

10/28/2024

Training Tuesday

Don't Run from the DMC

Presented by:

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Overview

1. About Me
2. The DMC
3. The Components
4. Screen Share
5. Webhooks
6. Q&A



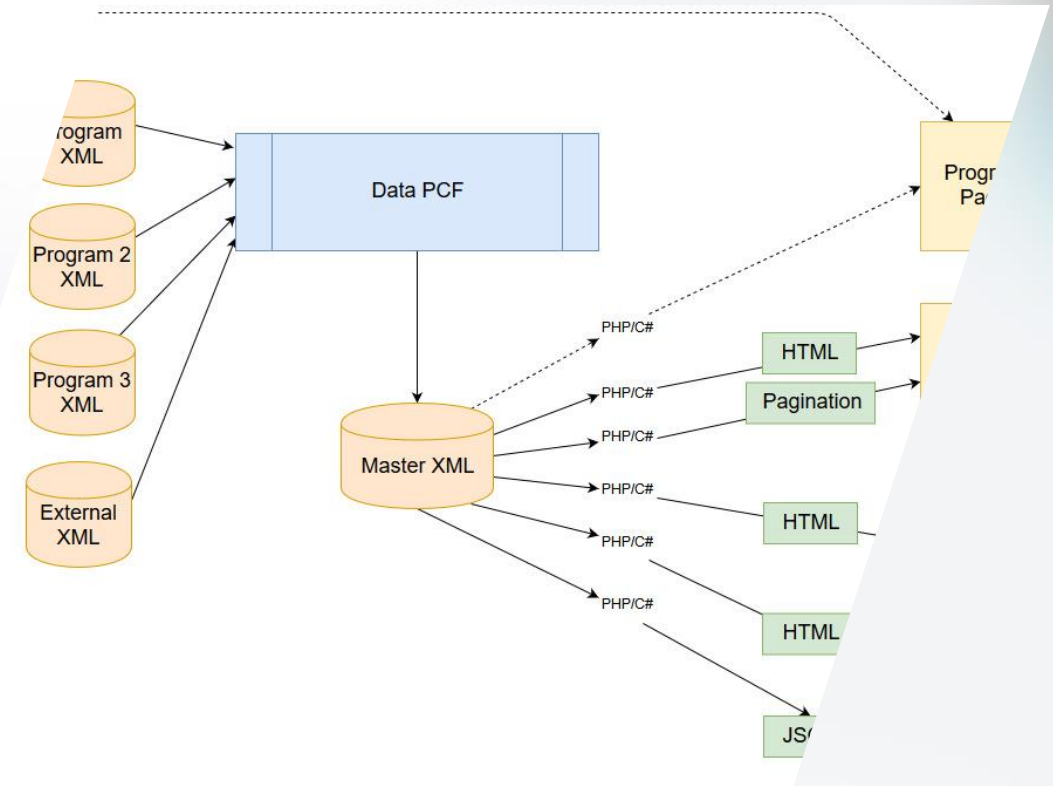
Shaun Stewart

- **IBM**
 - Operations Monitoring
- **Ecampus Books**
 - Web developer with ASP
- **Sargent and Greenleaf**
 - Technical support, Training, Web developer
- **Modern Campus**
 - Technical Support Engineer.

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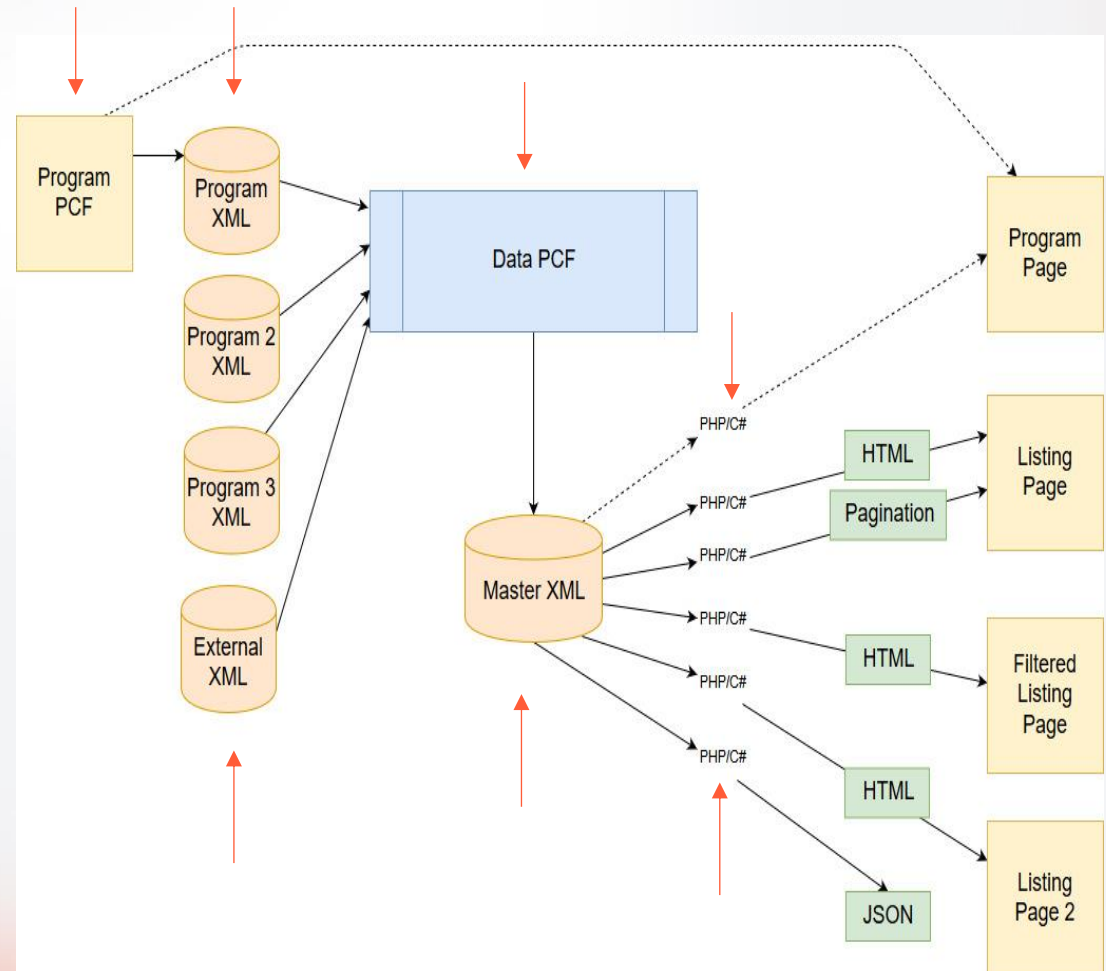
Data Management Core (DMC)

The DMC is a code base for dynamically displaying data from XML files. It is available in both PHP and C#. It is used to easily query data from an XML by filtering, sorting and pagination. You can choose the data format to output such as HTML, JSON or XML. The DMC is split into two separate objectives. The first objective is the collection, aggregation and mapping of a data PCF. The data PCF outputs the master XML. The second objective is the querying of data from a given XML. The DMC enables developers to easily query an XML similar to how you would query a database table using a SQL select statement. Instead of a SQL query the DMC uses option parameters to specify filtering, sorting, pagination and truncation. It also allows you to choose which fields to include in the returned record set and what data construct should be returned such as HTML, JSON or XML.



Parts and Pieces

- **Program PCF** – The pcf file which have xsl calls for data aggregation (blog, faculty, news articles).
- **Program XML** – The XML file created after the single pcf page (blog, faculty, news article) has been published to the production server.
- **Data PCF** – The pcf file designed to aggregate (collect) the data from the program xml files.
- **Master XML** – The XML file create from aggregation (collection) of data from the program xml files. Created when the data pcf page is creating.
- **PHP/C#** -The scripting code used to render the data into an HTML or JSON format.



Program PCF/XML Multi-Edit and DSN

```
<?pcf-stylesheet path="/_resources/xsl/_dmc/_core/single-item-xml.xsl"
title="XML" extension="xml" alternate="yes" ?>
```

```
<parameter name="dsn">faculty</parameter>
```

```
<item>
```

```
<ouc:div label="email" group="Everyone" button="hide"
id="multiedit"><ouc:multiedit type="text" prompt="Email" alt="Enter
Email. Used to pull in data from external
XML."/>addisont@apsu.edu</ouc:div>
```

```
<ouc:div label="office-hours" group="Everyone" button="hide"
id="multiedit"><ouc:multiedit type="textarea" prompt="Office Hours"
alt="Enter your office hours." editor="yes" section="Additional
Info"/>MWF 10:00am - 12:00pm</ouc:div>
```

```
<ouc:div label="image" group="Everyone" button="hide"><ouc:multiedit
type="image" prompt="Image" alt="Select your image."
path="/images/faculty" lockout="yes"/></ouc:div>
```

```
</item>
```

```
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <?pcf-stylesheet path="/_resources/xsl/news-detail.xsl" title="HTML" extension="html"?>
3 <?pcf-stylesheet path="/_resources/xsl/_dmc/_core/single-item-xml.xsl" title="XML" extension="xml" alternate="yes" ?>
4
5 <!DOCTYPE document SYSTEM "http://commons.omniupdate.com/dtd/standard.dtd">
```

```
56 </ouc:properties>
57
58 <parameter name="dsn">galaxy</parameter>
59
60 <item>
```

```
60 <item>
61 <ouc:div label="title" group="Everyone" button="hide"><ouc:multiedit type="text" prompt="
62 <ouc:div label="item_date" group="Everyone" button="hide"><ouc:multiedit type="datetime"
63 <ouc:div label="author" group="Everyone" button="hide"><ouc:multiedit type="text" prompt="
64 <ouc:div label="thumbnail" group="Everyone" button="hide"><ouc:multiedit type="image" pro
65 <ouc:div label="summary" group="Everyone" button="hide"><ouc:multiedit type="textarea" pr
66 Jupiter, and the sixth-closest to the planet of all the 95 known moons of Jupiter. It is also the
67 <ouc:div label="featured" group="Everyone" button="hide"><ouc:multiedit type="checkbox" p
68 options=":true;"/></ouc:div>
67 </item>
68
```

DATA PCF/Master XML

File Naming -The name of the file is the default dsn setting for data aggregation.

Internal - The xml path of aggregation that is set to internal folder (department, faculty, athletics, etc).

External - An external data source which can be used and customize using xsl.

```
<?xml version="1.0" encoding="UTF-8"?>
<?pcf-stylesheet path="/_resources/xsl/_dnc/_core/data-summary.xsl" title="Summary" extension="html" publish="no"?>
<?pcf-stylesheet path="/_resources/xsl/_dnc/news-xml.xsl" title="XML" extension="xml" alternate="yes"?>

<!DOCTYPE document SYSTEM "http://commons.omniupdate.com/dtd/standard.dtd">

<document xmlns:ouc="http://omniupdate.com/XSL/Variables">

  <headcode></headcode> <!-- before closing head tag -->
  <bodycode></bodycode> <!-- after opening body tag -->
  <footcode></footcode> <!-- before closing body tag -->

  <ouc:properties label="metadata">
  </ouc:properties>

  <!--
    The dsn is used to filter out XMLs during aggregation that do not have a matching dsn attribute value.
    When the dsn value is left empty it defaults to the name of this pcf without the extension.
  -->
  <parameter name="dsn"></parameter>

  <ouc:properties label="config">
    <parameter name="aggregation-path" type="text" group="Everyone" prompt="Aggregation Path" alt="Starting path for aggregation. Multiple paths can entered separated by commas."/>blog/galaxies</parameter>
  <parameter name="external-xml-url" type="text" group="Everyone" prompt="External XML URL" alt="Absolute URL to external XML."/>http://jharris.oudemo.com/_resources/xml/sample2.xml</parameter>
  </ouc:properties>

</document>
```

PHP/C# Script

Processing the request for data rendering. The type is passed to the php page and then processed by the render_ function.

8

```

32
33     switch($resultSet['meta']['options']['type']){
34         case 'featured':
35             $templating_function = 'render_featured';
36             break;
37         case 'footer':
38             $templating_function = 'render_footer';
39             break;
40         case 'listing':
41             $templating_function = 'render_listing';
42             $tag = isset($_GET['tag']) ? $_GET['tag'] : '';
43             if($tag != ''){
44                 $resultSet = $this->dmc->xpathFilter($resultSet, "tags/tag[contains(text(),'' . $tag . '')]");
45             }
46             break;
47         case 'carousel':
48             $templating_function = 'render_carousel';
49             break;
50         case 'section':
51             $templating_function = 'render_section';
52             break;
53         case 'related':
54             $templating_function = 'render_related';
55             break;
56     }
57

```

```

301
302     public function render_listing($resultSet){
303         $output = "";
304         $pagination = $this->render_pagination($resultSet);
305         $style = $resultSet['meta']['options']['style'];
306         $items = $resultSet['items'];
307         foreach($items as $i){
308             $description = $this->str_trim($i->summary, 122);
309             $url = $i->attributes()->href;
310
311             if ($style == 'narrow') {
312                 $imageContainer = "col-lg-4";
313                 $contentContainer = "col-lg-8";
314             } else {
315                 $imageContainer = "col-md-4 col-lg-3";
316                 $contentContainer = "col-md-8 col-lg-9";
317             }
318
319             if ($i->thumbnail->img->attributes()->src != '') {
320                 $thumbnail = $i->thumbnail->img->attributes()->src;
321                 $thumbnailAlt = $i->thumbnail->img->attributes()->alt;
322             } else {
323                 $thumbnail = '/_resources/images/news-image-placeholder.jpg';
324                 $thumbnailAlt = 'News Placeholder';
325             }
326
327             $output .= "<div class='row mb-4 news-list'>
328                 <div class='". $imageContainer .">
329                     <img src='". $thumbnail ." alt='". $thumbnailAlt .">
330                 </div>
331                 <div class='". $contentContainer .">
332                     $output .= "<h2><a href='". $url .">". $i->title .</a></h2>";
333                     $output .= "<div class='title-decorative'>.date('F j, Y', strtotime($i->item_date)).";
334                     if ($i->author != '') {
335                         $output .= " | By ". $i->author .</div>";
336                     } else {
337                         $output .= "</div>";
338                     }
339                     $output .= "<p>". $description .</p>";
340                     $output .= "</div>";
341                 }
342             }
343             $output .= "</div>";
344         }
345         return $output . $pagination ;

```


DMC XSL Template in XSL/Components/Snippets

Datasource - Filename of XML in default data folder or root relative path to XML.
Examples: "programs" or "/rss/news.xml"

Xpath - Default is "item". This is used to determine what each row in the result set should be. You can also use this to filter data such as item[category='featured'] or item[email='john@doe.com']

Type - This option is used to specify the template to be used for HTML output. The templates are defined in the server side scripts located here:
/_resources/dmc

items_per_page - Determines the number of items to be returned per page. This causes the DMC to output data one page at a time. When this options is omitted all items are returned and there will be no pagination.

querystring_control - Default is false. When set to true the DMC will automatically pick up on query string parameters that match system options. Such as items_per_page, page, max, sort, xpath, search_phrase, search_columns, etc.

Sort - Used to specify the sort order. Examples: "department, lastname, firstname" or "date(pubDate) desc" or "rand()".

Script-name - This is the name of the script file without the path and file extension

Debug - Set to true() for debug output to be displayed in staging.

```
<xsl:call-template name="dmc">
  <xsl:with-param name="options">
    <datasource>faculty</datasource>
    <xpath>items/item</xpath>
    <type>listing</type>
    <items_per_page>100</items_per_page>
    <querystring_control>true</querystring_control>
    <sort>lastname</sort>
    <theme>dark</theme><!-- custom option -->
  </xsl:with-param>
  <xsl:with-param name="script-name">faculty</xsl:with-param>
  <xsl:with-param name="debug" select="true()" />
</xsl:call-template>
```

LET'S SEE IT

Additional Setting

Complete DMC Settings

Option	Description
distinct	Default is false. When set to true removes duplicate items.
items_per_page	Determines the number of items to be returned per page. This causes the DMC to output data one page at a time. When this options is omitted all items are returned and there will be no pagination.
json_always_array	When returtype option is set to json, this option takes a comma delimited list of nodes that should always be converted to an array rather than a string. Example: department,category
max	Determines the max number of items to be included in the result set.
max_page_links	Calculates the first_linked_page and last_linked_page properties of the pagination object. This is useful when page links should be limited to a narrow range. This can be accomplished by looping from the first_link_page value to the last_linked_page value. The current page is situated as close as possible to the middle of the range. For example << 3 4 5 6 7 >>
metadata	Set to true or false. Determines if additional meta data should be included in the output when the returtype is set to json or xml. Meta data includes values for total items in result set, options used and all the necessary pagination data to build a client-side pagination interface such as page_count, current_page, items_per_page, etc.
page	Determines the page to be returned. When omitted the default page is page 1.
querystring_control	Default is false. When set to true the DMC will automatically pick up on query string parameters that match system options. Such as items_per_page, page, max, sort, xpath, search_phrase, search_columns, etc.
returntype	Determines the data construct to be returned by the DMC. Possible values are: html, json and xml
search_case_sensitive	Default is false. Determines if search_phrase filtering should be case sensitive or not.
search_columns	Determines which fields the search_phrase option should search through to determine if an item should be included in the result set
search_phrase	Filters the result set to items that have fields that contain the search_phrase. Searches all fields unless a subset is specified using the search_columns option.
select	Determines which fields will be included in the output when the returtype is set to json or xml. Example: "pubDate, title, description". When omitted all fields are included in the result set.
sort	Used to specify the sort order. Examples: "department, lastname, firstname" or "date(pubDate) desc" or "rand()". A field name followed by a space then desc causes that field to be sorted descending otherwise the field is sorted ascending. You can tell the DMC how to treat certain fields by wrapping a given field name with date({fieldname}) to sort as a date or number({fieldname}) to sort as a number, otherwise fields are sorted alphabetically. rand() sorts randomly.
type	This option is used to specify the template to be used for HTML output. The templates are defined in the server side scripts located here: /_resources/dmc
xpath	Default is "item". This is used to determine what each row in the result set should be. You can also use this to filter data such as item[category='featured'] or item[email='john@doe.com']

WebHooks

Real-Time Data Aggregation

The Real-time Data Aggregation (RDA) feature provides the ability to automatically aggregate data PCFs whenever profiles are changed within OU Campus without having to setup a scheduled publish or for editors to manually publish an associated data PCF.

Q&A

Other Questions?

- Email us at training@moderncampus.com
- Visit our [support site](https://support.moderncampus.com/cms/) (https://support.moderncampus.com/cms/)
- View all past [Training Tuesdays](https://support.moderncampus.com/cms/webcasts/training-tuesday.html) (https://support.moderncampus.com/cms/webcasts/training-tuesday.html)

The next Training Tuesday will be on

November 26th

Snippety Snap: Creating and Updating Snippets

Registration is now open!

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Thank You

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- 📺 [@moderncampus7963](https://www.youtube.com/channel/UCmoderncampus7963)

