



UNBOUND

imagine
commerce 2015



Magento 2 Developer Deep Dive

Ted Pietrzak

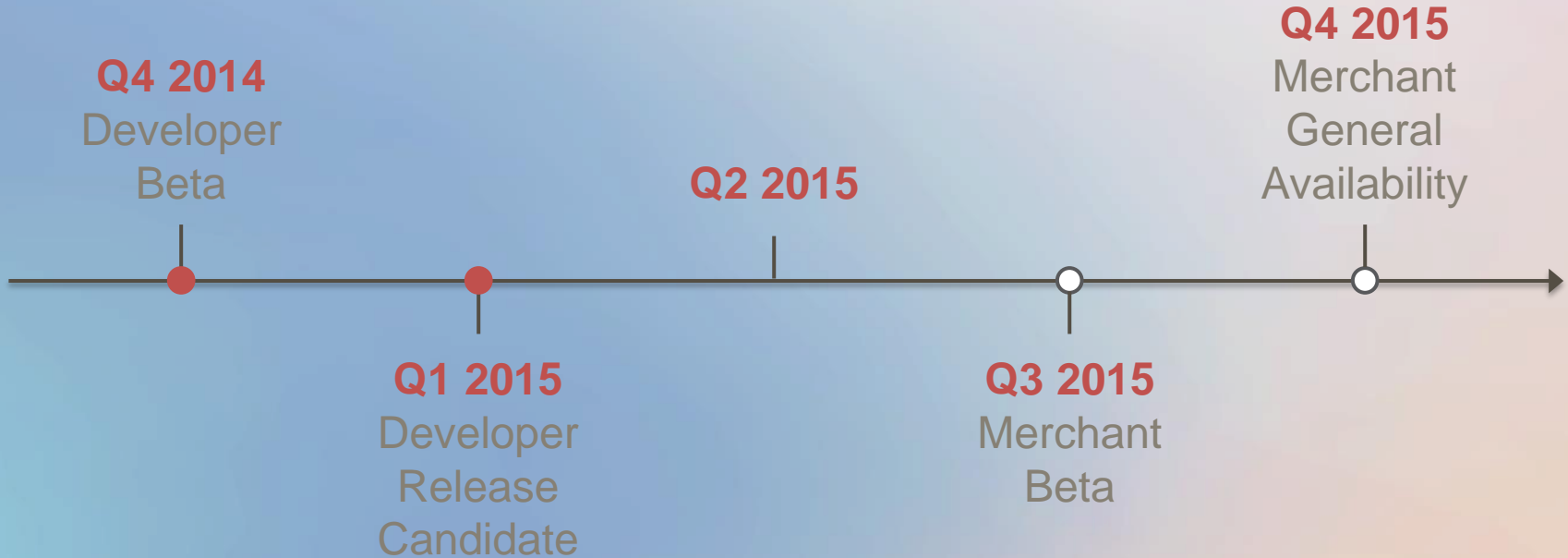
Head of Magento Technology

Magento 2 Vision

Create a new, unmatched platform
that delivers

- ✓ Innovation
- ✓ Agility
- ✓ Scalability

Magento 2 Timeline



AM Session 1

	Presenters	Topics
10:00 – 10:30	Jonathan Atkins Head of Product Design & UX	Magento 2 Admin UX and Framework Changes
10:30 – 11:00	Olexii Korshenko Magento Software Engineer	Introduction to Magento 2 Configuration
11:00 – 11:30	Vitaliy Korotun Magento Software Architect	Migrating Your Theme to Magento 2
11:30 – 12 noon	Andrey Konosov Magento Software Architect	Migrating Merchant Data to Magento 2
12 noon – 1:00	Lunch (on your own)	

Break for Lunch

12 noon – 1 p.m.

Housekeeping

- Wi-Fi access:
 - Network: #ImagineCommerce
 - Password: **Wynn2015**
- Sessions will be recorded
- Please hold questions to the end of each session
- We will have a 'parking lot' for additional questions
- We will use the office hours from 5 – 6 p.m. for additional discussions
- Lunch is on your own *today*

PM Session 2

	Presenters	Topics
1:00 – 1:30	Anton Kril Magento Software Architect	Applying Code Customizations – Part (1)
1:30 – 2:00	Eugene Tulika Magento Software Engineer	Applying Code Customizations – Part (2)
2:00 – 2:30	Sergii Shymko Technical Support Engineer	Demystifying Code Generation
2:30 – 3:00	Andrey Konosov Magento Software Architect	Caching Optimization for Magento Code Development
3:00 – 4:00	Break (Marketplace Grand Opening Reception (Latour))	



Craig Hayman

President, eBay Enterprise

Magento Sponsored Extension Challenge Winners!

Sergey Lysak, Eltrino

1st Place

Blanka Pham, Magestore

2nd Place

Maciej Ostrowski , Creatuity

3rd Place

Break *3 p.m. – 4 p.m.*

PM Session 3

	Presenters	Topics
4:00 - 4:30	Oleh Kobchenko Manager, Software Development	Magento 2 Performance and Scalability
4:30 - 5:00	James Cowie Software Engineer Session Digital Allan MacGregor Magento Practice Lead, DEMAC MEDIA Joshua Warren CEO, Creatuity	Special Presentation Refactoring into TDD / BDD for the future
5:00 – 6:00	Open Office Hours	

Special Presentation by Magento Community

Refactoring into TDD / BDD for the future

James Cowie

Software Engineer, Session Digital

Allan MacGregor

Magento Practice Lead, DEMAC MEDIA

Joshua Warren

CEO, Creatuity

Magento 2 Office Hours

5 p.m. – 6 p.m.



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Magento 2 Admin UX



Jonathan Atkins

Head of Product Design & UX

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Prioritizing the Merchant Experience

- Magento 2 represents a new approach to the Admin interface
- Focused on creating a quality experience for non-technical users
 - Usability
 - Desirability
 - Accessibility

New Look and Feel

- Modern flat design
- Touch friendly
- Better accessibility
- Improved usability

The dashboard features a dark sidebar with navigation icons for Dashboard, Sales, Products, Customers, Marketing, Content, Reports, Stores, and System. The main content area is titled 'Dashboard' and includes a search icon, a notification bell with a red '3', and a user profile 'Admin'. An 'Update data' button is located in the top right corner.

Lifetime Sales
\$205.56

Average Order
\$75.00

Last Orders

Customer	Items	Total
Veronica Costello	1	\$54.50
Jeniffer Bartender	2	\$91.48
Amanda Plaber	1	\$32.99
Kimberly Klark	4	\$122.49
Amanda Plaber	1	\$13.99

Last Search Terms

Search Term	Results	Uses
dress	120	1
top	20	3
bottoms	43	1
top	20	1
top	20	1

Top Search Terms
We couldn't find any search terms.

Orders | **Amount**

Last week ▾

The chart shows a line representing data over time from 02/2014 to 12/2014. The y-axis ranges from 0 to 100. The line remains at 0 until approximately 11/2014, then rises sharply to approximately 65 by 12/2014.

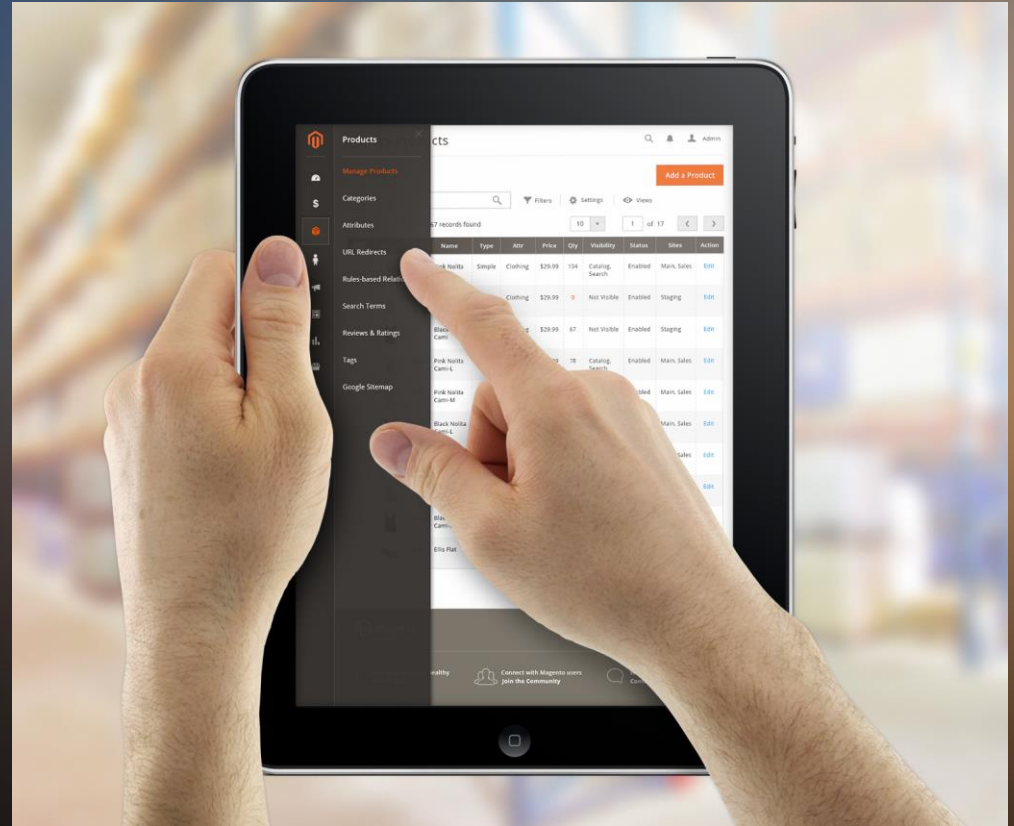
Revenue \$205.56 Tax \$20.00 Shipping \$20.00 Quantity 1

Bestsellers | **Most Viewed Products** | **New Customers** | **Customers**

Product	Price	Order Quantity
Gabrielle Micro Sleeve Top	\$28.99	1
Mona Pullover Hoodie	\$28.99	1
Veronica Costello	\$28.99	1
Gabrielle Micro Sleeve Top	\$28.99	1
Gabrielle Micro Sleeve Top	\$28.99	1

Touch Friendly

- Larger click/tap targets
- Removal of hover states
- Easier to use on a wider variety of screens
 - Touchscreen laptops
 - iPad
 - Surface
 - 9"+ Android tablets



Navigation

- Designed for modern screen aspect ratios
- More vertical space for content
- Touchable
- Greater extensibility

The screenshot displays a commerce application interface. On the left is a dark sidebar with a vertical navigation menu. The main content area shows a 'Stores' modal window with a search bar, a 'Create Product' button, and a table of products. The table has columns for Attribute Set, SKU, Price, Quantity, Visibility, Status, Websites, and Actions.

Attribute Set	SKU	Price	Quantity	Visibility	Status	Websites	Actions
hoodies & t-shirts	MH09-ME-BL	69.00	87	Catalog, Search	Enabled	Main Website	Actions
sneakers	WJ08-XS-GR	48.00	134	Catalog, Search	Enabled	Main Website	Actions
shorts	WP07-SM-BT	48.00	765	Catalog, Search	Enabled	Main Website	Actions
tees	MS01-ME-BK	24.00	98	Catalog, Search	Enabled	Main Website	Actions
shorts	MP11-ME-KH	74.00	34	Catalog, Search	Enabled	Main Website	Actions
hoodies & t-shirts	MH12-ME-GG	69.00	133	Catalog, Search	Enabled	Main Website	Actions
sneakers	MJ05-ME-BL	72.00	63	Catalog, Search	Enabled	Main Website	Actions
shorts	WSH10-SM-BP	40.00	67	Catalog, Search	Enabled	Main Website	Actions
shorts	WSH06-SM-DG	42.00	453	Catalog, Search	Enabled	Main Website	Actions
tees & Tanks	WT08-SM-BG	29.00	721	Catalog, Search	Enabled	Main Website	Actions
shorts	MSH02-ME-BL	32.50	873	Catalog, Search	Enabled	Main Website	Actions

Data Grids

- Keyword search
- Configurable columns
- Inline editing
- Expanding filters
- Saved views
- Drag and drop column reordering
- Sticky column headers
- Simplified mass actions

The screenshot shows a 'Product Catalog' interface. On the left is a dark sidebar with navigation icons for Dashboard, Sales, Products, Customers, Marketing, Content, Reports, Stores, and System. The main content area has a search bar with the text 'Search by keyword', a 'Filters' button, and 'Default View' and 'Columns' options. Below the search bar is an 'Actions' dropdown and '12 items found'. A pagination bar shows '20 per page' and '1 of 2'. The data table has columns: ID, Name, Type, Attribute Set, SKU, Price, Quantity, Visibility, Status, Websites, and Actions. The table contains 12 rows of product data.

ID	Name	Type	Attribute Set	SKU	Price	Quantity	Visibility	Status	Websites	Actions
2	Abominable Hoodie	Simple	Hoodies & Sweatshirts	MH09-ME-BL	69.00	87	Catalog, Search	Enabled	Main Website	Actions
279	Adrienne Trek Jacket	Simple	Jackets	WJ08-XS-GR	48.00	134	Catalog, Search	Enabled	Main Website	Actions
170	Aeon Capri	Simple	Pants	WP07-SM-BT	48.00	765	Catalog, Search	Enabled	Main Website	Actions
88	Aero Daily Fitness Tee	Simple	Tees	MS01-ME-BK	24.00	98	Catalog, Search	Enabled	Main Website	Actions
75	Aether Gym Pant	Simple	Pants	MP11-ME-KH	74.00	34	Catalog, Search	Enabled	Main Website	Actions
215	Ajax Full-Zip Sweatshirt	Simple	Hoodies & Sweatshirts	MH12-ME-GG	69.00	133	Catalog, Search	Enabled	Main Website	Actions
164	Alpha Fleece Jacket	Simple	Jackets	MJ05-ME-BL	72.00	63	Catalog, Search	Enabled	Main Website	Actions
245	Ana Running Short	Simple	Shorts	WSH10-SM-BP	40.00	67	Catalog, Search	Enabled	Main Website	Actions
299	Angel Light Running Short	Simple	Shorts	WSH06-SM-DG	42.00	453	Catalog, Search	Enabled	Main Website	Actions
22	Antonia Racer Tank	Simple	Bras & Tanks	WT08-SM-BG	29.00	721	Catalog, Search	Enabled	Main Website	Actions
212	Apollo Running Short	Simple	Shorts	MSH02-ME-BL	32.50	873	Catalog, Search	Enabled	Main Website	Actions

Filtering

Search by keyword

Filters Default View Columns

Active filters: ID: 000 Date Range: 10 JUL 2013 - 21 DEC 2014

Actions 3 items found per page of 2

<input type="checkbox"/>	ID	Header title	Header title 2	Header title 3	Header title 4	Abbrev.	Actions
<input type="checkbox"/>	0000	Lorem ipsum dolor	Lorem ipsum	Suspendisse, Efficitur	Eu lobortis	32,998	Select <input type="button" value="v"/>
<input type="checkbox"/>	0001	Consectetur adipiscing elit	Lorem ipsum	Suspendisse, Efficitur	Eu lobortis	12,087	Select <input type="button" value="v"/>
<input type="checkbox"/>	0002	Proin fermentum arcu neque	Lorem ipsum	Efficitur	Eu lobortis	8,954	Select <input type="button" value="v"/>
<input type="checkbox"/>	0003	Pellentesque nec tincidunt	Lorem ipsum	Suspendisse, Efficitur	Eu lobortis	52,002	Select <input type="button" value="v"/>
<input type="checkbox"/>	0004	Lorem ipsum dolor	Lorem ipsum	Suspendisse, Efficitur	Eu lobortis	12	Select <input type="button" value="v"/>
<input type="checkbox"/>	0005	Proin fermentum arcu neque	Lorem ipsum	Suspendisse, Efficitur	Eu lobortis	358	Select <input type="button" value="v"/>
<input type="checkbox"/>	0006	Pellentesque nec tincidunt	Lorem ipsum	Suspendisse, Efficitur	--	12,524	Select <input type="button" value="v"/>
<input type="checkbox"/>	0007	Vivamus molestie dolor	Lorem ipsum	Efficitur	Eu lobortis	6,841	Select <input type="button" value="v"/>
<input type="checkbox"/>	0008	Nunc pretium massa quam	Lorem ipsum	Efficitur	Eu lobortis	841	Select <input type="button" value="v"/>
<input type="checkbox"/>	0009	Donec eu rutrum	Lorem ipsum	Suspendisse	Eu lobortis	32,625	Select <input type="button" value="v"/>
<input type="checkbox"/>	0009	Donec eu rutrum	Lorem ipsum	Suspendisse	Eu lobortis	32,625	Select <input type="button" value="v"/>

Data here filtered to display only those results containing search and filter criteria

Product Creation

- Fewer templates!
- New “Standard” product template
 - Simple
 - Configurable
 - Virtual
 - Downloadable

New Product Admin

[Cancel](#) [Add Attribute](#) [Save](#)

Product Type * Standard Product: Supports Simple, Configurable, Virtual and Downloadable products. [Select a Different Product Type](#)

Product Enabled * Yes

Attribute Set *

General Information

Product Name *

SKU *

Price * Base [Advanced Pricing](#)

Tax Class * Taxable Goods

Quantity * In Stock [Advanced Inventory](#)

Product Creation

- Configuration creation by attributes
- Sub-process wizards

Create Product Configurations

Progress: 1. Select Attributes, 2. Values, 3. Bulk Images, Pricing & Inventory, 4. Summary

Cancel Back Next

Attribute Values

Choose options for each attribute to create unique products.

Size

- 6
- 7
- 8
- 9
- 10
- 11
- 12

[Select All](#) [Create New Value](#)

Color

- Black
- Brown
- Red
- White
- Navy
- Purple
- Pink
- Ivory
- Teal
- Gold
- Blue
- Green
- Aqua
- Orange
- Yellow

[Select All](#) [Create New Value](#)

Width

- Regular
- Narrow

[Select All](#)

Product Creation

- Bulk editing by attribute
 - Images
 - Pricing
 - Inventory

New

Create Configurations

1 Select Attributes 2 Values 3 Bulk Images, Pricing & Inventory 4 Summary

Cancel Back Next

Bulk Images, Pricing, and Inventory

Based on your selections 24 new products will be created. Use this step to customize images, pricing, and inventory for your new products.

Images

Apply single set of images to all SKUs

Apply unique images by attribute to each SKU

Skip image uploading right now

Color

Black (8 skus)

BASE	SMALL	THUMB	
Nike Running	Nike Running	Nike Running	Browse to find or drag image here

Brown (8 skus)

Content Staging

- Create content in the future!
 - Products
 - Promotions
 - CMS pages
- Preview pages before they launch

The screenshot displays the Magento Admin interface for editing a 'Nike Shoe' product. The left sidebar contains navigation icons for Dashboard, Sales, Products, Customers, Marketing, Content, Reports, Stores, Systems, and Third Party. The main content area shows the 'Content Staging' section with a breadcrumb 'Product > Catalog > Nike Shoe'. At the top right, there are search, notification, and user profile icons. Below the breadcrumb, there is a 'Scheduled Changes (3 scheduled)' section with a table of changes and a 'Create Future Change' button. The table lists three scheduled changes with their dates, times, and types (Start or End). The first change is on Aug 8, 2015 at 12:00 AM (Start), affecting Product Name, Price, Advanced Pricing, Tax Class, Advanced Inventory, and In Stock. The second change is on Aug 22, 2015 at 12:00 AM (End), also affecting the same fields. The third change is on Oct 31, 2015 at 7:00 AM (Start), affecting Categories. Each change has 'View / Edit' and 'Preview' links. Below the table, there is a 'Save' button and a large pink area labeled 'Current Active Details here'.

Product > Catalog > Nike Shoe

Scheduled Changes (3 scheduled) [Open Change Log](#) [Create Future Change](#)

	Aug 8, 2015	12:00 AM	Start	Product Name, Price, Advanced Pricing, Tax Class, Advanced Inventory, In Stock ... (+3 more changes)	View / Edit Preview
	Aug 22, 2015	12:00 AM	End	Belongs to: Update_Name_2	
	Oct 31, 2015	7:00 AM	Start	Categories	View / Edit Preview
	Aug 22, 2015	12:00 AM	End	Belongs to: Update_Name_3	

[Save](#)

Current Active Details here

Pattern Library

- Admin UX guidelines available on GitHub
- Pattern documents
 - Usage guidelines
 - .psd files


The screenshot shows the 'Magento Admin Pattern Library' page from the Magento Developer Documentation. The page has an orange header with the Magento logo and 'Developer Documentation'. Below the header is a navigation bar with links: GET STARTED, SYSTEM ADMINISTRATOR, FRONTEND DEVELOPER, EXTENSION DEVELOPER, and CONTRIBUTOR. The main content area is titled 'Magento Admin Pattern Library' and includes a link to 'Edit this page on GitHub'. A left sidebar contains a table of contents with categories like INTRODUCTION, CONTAINER, CONTROLS, FEEDBACK TO USER, GETTING USER INPUT, NAVIGATION, and TEMPLATES. The 'Form Elements' section is highlighted, showing a list of contents such as Overview, Use of Form Elements, Form Labels, 'Required' Indicator, Focus State, Form Elements and the Page Grid, Text Field (variations), Checkboxes, Radio Buttons, Drop Down Selector - Single, Multi-Select Drop Down, List Box, Attribute Builder - 'Chips', Disabled Form Field, Form Field Validation, Units and Measurement Indicators, Field Masking, Read-only Form Data, Progressive Disclosure, Contextual Help tooltip, Help text, Styling and Spacing, and Assets. An 'Overview' section at the bottom states that form elements are central to the Magento platform.

<http://devdocs.magento.com/guides/v1.0/pattern-library/bk-pattern.html>

Merchant Experience is a Priority


We need your help!

Sign up at [Magento.com/research](https://magento.com/research)



MAKING MAGENTO BETTER.

We're redesigning commerce. Your expertise is needed.



MAGENTO USER EXPERIENCE

Our objectives are simple:

1. Learn from the Magento community.
2. Share and test new product features and ideas.
3. Improve the user experience across Magento.

We need merchants who are willing to give us a small amount of their time to discuss design ideas, give feedback, and try out new Magento features. Please accept our request and volunteer to help.

What To Expect

Magento UX operates one or two 30-90 minute sessions per month, in person, by phone or by internet. We'll invite you in advance with test details and format. There is never an obligation to join or respond.

Our Methods

Magento UX relies primarily on qualitative research – first-hand observation and real-time feedback from a small group of pre-qualified volunteers.

Studies may be guided by tasks and questions. Others allow you to roam and explore. In either case raw, unfiltered reaction is your prime ultimatum.

Interested in participating? Please take a minute to send us your information.

First name:

Last name:

Work email:

Company name:

Industry or Vertical Focus:

Job Title:

Country:

City:

State/Province:

Thank you!

Magento 2 Admin UX

Q & A

Jonathan Atkins

joatkins@ebay.com



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Olexii Korshenko

Senior PHP Developer, Magento 2



Magento 2 XML Configuration Files

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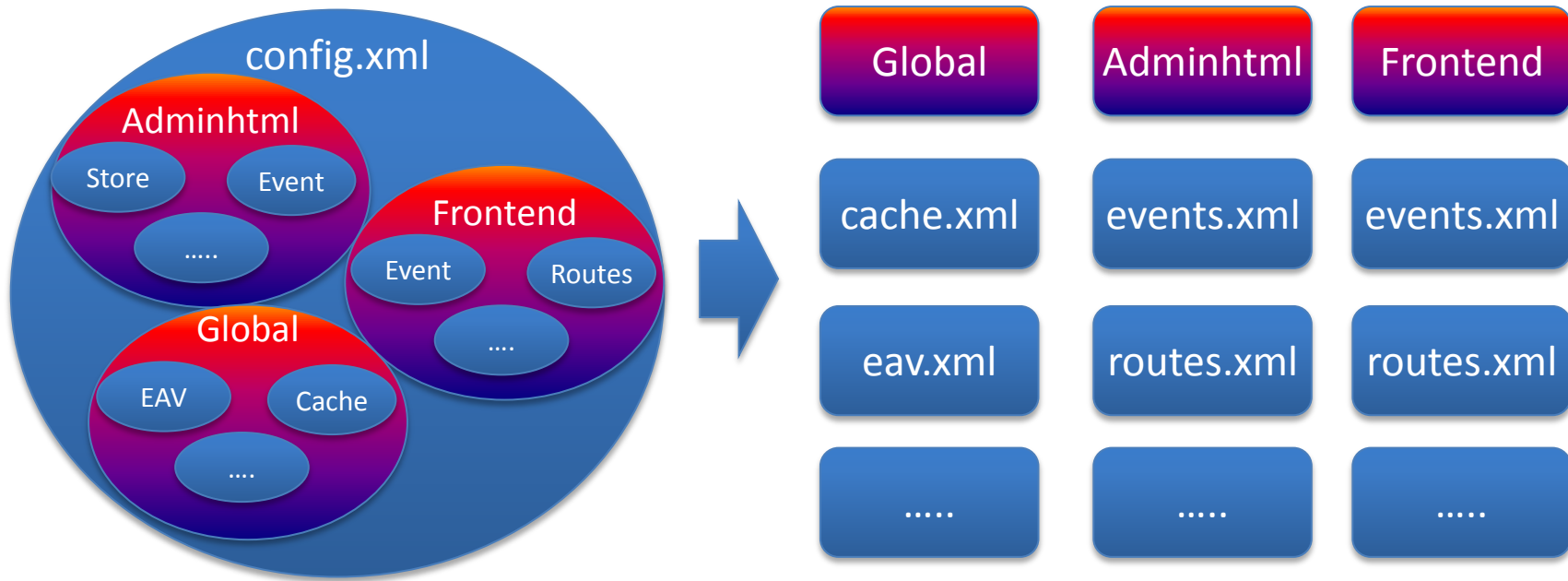
Agenda

1. Goals for Configuration Decomposition
2. Validation Strategy
3. Magento Config Component
4. How to create New Configuration Type
5. Benefits of configuration decomposition
6. QA

Goals for Configuration Decomposition

Goal #1

Overhead elimination in configuration loading



Configuration Types

Dependency Injection
di.xml

Layout
layout.xml

Modules
module.xml

Routes
routes.xml

System
system.xml

Store Config
config.xml

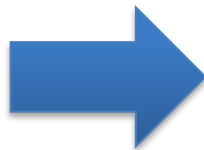
Menu
menu.xml

ACL
acl.xml

Goal #2

Separate configuration models

Mage_Core_Model_Config



Eav\Config

Routes\Config

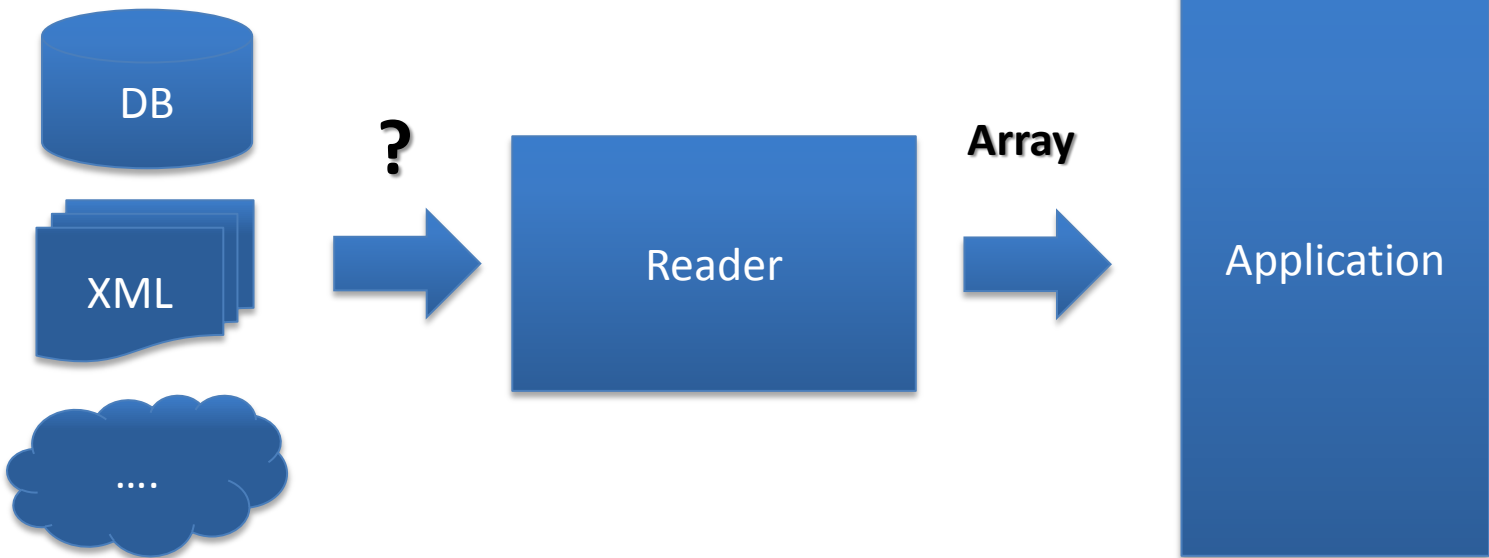
Cache\Config

Event\Config

...

Goal #3

Application is independent from configuration storage and initial format



Goal #4

Configuration data validation

Before	After
<p data-bbox="220 539 900 784">No predefined format for configuration files</p>	<p data-bbox="1093 539 1661 784">Configuration File + Schema Definition</p>

Validation Strategy

XML Schema Definition

```
10 <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
11   ... <xs:redefine schemalocation="product_options.xsd">
12     <xs:complexType name="optionDeclaration">
13       <xs:complexContent>
14         <xs:restriction base="optionDeclaration">
15           <xs:sequence>
16             <xs:element name="inputType" type="inputTypeDeclaration" minOccurs="1" maxOccurs="unbounded" />
17           </xs:sequence>
18           <xs:attribute name="name" type="xs:string" use="required" />
19           <xs:attribute name="label" type="xs:string" use="required" />
20           <xs:attribute name="renderer" type="modelName" use="required" />
21         </xs:restriction>
22       </xs:complexContent>
23     </xs:complexType>
24     <xs:complexType name="inputTypeDeclaration">
25       <xs:complexContent>
26         <xs:restriction base="inputTypeDeclaration">
27           <xs:attribute name="label" type="xs:string" use="required" />
28         </xs:restriction>
29       </xs:complexContent>
30     </xs:complexType>
31   </xs:redefine>
32 </xs:schema>
```

No code duplication. Use redefine instruction

Integrity Tests

- Validation of separate files



- Per-area validation



- Cross-area validation

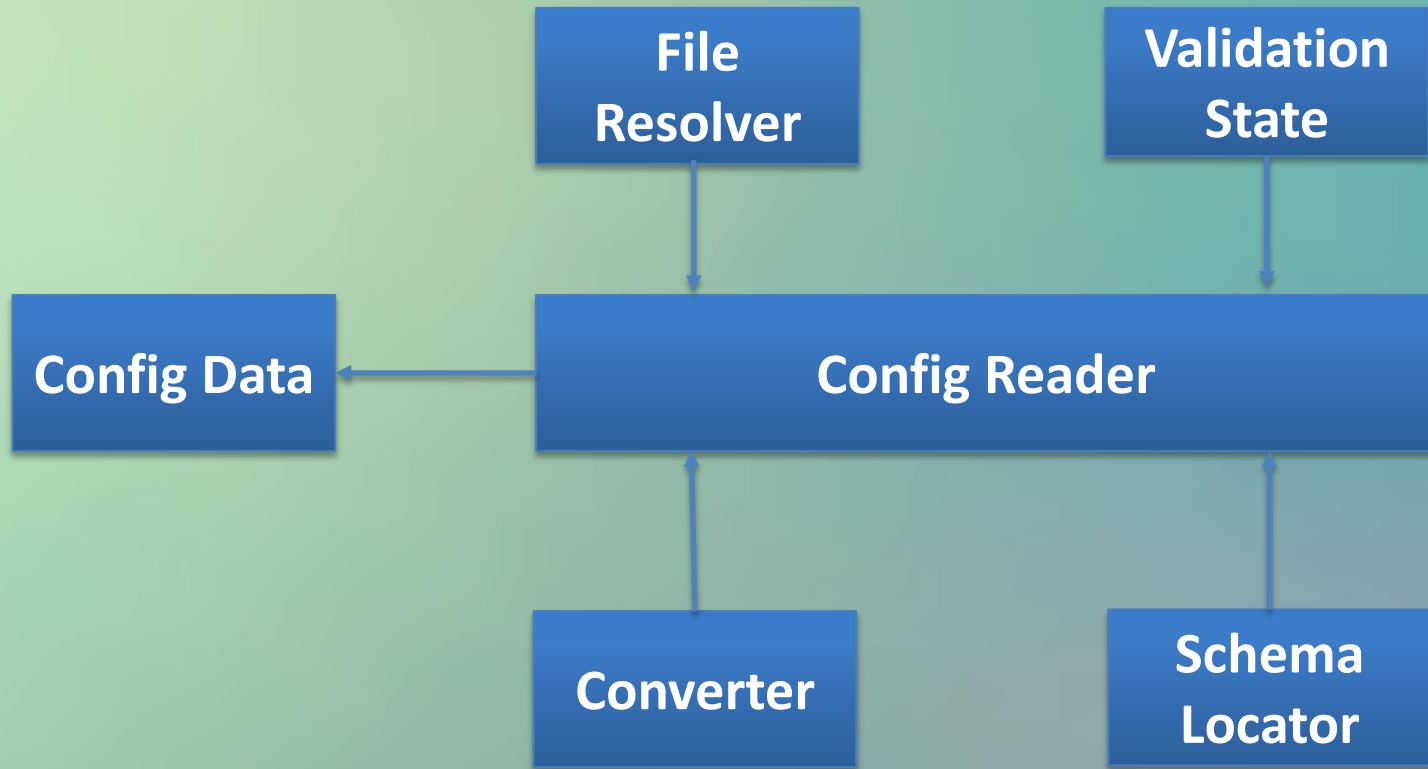


Validation in Developer Mode

- Run Time validation
- Validation of each configuration file on the loading stage
- No performance impact in Production Mode

Magento Config Component

Magento Config. Component Structure



Magento Config. Component Structure

`\Magento\Config\Data`

`ReaderInterface $reader`

`CacheInterface $cache`

`get($path = null, $default = null):mixed`

`merge(array $config):void`

Magento Config. Component Structure

**\Magento\Config\Reader\Filesystem
implements
\Magento\Config\ReaderInterface**

FileResolverInterface \$fileResolver
ConverterInterface \$converter
SchemaLocatorInterface \$schemaLocator
ValidationStateInterface \$validationState
string \$fileName
array \$idAttributes

read(\$scope = null): array()

Co

Magento Config. Component Structure

File

Validation

SchemaLocatorInterface

```
getSchema():string|null  
getPerFileSchema():string|null
```

Converter

Locator

How to Implement New Configuration Type

How to create new Configuration Type?

Step 1

Choose format of configuration type and create schema definition file(s) for it

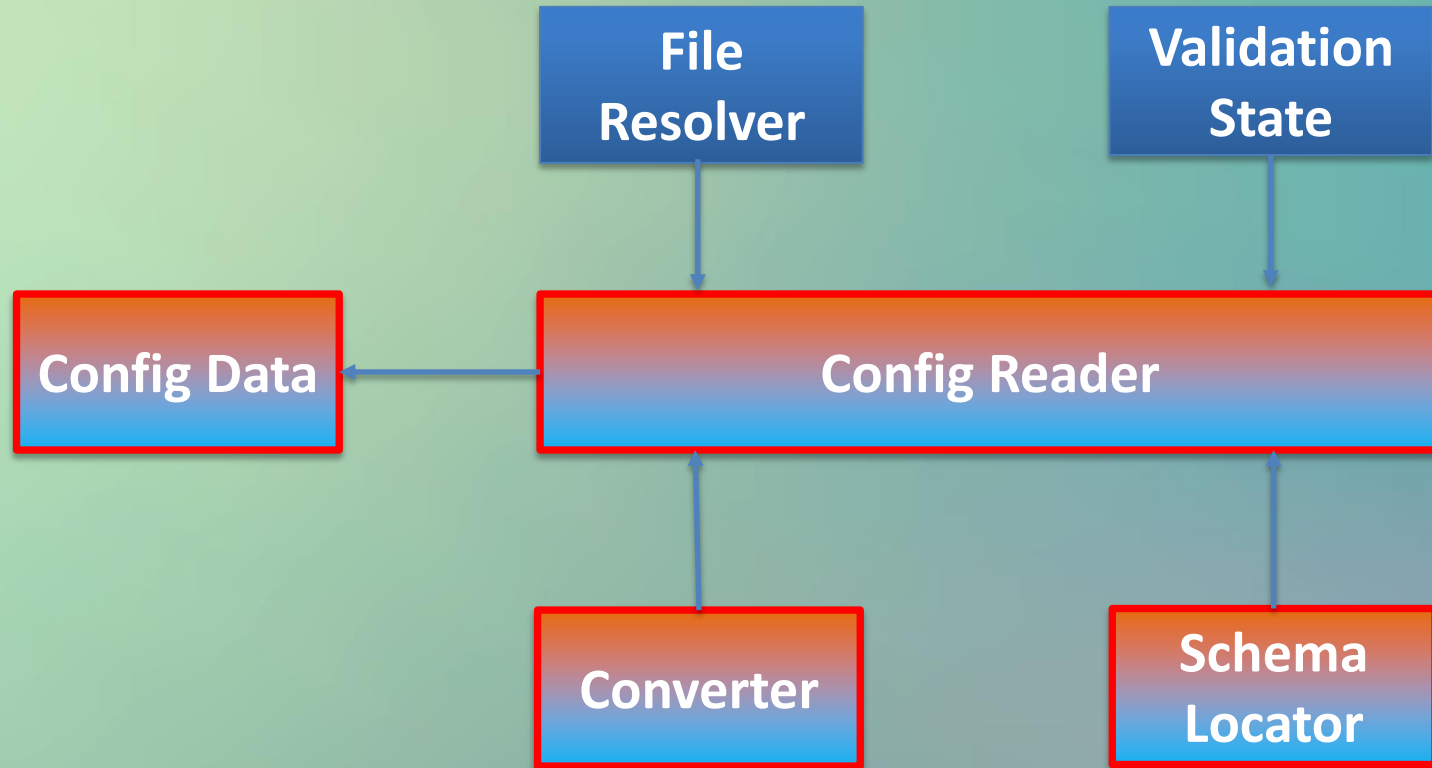
Step 2

Decide whether your configuration is scoped or non-scoped

Step 3

Provide implementations of required interfaces

Magento Config Component Structure



List of interfaces that must be implemented

1 of 4 Schema Locator

Provide paths to corresponding schema file(s)

```
10 class SchemaLocator implements \Magento\Framework\Config\SchemaLocatorInterface
11 {
12     public function __construct(\Magento\Module\Dir\Reader $moduleReader)
13     {
14         $etcDir = $moduleReader->getModuleDir('etc', 'Magento_Catalog');
15         $this->_schema = $etcDir..'product_types_merged.xsd';
16         $this->_perFileSchema = $etcDir..'product_types.xsd';
17     }
18
19     public function getSchema()
20     {
21         return $this->_schema;
22     }
23
24     public function getPerFileSchema()
25     {
26         return $this->_perFileSchema;
27     }
28 }
```


List of interfaces that must be implemented

2 of 4 Config Converter

Convert **DOMDocument** to array

XML



Array

List of interfaces that must be implemented

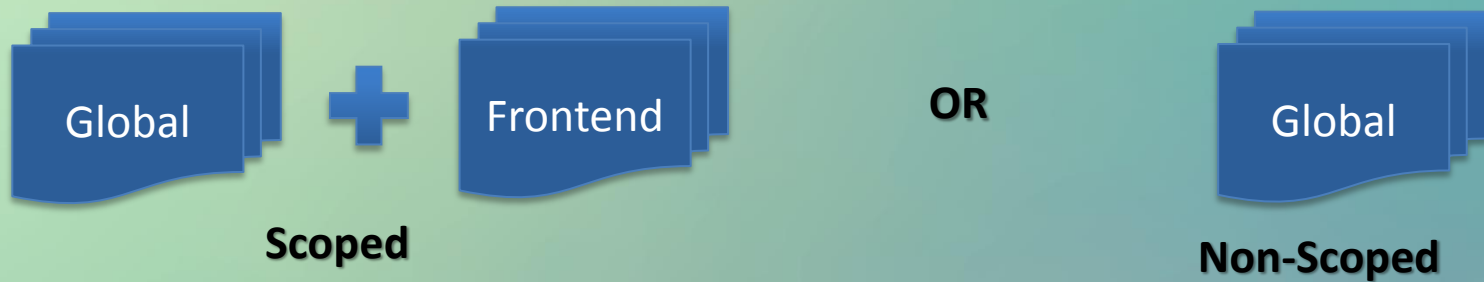
3 of 4 Configuration Reader

```
10 class Reader extends \Magento\Framework\Config\Reader\Filesystem
11 {
12     protected $_idAttributes = array(
13         '/config/type' => 'name',
14         '/config/composableTypes/type' => 'name'
15     );
16
17     public function __construct(
18         \Magento\Framework\Config\FileResolverInterface $fileResolver,
19         Converter $converter,
20         SchemaLocator $schemaLocator,
21         \Magento\Framework\Config\ValidationStateInterface $validationState,
22         $fileName = 'product types.xml',
23         $idAttributes = array()
24     ) {
25         parent::__construct(/*.....*/);
26     }
27 }
28
29
```

List of interfaces that must be implemented

4 of 4 Config Data

Configuration is Scoped or Non-Scoped?



Extend corresponding class

Inject implementation of configuration reader

Benefits of Magento 2 Configuration

Benefits of Magento 2 Configuration

- Validation of configuration data
- Documented configuration format
- Same but separate mechanisms for all configuration types
- Extensibility of configuration component
- Optimization in configuration loading
- Configuration scopes
- Simple creation flow of new configuration type

Thank you!

Magento 2 XML Configuration Files

Q & A

Olexii Korshenko

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Migrating Your Theme to Magento 2



Vitalii Korotun

Architect, Magento

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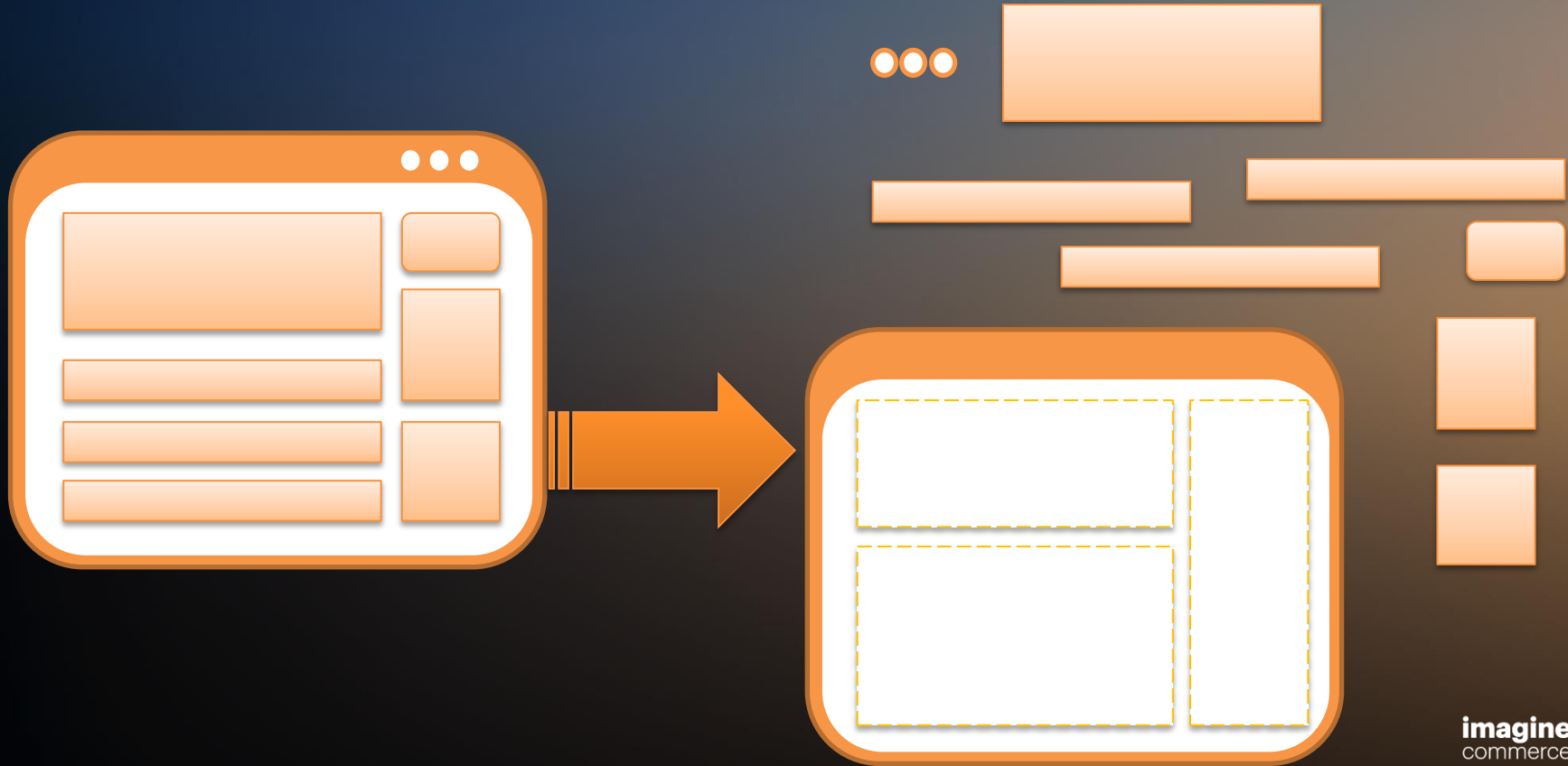
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01. Magento 2 Overview: Theme

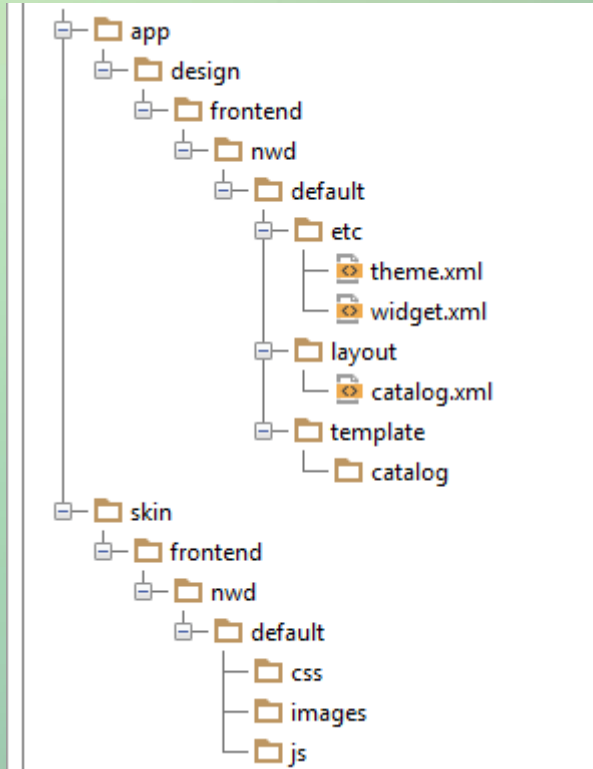
Technologies and Techniques

Granularity due to Modularity

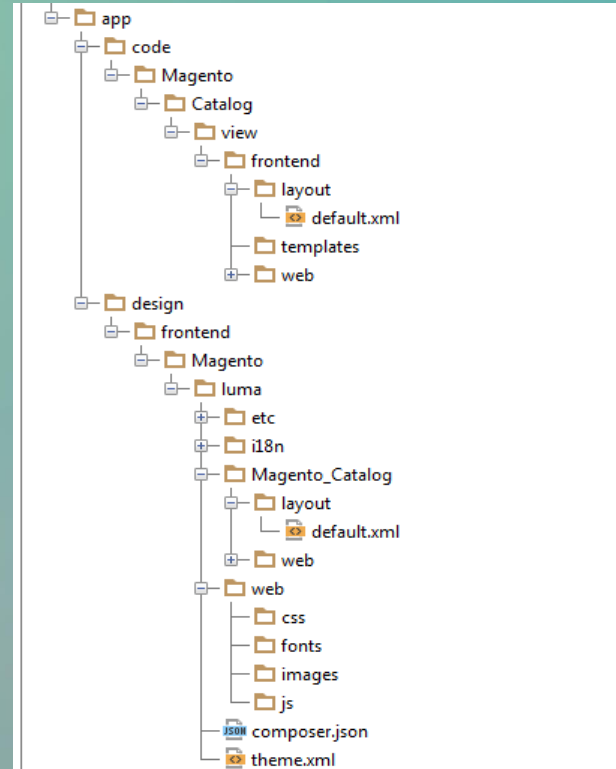


Directory Structure

M1



M2



Diversity



JavaScript

Technologies and Techniques

RequireJS

```
define(["jquery", "jquery/ui", "domReady!"],  
  function ($) {  
    'use strict';  
    // your business logic here  
  }  
);
```



Inline JavaScript

template/sales/order/creditmemo/create/items.phtml

```
<script type="text/javascript">
var submitButtons = $$('.submit-button'), updateButtons = $$('.update-button'), fields = $$('.qty-input');
updateButtons.each(function (elem) { elem.disabled=true; elem.addClassName('disabled');});
for (var i=0; i<fields.length; i++) {
    fields[i].observe('change', checkButtonsRelation); fields[i].baseValue = fields[i].value;
}
function checkButtonsRelation() {
    var hasChanges = false;
    fields.each(function (elem) {
        if (elem.baseValue != elem.value) hasChanges = true;
    }).bind(this);
    if (hasChanges) {
        submitButtons.each(function (elem) {elem.disabled=true; elem.addClassName('disabled');});
        updateButtons.each(function (elem) {elem.disabled=false; elem.removeClassName('disabled');});
    } else {
        submitButtons.each(function (elem) {elem.disabled=false; elem.removeClassName('disabled');});
        updateButtons.each(function (elem) {elem.disabled=true; elem.addClassName('disabled');});
    }
}
function submitCreditMemo() {
    if ($('#creditmemo_do_offline')) $('#creditmemo_do_offline').value=0;
    editForm.submit()
}
function submitCreditMemoOffline() {
    if ($('#creditmemo_do_offline')) $('#creditmemo_do_offline').value=1;
    editForm.submit()
}
var sendEmailCheckbox = $('#send_email');
if (sendEmailCheckbox) {
    var notifyCustomerCheckbox = $('#notify_customer');
    var creditmemoCommentText = $('#creditmemo_comment_text');
    Event.observe(sendEmailCheckbox, 'change', bindSendEmail);
    bindSendEmail();
}
function bindSendEmail() {
    if (sendEmailCheckbox.checked == true) {
        notifyCustomerCheckbox.disabled = false;
    } else {
        notifyCustomerCheckbox.disabled = true;
    }
}
</script>
```

M1

```
<div data-mage-init= '{"creditMemoForm":{"config":{"value"}}}'>
    ...
</div>
```

Magento/Sales/view/adminhtml/web/js/creditMemoForm.js

```
require(['jquery' 'prototype'], function (jQuery) {
    var submitButtons = $$('.submit-button'),
        updateButtons = $$('.update-button'),
        fields = $$('.qty-input');
    updateButtons each(function (elem) {
        elem.disabled=true; elem.addClassName('disabled');
    });
    for (var i=0; i<fields length i++) {
        fields[i].observe('change', checkButtonsRelation);
        fields[i].baseValue = fields[i].value;
    }
});
```

JavaScript Extension

```
<div id="toolbar" data-mage-init='{toolbarEntry': {}}>
```

```
...
```

```
</div>
```

```
// somewhere in your custom template
```

```
<script type="text/x-magento-init">
```

```
{
```

```
  "#toolbar": {
```

```
    "toolbarEntry": {
```

```
      "option": "value"
```

```
    },
```

```
    "otherWidget": {}
```

```
  }
```

```
}
```

```
</script>
```

Layouts, Block and Templates

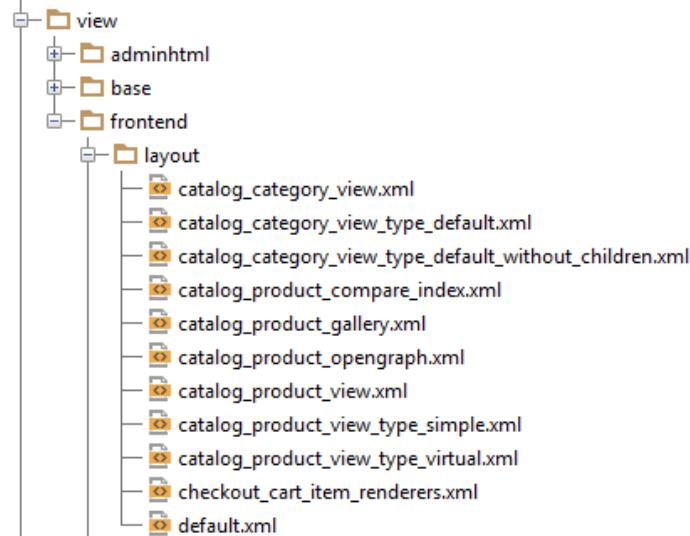
Layout Files

frontend/rwd/default/layout/catalog.xml

Magento/Catalog/view/frontend/layout

```
-->
<layout version="0.1.0">
  <default...>
  <catalog_category_default translate="label"...>
  <catalog_category_layered translate="label"...>
  <catalog_product_compare_index translate="label"...>
  <customer_account_index...>
  <catalog_product_view translate="label"...>
  <PRODUCT_TYPE_simple translate="label" module="catalog"...>
  <PRODUCT_TYPE_configurable translate="label" module="catalog"...>
  <PRODUCT_TYPE_grouped translate="label" module="catalog"...>
  <PRODUCT_TYPE_virtual translate="label" module="catalog"...>
  <catalog_product_send translate="label"...>
  <catalog_product_gallery translate="label"...>
  <catalog_seo_sitemap translate="label"...>
  <catalog_seo_sitemap_category translate="label"...>
  <catalog_seo_sitemap_category_tree translate="label"...>
  <catalog_seo_sitemap_product translate="label"...>
</layout>
```

M1



M2

Blocks and Templates

```
class Mage_Catalog_Block_Product_View
{
    public function getProduct();
    public function hasOptions();
    public function hasRequiredOptions();
    public function getAddToCartUrl();
    public function getJsonConfig();
    public function isStartCustomization();
    public function getProductDefaultQty();

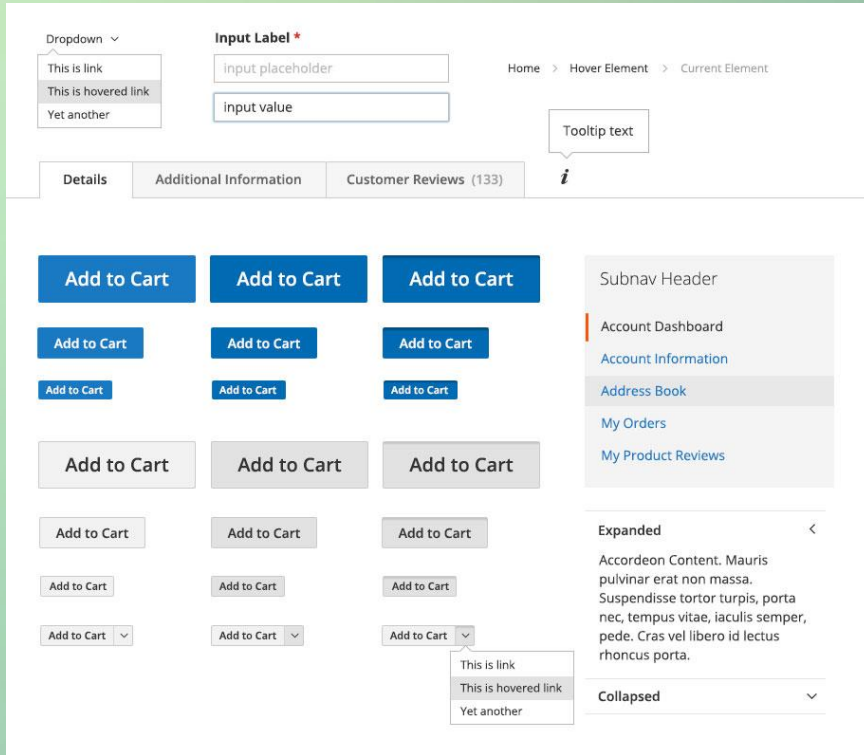
    public function canEmailToFriend();
}
```

```
namespace Magento\Catalog\Block\Product;
class View
{
    public function getProduct();
    public function hasOptions();
    public function hasRequiredOptions();
    public function getAddToCartUrl();
    public function getJsonConfig();
    public function isStartCustomization();
    public function getProductDefaultQty();

    public function getWishlistOptions();
    public function shouldRenderQuantity();
    public function getQuantityValidators();
}
```

UI Library and CSS

Magento UI Library



- Upgradability
- Consistency
- Extensive list of reusable components
- Styling and design best practices
- Simplifies customization



Magento UI Library Documentation

lib/web/css/docs

Primary button

The `.button-primary()` mixin is used to create a **primary button**. By default it uses Primary button variables from `variables.less` file.

Primary button

Button

Hover

Active

Disabled

```
<button class="button" type="button"><span>Button</span></button>
<button class="button :hover" type="button"><span>Hover</span></button>
<button class="button :active" type="button"><span>Active</span></button>
<button class="button disabled" type="button"><span>Disabled</span></button>
```

```
.button {
  .button-primary();
  &:active {
    box-shadow: inset 0 3px 1px rgba(0,0,0,.29);
  }
}
```


CSS Pre-processors

```
<virtualType name="viewFileFallbackResolver" type="...">
  <arguments>
    <argument name="alternativeExtensions" xsi:type="array">
      <item name="css" xsi:type="array">
        <item name="scss" xsi:type="string">scss</item>
      </item>
    </argument>
  </arguments>
</virtualType>
<type name="Magento\Framework\View\Asset\PreProcessor\Pool">
  <arguments>
    <argument name="preProcessors" xsi:type="array">
      <item name="scss" xsi:type="array">
        <item name="css" xsi:type="array">
          <item name="scss_css" xsi:type="string">Vendor\Module\ScssPreProcessor</item>
        </item>
      </item>
    </argument>
  </arguments>
</type>
```

02. Web Developer Workflows

CSS pre-processing

WEB Developer Workflows

Basic: with built-in CSS pre-processor

Standard: with client-side CSS pre-processor

Advanced: with node.js CSS pre-processor



▼ Front-end development workflow

Workflow type

Server side less compilation	▲
Client side less compilation	
Server side less compilation	

[STORE VIEW]

▶ Developer Client Restrictions

▶ Template Settings

▶ Translate Inline

Server side PHP pre-processor (with PHP)

Oyejorge PHP library

~40 seconds to compile CSS

Manual actions to re-compile

Client side CSS pre-processor (with less.js)

less.js official script

~10 seconds to compile CSS

No actions to re-compile

Server side CSS pre-processor (with node.js)

Command line script (lessc)

~7 seconds to compile CSS

Automatic browser refresh on change in LESS

Summary

Development Efforts

- ✓ Existing M1 experience
- ✓ Pass M2 Training

1 st Module	M1 + 50 %
2 nd Module	M1 + 20%
3 rd Module	M2 =< M1

Thank you!

Migrating Your Theme to Magento 2

Q & A

Vitalii Korotun

vkorotun@ebay.com



UNBOUND

imagine
commerce 2015



Andrey Konosov

Architect, Magento 2

The background features a gradient from dark red on the left to bright yellow on the right. Overlaid on this are several diagonal stripes in shades of red and orange. There are also several white, curved, semi-circular shapes scattered across the image, some appearing as if they are cut out of the stripes.

Migrating Merchant Data to Magento 2

-
- Data structure
 - How migration tool work
 - How to customize migration process
 - Migration workflow

Legal Disclaimer

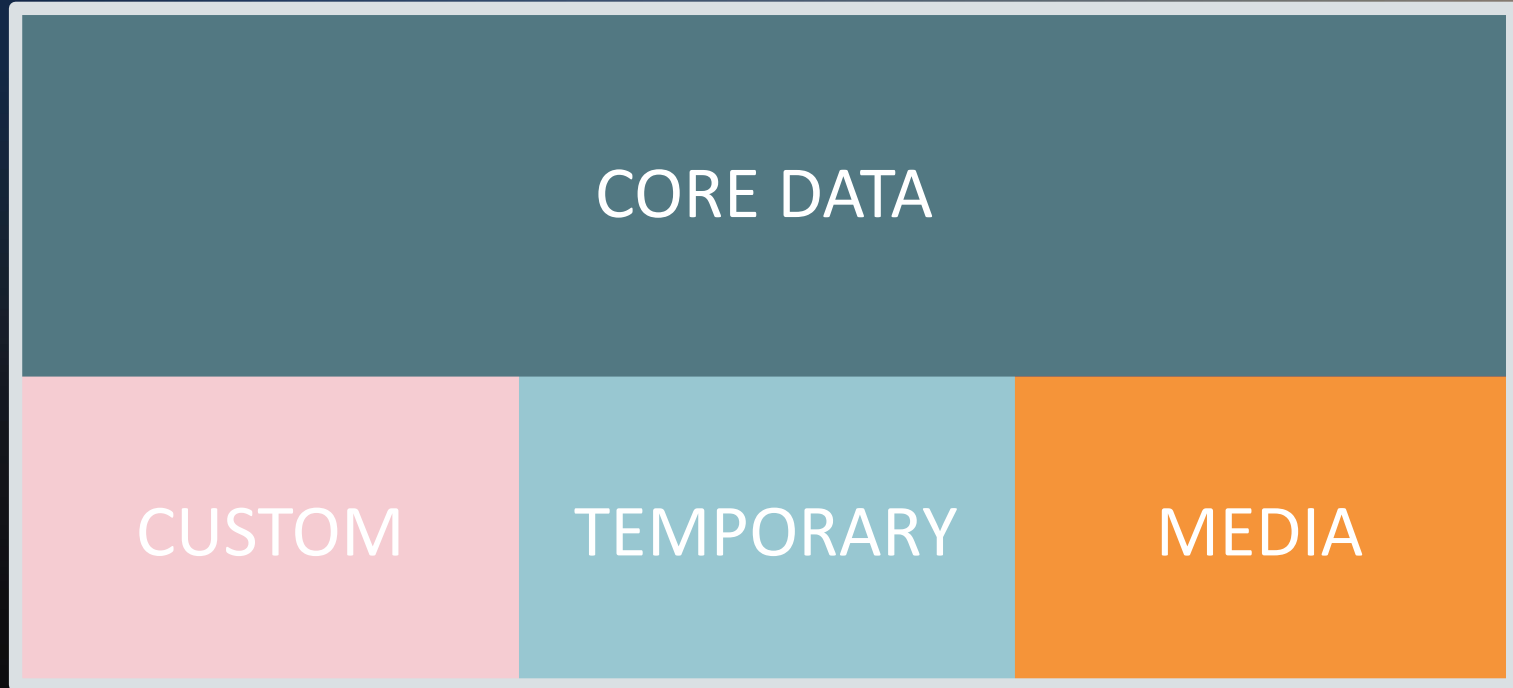
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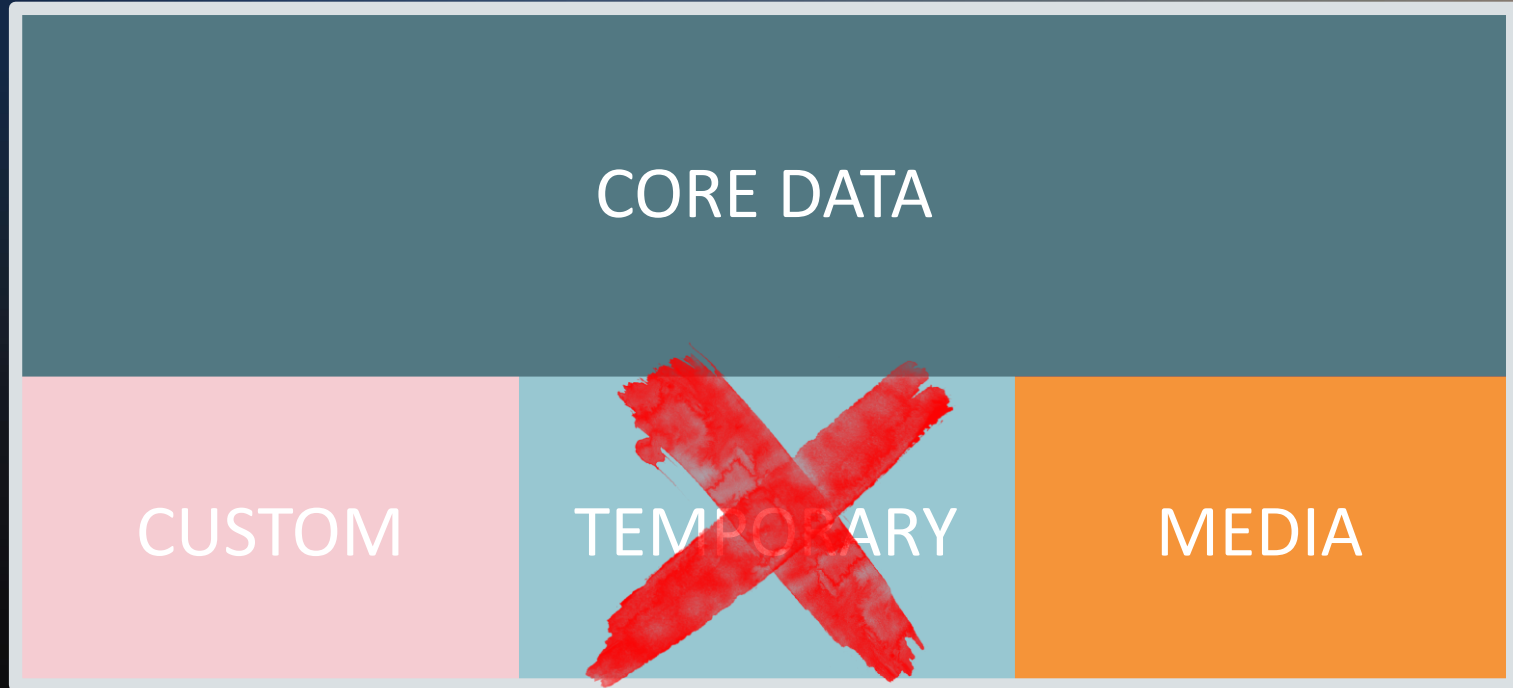
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01. Website Data

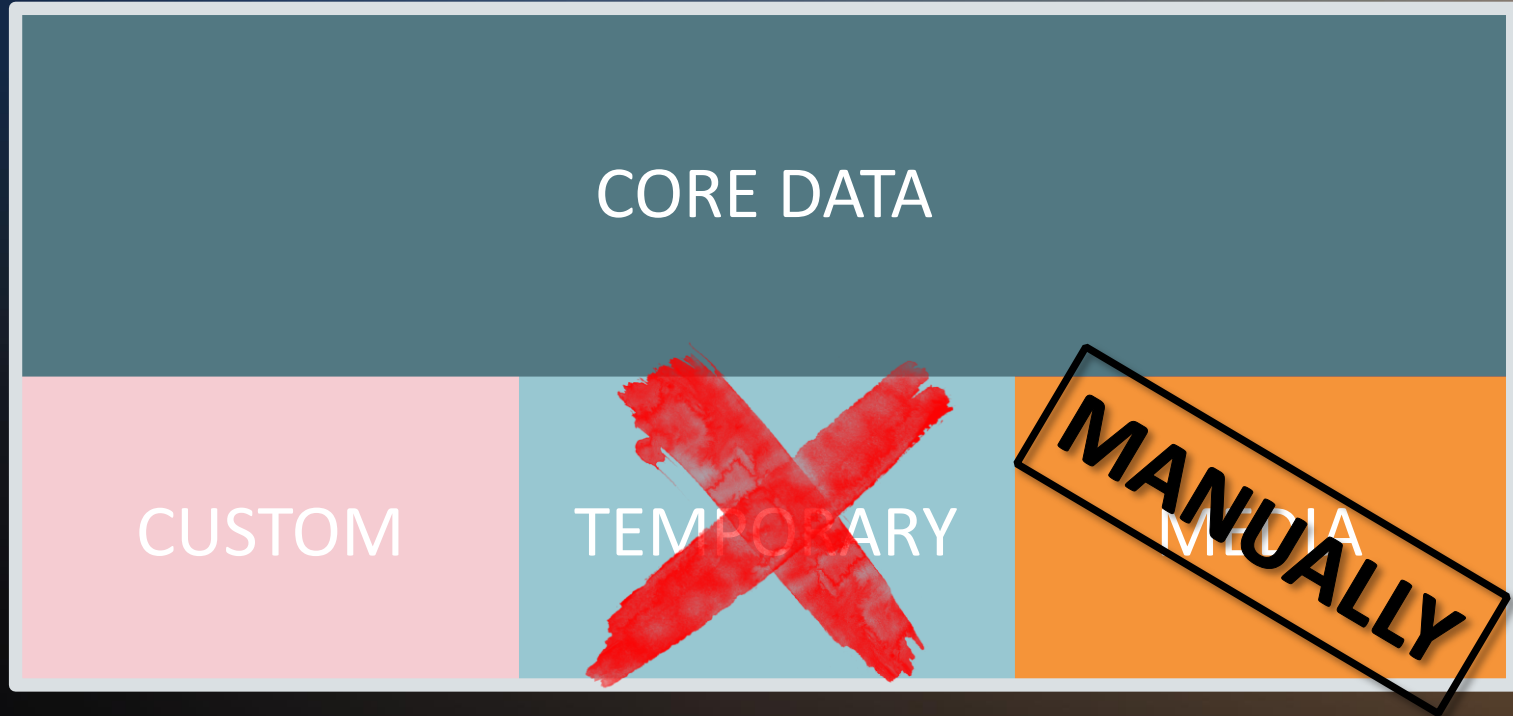
Data Structure



Data Structure

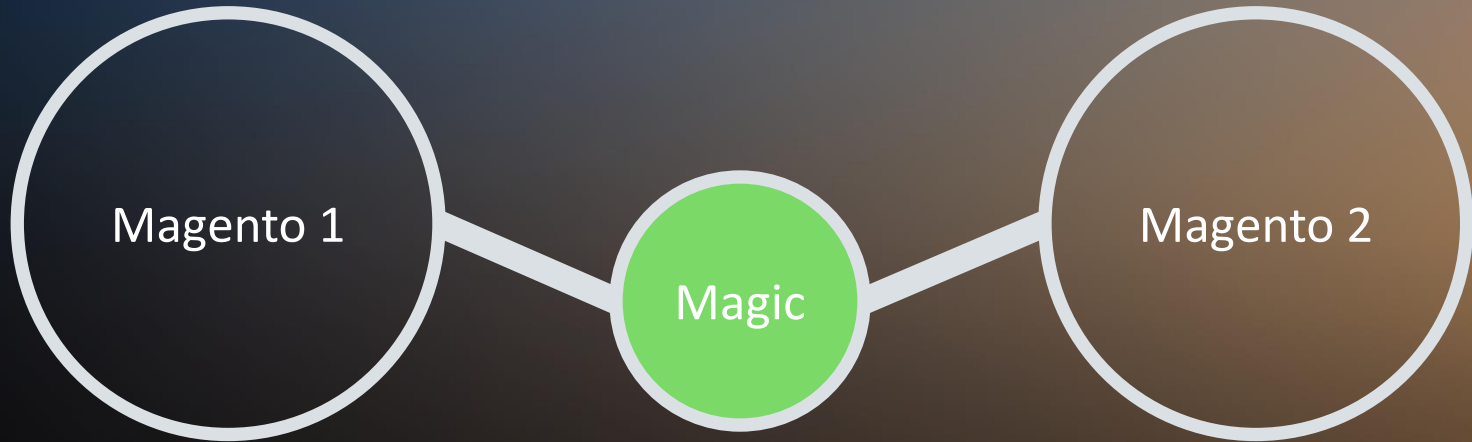


Data Structure



02. Migration Tool

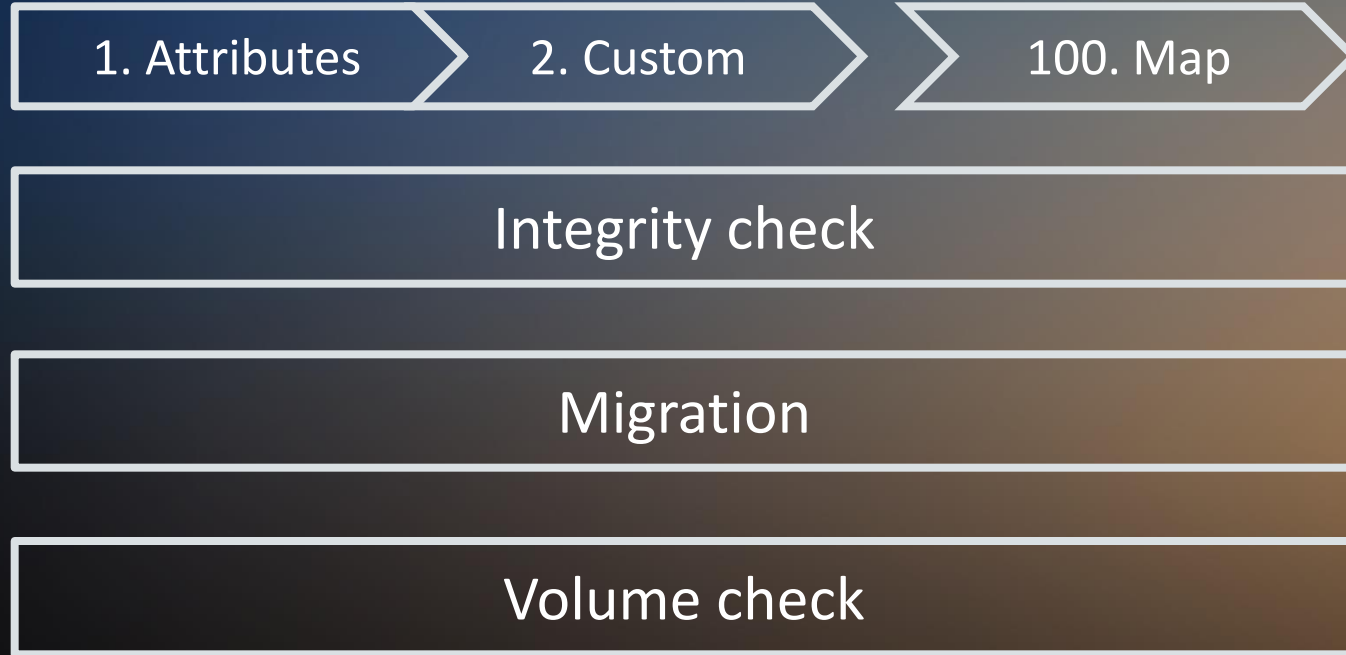
Migration Tool



Tool Structure



Tool Structure



03. Customization

Map Customizations

MAJORITY
of tables could be migrated
USING MAP



Map

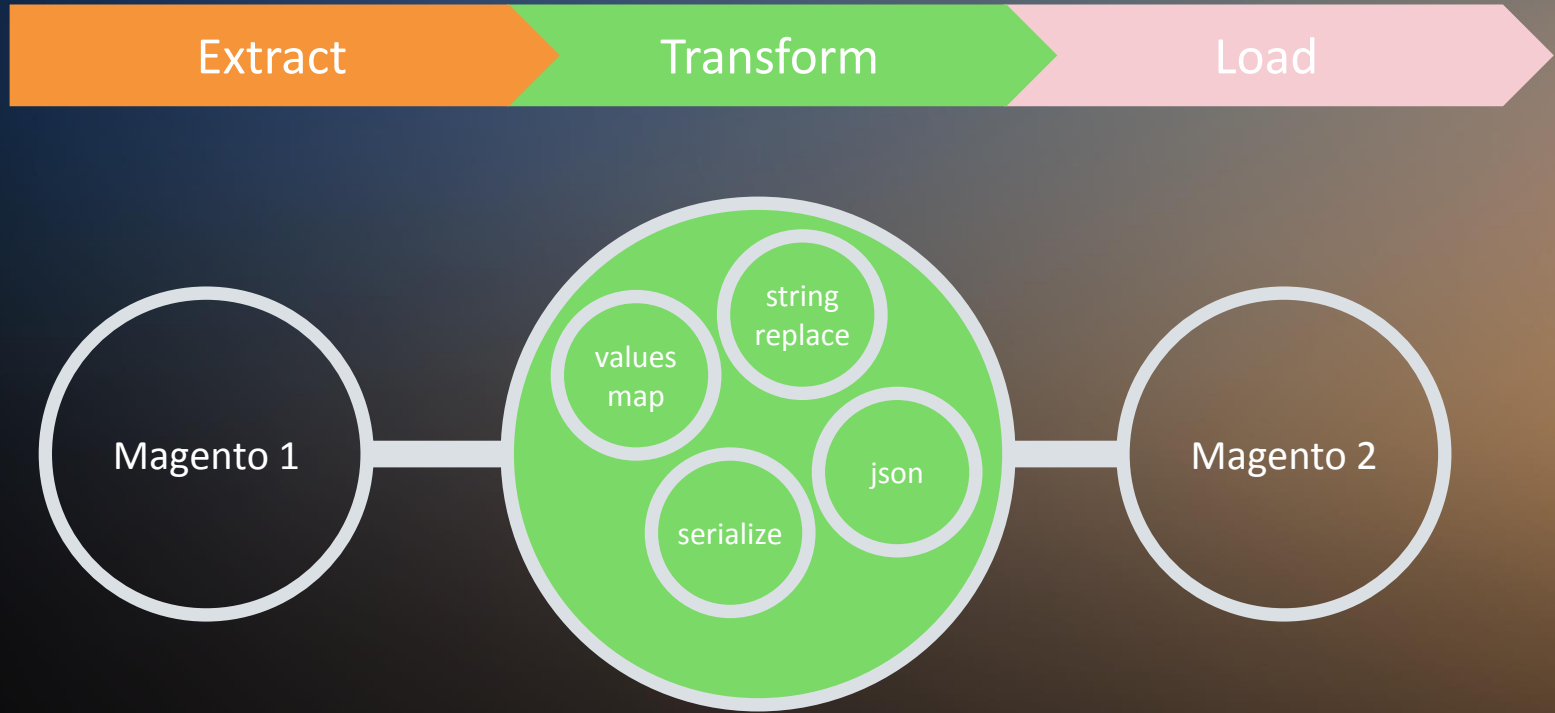
<ignore>

<move>

<transform>

*Default action is **copy**

Transformation Handlers

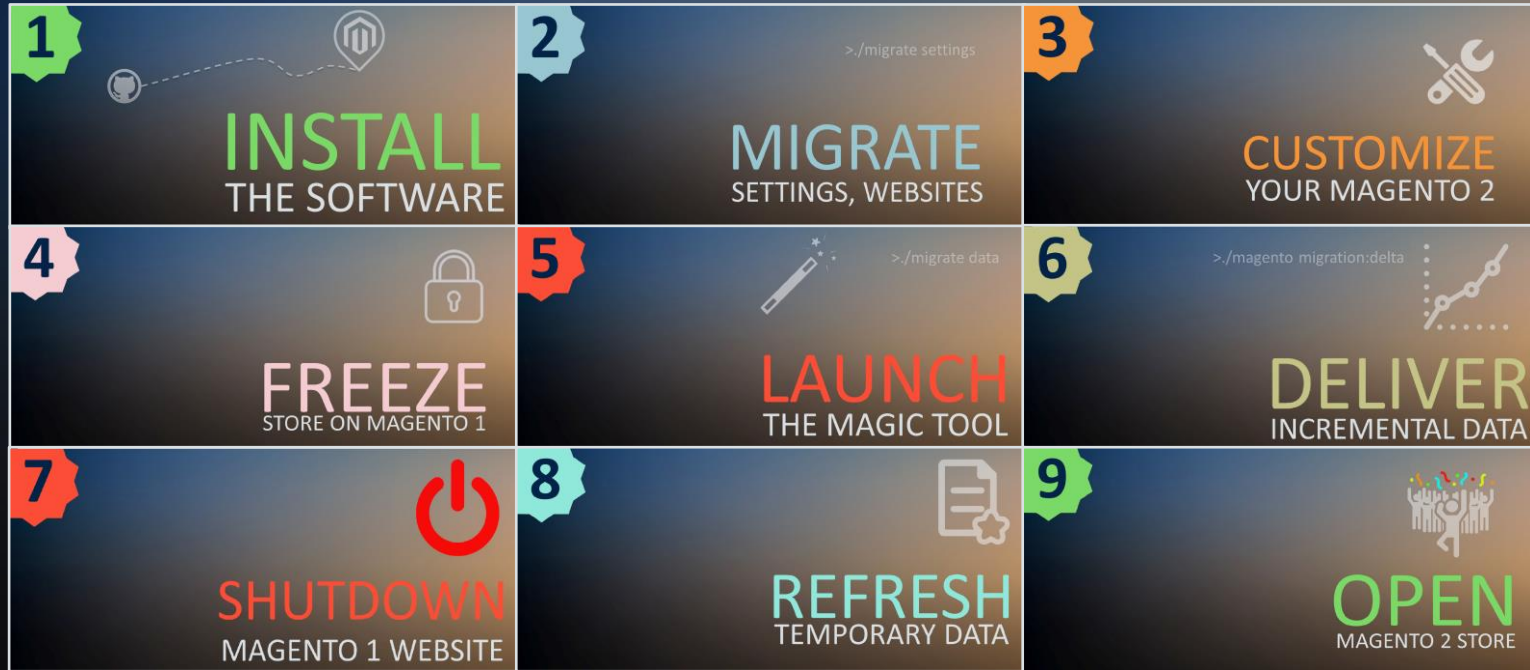


Custom Steps



04. Workflow

Workflow



Workflow

1



INSTALL
THE SOFTWARE

Workflow

2

```
>./magento migration:settings
```

MIGRATE
SETTINGS, WEBSITES

Workflow

3



```
>./magento migration:settings
```

```
>./magento migration:data
```

```
>./magento migration:delta
```

CUSTOMIZE YOUR MAGENTO 2

Workflow

4

Storefront usage

Orders management

Products management

Content management



FREEZE
STORE ON MAGENTO 1

Workflow

5



```
>./magento migration:data
```

LAUNCH
THE MAGIC TOOL

Workflow

6

```
>./magento migration:delta
```



DELIVER
INCREMENTAL DATA

Workflow

7



SHUTDOWN

MAGENTO 1 WEBSITE

Workflow

8

```
>./magento indexer:all  
cache warmup
```



REFRESH
TEMPORARY DATA

Workflow

9

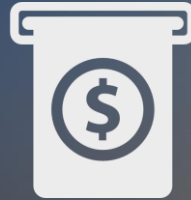


OPEN
MAGENTO 2 STORE

Numbers



1000/min



1200/min



15500/min

Virtual Box VM, CentOS 6, 2.5Gb RAM, CPU 1 core 2.6GHz

Thank you!

Migrating Merchant Data to Magento 2

Q & A

Andrey Konosov
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