

Responsible Drupal AI Basics



DrupalEasy's introductory guide to the Drupal AI module



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- Web developer since 199-something
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Prerequisites



Prerequisites

- Proficiency in Drupal site-building
- A local development environment capable of running Drupal 11 and Drush
 - DDEV v1.24+ is recommended
- Comfort on the command line (Git, Composer, Drush)
- An API account with an AI provider



Why use artificial intelligence on a Drupal site?



Why use artificial intelligence on a Drupal site?

- Content analysis
 - Readability
 - Moderation
 - Spelling/grammar
- Content adjustments
 - Tone



Why use artificial intelligence on a Drupal site?

- Content generation
 - Suggest additional content (title, tags, image, summaries, alt tags, etc...)
 - Translations
- Site-building
 - Assistance with creation of entities, fields, etc...



Why use artificial intelligence on a Drupal site?

- Retrieval augmented generation (RAG)-assisted search
 - Encoding site content in a format that enables a chat-based, LLM-assisted search.



Why use artificial intelligence on a Drupal site?

- This class (mostly) focuses on admin-facing responsible AI techniques.
 - Human-in-the-loop.



Topics



Topics

- Choosing an AI provider
- Class site setup
- AI module setup
- AI content suggestions module
- AI CKEditor integration module
- AI logging module



Topics

- AI external moderation
- Field widget actions
- AI automators
- AI agents
- Utilizing a MCP server
- RAG-assisted search
- Drupal Canvas AI demo (optional)

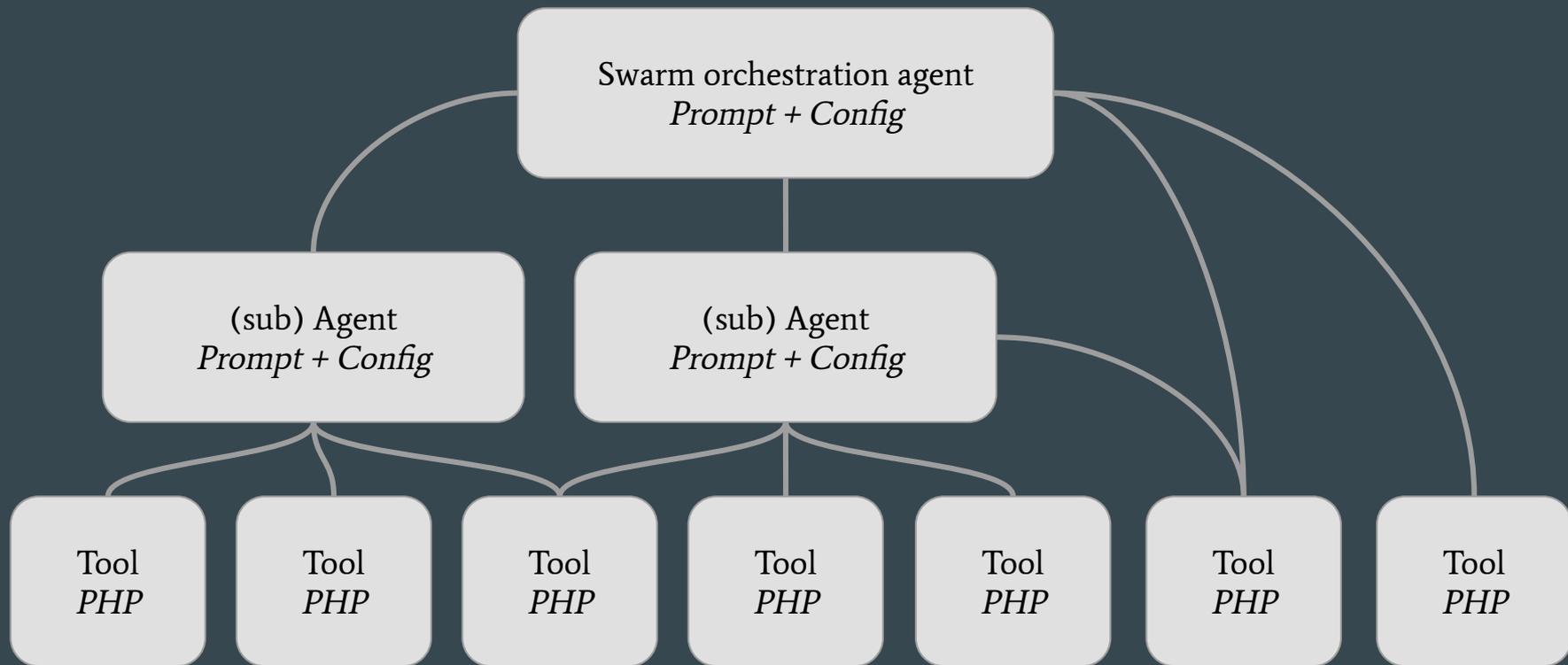


AI agents

- Standard workflow with AI normally involves a back-and-forth chat with a LLM.
- Agentic workflow gives the LLM the ability to formulate a plan to execute a task by:
 - Prompting itself
 - Using other agents
 - Using tools



AI agent basics



AI agents

- Can be utilized via:
 - AI chatbot
 - AI agent explorer



MCP

- Model Context Protocol
- MCP servers expose capabilities (including tools and data) to AI via MCP
- This allows AI to easily interact with a MCP server's tools and data in a controlled and secure manner.



MCP

- Drupal can act as a MCP server and client.
- MCP Client module - drupal.org/project/mcp_client (currently incompatible with Drupal 11.3)



RAG search - vector database

- Retrieval Augmented Generation
- Leverages text embeddings to provide enhanced search results
- Allows sites to create a vector database of their content under their control.
- Can be utilized with an AI assistant or traditional Search API view.



RAG search - via an AI assistant

- Site search then uses this vector database combines with a LLM for presenting search results.
 - The search query is sent to an LLM to create text embeddings from it.
 - These text embeddings are used to **retrieve** search results from the local/private vector database.
 - These results are then used to **augment** the initial search query.
 - The augmented search query is then sent to a LLM for a response to be **generated** .



RAG search - via Search API view

- Not all that different than traditional Search API index search views.
- Limited support for Filterable Attributes (a bit like facets.)



RAG search

