Services in Drupal 8

Engineering Meeting - 1/13/15

Services module in Drupal 7

- Basic framework for web services
- It's an API for APIs
- Define an endpoint, select services, select settings, dunzo
- Available settings
  - Set an endpoint (path)
  - Set a version
  - Select which services you want
  - Select any authentication protocol
  - Select accepted response formats (XML, JSON, Rest)

Drupal 8 Core Fundamentals

- RestAPI in Core
- Data formats are a part of the Serialization API
- Standardization around Entities
- Plugin system
- Cache tags
- Symfony components
  - Routing system
  - Controllers
  - Derivers (translation systems between two disparate parts of the system)

RestAPI demo

- Relevant core modules:
  - HAL, Serialization
  - Basic Auth
  - RESTFul Web Services
- Configuration on the permissions page
  - PHP_AUTH_USER and PHP_AUTH_PW in header params
- No core provided UI
- Only whole-entity CRUD operations, favors HAL format
- Relevant contrib:
  - REST UI, OAuth

RestAPI Limitations

- TL;DR - Only CRUD functionality for entities
- Fixed endpoints, leverage HTTP methods
- No API for custom services or system actions
- Need RestUI without code-based changes
- HAL-JSON and Basic Auth is not configurable

Services module in Drupal 8

- ServiceEndpoint Config Entity (exportable)
  - Set your own endpoint
  - Select your own set of service definitions
- Service Definitions as a Plugin, extensible by any module to do custom definitions
- Performance friendly
  - Very low in the Drupal bootstrap (StackMiddleware)
  - Respects Cache Tags through Entity system
- Deriver to expose basic CRUD Service Definitions for all Drupal 8 entities (like RestAPI)

Examples

- Contextual/partial requests
  - Exposing interfaces that perform targeted actions that do not require full entity interaction
- User login / log-off actions
- Custom workflows
  - Hide a product if the inventory is out
- Complex interactivity across multiple entities
  - Expire a user, unpublish his/her content, and send notification to admins
- Sequential or conditional actions
  - Remove a set of users by role, delete a set of nodes by type

Current challenges

- Unfortunately, limitations exist in D8 core
- Versioning requires versioned configuration
  - You can't version a service if your CMI layer changes data structures and doesn't version
- Authentication providers is system-wide, not endpoint
  - Basic Auth module changes every route
  - Service Provider support custom access checks
  - This assumes Drupal's core authentication is used
  - Result: Authentication is not configured per endpoint, but does support access checks from Service Providers

Services module demo

- Enable services
- Set up endpoint, select definitions
- Use of Postman
  - Endpoint appended by each service definition
  - "Accept" value sets the response format

Questions?