

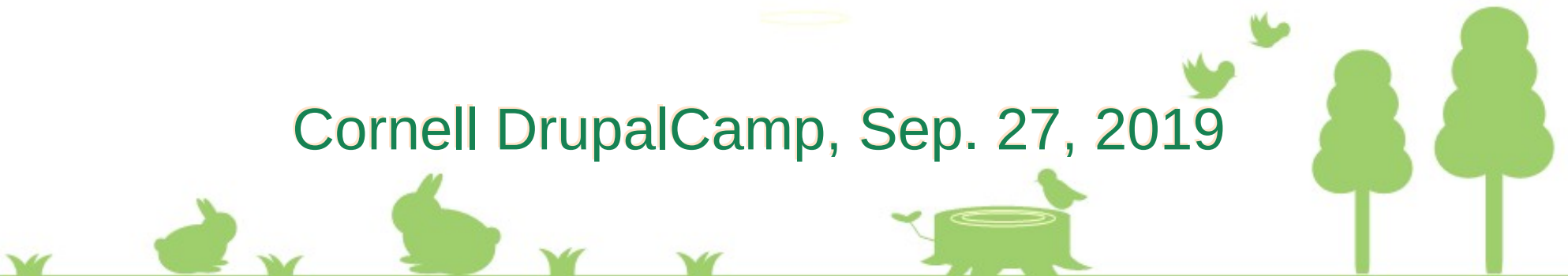
Migrate a Static Website to Drupal 8

Gung Wang

Senior Web Developer

OPIN Software Inc.

Cornell DrupalCamp, Sep. 27, 2019



WELCOME TO OPIN

Your home for enterprise Drupal

About Myself

- 9 Years Drupal Experiences since 2010
- Master Degree in Computer Sciences
-
- Acquia Certified Frontend Specialist - Drupal 8
- Acquia Certified Developer - Drupal 8
- Acquia Certified Site Builder - Drupal 8
-
- Joint in Cornell DrupalCamp and Presented since 2014



Static Website

File a Complaint
File a complaint about a vacant property, or a product, service, or institution that we supervise.

Applications & Licensing
Learn more about licensing, applications and electronic submission via our portal.

Who We Supervise
Learn who we supervise or search for a particular entity, branch or location.



How Do I...

- Obtain a lien release on a vehicle?
- File a FOIL request?
- Serve Process on the Superintendent?
- Find Unclaimed Funds?
- File a 90-Day Foreclosure Notice?
- Obtain approval to use certain words in a corporation title?
- Learn about Tenant's Rights in Foreclosure?
- Learn about mortgage escrow accounts?

1-800-342-3736
Get Free Language Assistance

- Español (Spanish) >
- 中文 (Chinese) >
- Русский (Russian) >
- Italiano (Italian) >
- Kreyòl ayisyen (Haitian-Creole) >
- 한국어 (Korean) >
- Polski (Polish) >
- More Information

Current News

- November 2, 2018: **DFS Authorizes Expansion of New York State-Chartered Bank**
- November 1, 2018: **DFS Superintendent Vullo Directs Health Insurers and Brokers to Ensure Plans Deliver all Consumer Protections Provided Under New York Law**
- November 1, 2018: **DFS Grants Virtual Currency License to Coinsource, Inc.**
- October 26, 2018: **DFS Announces Conversion of PCSB Bank to a New York State Chartered Commercial Bank Serving the Lower Hudson Valley**
- October 23, 2018: **DFS Authorizes Coinbase Global, Inc. to Form Coinbase Custody Trust Company LLC**

For more news, statements, and related media, visit our [DFS News Room](#).

Recent Developments

- October 25, 2018: **Statement by New York Financial Services Superintendent Maria T. Vullo Regarding the Lawsuit Filed by the CSBS Challenging the Authority of the Comptroller of the Currency to Create a Nonbank Special-Purpose National Bank Charter for "Fintech" Companies**
- October 18, 2018: **Opening Statement of DFS Superintendent Maria T. Vullo for the DFS Hearing Regarding the Application by CVS Health Corporation and CVS Pharmacy, Inc. to acquire Aetna Health Insurance Company of New York**
- September 21, 2018: **DFS to Hold Hearing Regarding the Proposed Acquisition of Aetna Inc. by CVS Health Corporation on October 18, 2018**
- September 17, 2018: **DFS Comment Letter to Connecticut Insurance Department Regarding the Proposed Acquisition of Aetna Inc. by CVS Health Corporation (PDF)**
- September 18, 2018: **Statement by Financial Services Superintendent Maria T. Vullo Regarding the OCC's Decision to Accept Fintech Charter Applications**
- August 31, 2018: **Statement by Financial Services Superintendent Maria T. Vullo Regarding the NCUA's Liquidation of Melrose Credit Union**
- July 31, 2018: **Statement by DFS Superintendent Maria T. Vullo on Treasury's Endorsement of Regulatory Sandboxes for Fintech Companies and the OCC's Decision to Accept Fintech Charter Applications**
- July 30, 2018: **Pittsford Psychiatrist Charged With Health Care Fraud (U.S. Attorney, Western District of N.Y.)**
- July 5, 2018: **Statement by New York Financial Services Superintendent Maria T. Vullo regarding the Court's ruling on Regulation 208**
- June 22, 2018: **Statement by DFS Superintendent Maria T. Vullo Regarding Japanese Regulator's Action on Bitfyer Japan**

FREE CREDIT FREEZES
Available as of September 21, 2018

DFS: SAFEGUARDING HEALTHCARE FOR ALL NEW YORKERS

DFS INSIGHTS FEDERAL EFFORTS TO ROLL BACK FINANCIAL SERVICES REFORMS

CYBERSECURITY REGULATIONS
Key Dates and Information for Financial Institutions

CREDIT REPORTING AGENCY REGISTRATION
Information about upcoming registration requirements

PAID FAMILY LEAVE Program

REGISTER TO VOTE
Sign up online or download and mail in your application.
REGISTER NOW

Disaster Assistance: (800) 339-1759 Disaster Resource Center

Tweets from NYDFS

Health Insurance Resource Center

Health insurance is very important. It protects you and your family from a potentially catastrophic financial loss from a major illness. Even if you are healthy, you need health insurance. If you wait until you are sick and then try to obtain insurance, the insurance company may not pay for care relating to a pre-existing condition.

- [New York Health Insurance Policies & Programs](#)

New York State of Health Marketplace

The New York State of Health Marketplace can help you shop for and enroll in health insurance. You can use the Exchange to compare insurance options and prices offered through the Exchange, calculate costs and enroll in coverage online, in person, over the phone or by mail. You may also qualify to receive federal tax credits to help pay for insurance offered through the Exchange. You can purchase insurance through the Health Benefit Exchange now for coverage starting January 1, 2014. You can also buy coverage directly from an insurance company, but tax credits will not be available.

- [New York State of Health Marketplace \(external site\)](#)

NYS Provider & Health Plan Look-Up

The NYS Provider & Health Plan Look-Up includes information about the health care providers that participate with health plans (in their networks), including coverage offered through NYSOH, government programs, HMOs and commercial insurance plans. Use this tool when you are deciding which health plan to enroll in or when you are looking for a provider, for example a hospital or doctor, that participates with your plan. Data in the NYS Provider & Health Plan Look-Up is updated with information sent to New York State directly by health plans at least every three months, or whenever health plans report a significant change in their network.

- [NYS Provider & Health Plan Look-Up \(external site\)](#)

Rights & Responsibilities

- [Your Rights as a Health Insurance Consumer](#)
- [Health Care Provider Rights and Responsibilities](#)
- [Protection from Surprise Bills and Emergency Services](#)

Health Insurance Premium Rate Increases and Prior Approval

Under Prior Approval law, enacted June 8, 2010, insurance companies are required to file an application with the DFS for prior approval to increase their health insurance premium rates. The Department has the authority to review the actuarial assumptions behind an insurer's proposed rates and to review the financial condition of the insurer to make certain proposed rates are fair and appropriate. The Department may approve, reject or modify the insurer's proposed rates.

In addition, insurance companies are required to send you a notice about a proposed premium rate increase when they file their application with DFS that states that an application has been filed and that you can review the application on this website and submit comments about the premium increase.

- [Learn more about Health Insurance Premium Rate Increases and Prior approval](#)



What is the Plan of Migration?

- Migration strategy: automatic migration via custom programs;
- Web contents analysis on the old static website;
- Software design of the migration program;
- Phase I: Implementing program of web crawling and webpage parsing => output JSON files (PHP);
- Phase II: Implementing program to import JSON data into Drupal 8 site (RESTful API);
- Phase III: QA test;
- Phase VI: Finally, to run programs to migrate the whole site to Drupal 8 site on Production.



What shall I Prepare for the Migration?

- Install and Setup the Drupal 8 Local Environment
 - Drupal RESTful modules
- Setup a Local Site for the Old Static Website
 - Local site is better than the official site: performance and traffic issue.
- Install and Config the RESTful modules
 - JSON, Basic Authentication, Cookies.
 - GET, POST, PATCH methods for the Content type of DFS Page.



Resources

My PHP source code:

https://gitlab.com/drupalcamp/cornell2019/tree/master/migration_dfs

Drupal RESTful modules and functionality

<https://www.drupal.org/docs/8/core/modules/rest>

Drupal 8 WordPress Migration module

https://www.drupal.org/project/wordpress_migrate

My Drupal 8 module:

https://gitlab.com/drupalcamp/cornell2019/tree/master/migrate_wp_postprocess



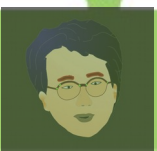
Analyze the Webpages of Static Site I

Classify contents as categories:

- 1st-level pages,
- 2nd-level pages,
- 3rd-level pages,
- aside contents,
- banner or bars,
- re-usable components,
- header,
- footer,
- global navigation menus,
- local navigation menus,
- custom menus,

Files:

- Images,
- PDFs,
- Words,
- Excels,



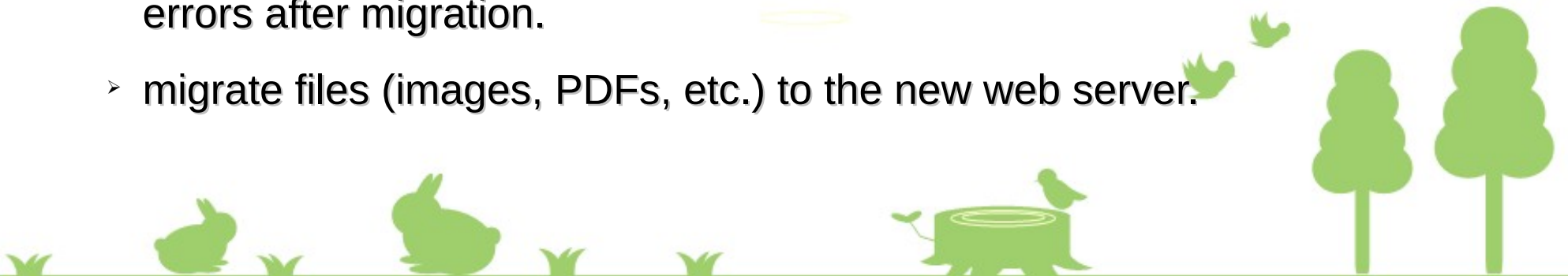
Analyze the Webpages of Static Site II

- 1: all valid URLs of Top, Second and Footer menu: 71 Hyperlinks
- 2: all valid URLs of web pages and files: 7723 URLs (pages and files)
- 3: all valid URLs of MS-Excel files: 26 Excel files
- 4: all valid URLs of PDF files: 5265 PDF files
- 5: all valid URLs of TEXT files: 27 Text files
- 6: all valid URLs of MS-Word files: 80 Word files
- 7: all valid URLs, and Sub HyperLinks: 30,000 hyper links



What will the Program Do?

- › map the old contents/pages into Drupal content types.
- › parse web pages and classify the contents.
- › replace/update the Hyperlinks (URLs).
- › replace/update URL resources for images, files(PDFs, Words), JS files.
- › output contents classified in categories to JSON files.
- › import JSON files to Drupal 8 => create all nodes.
- › Figure out the URL Rewrite rules in web server configuration, in .htaccess configuration, or in Drupal to avoid broken links and 404 errors after migration.
- › migrate files (images, PDFs, etc.) to the new web server.



Map the Categories to Taxonomy Terms

```
'consumer' => '36', // Consumers
'consumer/auto/' => '61', // Consumers - Auto Insurance
'consumer/student_protection/' => '66', // Consumers - Student Protection
'consumer/shopping_sheet/' => '66', // Consumers- Student Protection
'consumer/homeown/' => '71', // Consumers - Help for Homeowners
'consumer/inshelp/' => '76', // Consumers - Insurance Help
'consumer/ltc/' => '81', // Consumers - Long Term Care
'consumer/healthyny/' => '86', // Consumers - Medicare Beneficiaries
'consumer/holocaust/' => '91', // Consumers - Holocaust Claims
'healthyny/rates/' => '134', // Consumers - Healthy New York Rates by County

'banking' => '96', // Applications & Licensing - Banking
'insurance' => '101', // Applications & Licensing - Insurance Companies
'insurance/life/' => '106', // Applications & Licensing - Life Insurances
'insurance/health/' => '111', // Applications & Licensing - Health Insurers
'insurance/ogco*/' => '133', // Applications & Licensing - Office of General Counsel Opinion
'insurance/circltr/' => '135', // Applications & Licensing - Circular Letters Issued

'legal' => '46', // Industry Guidance
'legal/interpret/' => '131', // Industry Guidance - Banking Interpretations
'legal/industry/' => '132', // Industry Guidance - Legal industry
'reportpub' => '51', // Reports & Publications
'reportpub/wb' => '116', // Reports & Publications - Weekly Bulletins
'about' => '56', // Contact Us
'about/press/' => '121', // Contact Us - Press Release
'about/statements/' => '126' // Contact Us - Superintendent Statements
```



PHP Script I: Crawl, Parse, Output JSON

```

▶ absurl
▶ _mycopy
▶ is_a_file
▶ change_url_img
▶ change_url
▶ check_href_valid
▶ _pullIntoJsonFile
▶ _crawl_page
▶ noneHttpRequest
▶ copy_doc
▶ handle_double_dots
▶ getFlag
▶ isNavItem
▶ parse_webpage_content
▶ getTermID
▶ get_dom_title
▶ handle_content
▶ get_elements
    
```

- Crawl the website page by page;
- Parse the content on pages;
- Parse and rewrite the url hyperlink in the page;
- Parse image, rewrite the url and download images;
- Map categories to taxonomy terms
- Construct the data and output to Json file



PHP Script II: Import JSON data to Drupal 8

```
function post_json_drupal($json, $postURL, $passwd, $strToken) {
    if (strstr($postURL, '.local')) {
        $strUser = 'wang';
    }
    else {
        $strUser = 'dfs.ny.gov';
    }
    $execStr = <<<EOF
    curl --insecure \
    --include \
    --request POST \
    --user $strUser:$passwd \
    --header 'Content-type: application/json' \
    --header 'X-CSRF-Token: <$strToken>' \
    $postURL \
    --data-binary '$json'
    EOF;

    // print $execStr;
    if (exec($execStr)) {
        // print "\n###\n";
        return TRUE;
    }
    else {
        print "!!!!!\n $execStr \n ";
        return FALSE;
    }
}
```

- Not complicated
- Read JSON file one by one
- Import data via POST in curl



Just Do It

I will run these two PHP programs mentioned above.

My PHP source code:

https://gitlab.com/drupalcamp/cornell2019/tree/master/migration_dfs

Drupal RESTful modules and functionality

<https://www.drupal.org/docs/8/core/modules/rest>

Drupal 8 WordPress Migration module

https://www.drupal.org/project/wordpress_migrate

My Drupal 8 module:

https://gitlab.com/drupalcamp/cornell2019/tree/master/migrate_wp_postprocess



Share another project: WordPress to Drupal 8

- Content migration strategy: automatic migration via Contrib Modules;
- WordPress XML data analysis;
- Test migration;
- I. Change the configuration of WordPress Migrate;
- II. Run the migration process in WordPress Migrate;
- III. Implement a custom module to handle special data depending on Client's Requirement;
- VI. Finally, do the migration on Production.



**Thank You So Much !
Any Questions?**



Email me:

gung.wang@opin.ca

Cornell DrupalCamp 2019

