocks, views and all around themes and Twig
- **ECA User:** User events, conditions and actions
- **ECA Views:** Execute and export Views query results within ECA
- **ECA Workflow:** Content entity workflow actions

What are some **Events** that ECA can listen for?

- Determining entity **access**
- Importing, saving, renaming and deleting **configuration** .ymls
- Entity **view mode** changes
- Initializing, validating, presaving, preloading, loading, creating, updating, deleting, viewing, rendering **content entities**
- Accessing **entity form** fields
- Build, process, validate, submit **forms**
- **Log** message created
- Altering and providing lists of **Metatags**
- Pre/post **workflow transition** changes
- Logging in/out, canceling, blocking of **users**
- Build, query, rendering of **views**

What are some **Conditions** that ECA can check for?

- Comparing two values
- Check entities, roles
- Check User permission, roles, id
- Updates to field values
- Forms are filled out properly, is submitted
- Tamper
  - Checks string, integer, time values of fields values/token

What are some **Actions** that ECA can automate for you?

- **Display a message** to the user
- Unpublish and Publish any **entity**, mark as sticky/promote to front page
- Send **emails**
- Clone, create, delete, save **entities**
- Disable **access** to entity form field
- **Loads** entities and stores them as a token
- Grant, Revoke **access** to individual nodes
- Rename, update **files**
- **Log** messages
- Add and set tag values for **Metatags**
- **Render** markup, view entity, link
- Trigger entity moderation state changes, workflow state change
- **Tamper** (convert, copy, filter, with values of fields, strings, times
- Create **Users**, switch account, block, unblock, give **roles**.
- Execute and Export **view** queries
- Get and set, archive, lock, open, unlock, close **webforms** submissions
- Redirect to url, update pathauto alias

Wait? There's more?

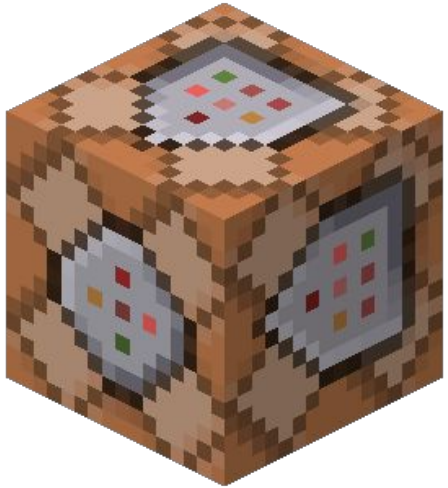
Yes, there are custom events and actions as well.

Events and Actions can be mixed and matched to provide additional functions that may be required by site maintainers.

This allows you to build and maintain a dashboard of actions, as your disposal.

Available to drush commands too Trigger any event by drush

- drush eca:trigger:custom_event views



What do you need to get started?

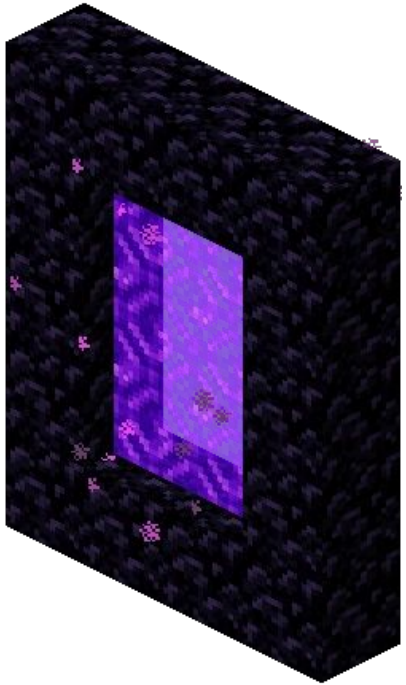
Require Drupal ECA project - https://www.drupal.org/project/eca

Enable the following modules/submodules as needed

- ECA core
- ECA UI
- ECA Base
- ECA BPMN & BPMN.iO
- Choice of;
  - ECA Access, ECA Config, ECA Content, ECA Log, ECA Render, ECA User, ECA Views,

Demo

Let’s play with the ECA module



What problems does ECA solve?

- Provides visual interpretation of processes
- Create and maintain your own event chains
- Easy to maintain long term
- Easier to share with recipes, exports, imports
- Solves the need of so many extra modules and custom code
- A “No-code” visualizer of some of Drupal’s inner workings.
- A “Code” visualizer solution of trying to add logic into Drupal.
- Site maintainers can make a rough draft with the visual flow even if they don’t understand the Drupal coding structure

Summary

Went over use-cases for ECA module

Endless possibilities of streamlining manual processes

Good place to get creative minds of different streams to collaborate

Might not be faster than writing custom code, but useful for long term planning

THANKS!

Any questions?

You can find me at @azuryte &
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