Because it's in the core

Who am I?

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http://magento.stackexchange.com/users/146/marius

https://github.com/tzyganu

Image Sources

- http://www.srghousing.com
- https://blingee.com
- https://magento.stackexchange.com
- https://framework.zend.com
- http://symfony.com/
- http://requirejs.org/
- http://knockoutjs.com/
- http://getcomposer.com
- https://www.graphql.com/
- https://prepros.io/
- http://jquery.com
- https://www.varnish-software.com
- http://wikipedia.org
- http://www.free-power-point-templates.com

A Story

(2 minutes... or 3)

Disclaimer

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The style of presentation is a pamphlet and should be treated as one. The point of the presentation is not to disrespect or offend anyone. The main idea is that everyone is human and make mistakes. You can even use it as learning material.

(if you get offended by this presentation… well… boo-hoo)

Thanks

- I had help : https://magento.meta.stackexchange.com/q/240/146
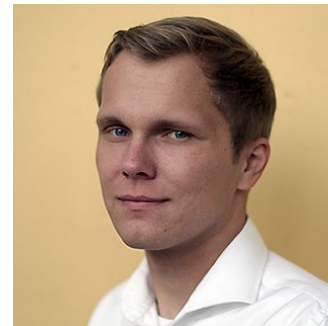
Thanks

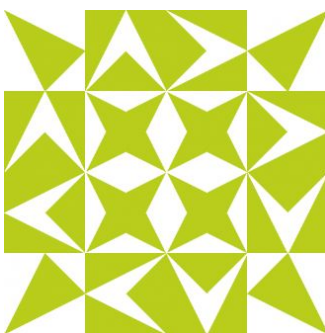

Flyingmana

Mr_Green

Ben

Fabian

Tobias

Vinai

Giel

Init

David

Andreas

Magento 1

Magento 1: Let's create a crud module

- You've done this at least once. Admit it.
  - Breadcrumbs In the admin controllers:
  - Why? Because it's in the core.

```
$this->loadLayout();
$this->_addBreadcrumb(
    Mage::helper('whatever')->__('Whatever'),
    Mage::helper('whatever')->__('Whatever'),
    Mage::helper('adminhtml')->getUrl('some/path/here')
);
```

Magento 1: Let's create a crud module

- You've done this at least once. Admit it.
  - Breadcrumbs In the admin controllers:
  - Why? Because it's in the core.
  - What it does?

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$this->loadLayout();
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```

Magento 1: Let's create a crud module

- You've done this at least once. Admit it.
    - Breadcrumbs In the admin controllers:
    - Why? Because it's in the core.
    - What it does? **Nothing.**
    - Why does it do nothing?
    - Mage_Adminhtml_Block_Widget_Breadcrumbs::_beforeToHtml()

```php
$this->loadLayout();
$this->_addBreadcrumb(
    Mage::helper('whatever')->__('Whatever'),
    Mage::helper('whatever')->__('Whatever'),
    Mage::helper('adminhtml')->getUrl('some/path/here')
);
```

```php
protected function _beforeToHtml()
{
    // TODO - Moved to Beta 2, no breadcrumbs displaying in Beta 1
    // $this->assign('links', $this->_links);
    return parent::_beforeToHtml();
}
```

Magento 1: I need a new layout file

- You've done this at least once. Admit it.
    - Layout version:
    - Why? Because it's in the core.

`<layout version="0.1.0">`

Magento 1: I need a new layout file

- You've done this at least once. Admit it.
    - Layout version:
    - Why? Because it's in the core.
    - What it does?

`<layout version="0.1.0">`

Magento 1: I need a new layout file

- You've done this at least once. Admit it.
  - Layout version:
  - Why? Because it's in the core.
  - What it does? **Nothing.**
  - Why does it do nothing? I have no idea.

`<layout version="0.1.0">`

TODOs

TODOs - the regular ones

- About 350 of them in 1.9.

```php
class Mage_Adminhtml_Block_Report_Grid_Column_Renderer_Blanknumber
{
    protected function _getValue(Varien_Object $row)
    {
        $data = parent::_getValue($row);
        if (!is_null($data)) {
            $value = $data * 1;
            return $value ? $value: ''; // fixed for showing blank
            /**
             * @todo may be bug in i.e. needs to be fixed
             */
        }
        return $this->getColumn()->getDefault();
    }
}
```

```php
//Mage_Adminhtml_CustomerController
/**
 * Prepare file download response
 *
 * @todo remove in 1.3
 * @deprecated please use $this->_prepareDownloadResponse()
 */
```

```php
//Mage_Adminhtml_Catalog_ProductController
/**
 * @todo implement full validation process with errors returning which are ignoring now
 */
if (is_array($errors = $product->validate())) {
```

```php
//Mage_Catalog_Model_Product_Type_Abstract
/**
 * @todo: show invalid option
 */
if (isset($queueOptions['option'])) {
    $queueOptions['option']->setIsValid(false);
}
```

```php
/**
 * @todo        separate order, mode and pager
 */
class Mage_Page_Block_Html_Pager extends Mage_Core_Block_Template
```

TODOs - the good ones

```php
//Mage_Adminhtml_Block_System_Config_Form
/**
 * Temporary moved those $this->getRequest()->getParam('blabla') from the code accross this block
 * to getBlala() methods to be later set from controller with setters
 */
/**
 * Enter description here...
 *
 * @TODO delete this methods when {^see above^} is done
 * @return string
 */
public function getSectionCode()
{
    return $this->getRequest()->getParam('section', '');
}
```

```php
//Mage_Backup_Model_Backup
/**
 * Return content of backup file
 *
 * @todo rewrite to Varien_IO, but there no possibility read part of files.
 * @return string
 * @throws Mage_Backup_Exception
 */
public function &getFile()
```

```php
//Mage_Bundle_Model_Product_Price
foreach ($selections as $selection) {
    /* @var $selection Mage_Bundle_Model_Selection */
    if (!$selection->isSalable()) {
        /**
         * @todo CatalogInventory Show out of stock Products
         */
        continue;
    }
}
```

```php
//Mage_Catalog_Model_Category
/**
 * Retrieve all customer attributes
 *
 * @todo Use with Flat Resource
 * @return array
 */
public function getAttributes($noDesignAttributes = false)
{
```

TODOs - the AWESOME ones

```
//Mage_Core_Model_Log_Adapter
/**
 * Log data setter
 *
 * @param string/array $key
 * @param mixed $value
 * @return Mage_Core_Model_Log_Adapter
 * @todo replace whole data
 */
public function setData($key, $value = null)
```

```
/**
 * NVP API wrappers model
 * @TODO: move some parts to abstract,
 * don't hesitate to throw exceptions on api calls
 */
class Mage_Paypal_Model_Api_Nvp extends Mage_Paypal_Model_Api_Abstract
{
```

```
if (!empty($products)) {
    /*
     * Mage_Sales_Model_Order
     * @TODO ACPAOC: Use product collection here, but ensure that product
     * is loaded with order store id, otherwise there'll be problems with isSalable()
     * for configurables, bundles and other composites
     *
     */
```

```
//Mage_Adminhtml_Newsletter_QueueController
// Todo: put it somewhere in config!
```

```
/**
 * Mage_Usa_Model_Shipping_Carrier_Abstract
 * For multi package shipments. Delete requested shipments if the current shipment
 * request is failed
 *
 * @todo implement rollback logic
 * @param array $data
 * @return bool
 */
public function rollBack($data)
{
    return true;
}
```

TODOs - the Winners

```
//Mage_Catalog_Model_Category_Attribute_Backend_Image

/** @TODO ??? */
return;
```
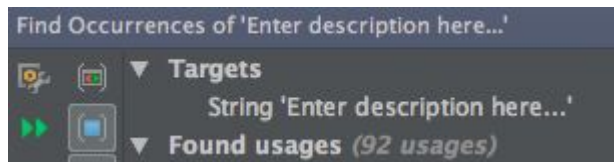
```
//Mage_Adminhtml_Api_UserController
//@FIXME: stupid fix of previous multi-roles logic.
//@TODO:  make proper DB upgrade in the future revisions.
$rc = array();
```

```
/**
 * Mage_CatalogInventory_Model_Stock_Item
 * Retrieve stock identifier
 *
 * @todo multi stock
 * @return int
 */
public function getStockId()
{
    return 1;
}
```

Comments

Comments

- Use comments to properly explain what your code does

Find Occurrences of 'Enter description here...'
▼ Targets
    String 'Enter description here...'
▼ Found usages *(92 usages)*

Comments

- Use comments to tell your team that you put in some extra hours

```
//Mage_Customer_AccountController
// log in and send greeting email, then die happy
```

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Comments

- The classical "Here be dragons"

```
//Mage_Paypal_Model_Cart
/**
 * Add "hidden" discount and shipping tax
 *
 * Go ahead, try to understand ]:->
 *
 * Tax settings for getting "discount tax":
 * - Catalog Prices = Including Tax
 * - Apply Customer Tax = After Discount
 * - Apply Discount on Prices = Including Tax
 *
 * Test case for getting "hidden shipping tax":
 * - Make sure shipping is taxable (set shipping tax class)
 * - Catalog Prices = Including Tax
 * - Shipping Prices = Including Tax
 * - Apply Customer Tax = After Discount
 * - Create a shopping cart price rule with % discount applied to the Shipping Amount
 * - run shopping cart and estimate shipping
 * - go to PayPal
```

Comments

- basic math

```
/**
 * Mage_Catalog_Model_Api2_Product_Rest
 * Using regular rounding. Ex:
 * price incl tax    = 52.76
 * store tax rate    = 19.6%
 * customer tax rate= 19%
 *
 * price excl tax = 52.76 / 1.196 = 44.11371237 ~ 44.11
 * tax = 44.11371237 * 0.19 = 8.381605351 ~ 8.38
 * price incl tax = 52.49531773 ~ 52.50 != 52.49
 *
 * that why we need round prices excluding tax before applying tax
 * this calculation is used for showing prices on catalog pages
 */
```

Random code

Code

- Make sure a collection is iterable

```
/**
 * Mage_Adminhtml_Block_Cache_Grid
 * Add name and description to collection elements
 */
protected function _afterLoadCollection()
{
    foreach ($this->_collection as $item) {
    }
    return $this;
}
```

Code

- "One for all and all for one"
- It's either all adapters or none.

```php
//Mage_Api2_Helper_Data
foreach ($adapters as $adapter) {
    if (empty($adapter['enabled'])) {
        unset($adapters);
    }
}
$adapters = (array) $adapters;
```

Code

- Ever wondered how the discount and totals are calculated?

```
/**
 *
 * //Mage_Tax_Model_Sales_Total_Quote_Discount
 * Calculate discount tac amount
 *
 * @param   Mage_Sales_Model_Quote_Address $address
 * @return  Mage_Tax_Model_Sales_Total_Quote
 */
public function collect(Mage_Sales_Model_Quote_Address $address)
{
    echo 'discount';
}
```

```
//Mage_Sales_Model_Quote_Config
public function getTotalModels()
{

}
```

Consistency

```php
$id = 1;
/** @var Mage_Sales_Model_Quote $quote */
$quote = Mage::getModel('sales/quote')->load($id);
foreach ($quote->getAllItems() as $item) {
    /** @var Mage_Sales_Model_Quote_Item $item */
    //do something here
    $item->getQuote(); //What will this return?
}
```

```php
$id = 1;
/** @var Mage_Sales_Model_Quote_Item $quoteItem */
$quoteItem = Mage::getModel('sales/quote_item')->load($id);
$quote = $quoteItem->getQuote();
```

Consistency - 2 hours well spent

- Ever tried to change the collection in a product listing? Me too.
- There is an awesome event for that.

```
//Mage_Catalog_Block_Product_List
Mage::dispatchEvent('catalog_block_product_list_collection', array(
    'collection' => $this->_getProductCollection()
));

$this->_getProductCollection()->load();

return parent::_beforeToHtml();
```
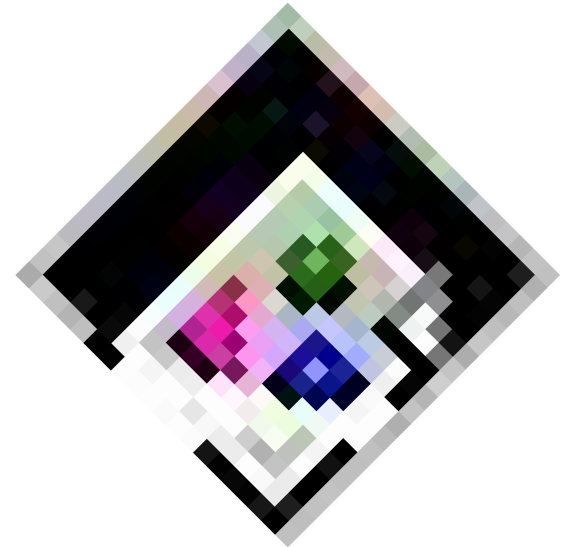
- What happens when you observe it?

Consistency - 2 hours well spent

- Ever tried to change the collection in a product listing? Me too.
- There is an awesome event for that.

```
//Mage_Catalog_Block_Product_List
Mage::dispatchEvent('catalog_block_product_list_collection', array(
    'collection' => $this->_getProductCollection()
));

$this->_getProductCollection()->load();

return parent::_beforeToHtml();
```

- What happens when you observe it?

Consistency - 2 hours well spent

- Why? There is a Review module that observes the event.

```php
/**
 * Mage_Review_Model_Observer
 * Append review summary before rendering html
 *
 * @param Varien_Event_Observer $observer
 * @return Mage_Review_Model_Observer
 */
public function catalogBlockProductCollectionBeforeToHtml(Varien_Event_Observer $observer)
{
    $productCollection = $observer->getEvent()->getCollection();
    if ($productCollection instanceof Varien_Data_Collection) {
        $productCollection->load();
        Mage::getModel('review/review')->appendSummary($productCollection);
    }

    return $this;
}
```

This should not work

Why does this work?

```php
public function getPdf($invoices = array())
{
    ...

    foreach ($invoices as $invoice) {
        ...
        $page  = $this->newPage();
        $order = $invoice->getOrder();
        /* Add image */
        $this->insertLogo($page, $invoice->getStore());
        /* Add address */
        $this->insertAddress($page, $invoice->getStore());
        /* Add head */
        $this->insertOrder(
            ...
        );
        /* Add document text and number */
        $this->insertDocumentNumber(
            ...
        );
        /* Add table */
        $this->_drawHeader($page);
        /* Add body */
        foreach ($invoice->getAllItems() as $item){
            if ($item->getOrderItem()->getParentItem()) {
                continue;
            }
            /* Draw item */
            $this->_drawItem($item, $page, $order);
            $page = end($pdf->pages);
        }
```

```php
protected function _drawHeader(Zend_Pdf_Page $page)
{
    /* Add table head */
    $this->_setFontRegular($page, 10);
    $page->setFillColor(new Zend_Pdf_Color_RGB(0.93, 0.92, 0.92));
    $page->setLineColor(new Zend_Pdf_Color_GrayScale(0.5));
    $page->setLineWidth(0.5);
    $page->drawRectangle(25, $this->y, 570, $this->y -15);
    $this->y -= 10;
    $page->setFillColor(new Zend_Pdf_Color_RGB(0, 0, 0));
```

```php
class Zend_Pdf_Color_Rgb extends Zend_Pdf_Color
```
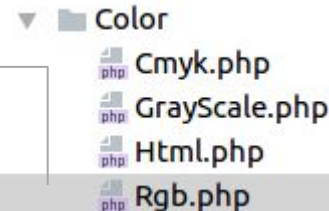
Why does this work?

```php
public function getPdf($invoices = array())
{
    ...

    foreach ($invoices as $invoice) {
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        $page  = $this->newPage();
        $order = $invoice->getOrder();
        /* Add image */
        $this->insertLogo($page, $invoice->getStore());
        /* Add address */
        $this->insertAddress($page, $invoice->getStore());
        /* Add head */
        $this->insertOrder(
            ...
        );
        /* Add document text and number */
        $this->insertDocumentNumber(
            ...
        );
        /* Add table */
        $this->_drawHeader($page);
        /* Add body */
        foreach ($invoice->getAllItems() as $item){
            if ($item->getOrderItem()->getParentItem()) {
                continue;
            }
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            $this->_drawItem($item, $page, $order);
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```

```php
class Zend_Pdf_Color_Rgb extends Zend_Pdf_Color
```

▼ 📁 Color
  📄 Cmyk.php
  📄 GrayScale.php
  📄 Html.php
  📄 Rgb.php

huh?

Why does this work?

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public function getPdf($invoices = array())
{
    ...

    foreach ($invoices as $invoice) {
        ...
        $page  = $this->newPage();
        $order = $invoice->getOrder();
        /* Add image */
        $this->insertLogo($page, $invoice->getStore());
        /* Add address */
        $this->insertAddress($page, $invoice->getStore());
        /* Add head */
        $this->insertOrder(
            ...
        );
        /* Add document text and number */
        $this->insertDocumentNumber(
            ...
        );
        /* Add table */
        $this->_drawHeader($page);
        /* Add body */
        foreach ($invoice->getAllItems() as $item){
            if ($item->getOrderItem()->getParentItem()) {
                continue;
            }
            /* Draw item */
            $this->_drawItem($item, $page, $order);
            $page = end($pdf->pages);
        }
    }
```

```php
protected function insertOrder(&$page, $obj, $putOrderId = true)
{
    ...

    $top -= 10;
    $page->setFillColor(new Zend_Pdf_Color_Rgb(0.93, 0.92, 0.92));
    $page->setLineColor(new Zend_Pdf_Color_GrayScale(0.5));
    $page->setLineWidth(0.5);
```

No comment

```php
$_coreHelper = $this->helper('core');
$_weeeHelper = $this->helper('weee');
$_taxHelper = $this->helper('tax');
/* @var $_coreHelper Mage_Core_Helper_Data */
/* @var $_weeeHelper Mage_Weee_Helper_Data */
/* @var $_taxHelper Mage_Tax_Helper_Data */

$_product = $this->getProduct();
$_storeId = $_product->getStoreId();
$_store = $_product->getStore();
$_id = $_product->getId();
$_weeeSeparator = '';
$_simplePricesTax = ($_taxHelper->displayPriceIncludingTax() || $_taxHelper->displayBothPrices());
$_minimalPriceValue = $_product->getMinimalPrice();
$_minimalPriceValue = $_store->roundPrice($_store->convertPrice($_minimalPriceValue));
$_minimalPrice = $_taxHelper->getPrice($_product, $_minimalPriceValue, $_simplePricesTax);
$_convertedFinalPrice = $_store->roundPrice($_store->convertPrice($_product->getFinalPrice()));
$_specialPriceStoreLabel = $this->getProductAttribute('special_price')->getStoreLabel();
?>

<?php if (!$_product->isGrouped()): ?>
    <?php $_weeeTaxAmount = $_weeeHelper->getAmountForDisplay($_product); ?>
    <?php $_weeeTaxAttributes = $_weeeHelper->getProductWeeeAttributesForRenderer($_product, null, null, null, true); ?>
    <?php $_weeeTaxAmountInclTaxes = $_weeeTaxAmount; ?>
    <?php if ($_weeeHelper->isTaxable()): ?>
        <?php $_weeeTaxAmountInclTaxes = $_weeeHelper->getAmountInclTaxes($_weeeTaxAttributes); ?>
    <?php endif; ?>
    <?php $_weeeTaxAmount = $_store->roundPrice($_store->convertPrice($_weeeTaxAmount)); ?>
    <?php $_weeeTaxAmountInclTaxes = $_store->roundPrice($_store->convertPrice($_weeeTaxAmountInclTaxes)); ?>

    <div class="price-box">
    <?php $_convertedPrice = $_store->roundPrice($_store->convertPrice($_product->getPrice())); ?>
    <?php $_price = $_taxHelper->getPrice($_product, $_convertedPrice); ?>
    <?php $_regularPrice = $_taxHelper->getPrice($_product, $_convertedPrice, $_simplePricesTax); ?>
    <?php $_finalPrice = $_taxHelper->getPrice($_product, $_convertedFinalPrice) ?>
    <?php $_finalPriceInclTax = $_taxHelper->getPrice($_product, $_convertedFinalPrice, true) ?>
    <?php $_weeeDisplayType = $_weeeHelper->getPriceDisplayType(); ?>
    <?php if ($_finalPrice >= $_price): ?>
        <?php if ($_taxHelper->displayBothPrices()): ?>
            <?php if ($_weeeTaxAmount && $_weeeHelper->typeOfDisplay($_product, 0)): // including ?>
                <span class="price-excluding-tax">
                    <span class="label"><?php echo $this->helper('tax')->__('Excl. Tax:') ?></span>
                    <span class="price" id="price-excluding-tax-<?php echo $_id ?><?php echo $this->getIdSuffix() ?>">
                        <?php echo $_coreHelper->formatPrice($_price + $_weeeTaxAmount, false) ?>
                    </span>
                </span>
                <span class="price-including-tax">
                    <span class="label"><?php echo $this->helper('tax')->__('Incl. Tax:') ?></span>
                    <span class="price" id="price-including-tax-<?php echo $_id ?><?php echo $this->getIdSuffix() ?>">
                        <?php echo $_coreHelper->formatPrice($_finalPriceInclTax + $_weeeTaxAmountInclTaxes, false) ?>
                    </span>
                </span>
            <?php elseif ($_weeeTaxAmount && $_weeeHelper->typeOfDisplay($_product, 1)): // incl. + weee ?>
```

Magento 2

TODOs

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TODOs - the regular ones

- About 200 of them

```
/**
 * Set redirect into response
 * // \Magento\Backend\App\AbstractAction
 * @TODO MAGETWO-28356: Refactor controller actions to new ResultInterface
 * @param    string $path
 * @param    array $arguments
 * @return   \Magento\Framework\App\ResponseInterface
 */
```

```
/**
 * Set redirect into response
 * \ Magento\Backend\App\Response\Http\FileFactory
 * @param    string $path
 * @param    array $arguments
 * @return   \Magento\Framework\App\ResponseInterface
 * @TODO move method
 */
protected function _redirect($path, $arguments = [])
{
```

```
/** \Magento\Framework\View\Layout\ElementTest
 * @TODO: Need to use ObjectManager instead 'new'.
 * On this moment we have next bug MAGETWO-4274 which blocker for this key.
 */
```

TODOs - the good ones

```
// \Magento\Backend\Block\Widget\Button\SplitButton
//@TODO Perhaps use $this->getClass() instead
if ($this->getButtonClass()) {
    $classes[] = $this->getButtonClass();
}
```

```
// \Magento\Backend\Block\Widget\Button\SplitButton
// @TODO Perhaps use $this->getButtonClass() instead
if ($this->getClass()) {
    $classes[] = $this->getClass();
}
```

```
//// \Magento\Backend\Block\Widget\Button\SplitButton
//TODO perhaps we need to skip data-mage-init when disabled="disabled"
if ($this->getDataAttribute()) {
    $this->_getDataAttributes($this->getDataAttribute(), $attributes);
}
```

TODOs - the awesome ones

```
protected function _beforeToHtml()
{
    // TODO - Moved to Beta 2, no breadcrumbs displaying in Beta 1
    // $this->assign('links', $this->_links);
    return parent::_beforeToHtml();
}
```

```
// \Magento\Backup\Model\ResourceModel\Helper
//TODO fix me
```

```
//Magento\Catalog\Model\Indexer\Category\Flat\Action
/** @TODO Do something with chunks */
```

```
// Magento/Catalog/view/adminhtml/templates/catalog/category/checkboxes/tree.phtml
// TODO: cleanup this script. It was copypasted from catalog/category/tree
```

TODOs - the winners

```
// \Magento\Catalog\Model\ResourceModel\AbstractResource
//TODO:
```

```
// \Magento\Customer\Block\Adminhtml\Group\Edit\Form
// TODO: need to figure out how the DATA can work with forms
```

```
// \Magento\Directory\Model\Country
//TODO: is it still used?
```

```php
// \Magento\ConfigurableImportExport\Model\Import\Product\Type\Configurable
// @todo understand why do we need this condition
if ($this->_getSuperAttributeId($linkId, $attrParams['id'])) {
    $productSuperAttrId = $this->_getSuperAttributeId($linkId, $attrParams['id']);
} elseif (isset($this->_superAttributesData['attributes'][$linkId][$attrParams['id']])) {
    $attributes = $this->_superAttributesData['attributes'];
    $productSuperAttrId = $attributes[$linkId][$attrParams['id']]['product_super_attribute_i
    $this->_collectSuperDataLabels($data, $productSuperAttrId, $linkId, $variationLabels);
} else {
    $productSuperAttrId = $this->_getNextAttrId();
    $this->_collectSuperDataLabels($data, $productSuperAttrId, $linkId, $variationLabels);
}
```

I can't even...

\Magento\Setup\Module\Di\Code\Reader\FileScanner

```php
if ($this->tokenType === null && $tokenContent === ';' || $tokenContent === '{') {
    goto SCANNER_NAMESPACE_END;
}

if ($this->tokenType === T_WHITESPACE) {
    goto SCANNER_NAMESPACE_CONTINUE;
}

if ($this->tokenType === T_NS_SEPARATOR || $this->tokenType === T_STRING) {
    $infos[$infoIndex]['namespace'] .= $tokenContent;
}

SCANNER_NAMESPACE_CONTINUE:

if ($MACRO_TOKEN_ADVANCE() === false) {
    goto SCANNER_END;
}
goto SCANNER_NAMESPACE_TOP;

SCANNER_NAMESPACE_END:

$namespace = $infos[$infoIndex]['namespace'];

$MACRO_INFO_ADVANCE();
goto SCANNER_CONTINUE;
```

\Magento\Setup\Module\Di\Code\Reader\FileScanner

```php
if ($this->tokenType === null && $tokenContent === ';' || $tokenContent === '{') {
    goto SCANNER_NAMESPACE_END;
}

if ($this->tokenType === T_WHITESPACE) {
    goto SCANNER_NAMESPACE_CONTINUE;
}

if ($this->tokenType === T_NS_SEPARATOR || $this->tokenType === T_STRING) {
    $infos[$infoIndex]['namespace'] .= $tokenContent;
}

SCANNER_NAMESPACE_CONTINUE:

if ($MACRO_TOKEN_ADVANCE() === false) {
    goto SCANNER_END;
}
goto SCANNER_NAMESPACE_TOP;

SCANNER_NAMESPACE_END:

$namespace = $infos[$infoIndex]['namespace'];

$MACRO_INFO_ADVANCE();
goto SCANNER_CONTINUE;
```

"Unless you are programming in assembler, GOTO should always be treated the same way as the life vest of the airplanes: it is good to have them available, but if you need to use them it means that you are in big trouble"

Konamiman - a random SO moderator

Object Manager

Never ever use Object Manager directly…

```php
/**
 * @return \Magento\Framework\EntityManager\MetadataPool
 */
private function getMetadataPool()
{
    if (null === $this->metadataPool) {
        $this->metadataPool = \Magento\Framework\App\ObjectManager::getInstance()
            ->get(\Magento\Framework\EntityManager\MetadataPool::class);
    }
    return $this->metadataPool;
}
```

```php
private function getCategoryFlatCollectionFactory()
{
    if (!$this->categoryFlatCollectionFactory instanceof CategoryFlatCollectionFactory) {
        $this->categoryFlatCollectionFactory = ObjectManager::getInstance()
            ->get(CategoryFlatCollectionFactory::class);
    }

    return $this->categoryFlatCollectionFactory;
}
```

```php
$this->_logger = $logger;
$this->setIteratorClass(\Magento\Backend\Model\Menu\Iterator::class);
$this->menuItemFactory = $menuItemFactory ?: ObjectManager::getInstance()
    ->create(Factory::class);
$this->serializer = $serializer ?: ObjectManager::getInstance()->create(SerializerInterface::class);
```

```php
/**
 * @return \Magento\Catalog\Model\ResourceModel\Product\Link
 */
private function getLinkResource()
{
    if (null === $this->linkResource) {
        $this->linkResource = \Magento\Framework\App\ObjectManager::getInstance()
            ->get(\Magento\Catalog\Model\ResourceModel\Product\Link::class);
    }
    return $this->linkResource;
}
```

```php
/**
 * @return LinkTypeProvider
 */
private function getLinkTypeProvider()
{
    if (null === $this->linkTypeProvider) {
        $this->linkTypeProvider = \Magento\Framework\App\ObjectManager::getInstance()
            ->get(\Magento\Catalog\Model\Product\LinkTypeProvider::class);
    }
    return $this->linkTypeProvider;
}
```

```php
/**
 * @return ProductLinkInterfaceFactory
 */
private function getProductLinkFactory()
{
    if (null === $this->productLinkFactory) {
        $this->productLinkFactory = \Magento\Framework\App\ObjectManager::getInstance()
            ->get(\Magento\Catalog\Api\Data\ProductLinkInterfaceFactory::class);
    }
    return $this->productLinkFactory;
}
```

Number of dependencies

Name that class

```php
public function __construct(
    \Magento\Framework\Model\Context $context,
    \Magento\Framework\Registry $registry,
    \Magento\Framework\Api\ExtensionAttributesFactory $extensionFactory,
    AttributeValueFactory $customAttributeFactory,
    \Magento\Store\Model\StoreManagerInterface $storeManager,
    \Magento\Catalog\Api\ProductAttributeRepositoryInterface $metadataService,
    Product\Url $url,
    Product\Link $productLink,
    \Magento\Catalog\Model\Product\Configuration\Item\OptionFactory $itemOptionFactory,
    \Magento\CatalogInventory\Api\Data\StockItemInterfaceFactory $stockItemFactory,
    \Magento\Catalog\Model\Product\OptionFactory $catalogProductOptionFactory,
    \Magento\Catalog\Model\Product\Visibility $catalogProductVisibility,
    \Magento\Catalog\Model\Product\Attribute\Source\Status $catalogProductStatus,
    \Magento\Catalog\Model\Product\Media\Config $catalogProductMediaConfig,
    Product\Type $catalogProductType,
    \Magento\Framework\Module\Manager $moduleManager,
    \Magento\Catalog\Helper\Product $catalogProduct,
    \Magento\Catalog\Model\ResourceModel\Product $resource,
    \Magento\Catalog\Model\ResourceModel\Product\Collection $resourceCollection,
    \Magento\Framework\Data\CollectionFactory $collectionFactory,
    \Magento\Framework\Filesystem $filesystem,
    \Magento\Framework\Indexer\IndexerRegistry $indexerRegistry,
    \Magento\Catalog\Model\Indexer\Product\Flat\Processor $productFlatIndexerProcessor,
    \Magento\Catalog\Model\Indexer\Product\Price\Processor $productPriceIndexerProcessor,
    \Magento\Catalog\Model\Indexer\Product\Eav\Processor $productEavIndexerProcessor,
    CategoryRepositoryInterface $categoryRepository,
    Product\Image\CacheFactory $imageCacheFactory,
    \Magento\Catalog\Model\ProductLink\CollectionProvider $entityCollectionProvider,
    \Magento\Catalog\Model\Product\LinkTypeProvider $linkTypeProvider,
    \Magento\Catalog\Api\Data\ProductLinkInterfaceFactory $productLinkFactory,
    \Magento\Catalog\Api\Data\ProductLinkExtensionFactory $productLinkExtensionFactory,
    EntryConverterPool $mediaGalleryEntryConverterPool,
    \Magento\Framework\Api\DataObjectHelper $dataObjectHelper,
    \Magento\Framework\Api\ExtensionAttribute\JoinProcessorInterface $joinProcessor,
    array $data = []
) {
```

Name that class

```php
public function __construct(
    \Magento\Framework\Model\Context $context,
    \Magento\Framework\Registry $registry,
    \Magento\Framework\Api\ExtensionAttributesFactory $extensionFactory,
    AttributeValueFactory $customAttributeFactory,
    \Magento\Store\Model\StoreManagerInterface $storeManager,
    \Magento\Catalog\Api\ProductAttributeRepositoryInterface $metadataService,
    Product\Url $url,
    Product\Link $productLink,
    \Magento\Catalog\Model\Product\Configuration\Item\Option\...ory $itemOptionFactory,
    \Magento\CatalogInventory\Api\Data\StockItemInterfa...          stockItemFactory,
    \Magento\Catalog\Model\Product\OptionFactory $...          ...ionFactory,
    \Magento\Catalog\Model\Product\Visibility...               ...lity,
    \Magento\Catalog\Model\Product\Attr...                     ...talogProductStatus,
    \Magento\Catalog\Model\Product...                          ...roductMediaConfig,
    Product\Type $catalogPro...
    \Magento\Framework\...                      ...anager,
    \Magento\Cata...                            ...talogProduct,
    \Magento\...                   ...odel\Product $resource,
    \Ma...                   ...ourceModel\Product\Collection $resourceCollection,
    \M...               ...ta\CollectionFactory $collectionFactory,
    \Ma...          ...ork\Filesystem $filesystem,
    \Mag...      ...ramework\Indexer\IndexerRegistry $indexerRegistry,
    \Magento\Catalog\Model\Indexer\Product\Flat\Processor $productFlatIndexerProcessor,
    \Magento\Catalog\Model\Indexer\Product\Price\Processor $productPriceIndexerProcessor,
    \Magento\Catalog\Model\Indexer\Product\Eav\Processor $productEavIndexerProcessor,
    CategoryRepositoryInterface $categoryRepository,
    Product\Image\CacheFactory $imageCacheFactory,
    \Magento\Catalog\Model\ProductLink\CollectionProvider $entityCollectionProvider,
    \Magento\Catalog\Model\Product\LinkTypeProvider $linkTypeProvider,
    \Magento\Catalog\Api\Data\ProductLinkInterfaceFactory $productLinkFactory,
    \Magento\Catalog\Api\Data\ProductLinkExtensionFactory $productLinkExtensionFactory,
    EntryConverterPool $mediaGalleryEntryConverterPool,
    \Magento\Framework\Api\DataObjectHelper $dataObjectHelper,
    \Magento\Framework\Api\ExtensionAttribute\JoinProcessorInterface $joinProcessor,
    array $data = []
) {
```

\Magento\Catalog\Model\Product

Name that class

```php
    */
public function __construct(
    \Magento\Framework\Model\Context $context,
    \Magento\Framework\Registry $registry,
    \Magento\Framework\Api\ExtensionAttributesFactory $extensionFactory,
    AttributeValueFactory $customAttributeFactory,
    \Magento\Framework\Stdlib\DateTime\TimezoneInterface $timezone,
    \Magento\Store\Model\StoreManagerInterface $storeManager,
    \Magento\Sales\Model\Order\Config $orderConfig,
    \Magento\Catalog\Api\ProductRepositoryInterface $productRepository,
    \Magento\Sales\Model\ResourceModel\Order\Item\CollectionFactory $orderItemCollectionFactory,
    \Magento\Catalog\Model\Product\Visibility $productVisibility,
    \Magento\Sales\Api\InvoiceManagementInterface $invoiceManagement,
    \Magento\Directory\Model\CurrencyFactory $currencyFactory,
    \Magento\Eav\Model\Config $eavConfig,
    \Magento\Sales\Model\Order\Status\HistoryFactory $orderHistoryFactory,
    \Magento\Sales\Model\ResourceModel\Order\Address\CollectionFactory $addressCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Payment\CollectionFactory $paymentCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Status\History\CollectionFactory $historyCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Invoice\CollectionFactory $invoiceCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Shipment\CollectionFactory $shipmentCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Creditmemo\CollectionFactory $memoCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Shipment\Track\CollectionFactory $trackCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\CollectionFactory $salesOrderCollectionFactory,
    PriceCurrencyInterface $priceCurrency,
    \Magento\Catalog\Model\ResourceModel\Product\CollectionFactory $productListFactory,
    \Magento\Framework\Model\ResourceModel\AbstractResource $resource = null,
    \Magento\Framework\Data\Collection\AbstractDb $resourceCollection = null,
    array $data = []
```

Name that class

```
public function __construct(
    \Magento\Framework\Model\Context $context,
    \Magento\Framework\Registry $registry,
    \Magento\Framework\Api\ExtensionAttributesFactory $extensionFactory,
    AttributeValueFactory $customAttributeFactory,
    \Magento\Framework\Stdlib\DateTime\TimezoneInterface $ti
    \Magento\Store\Model\StoreManagerInterface $storeMa
    \Magento\Sales\Model\Order\Config $orderConfi
    \Magento\Catalog\Api\ProductRepositoryIn
    \Magento\Sales\Model\ResourceModel\O                   ory $orderItemCollectionFactory,
    \Magento\Catalog\Model\Product                         bility,
    \Magento\Sales\Api\Invoic                   nvoiceManagement,
    \Magento\Directory\M                   urrencyFactory,
    \Magento\Eav\M
    \Magento\                        \HistoryFactory $orderHistoryFactory,
    \Mag              eModel\Order\Address\CollectionFactory $addressCollectionFactory,
    \Mag         esourceModel\Order\Payment\CollectionFactory $paymentCollectionFactory,
    \Mage      odel\ResourceModel\Order\Status\History\CollectionFactory $historyCollectionFactory,
    \Mage   tes\Model\ResourceModel\Order\Invoice\CollectionFactory $invoiceCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Shipment\CollectionFactory $shipmentCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Creditmemo\CollectionFactory $memoCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\Shipment\Track\CollectionFactory $trackCollectionFactory,
    \Magento\Sales\Model\ResourceModel\Order\CollectionFactory $salesOrderCollectionFactory,
    PriceCurrencyInterface $priceCurrency,
    \Magento\Catalog\Model\ResourceModel\Product\CollectionFactory $productListFactory,
    \Magento\Framework\Model\ResourceModel\AbstractResource $resource = null,
    \Magento\Framework\Data\Collection\AbstractDb $resourceCollection = null,
    array $data = []
```

\Magento\Sales\Model\Order

Name that class

```php
public function __construct(
    \Magento\Framework\Model\Context $context,
    \Magento\Framework\Registry $registry,
    \Magento\Framework\Api\ExtensionAttributesFactory $extensionFactory,
    AttributeValueFactory $customAttributeFactory,
    \Magento\Quote\Model\QuoteValidator $quoteValidator,
    \Magento\Catalog\Helper\Product $catalogProduct,
    \Magento\Framework\App\Config\ScopeConfigInterface $scopeConfig,
    \Magento\Store\Model\StoreManagerInterface $storeManager,
    \Magento\Framework\App\Config\ScopeConfigInterface $config,
    \Magento\Quote\Model\Quote\AddressFactory $quoteAddressFactory,
    \Magento\Customer\Model\CustomerFactory $customerFactory,
    \Magento\Customer\Api\GroupRepositoryInterface $groupRepository,
    \Magento\Quote\Model\ResourceModel\Quote\Item\CollectionFactory $quoteItemCollectionFactory,
    \Magento\Quote\Model\Quote\ItemFactory $quoteItemFactory,
    \Magento\Framework\Message\Factory $messageFactory,
    \Magento\Sales\Model\Status\ListFactory $statusListFactory,
    \Magento\Catalog\Api\ProductRepositoryInterface $productRepository,
    \Magento\Quote\Model\Quote\PaymentFactory $quotePaymentFactory,
    \Magento\Quote\Model\ResourceModel\Quote\Payment\CollectionFactory $quotePaymentCollectionFact
    \Magento\Framework\DataObject\Copy $objectCopyService,
    \Magento\CatalogInventory\Api\StockRegistryInterface $stockRegistry,
    \Magento\Quote\Model\Quote\Item\Processor $itemProcessor,
    \Magento\Framework\DataObject\Factory $objectFactory,
    \Magento\Customer\Api\AddressRepositoryInterface $addressRepository,
    \Magento\Framework\Api\SearchCriteriaBuilder $criteriaBuilder,
    \Magento\Framework\Api\FilterBuilder $filterBuilder,
    \Magento\Customer\Api\Data\AddressInterfaceFactory $addressDataFactory,
    \Magento\Customer\Api\Data\CustomerInterfaceFactory $customerDataFactory,
    \Magento\Customer\Api\CustomerRepositoryInterface $customerRepository,
    \Magento\Framework\Api\DataObjectHelper $dataObjectHelper,
    \Magento\Framework\Api\ExtensibleDataObjectConverter $extensibleDataObjectConverter,
    \Magento\Quote\Model\Cart\CurrencyFactory $currencyFactory,
    JoinProcessorInterface $extensionAttributesJoinProcessor,
    Quote\TotalsCollector $totalsCollector,
    Quote\TotalsReader $totalsReader,
    \Magento\Quote\Model\ShippingFactory $shippingFactory,
    \Magento\Quote\Model\ShippingAssignmentFactory $shippingAssignmentFactory,
    \Magento\Framework\Model\ResourceModel\AbstractResource $resource = null,
    \Magento\Framework\Data\Collection\AbstractDb $resourceCollection = null,
    array $data = []
) {
```

Name that class

```php
public function __construct(
    \Magento\Framework\Model\Context $context,
    \Magento\Framework\Registry $registry,
    \Magento\Framework\Api\ExtensionAttributesFactory $extensionFactory,
    AttributeValueFactory $customAttributeFactory,
    \Magento\Quote\Model\QuoteValidator $quoteValidator,
    \Magento\Catalog\Helper\Product $catalogProduct,
    \Magento\Framework\App\Config\ScopeConfigInterface $scopeConfig,
    \Magento\Store\Model\StoreManagerInterface $storeManager,
    \Magento\Framework\App\Config\ScopeConfigInterface $config,
    \Magento\Quote\Model\Quote\AddressFactory $quoteAddressFactory,
    \Magento\Customer\Model\CustomerFactory $customerFactory,
    \Magento\Customer\Api\GroupRepositoryInterface $groupR
    \Magento\Quote\Model\ResourceModel\Quote\Item\Col           ollectionFactory,
    \Magento\Quote\Model\Quote\ItemFactory $quot
    \Magento\Framework\Message\Factory $m
    \Magento\Sales\Model\Status\List
    \Magento\Catalog\Api\Product                    ctRepository,
    \Magento\Quote\Model\                    aymentFactory,
    \Magento\Quote\Mo            ment\CollectionFactory $quotePaymentCollectionFact
    \Magento\Fr                        jectCopyService,
    \Magento\               ckRegistryInterface $stockRegistry,
    \Magento\          em\Processor $itemProcessor,
    \Magento\     aObject\Factory $objectFactory,
    \Magento\    Api\AddressRepositoryInterface $addressRepository,
    \Magento\Framework\Api\SearchCriteriaBuilder $criteriaBuilder,
    \Magento\Framework\Api\FilterBuilder $filterBuilder,
    \Magento\Customer\Api\Data\AddressInterfaceFactory $addressDataFactory,
    \Magento\Customer\Api\Data\CustomerInterfaceFactory $customerDataFactory,
    \Magento\Customer\Api\CustomerRepositoryInterface $customerRepository,
    \Magento\Framework\Api\DataObjectHelper $dataObjectHelper,
    \Magento\Framework\Api\ExtensibleDataObjectConverter $extensibleDataObjectConverter,
    \Magento\Quote\Model\Cart\CurrencyFactory $currencyFactory,
    JoinProcessorInterface $extensionAttributesJoinProcessor,
    Quote\TotalsCollector $totalsCollector,
    Quote\TotalsReader $totalsReader,
    \Magento\Quote\Model\ShippingFactory $shippingFactory,
    \Magento\Quote\Model\ShippingAssignmentFactory $shippingAssignmentFactory,
    \Magento\Framework\Model\ResourceModel\AbstractResource $resource = null,
    \Magento\Framework\Data\Collection\AbstractDb $resourceCollection = null,
    array $data = []
) {
```
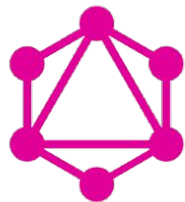
\Magento\Quote\Model\Quote

Meet Magento ROMANIA RO

#MM17RO
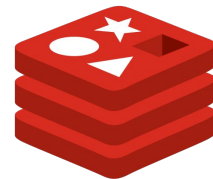
This should not work

(reloaded)

Really?

```php
protected function _drawHeader(\Zend_Pdf_Page $page)
{
    /* Add table head */
    $this->_setFontRegular($page, 10);
    $page->setFillColor(new \Zend_Pdf_Color_RGB(0.93, 0.92, 0.92));
    $page->setLineColor(new \Zend_Pdf_Color_GrayScale(0.5));
    $page->setLineWidth(0.5);
```
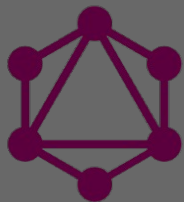
Tech Stack

"Magento 2 looks like an elaborate scheme to make people learn everything"
Marius Strajeru @MM17RO

Q&A