



< DRUPAL TO DRUPAL MIGRATIONS, DECONSTRUCTED />

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About Promet Source



Founded in 2003, Promet Source is a web design and development company that specializes in open source solutions for government, higher education and association/nonprofit clients.



Promet realigned its core services and solutions to be a Drupal development shop in 2009.

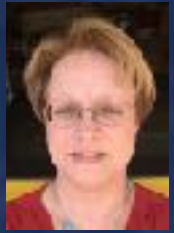


With headquarters in Chicago and an office in Cebu, Promet Source is a comprehensive Drupal development agency that offers custom design, custom implementations and full 24x7 support to its clients.





About Me



- Lisa Ridley, Sr Solutions Architect
- 20 years project management experience
- 12 years web and mobile app development experience
- 8 years Drupal development experience
- Specialize in Site Architecture, Back end development and troubleshooting, continuous integration solutions, automated testing

Migrations

What is a Migration?

The process of moving from the use of one operating environment to another operating environment that is, in most cases, thought to be a better one.



What are we migrating?

System Migration: Moving from one major version to another major version of Drupal

Configuration Migration: Moving application configuration, data stores (content types), Menus, Vocabularies and other configuration constructs from one major version to another major version of Drupal

Content Migration: Moving information stored in one major version to another major version of Drupal

Presentation Migration: Generating the presentation layer of your application, i.e, the theme



Planning your Upgrade

Planning Process

- Inventory Contrib modules
- Check contrib modules for upgrade paths
 - Drupal 7: Upgrade Status module (upgrade_status)
 - Determine path forward if Upgrade path is not available
- Inventory custom module functionality
 - Plan for converting custom module functionality from D7 to D8



Planning Process (cont.)

- Inventory data constructs:
 - Content Types: node based or entity based
 - Contrib module fields
 - User Profiles
 - Roles
 - Permissions
 - Taxonomy Vocabularies
 - Image Styles
 - Text filters / CKEditor configurations
 - Menus
 - Blocks
 - Views
 - Rules
 - Contrib module configuration stores



Planning Process (cont.)

- Inventory data
 - Number of nodes of each type
 - Number of entity based content entities
 - Number of taxonomy terms
 - Number of images / files
- Content related data housed in tables associated with custom module, or contrib modules with no upgrade path



Migration Tools

Available Drupal Migration Tools

- Drupal 8 Core Modules
 - Migrate
 - Migrate Drupal
 - Migrate Drupal UI
- Drupal 8 Contrib Modules
 - Migrate Tools (migrate_tools)
 - Migrate Plus (migrate_plus)
 - Drupal Upgrade (migrate_upgrade)
 - Migrate Manifest (migrate_manifest)
 - Drush version 8.1



Gather your source information

Source Information

- D7 database
- Location of the D7 files / images
 - If a public website with no private files, you do not need a copy of the files directory
 - If you have private files, or the website is behind a firewall, you need a copy of the files directory



Initialize your D8 destination site

Initialize your D8 site

- Install D8 core
 - Start with “minimal” profile
- Install Core and Contrib modules for content
- Install Migration tools (contrib modules)
- Create a database for your D7 source database, and upload your D7 database
- Add a database connection array to your D8 settings.php for your D7 database
- DO NOT create content types, taxonomy vocabularies, add user fields, etc.
 - With a few exceptions, these will be created during the migration process



Building your Migrations

It starts with Templates

- Templates are .yml files that contain meta instructions for defining a migration from the source (D7) to the destination (D8)
- Templates have four main parts
 - Source metadata
 - Process metadata
 - Destination metadata
 - Dependency metadata
 - Certain templates also have a “deriver”



Node Migration template

```
id: d7_node
label: Nodes
migration_tags:
  - Drupal 7
deriver:
  Drupal\node\Plugin\migrate\D7NodeDeriver
source:
  plugin: d7_node
process:
  nid: tnid
  vid: vid
  langcode:
    plugin: default_value
    source: language
    default_value: "und"
  title: title
  uid: node_uid
```

```
status: status
  created: created
  changed: changed
  promote: promote
  sticky: sticky
  revision_uid: revision_uid
  revision_log: log
  revision_timestamp: timestamp
destination:
  plugin: entity:node
migration_dependencies:
  required:
    - d7_user
    - d7_node_type
  optional:
    - d7_field_instance
    - d7_comment_field_instance
```

Drupal 8 Templating tool

Migrate Upgrade's Drush Commands & Migrate Plus module

```
drush migrate-upgrade \  
  --configure-only \  
  --legacy-root=https://www.d7site.com \  
  --legacy-db-key=<key_from_database_connection_array>
```

```
drush migrate-upgrade \  
  --configure-only \  
  --legacy-root=/path/to/sites/default/files \  
  --legacy-db-key=<key_from_database_connection_array>
```

Templates can be exported with “drush cex”

- Migration templates are all named “migrate_plus.migration.*”



Review templates for “reasonableness”

- You may not want some of the system configuration templates:
 - Site
 - DBLog
 - Update
- Comments migration is problematic
- Based on your specific website requirements, you may need to modify dependencies:
 - Move some optional dependencies to required
 - Add or Remove some dependencies
- You may not want to migrate ID fields from D7



Custom Plugins

- Built-in D8 plugins may be insufficient to complete your site migration
 - Fields without a migration pathway
 - Modules that affect content may not have a clear migration pathway
- Plugins are specified in migration template files
- Plugins are of three types:
 - Source (most common type to write)
 - Process (next most common)
 - Destination (less common)



Migration Manifests

What is a Migration Manifest?

- A list of migrations in .yml format
 - A “migration” is defined by a migration template
- Manifests do not define the order in which migrations are performed, but rather the specific migrations to be performed
- The order of performance is determined by the dependencies for each migration



Test your Project Migration

Testing

- This will very likely be an iterative process
 - Migration template dependencies may need to be adjusted
 - Migration Plugins may need to be added or tweaked
 - Migration Manifests may need modifications
- Testing involves running the migration and checking results
- Tweak templates, plugins and manifests until results are acceptable



Sources and References

For more information...

- [Three part blog post](#) on D7 to D8 migrations by [socketwrench](#):
 - <https://deninet.com/blog/2017/05/29/building-custom-migration-drupal-8-part-1-getting-started>
- [Drupalize.me video series](#) on Migrations:
 - <https://drupalize.me/tutorial/introduction-migrations-drupal-8>
- [Drupal.org documentation](#) on Migrations with Drush:
 - <https://www.drupal.org/node/2350651>
- [Drupal.org documentation](#) on Drupal to Drupal migrations:
 - <https://www.drupal.org/docs/8/upgrade/upgrading-from-drupal-6-or-7-to-drupal-8>



For more information...

- [Migrating Data from a SQL Source:](https://www.drupal.org/docs/8/api/migrate-api/migrate-source-plugins/migrating-data-from-a-sql-source)
 - <https://www.drupal.org/docs/8/api/migrate-api/migrate-source-plugins/migrating-data-from-a-sql-source>
- [Writing a Process Plugin:](https://www.drupal.org/docs/8/api/migrate-api/migrate-process/writing-a-process-plugin)
 - <https://www.drupal.org/docs/8/api/migrate-api/migrate-process/writing-a-process-plugin>
- [Migrate Destination Plugins & Examples:](https://www.drupal.org/docs/8/api/migrate-api/migrate-destination-plugins-examples)
 - <https://www.drupal.org/docs/8/api/migrate-api/migrate-destination-plugins-examples>
- [Migrating Configuration Entities:](https://www.drupal.org/docs/8/api/migrate-api/migrate-destination-plugins-examples/migrating-configuration-entities)
 - <https://www.drupal.org/docs/8/api/migrate-api/migrate-destination-plugins-examples/migrating-configuration-entities>



Questions?