Extend

Extend Integration for Salesforce Commerce Cloud SiteGenesis

Welcome to Extend! We provide an easy way for any merchant to sell extended warranties - generating new revenue, increasing purchase conversion, and dramatically improving the customer experience.

This guide will walk you through the process of getting live with Extend Protection Plans, so you can start selling and earning revenue as quickly and easily as possible. The process is pretty simple - and even more simple with a connected SFCC SiteGenesis v19.10.0 store. Read on to learn more!

Official Extend Cartridge Link: https://github.com/helloextend/salesforce-commerce-cloud

Table of Contents

Component Overview

1. Functional Overview

This integration cartridge enables the following features:

- Automated product catalog export to Extend
- Present offers via the Product Display Page (PDP), an up-sell modal during the add-to-cart action, and within the Cart page for eligible products
- Purchase Extend Protection Plans for eligible products
- Contract creation and cancellation with Extend via the API

2. Use Cases

For a merchant, the primary use cases include:

- Maintaining core Extend functionalities directly within Business Manager
- Display Extend Protection Plan products in PDP & Cart
- Display an Extend Protection Plan up-sell modal in PDP & Cart
- Capture customer behavior with Extend's analytics module
- Generate contracts for newly purchased protection plans with Extend
- Cancel contracts for returned orders with Extend

For a customer, the primary use cases include:

- Attach an Extend Protection Plan to an eligible catalog product during their purchase journey
- View details, including coverage and terms & conditions about the Extend Protection Plans
- Remove Extend Protection Plans from Cart (either by removing the main product or just the warranty product) during their purchase journey

3. Compatibility

This cartridge has been developed and tested against Commerce Cloud Digital 19.10 and integrated on top of SiteGenesis 104.1.5.

4. Privacy Policies on Payments

This cartridge implements a custom object for temporary storage of order data needed for Extend Protection Plan contract generation. This custom object (ExtendContractsQueue) was implemented based on a queue pattern that is consumed

by a job configured to execute every 5 minutes. This data is not exposed publicly and used only in a server-to-server communication setup.

Extend does not handle payments from the end-user. The merchant is responsible for charging the end-user for the Extend Protection Plans purchased, using the existing tenders that are currently supported on the specific environment. The merchant is responsible for generating Extend Protection Plan contracts only after charging the end-user for the warranty plans purchased. Please visit https://extend.com/privacy for more information.

Implementation Guide

The SiteGenesis version of this integration follows the best practices for this storefront version. In order to achieve the features described in this document, please use the sample code snippets below as reference for this integration.

1. Setup of Business Manager

1.1. Upload cartridge & include in the cartridge path

i. Upload the int_extend cartridge to the sandbox.
ii. Go to Business Manager ➔ Administration ➔ Site ➔ Manage Sites. Select the desired site and go to Settings. At the beginning of the Cartridge Path add “int_extend:” in order to include the cartridge in the current site’s configuration.

1.2. Import metadata

i. Go to Business Manager ➔ Administration ➔ Site Development ➔ Import & Export
ii. Upload the following files from ./metadata/meta/ folder
    - system-objecttype-extensions.xml
    - custom-objecttype-definitions.xml
iii. Go to Business Manager ➔ Administration ➔ Site Development ➔ Import & Export ➔ Meta Data ➔ Import. Both previous files should be available for import. Proceed to importing both.

1.3. Import custom jobs

i. Go to Business Manager ➔ Administration ➔ Operations ➔ Import & Export
ii. Upload the following file: ./metadata/jobs.xml
iii. Go to Business Manager ➔ Administration ➔ Operations ➔ Import & Export ➔ Jobs ➔ Import. The previous file should be available for import. Proceed to importing it.

1.4. Import service

i. Go to Business Manager ➔ Administration ➔ Operations ➔ Import & Export
ii. Upload the following file: ./metadata/services.xml
iii. Go to Business Manager ➔ Administration ➔ Operations ➔ Import & Export ➔ Services ➔ Import. The previous file should be available for import. Proceed to importing it.

iv. Note: by default, the service URL is configured to point to the demo instance of the Extend API. Prior to going live with the integration, this will need to be changed and tested with the live production API.

1.5. Import Extend catalog

i. Select the site integrating with Extend
ii. Go to Business Manager ➔ Merchant Tools ➔ Products and Catalogs ➔ Import & Export
iii. Upload the following file: ./metadata/catalog.xml. This will import 3 dummy option products, which are used in order to create dynamic product line items in the cart. We recommend keeping this as a separate master catalog, for visibility purposes.

2. Configuration

2.1. Catalog setup

i. The 3 Extend products that require configuration are:
    - EXTEND-12
    - EXTEND-24
    - EXTEND-36
ii. To make the Extend products merchandisable, perform the following:
    - Assign to the storefront catalog
    - Allocate an inventory record in the inventory file assigned to the current site
        - Configure this entry as perpetual, as these are **intangible goods and need to always be in-stock**
iii. These Extend products do not require any description, pricing, or any other regular product attributes to be configured

2.2. Custom preferences

i. Go to Business Manager ➔ Merchant Tools ➔ Site Preferences ➔ Custom Preferences ➔ **Extend: Integration Preferences**
    - **Enable Extend**: Global switch for all things Extend related within the environment.
    - **Extend Store ID**: Merchant specific Store ID available from their Extend account. The Store ID is environment specific (Extend production or Extend sandbox), and is required to make the API connections with Extend.

- **Extend Environment in Production**: Defines if Extend APIs call the Extend Production environment (Yes = https://api.helloextend.com/) or Extend Demo environment (No/None = https://api-demo.helloextend.com/). Access Token must be updated to correspond to the appropriate environment. Note: this is available from the Extend Merchant Portal and is environment specific.
- **Extend Access Token**: Merchant specific API key available from their Extend account. This key is environment specific (Extend production or Extend sandbox), and is required to make the API connections with Extend.
- **Extend Store Name**: This is the name of the user's store. Used for calls to Extend API. Note: Extend Store Name is by default configured to "Online Store".
- **Extend Integration Method**: Determines to which Extend API order data is sent.
  Orders API on Order Create triggers the integration with Extend near real-time upon the order creation in SFCC Business Manager.
  Orders API on Schedule creates a custom queue record (ExtendOrderQueue) upon order creation in the SFCC Business Manager, but will not integrate with Extend until the Job is run manually or on a schedule. The Job will consume the custom queue.
  Contracts API on Schedule is a legacy feature whereby only Contract creation occurs (requires Extend API Version 2021-04-01 or earlier). Integration with Contracts API uses a Job that consumes a custom queue (ExtendContractQueue) when run manually or on a schedule. Please confirm with the Extend delivery team before selecting this option.
- **Product Image Size**: Determines the size of the product image stored on the Extend catalog. Accepted values are "small", "medium", "large", and "hi-res". This is the image that Extend uses when sending warranty contract emails to customers. Image Size is by default configured to large.
- **Extend Refund Key**: Unique key defined by the merchant to be used as part of Extend's contract cancellation process in SFCC if applicable.

ii. Go to Business Manager ➔ Merchant Tools ➔ Site Preferences ➔ Custom Preferences ➔ **Extend: Storefront Preferences**

- **Extend SDK URL**: Denotes the SDK version used on the Storefront specifically for the Extend PDP offer, Interstitial Modal offer, and Cart offer (individual settings below).
- **Enable in PDP Offers**: Allows merchants to enable or disable the Extend Product Detail Page (PDP) offer.
- **Enable Modal Offers**: Allows merchants to enable or disable the Extend Interstitial Modal offer.
- **Enable Cart Offers**: Allows merchants to enable or disable the Extend Cart offer.
- **Enable Analytics**: Invokes Extend's Analytics methods within the Extend SDK.

3. Jobs

3.1. Extend Products Export

This job uses Extend's API to traverse the storefront catalog and export each Simple and Variant Product that is currently merchandisable (online and in stock).

i. Go to Business Manager ➔ Operations ➔ Jobs. Select the Extend Products Export job.
ii. Go to Job Steps and select Scope. Configure this to run in the scope of the site integrating with Extend.
iii. Schedule this to run at the preferred cadence (Extend recommends once per day), at a time that's most suitable for a recurring job setup, ideally after the catalog is being updated.
iv. Ensure this job is triggered at least once without errors and notify Extend after the successful run. Extend will confirm if the product sync was successful.

3.2. Extend Orders Creation

This job uses Extend's Orders API to consume the orders queue, stored in the ***ExtendOrdersQueue*** custom object. During SFCC order creation (after checkout), an instance of this object is created for each SFCC order. When this job is triggered, it sends an Order generation request to Extend and Extend will generate any necessary service contracts or lead tokens (for Post Purchase flow) and write them back onto the corresponding order line items. Upon successful order creation, the job removes the completed instances from the queue. This job is only required if the **Extend Integration Method** custom preference is set to **Orders API on Schedule**.

3.3. Extend Contracts Creation

This job uses Extend's Contracts API to consume the contracts queue, stored in the ***ExtendContractsQueue*** custom object. During SFCC order creation (after checkout), an instance of this object is created for each Extend Protection Plan on the SFCC order. When this job is triggered, it sends a contract generation request to Extend for each queued element. Upon successful contract creation, the job removes the completed instances from the queue. This job is only required if the **Extend Integration Method** custom preference is set to **Contracts API on Schedule**.

3.4. Send Historical Orders

This job uses Extend's Orders API to send historical orders from the past 2 years in SFCC to Extend during extension/cartridge installation for analytics and optimization reasons.

Note: For new merchants only who install the SFCC extension for the first time.

3.5. Create Refunds from SFCC

This job uses Extend's API to cancel an active contract on a canceled SFCC order (Order Status = "Canceled"). Please note that Extend will never refund the customer directly, as Extend does not capture the customer's payment information at any point. Customer refunds should be processed based on the merchant's regular refund process. This job will simply terminate active contract(s) after the customer's refund request is accepted by the merchant. All canceled Extend contracts are represented as credit lines on Extend's monthly invoice. For additional information on Extend's refund policy, please reach out to the Extend project team.

Note: This job is not required if the merchant's return and refund process occurs outside of SFCC as the contract cancellation requests to Extend will likely occur in a downstream system. Confirm with the Extend project team prior to scheduling this job.

4. Custom Code

4.1. Include PDP functionality

- In: */app_storefront_core/cartridge/js/pages/product/variant.js
- Where: function updateContent(), at the end of the $.ajax() callback function

Code:

```
if (window.EXT_GLOBAL_SWITCH) {
    window.extendPDP();
}
```

```
'use strict';

var ajax = require('../../ajax'),
    image = require('./image'),
    progress = require('../../progress'),
    productStoreInventory = require('../../storeinventory/product'),
    tooltip = require('../../tooltip'),
    util = require('../../util');


/**
 * @description update product content with new variant from href, load new content to #product-content panel
 * @param {String} href - url of the new product variant
 **/
var updateContent = function (href) {
    var $pdpForm = $('.pdpForm');
    var qty = $pdpForm.find('input[name="Quantity"]').first().val();
    var params = {
        Quantity: isNaN(qty) ? '1' : qty,
        format: 'ajax',
        productlistid: $pdpForm.find('input[name="productlistid"]').first().val()
    };

    progress.show($('#pdpMain'));

    ajax.load({
        url: util.appendParamsToUrl(href, params),
        target: $('#product-content'),
        callback: function () {
            if (SitePreferences.STORE_PICKUP) {
                productStoreInventory.init();
            }
            image.replaceImages();
            tooltip.init();
            if (window.EXT_GLOBAL_SWITCH) {
                window.extendPDP();
            }
        }
    });
};
```

4.2. Include Upsell / cross-sell modal functionality

- In: */app_storefront_core/cartridge/js/pages/product/addToCart.js
- Where: function addToCart(), after the $form variable declaration and before addItemToCart()

Code:

```
// Extend Integration
if ($('#extend-offer').length) {
    extendAddToCart($form, page, minicart, dialog, addItemToCart);
    return;
}
```

```
35  /**
36   * @description Handler to handle the add to cart event
37   */
38  var addToCart = function (e) {
39      e.preventDefault();
40      var $form = $(this).closest('form');
41
42      // Extend Integration
43      if ($('#extend-offer').length) {
44          extendAddToCart($form, page, minicart, dialog, addItemToCart);
45          return;
46      }
47
48      addItemToCart($form).then(function (response) {
49          var $uuid = $form.find('input[name="uuid"]');
50          if ($uuid.length > 0 && $uuid.val().length > 0) {
51              page.refresh();
52          } else {
53              // do not close quickview if adding individual item that is part of product set
54              // @TODO should notify the user some other way that the add action has completed successfully
55              if (!$(this).hasClass('sub-product-item')) {
56                  dialog.close();
57              }
58              minicart.show(response);
59          }
60      }.bind(this));
61  };
```

4.3. Import extendHelpers.js in CartModel.js

- In: */app_storefront_controllers/cartridge/scripts/models/CartModel.js
- Where: include this script at the API Includes section

Code:

```
// Import Extend Script Helpers
var extendHelpers = require('*/cartridge/scripts/extend');
```

```
'use strict';
/**
 * Model for cart functionality. Creates a CartModel class with payment, shipping, and product
 * helper methods.
 * @module models/CartModel
 */
var Transaction = require('dw/system/Transaction');

/* API Includes */
var AbstractModel = require('./AbstractModel');
var ArrayList = require('dw/util/ArrayList');
var BasketMgr = require('dw/order/BasketMgr');
var Money = require('dw/value/Money');
var MultiShippingLogger = dw.system.Logger.getLogger('multishipping');
var OrderMgr = require('dw/order/OrderMgr');
var PaymentInstrument = require('dw/order/PaymentInstrument');
var Product = require('~/cartridge/scripts/models/ProductModel');
var ProductInventoryMgr = require('dw/catalog/ProductInventoryMgr');
var ProductListMgr = require('dw/customer/ProductListMgr');
var QuantityLineItem = require('~/cartridge/scripts/models/QuantityLineItemModel');
var Resource = require('dw/web/Resource');
var ShippingMgr = require('dw/order/ShippingMgr');
var StoreMgr = require('dw/catalog/StoreMgr');
var TransientAddress = require('~/cartridge/scripts/models/TransientAddressModel');
var UUIDUtils = require('dw/util/UUIDUtils');

var lineItem;
var app = require('~/cartridge/scripts/app');
var ProductList = app.getModel('ProductList');

// Import Extend Helpers
var extendHelpers = require('*/cartridge/scripts/extendHelpers');

```

4.4. Include Extend line item creation in CartModel.js

- In: */app_storefront_controllers/cartridge/scripts/models/CartModel.js
- Where: function addProductToCart(), before the return statement

Code:

```
// Extend Create Warranty LineItem
extendHelpers.createExtendLineItem(cart, params, Product, Transaction);
```

```
106             // Adds a product.
107         } else {
108             var previousBonusDiscountLineItems = cart.getBonusDiscountLineItems();
109             productToAdd = Product.get(params.pid.stringValue);
110
111             if (productToAdd.object.isProductSet()) {
112                 var childPids = params.childPids.stringValue.split(',');
113                 var childQtys = params.childQtys.stringValue.split(',');
114                 var counter = 0;
115
116                 for (var i = 0; i < childPids.length; i++) {
117                     var childProduct = Product.get(childPids[i]);
118
119                     if (childProduct.object && !childProduct.isProductSet()) {
120                         var childProductOptionModel = childProduct.updateOptionSelection(params);
121                         cart.addProductItem(childProduct.object, parseInt(childQtys[counter]), childProductOptionModel);
122                     }
123                     counter++;
124                 }
125             } else {
126                 productOptionModel = productToAdd.updateOptionSelection(params);
127                 cart.addProductItem(productToAdd.object, params.Quantity.doubleValue, productOptionModel);
128             }
129
130             // When adding a new product to the cart, check to see if it has triggered a new bonus discount line item.
131             newBonusDiscountLineItem = cart.getNewBonusDiscountLineItem(previousBonusDiscountLineItems);
132         }
133
134         // Extend Create Warranty LineItem
135         extendHelpers.createOrUpdateExtendLineItem(cart, params, Product);
136
137         return {
138             format: format,
139             template: template,
140             BonusDiscountLineItem: newBonusDiscountLineItem
141         };
142     },
143
```

4.5. Import extendHelpers.js in Cart

- In: */app_storefront_controllers/cartridge/controllers/Cart.js
- Where: include this script at the API Includes section

Code:

```
var extendHelpers = require('*/cartridge/scripts/extendHelpers');
```

```
'use strict';

/**
 * Controller that adds and removes products and coupons in the cart.
 * Also provides functions for the continue shopping button and minicart.
 *
 * @module controllers/Cart
 */

/* API Includes */
var ArrayList = require('dw/util/ArrayList');
var ISML = require('dw/template/ISML');
var Resource = require('dw/web/Resource');
var Transaction = require('dw/system/Transaction');
var URLUtils = require('dw/web/URLUtils');

/* Script Modules */
var app = require('~/cartridge/scripts/app');
var guard = require('~/cartridge/scripts/guard');

/* EXTEND */
var extendHelpers = require('*/cartridge/scripts/extendHelpers');
```

4.6. Add functionality to remove Extend warranty line items in Cart.js

- In: */app_storefront_controllers/cartridge/controllers/Cart.js
- Where: 'deleteProduct' action handler; replace this entire function with the following code

Code:

```
'deleteProduct': function (formgroup) {
    // EXTEND - Check if there is a warranty associated with the product
that is being deleted
    var warrantyLineItem = extendHelpers.checkForWarrantyLI(cart,
formgroup.getTriggeredAction().object);
    Transaction.wrap(function () {
        cart.removeProductLineItem(formgroup.getTriggeredAction().object);

        // EXTEND - if there is a warranty associated with the product
remove the corresponding warranty
        if (warrantyLineItem) {
            cart.removeProductLineItem(warrantyLineItem);
        }
    });
    return {
        cart: cart
    };
}
```

```
168     'deleteGiftCertificate': function (formgroup) {
169         Transaction.wrap(function () {
170             cart.removeGiftCertificateLineItem(formgroup.getTriggeredAction().object);
171         });
172
173         return {
174             cart: cart
175         };
176     },
177     'deleteProduct': function (formgroup) {
178
179         // EXTEND - Check if there is a warranty associated with the product that is being deleted
180         var warrantyLineItem = extendHelpers.checkForWarrantyLI(cart, formgroup.getTriggeredAction().object);
181
182         Transaction.wrap(function () {
183             cart.removeProductLineItem(formgroup.getTriggeredAction().object);
184
185             // EXTEND - if there is a warranty associated with the product remove the corresponding warranty
186             if (warrantyLineItem) {
187                 cart.removeProductLineItem(warrantyLineItem);
188             }
189         });
190
191         return {
192             cart: cart
193         };
194     },
195     'editLineItem': function (formgroup) {
```

4.7. Add contract generation snippet to COPlaceOrder.js

- In: */app_storefront_controllers/cartridge/controllers/COPlaceOrder.js
- Where: function submit(), in the if (!orderPlacementStatus.error) statement

Code:

```
// Add Extend products to Contracts queue
var extendHelpers = require('*/cartridge/scripts/extend');
addContractToQueue(order.object);
```

```
164     } else if (handlePaymentsResult.missingPaymentInfo) {
165         return Transaction.wrap(function () {
166             OrderMgr.failOrder(order);
167             return {
168                 error: true,
169                 PlaceOrderError: new Status(Status.ERROR, 'confirm.error.technical')
170             };
171         });
172     }
173
174     var orderPlacementStatus = Order.submit(order);
175     if (!orderPlacementStatus.error) {
176         clearForms();
177
178         // Add Extend products to Contracts queue
179         var extendHelpers = require('*/cartridge/scripts/extendHelpers');
180         extendHelpers.addContractToQueue(order);
181     }
182     return orderPlacementStatus;
183 }
```

4.8. CartView.js

- In: /cartridges/app_storefront_controllers/cartridge/scripts/views/CartView.js
- Where: line 38
- Move the following code snippet from line 38 to line 33 to ensure the warranty price is recalculated before displaying in the cart.

Code:

```
// Refreshes the cart calculation
Transaction.wrap( function () {
      Cart.get(cart).calculate();
})
```

See screenshots below:

Code location **before**:

```
var CartView = View.extend({

    /**
     * Updates shipments, coupons, and cart calculation for the view and validates
     * for checkout.
     */
    prepareView: function () {

        var cart = this.Basket;
        if (cart) {

            // Refreshes shipments.
            session.forms.cart.shipments.copyFrom(cart.shipments);
            // Refreshes coupons.
            session.forms.cart.coupons.copyFrom(cart.couponLineItems);

            // Refreshes the cart calculation.
            Transaction.wrap(function () {
                Cart.get(cart).calculate();
            });

            var validationResult = Cart.get(cart).validateForCheckout();
            this.EnableCheckout = validationResult.EnableCheckout;
            this.BasketStatus = validationResult.BasketStatus;
            this.WishList = customer.authenticated ? require('~/cartridge/scripts/m

            // Extend Analytics.
            extendAnalyticsHelpers.setUpdateCartPayload(cart);
            this.analyticsPayload = extendAnalyticsHelpers.getAnalyticsPayload();
        }

        return;
    },
```

Code location **after**:

```
22  var CartView = View.extend({
23
24      /**
25       * Updates shipments, coupons, and cart calculation for the view and validates the
26       * for checkout.
27       */
28      prepareView: function () {
29
30          var cart = this.Basket;
31          if (cart) {
32
33              // Refreshes the cart calculation.
34              Transaction.wrap(function () {
35                  Cart.get(cart).calculate();
36              });
37
38              // Refreshes shipments.
39              session.forms.cart.shipments.copyFrom(cart.shipments);
40              // Refreshes coupons.
41              session.forms.cart.coupons.copyFrom(cart.couponLineItems);
42
43              var validationResult = Cart.get(cart).validateForCheckout();
44              this.EnableCheckout = validationResult.EnableCheckout;
45              this.BasketStatus = validationResult.BasketStatus;
46              this.WishList = customer.authenticated ? require('~/cartridge/scripts/model
47
48              // Extend Analytics.
49              extendAnalyticsHelpers.setUpdateCartPayload(cart);
50              this.analyticsPayload = extendAnalyticsHelpers.getAnalyticsPayload();
51          }
52
53          return;
54      },
```

4.9. Include ExtendAnalyticsHelpers in CartView.js

- In: /cartridges/app_storefront_controllers/cartridge/scripts/views/CartView.js
- Where: top of the file

Code:

```
var extendAnalyticsHelpers =
require('*/cartridge/scripts/extendAnalyticsHelpers')
```

```
/**
 * View used to render the cart. This view makes sure the coupons, shipments, and baske
 * calculation are up to date before rendering the cart.
 * @module views/CartView
 */
var View = require('./View');

var Cart = require('~/cartridge/scripts/models/CartModel');
var Transaction = require('dw/system/Transaction');
var extendAnalyticsHelpers = require('*/cartridge/scripts/extendAnalyticsHelpers')
```

- In: /cartridges/app_storefront_controllers/cartridge/scripts/views/CartView.js
- Where: “prepareView” function ➔ line 48

Code:

```
// Extend Analytics
extendAnalyticsHelpers.setUpdateCartPayload(cart)
this.analyticsPayload = extendAnalyticsHelpers.getAnalyticsPayload();
```

```
var CartView = View.extend({

    /**
     * Updates shipments, coupons, and cart calculation for the view and validates the
     * for checkout.
     */
    prepareView: function () {

        var cart = this.Basket;
        if (cart) {

            // Refreshes the cart calculation.
            Transaction.wrap(function () {
                Cart.get(cart).calculate();
            });

            // Refreshes shipments.
            session.forms.cart.shipments.copyFrom(cart.shipments);
            // Refreshes coupons.
            session.forms.cart.coupons.copyFrom(cart.couponLineItems);

            var validationResult = Cart.get(cart).validateForCheckout();
            this.EnableCheckout = validationResult.EnableCheckout;
            this.BasketStatus = validationResult.BasketStatus;
            this.WishList = customer.authenticated ? require('~/cartridge/scripts/model

            // Extend Analytics.
            extendAnalyticsHelpers.setUpdateCartPayload(cart);
            this.analyticsPayload = extendAnalyticsHelpers.getAnalyticsPayload();
        }

        return;
    },
```

4.10 Include ExtendAnalyticsHelpers.setDeleteProductPayload in Cart.js

- In: /cartridges/app_storefront_controllers/cartridge/controllers/Cart.js
- Where: top of the file

Code:

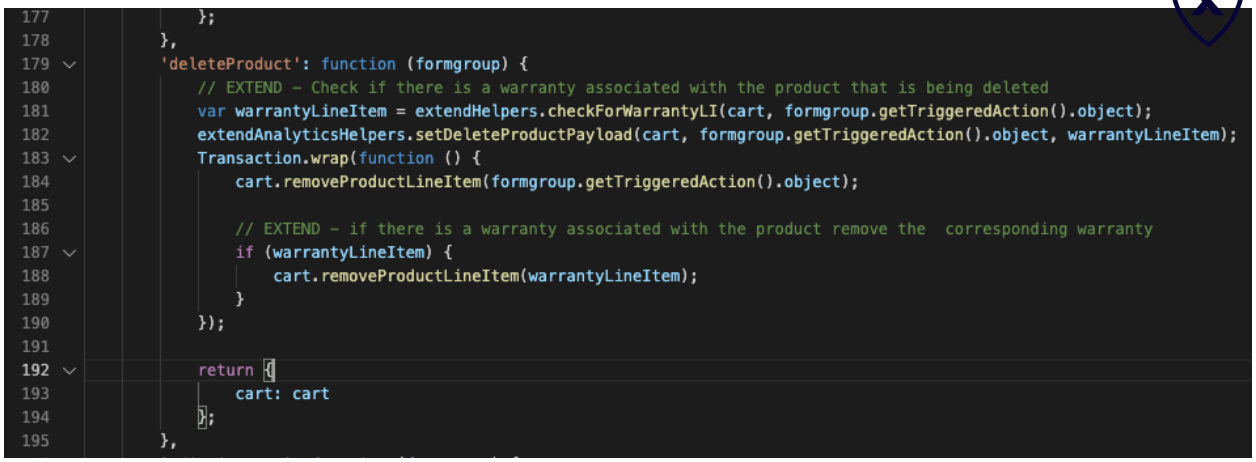
```
var extendHelpers = require('*/cartridge/scripts/extendHelpers');
var extendAnalyticsHelpers =
require('*/cartridge/scripts/extendAnalyticsHelpers');
```

```
'use strict';

/**
 * Controller that adds and removes products and coupons in the cart.
 * Also provides functions for the continue shopping button and minicart.
 *
 * @module controllers/Cart
 */

/* API Includes */
var ArrayList = require('dw/util/ArrayList');
var ISML = require('dw/template/ISML');
var Resource = require('dw/web/Resource');
var Transaction = require('dw/system/Transaction');
var URLUtils = require('dw/web/URLUtils');

/* Script Modules */
var app = require('~/cartridge/scripts/app');
var guard = require('~/cartridge/scripts/guard');

var extendHelpers = require('*/cartridge/scripts/extendHelpers')
var extendAnalyticsHelpers = require('*/cartridge/scripts/extendAnalyticsHelpers')
```

- In: /cartridges/app_storefront_controllers/cartridge/controllers/Cart.js
- Where: “submitForm” function ➔ “deleteProduct” function ➔ line 182

Code:

```
var warrantyLineItem = extendHelpers.checkForWarrantyLI(cart,
formgroup.getTriggeredAction().object);
extendAnalyticsHelpers.setDeleteProductPayload(cart,
formgroup.getTriggeredAction().object, warrantyLineItem);
```



```
177             };
178         },
179         'deleteProduct': function (formgroup) {
180             // EXTEND - Check if there is a warranty associated with the product that is being deleted
181             var warrantyLineItem = extendHelpers.checkForWarrantyLI(cart, formgroup.getTriggeredAction().object);
182             extendAnalyticsHelpers.setDeleteProductPayload(cart, formgroup.getTriggeredAction().object, warrantyLineItem);
183             Transaction.wrap(function () {
184                 cart.removeProductLineItem(formgroup.getTriggeredAction().object);
185 
186                 // EXTEND - if there is a warranty associated with the product remove the  corresponding warranty
187                 if (warrantyLineItem) {
188                     cart.removeProductLineItem(warrantyLineItem);
189                 }
190             });
191 
192             return {
193                 cart: cart
194             };
195         },
```

4.11 Include “Extend Integration” and “Extend Analytics Integration” in app.js

- **In:**
  /cartridges/app_storefront_core/cartridge/static/default/js/app.js
- **Where**:
  “addToCart” function. Line 2537 - 2547

Code:

```
// Extend Integration
if ($('#extend-offer').length || (window.EXT_GLOBAL_SWITCH &&
window.EXT_PDP_UPSELL_SWITCH)) {
      extendAddToCart($form, page, minicart, dialog, addItemToCart);
      return;
}
// ExtendAnalytics Integration
if (window.EXT_A_EXT_GLOBAL_SWITCH) {
      var payload = createAddToCartAnalytics($form)
      trackAddToCart(payload)
}
```

```
2529
2530  /**
2531   * @description Handler to handle the add to cart event
2532   */
2533  var addToCart = function (e) {
2534      e.preventDefault();
2535      var $form = $(this).closest('form');
2536
2537      // Extend Integration
2538      if ($('#extend-offer').length || (window.EXT_GLOBAL_SWITCH && window.EXT_PDP_UPSELL_SWITCH)) {
2539          extendAddToCart($form, page, minicart, dialog, addItemToCart);
2540          return;
2541      }
2542
2543      // ExtendAnalytics Integration
2544      if (window.EXT_A_EXT_GLOBAL_SWITCH) {
2545          var payload = createAddToCartAnalytics($form)
2546          trackAddToCart(payload)
2547      }
2548
2549      addItemToCart($form).then(function (response) {
2550
```

5. External Interfaces

All requests are done through the Extend API. The full reference guide, along with the resource structure for requests, can be found at https://docs.extend.com/.

6. Firewall Requirements

None.

7. Orders API

7.1. Custom preferences

i. Go to Business Manager ➔ Merchant Tools ➔ Site Preferences ➔ Custom Preferences ➔ Extend: Integration Preferences

ii. Configure the provided Extend credentials in the following fields (refer to Section 2.2 for additional info):
- Extend Access Token
- Extend Store ID

iii. Configure the following Orders API specific preferences:
- **Extend Integration Method**: set this to Orders API on Order Create (please confirm with the Extend project team before changing versions).

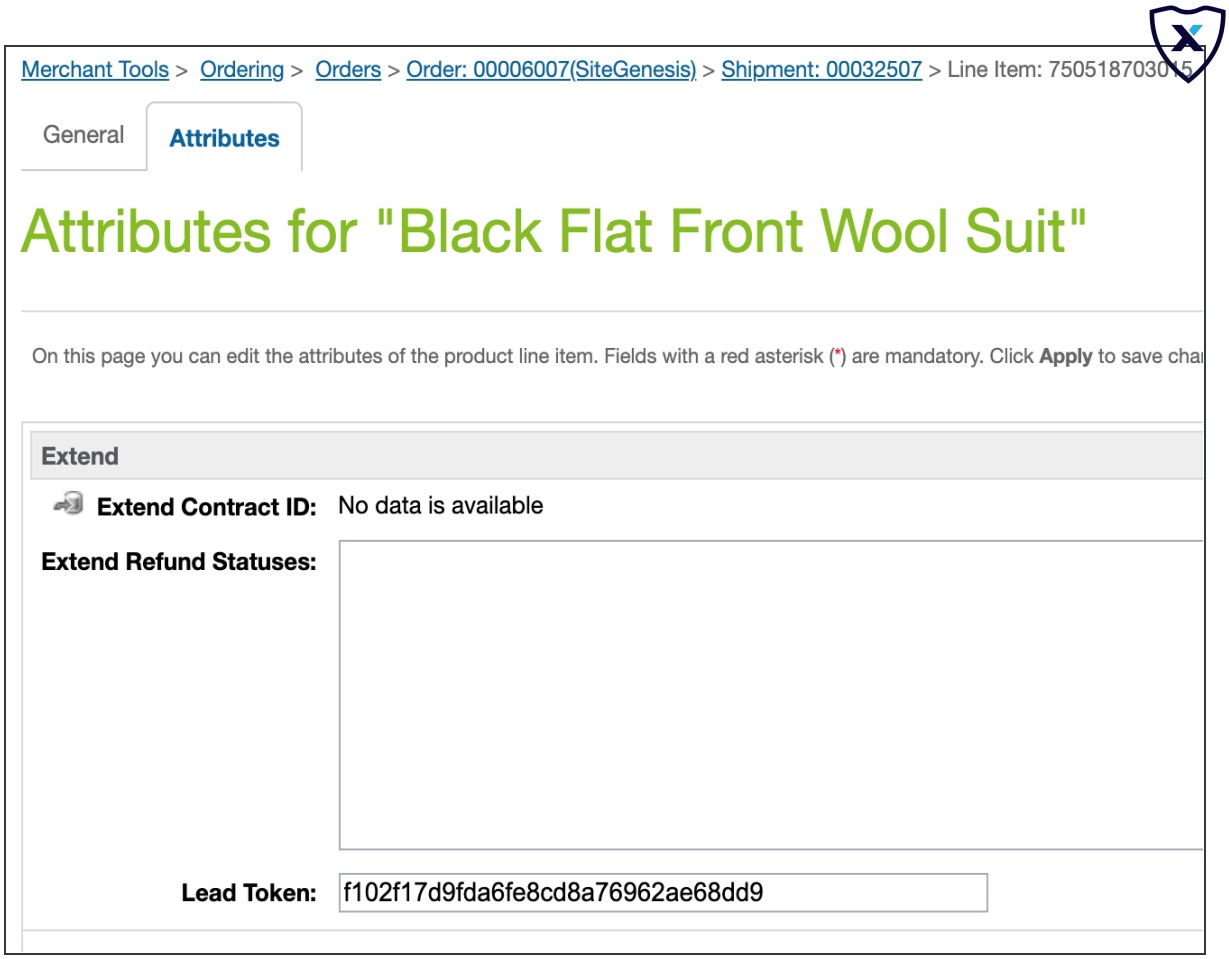
7.2. Testing

i. **LeadToken:**

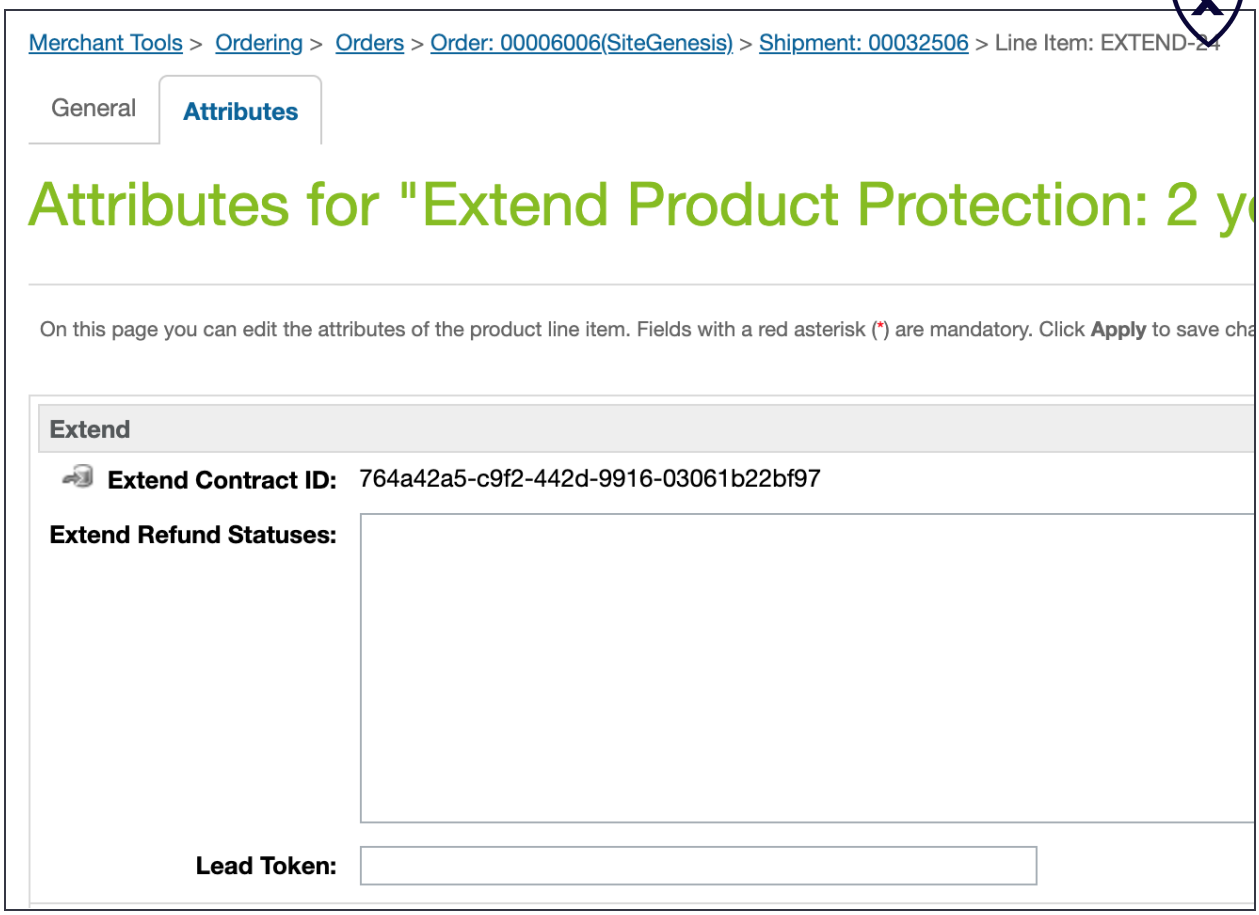
Go to PDP ➔ Choose product variation ➔ Click “Add to Cart” button **without** an Extend Protection Plan (LeadTokens are only generated for warrantable products if the customer did not elect to protect their purchase originally) ➔ Go to cart ➔ Go to checkout page ➔ Make a purchase.

Result:

Go to Merchant Tools ➔ Ordering ➔ Orders ➔ Choose Your Order ➔ Shipment ➔ Choose ProductLineItem ➔ Attributes



ii. **Extend Contract ID:**
Go to PDP ➔ Choose product variation ➔ Choose an extension plan ➔ Click "Add to Cart" button **with** an Extend Protection Plan➔ Go to cart ➔ Go to checkout page ➔ Make a purchase.
Result:
Go to Merchant Tools ➔ Ordering ➔ Orders ➔ Choose Your Order ➔ Shipment ➔ Choose ExtendLineItem ➔ Attributes



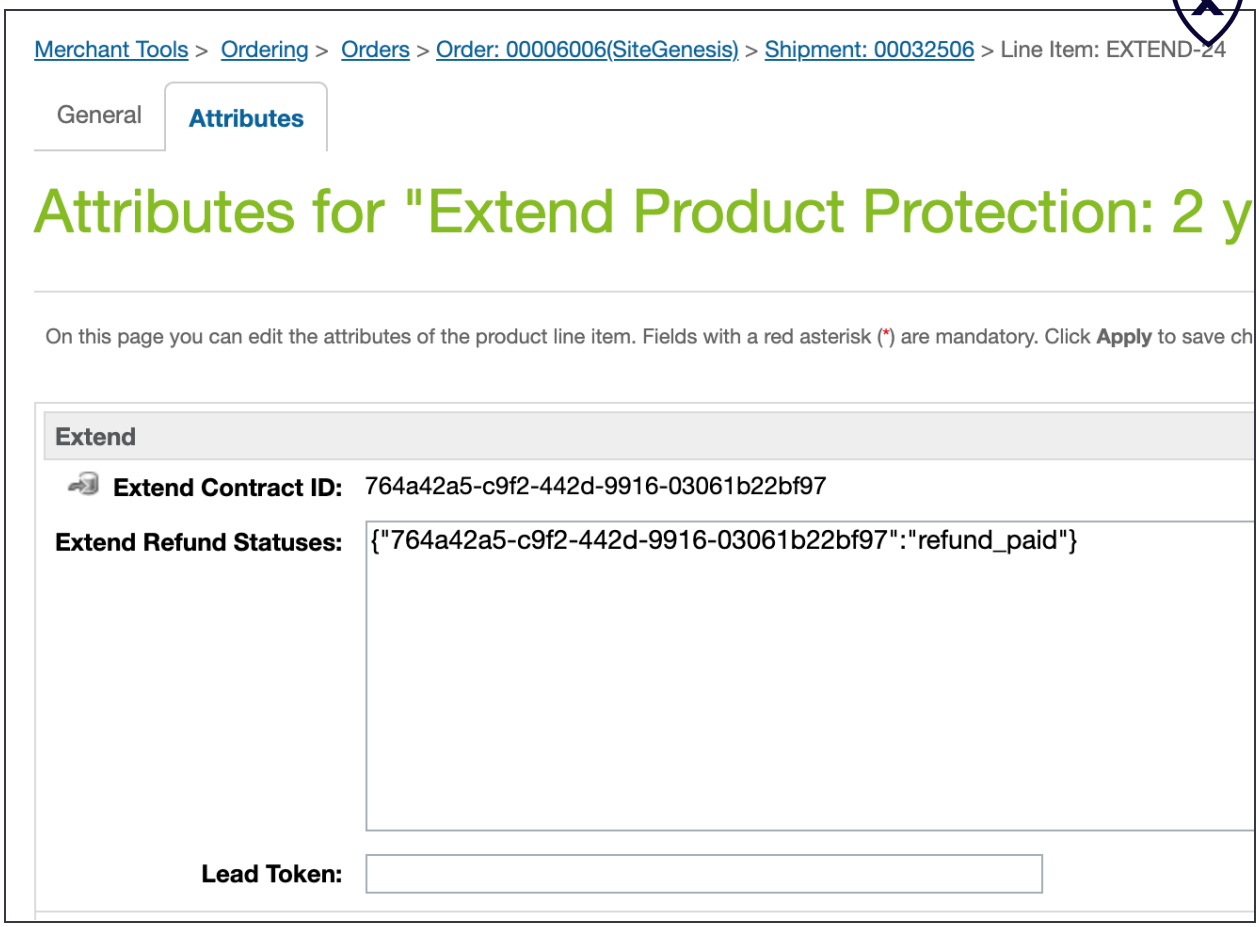
iii. **Refund status:**

- Go to Merchant Tools ➔ Ordering ➔ Orders ➔ Choose an Order with at least 1 created Extend Contract ID ➔ Order Status ➔ Choose "**Cancelled**" ➔ Click "**Apply**" button.

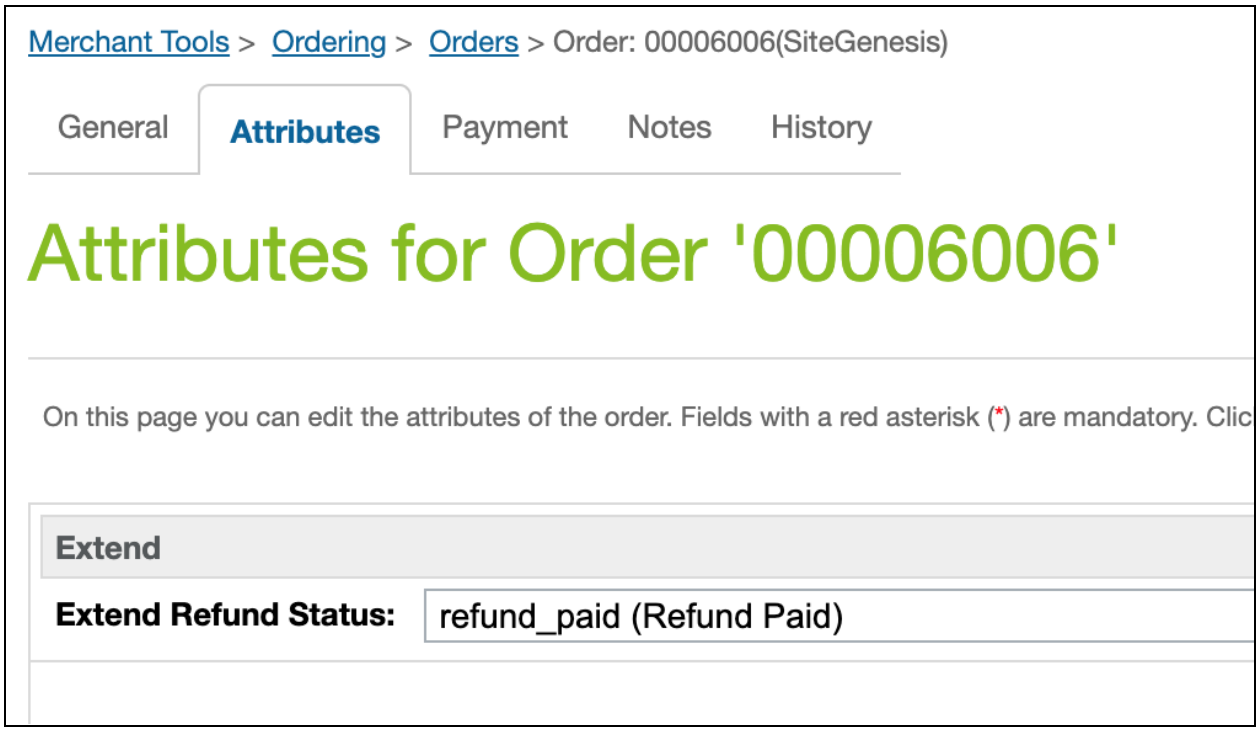
- Then Go To Administration ➔ Operations ➔ Jobs ➔ "**Create Refund from SFCC**" ➔ Click "Run Now" button.

Result:

Go to Merchant Tools ➔ Ordering ➔ Orders ➔ Choose Your Order ➔ Shipment ➔ Choose ExtendLineItem ➔ Attributes:



Go to Merchant Tools ➔ Ordering ➔ Orders ➔ Choose Your Order ➔ Attributes:



Refund Statuses:

refund_quoted: Refund amounts have been previewed by merchant/customer at least once, but merchant has not reported that they have refunded the customer yet.

refund_paid: Refund has been reported as paid by the merchant. Contract is canceled. Finance will credit the merchant in the next monthly invoice.

refund_denied: Customer is not eligible for a refund. Customer has consumed all entitlements associated with the contract.Get Refund via Contract ID.

ERROR: service call error.

8. Extend SDK analytics

8.1. Custom Preferences

i. Go to Business Manager ➔ Merchant Tools ➔ Site Preferences ➔ Custom Preferences ➔ Extend: Storefront Preferences

ii. Configure the provided Extend credentials in the following fields (refer to Section 2.2 for additional info):

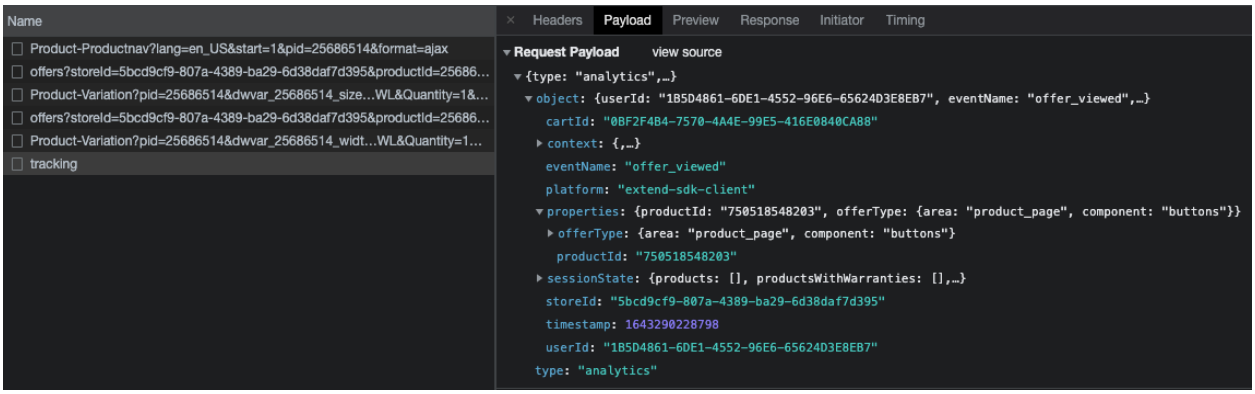
- Extend Access Token
- Extend Store ID

iii. Ensure "**Extend Analytics**" is set to "Yes".

8.2. Tracking events

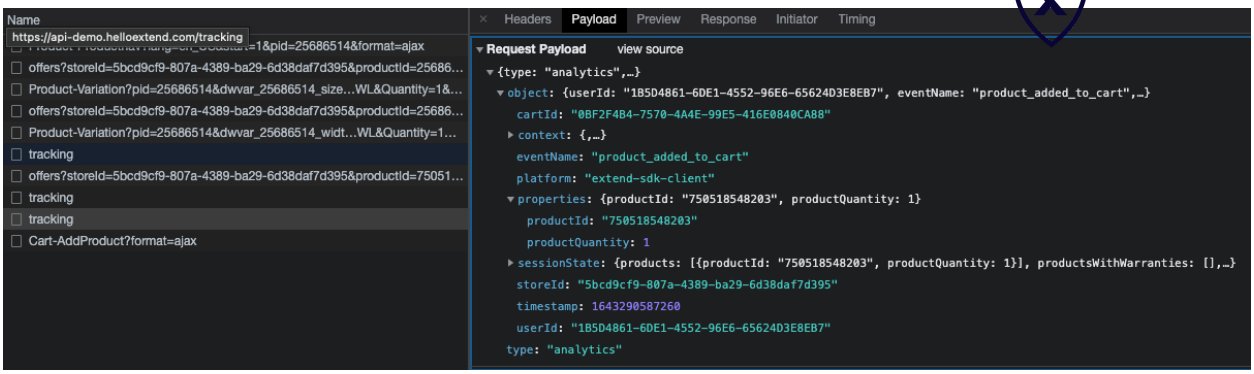
i. Extend.trackOfferViewed:

This method is triggered when an Extend warranty offer is rendered on the screen to a user.



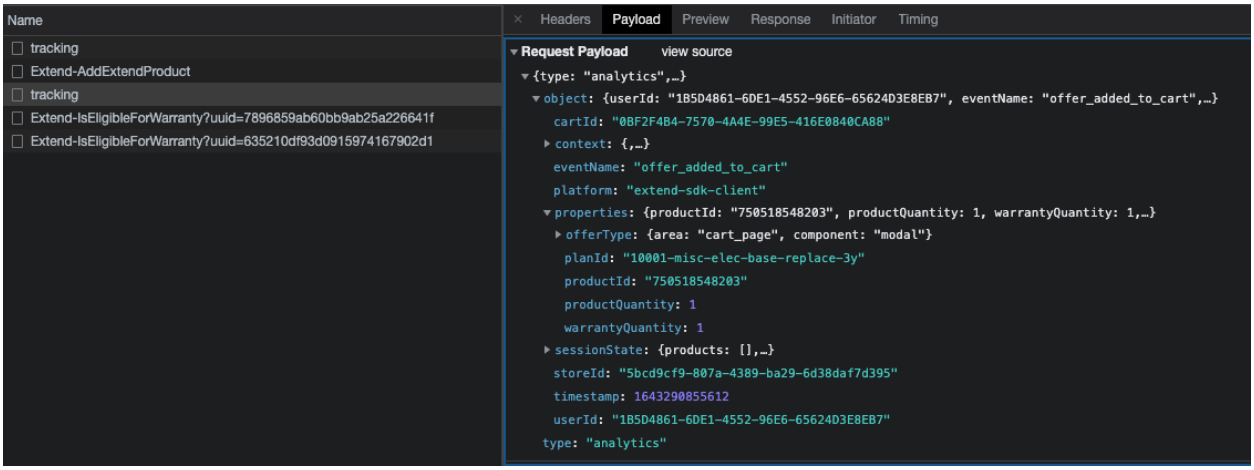
ii. Extend.trackProductAddedToCart:

This method is triggered when an user adds a (non-Extend) product to the cart. This event accepts the product's "productId" and the number of units (quantity) added to the cart.



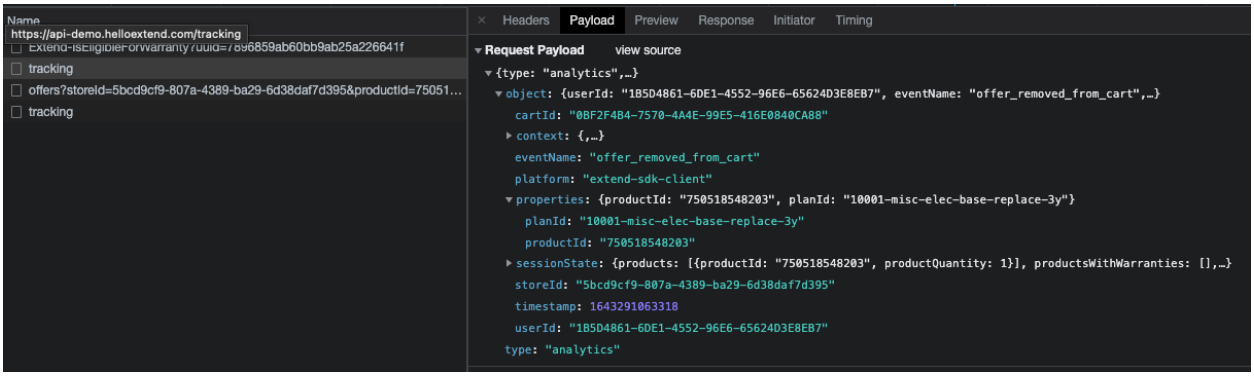
iii. Extend.trackOfferAddedToCart

This method is triggered when an user adds an Extend warranty to the cart. This event accepts the product's "productId", the number of units (quantity), and the Extend warranty's "planId".



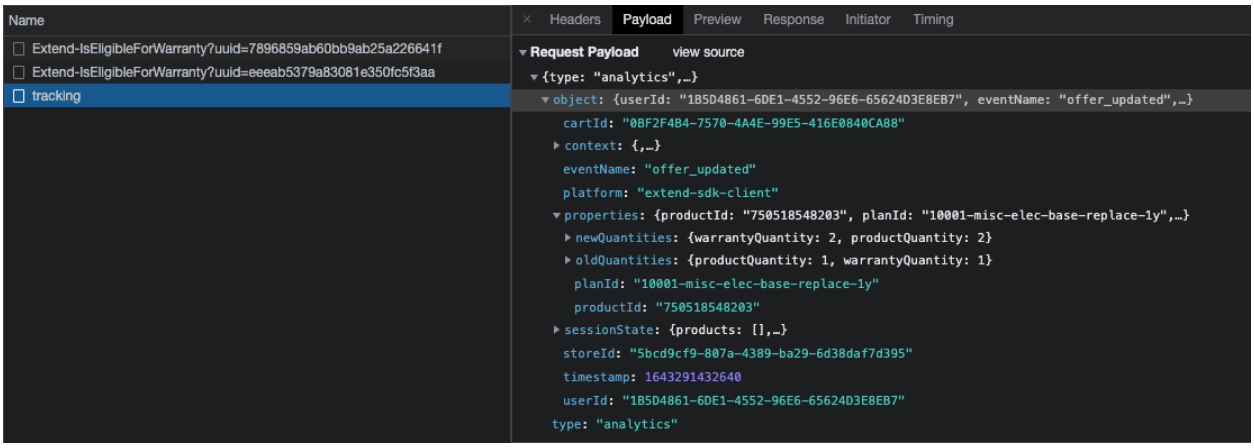
iv. Extend.trackOfferRemovedFromCart

This method is triggered when an user removes an Extend warranty from the cart. This event accepts the Extend warranty's "planId" and the associated "productId" of the product the warranty would have covered.



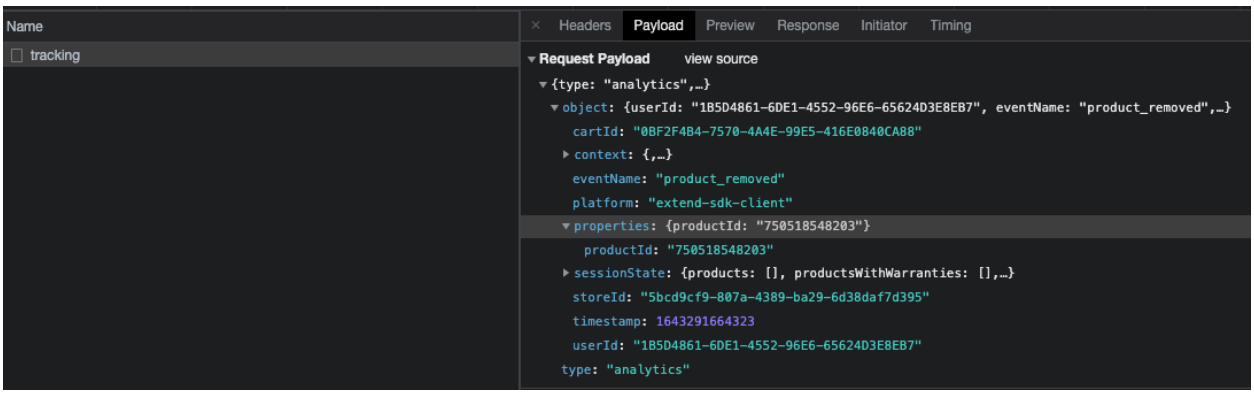
v. **Extend.trackOfferUpdated**

This method is triggered when an user increments or decrements the quantity of a warranty that has already been added to the cart. This event takes the Extend warranty's "planId", the associated "productId" of the product the warranty covers, as well as an update object containing the set of updates to apply to the warranty offer. **If the quantity of warranty is updated to 0, the a Extend.trackOfferRemoved event is called**, and further updates to this planId/productId will result in a no-op until it is re-added via Extend/trackOfferAddedToCart.



vi. **Extend.trackProductRemovedFromCart**

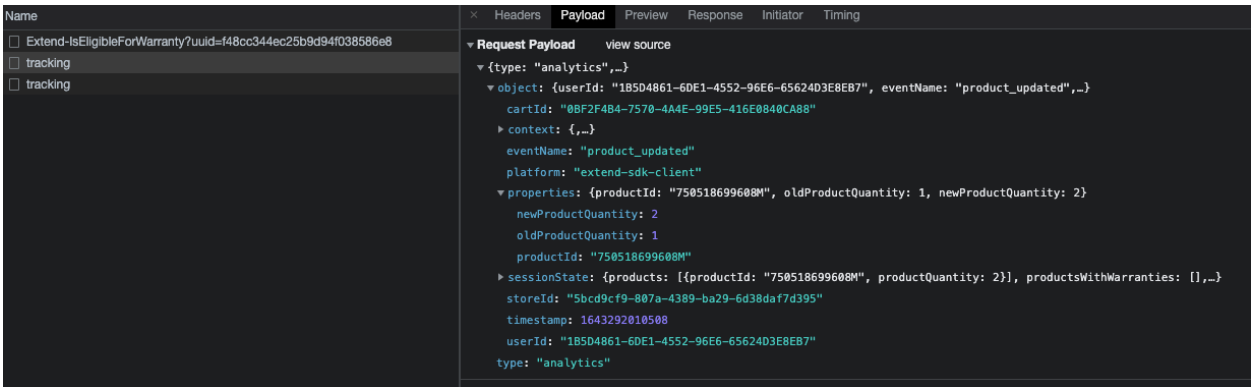
This method is triggered when an user removes a product from the cart that **does not** have a warranty offer associated with it. This event takes the "productId" of the product being removed from the cart.



vii. **Extend.trackProductUpdated**

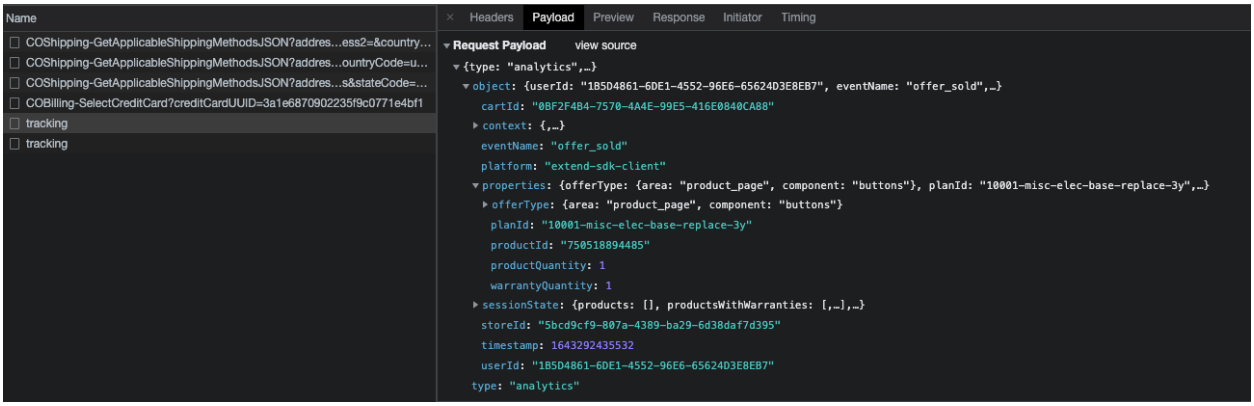
This method is triggered when an user increments or decrements the quantity of a product that has already been added to the cart. This event takes the "productId" of the product being updated, as well as an update object

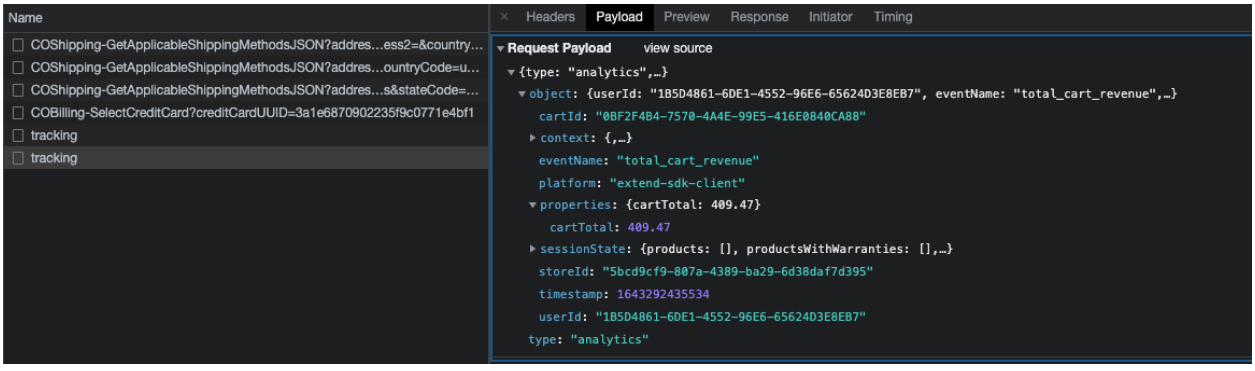
containing the set of updates to apply to the product. The product being updated must **not** be associated with a warranty offer.
If the “productQuantity” passed into this method is 0, then Extend.trackProductRemoveFromCart is fired.



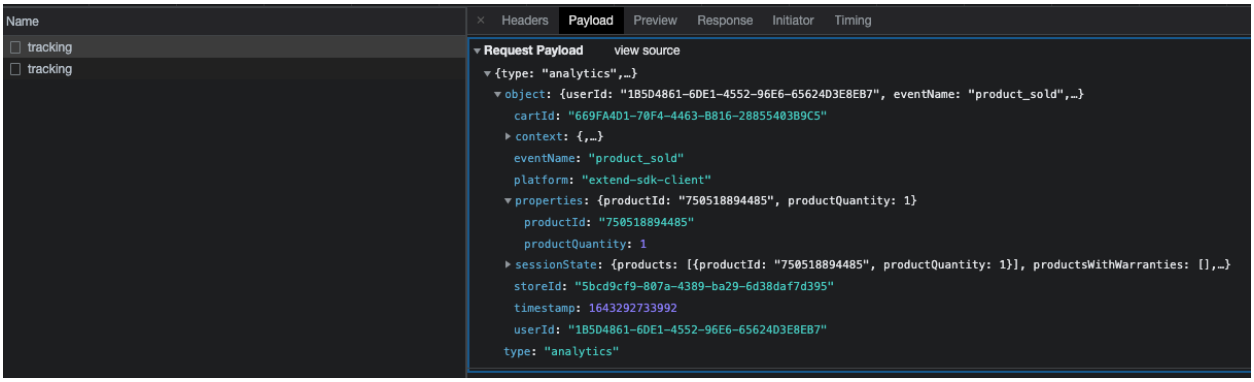
viii. Extend.trackCartCheckout

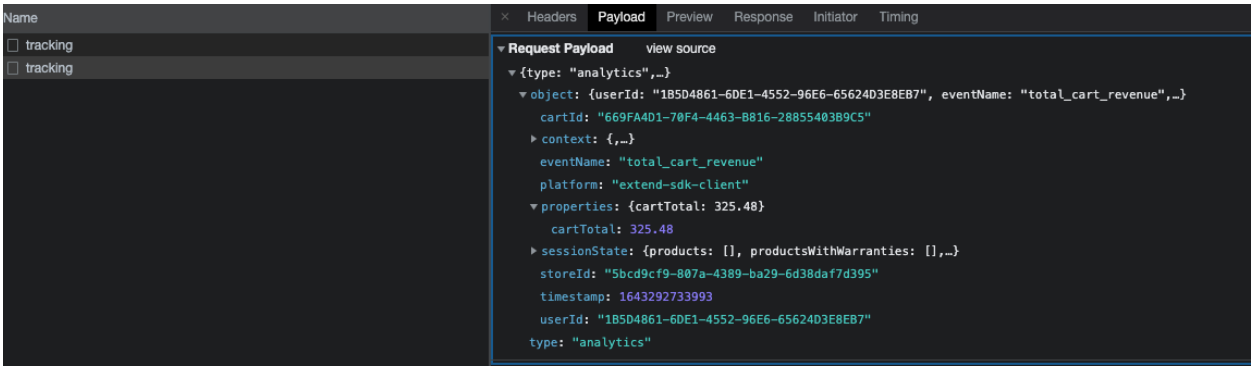
This method is triggered when a customer completes a purchase.
- After the Checkout flow is complete (at Order Confirmation page), there fires two tracking events - offer_sold, and total_cart_revenue





- After the Checkout flow is complete (at Order Confirmation page), there fires two tracking events called - product_sold and total_cart_revenue





9. Locale restrictions.

None.

10. Failover/Recovery process.

The cartridge's operation is based on exchanges of data via Extend APIs. Please reach out to your Extend support team for any integration questions and issues.

Testing

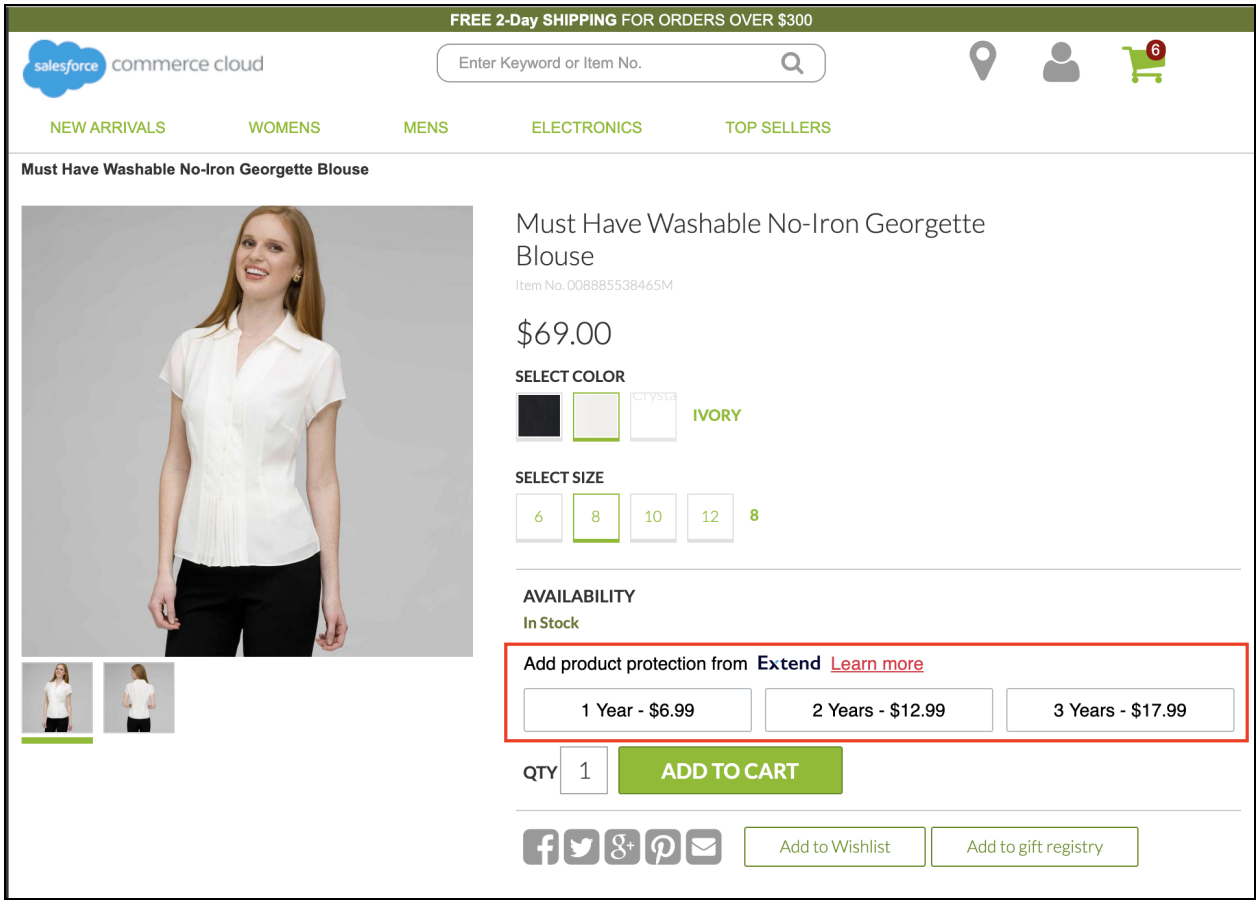
1. Enable Extend

- Ensure the following switches are set to Yes
  - Enable Extend
  - Enable PDP Offers
  - Enable Modal Offers
  - Enable Cart Offers
- Ensure the product catalog has been exported to Extend and confirm with the Extend project team that warranty plans are enabled in the system.

2. PDP

2.1. Extend Plan

Navigate to any simple or variant product that has an Extend Protection Plan enabled. Select a variation and confirm an Extend offer is shown.

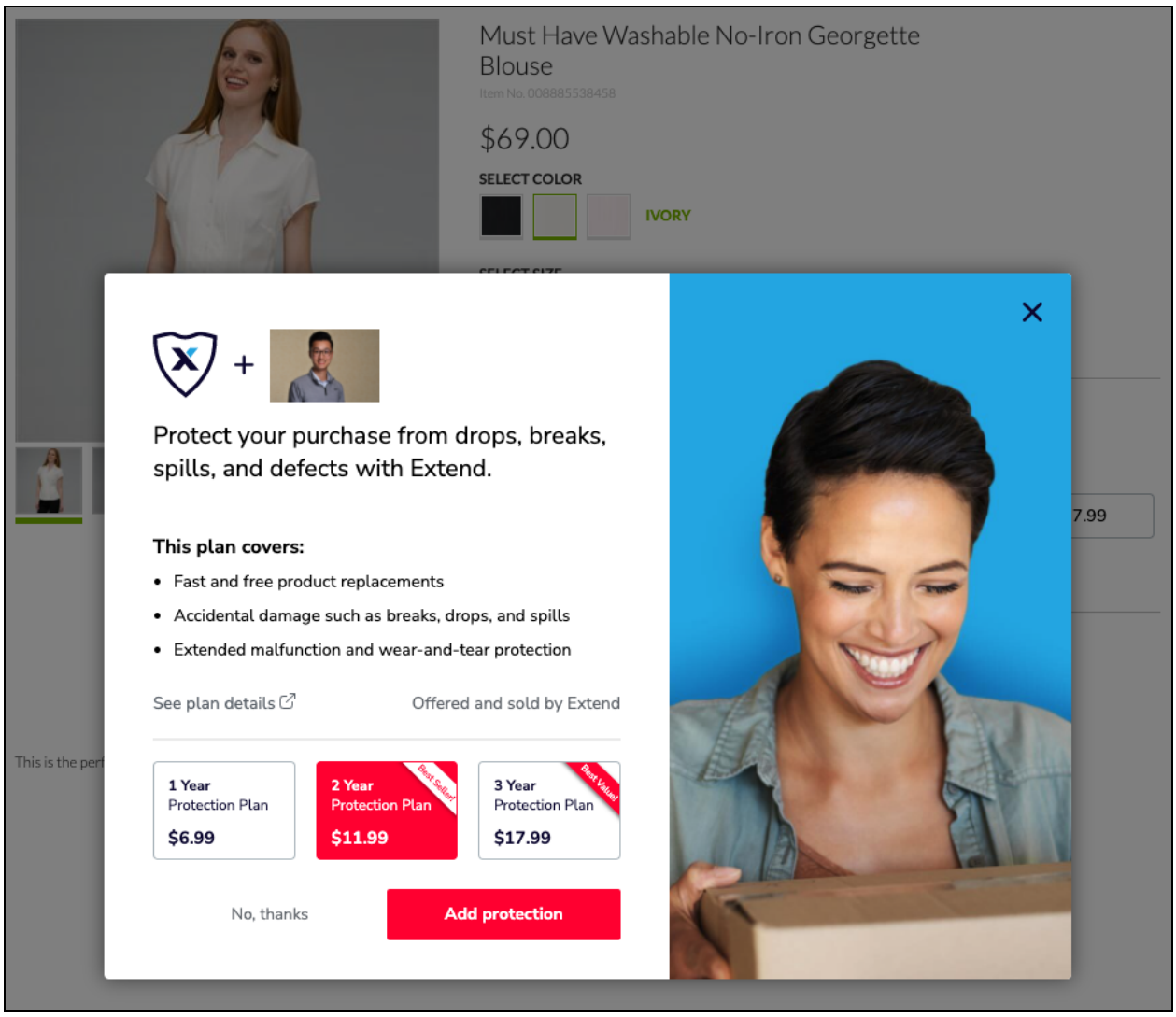


2.2. Add to Cart

Select an Extend Protection Plan and click Add to Cart. Confirm 2 products were added to the cart – the SFCC catalog product along with the Extend Protection Plan.

2.3. Up-sell Modal

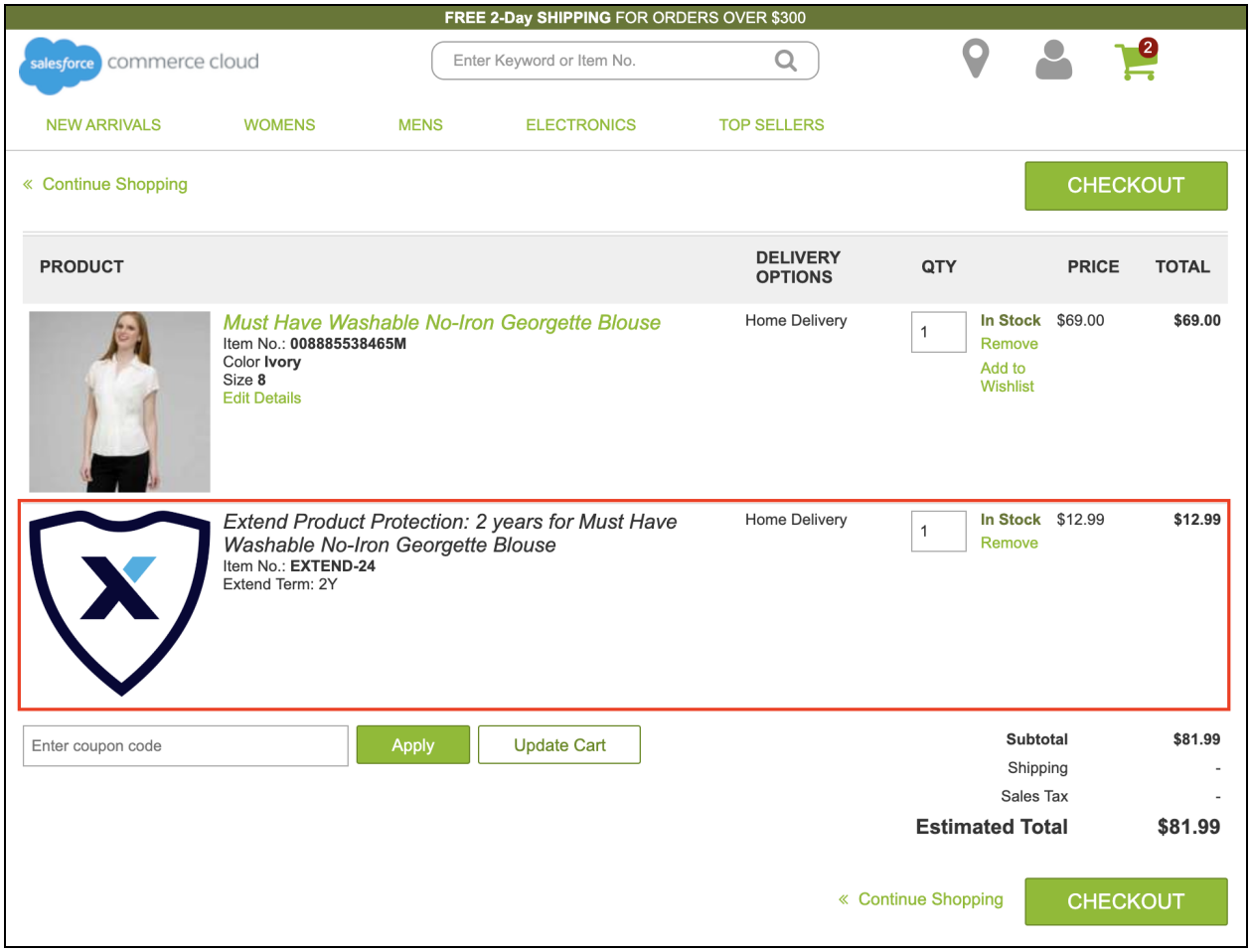
Navigate to any simple or variant product that has an Extend Protection Plan enabled and click Add to Cart on the PDP without selecting any Extend Protection Plan. Confirm the Extend Interstitial Modal is presented. Selecting “Add Protection” will add the Extend Protection Plan to the cart, along with the catalog product. Selecting “No, thanks” will only add the catalog product to the cart.



3. Cart

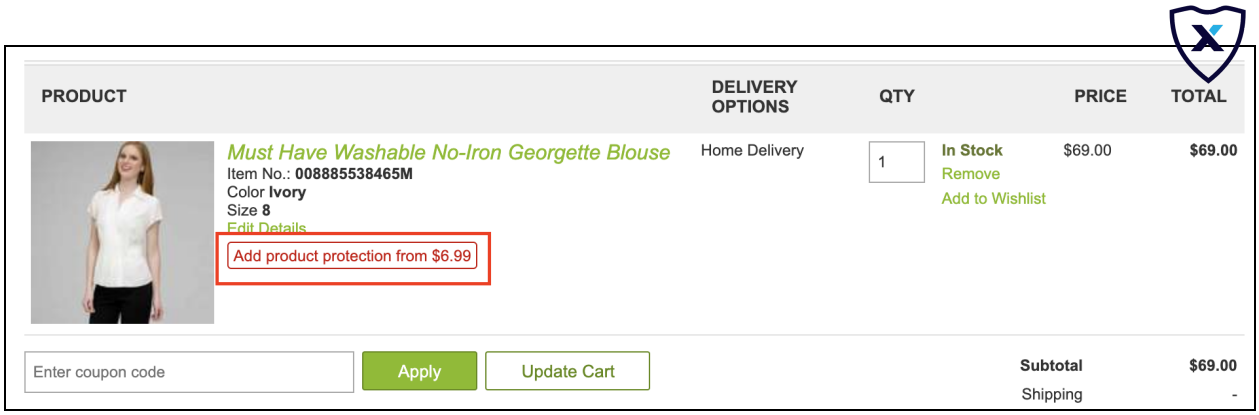
3.1. Extend Plans in Cart

Confirm an Extend plan has been added to the cart.



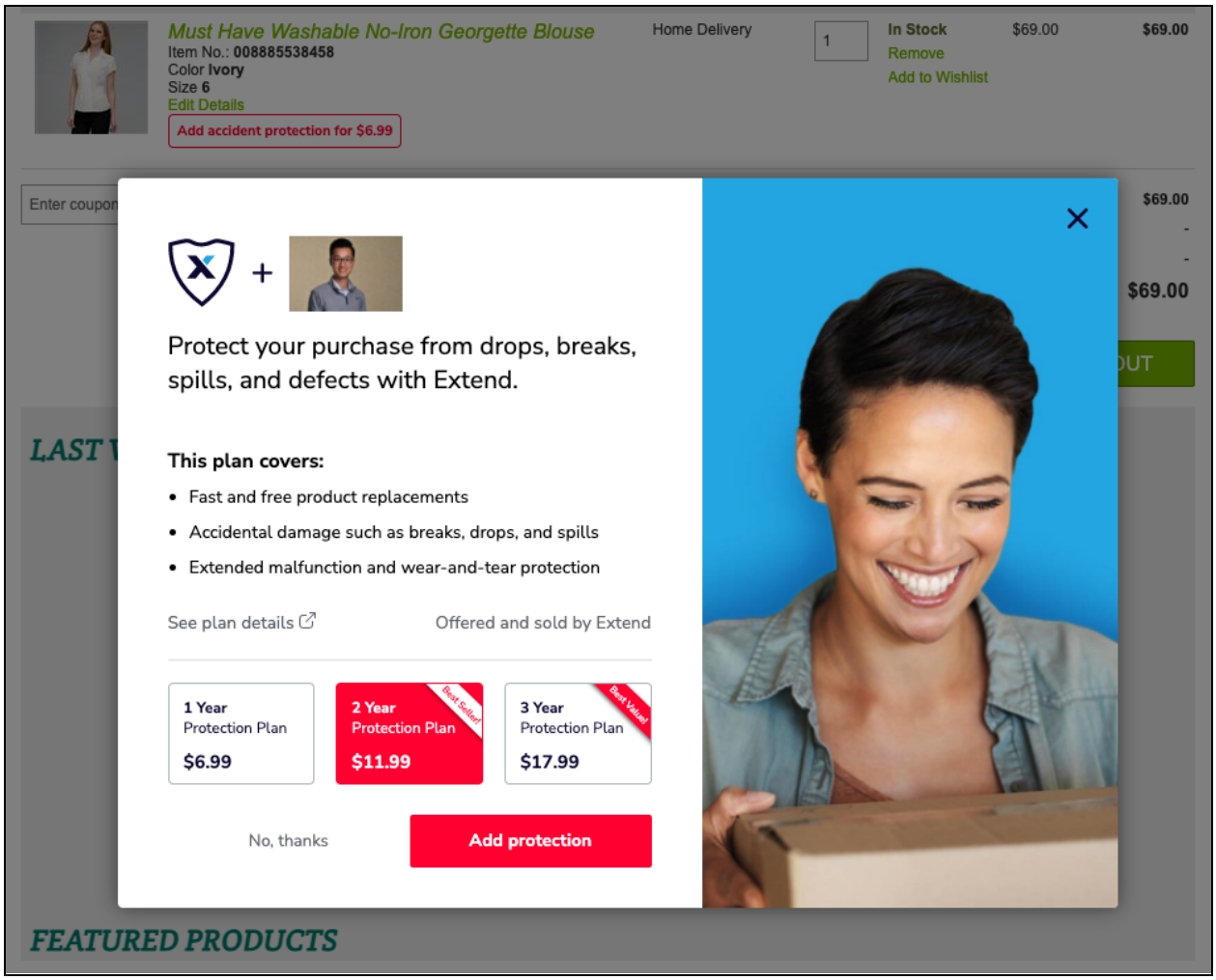
3.2. Up-sell button for eligible products in cart

Add an eligible catalog product to the cart, without selecting any Extend Protection Plan for it. Navigate to the cart page and confirm the cart offer button is presented.



3.3. Up-sell modal in cart

Click on the up-sell cart offer button and confirm the Extend Interstitial Modal is presented. Selecting “Add Protection” will add the corresponding Extend Protection Plan to the cart. Selecting “No, thanks” will close the modal.

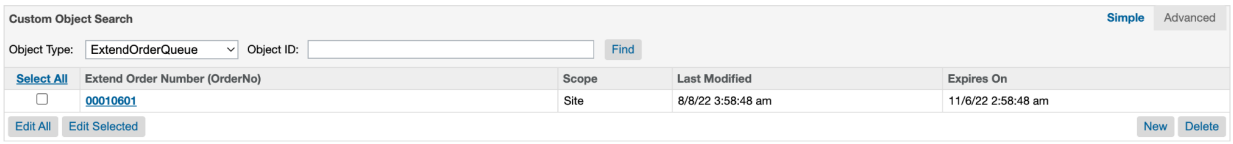


4. Business Manager

4.1. ExtendOrderQueue custom object

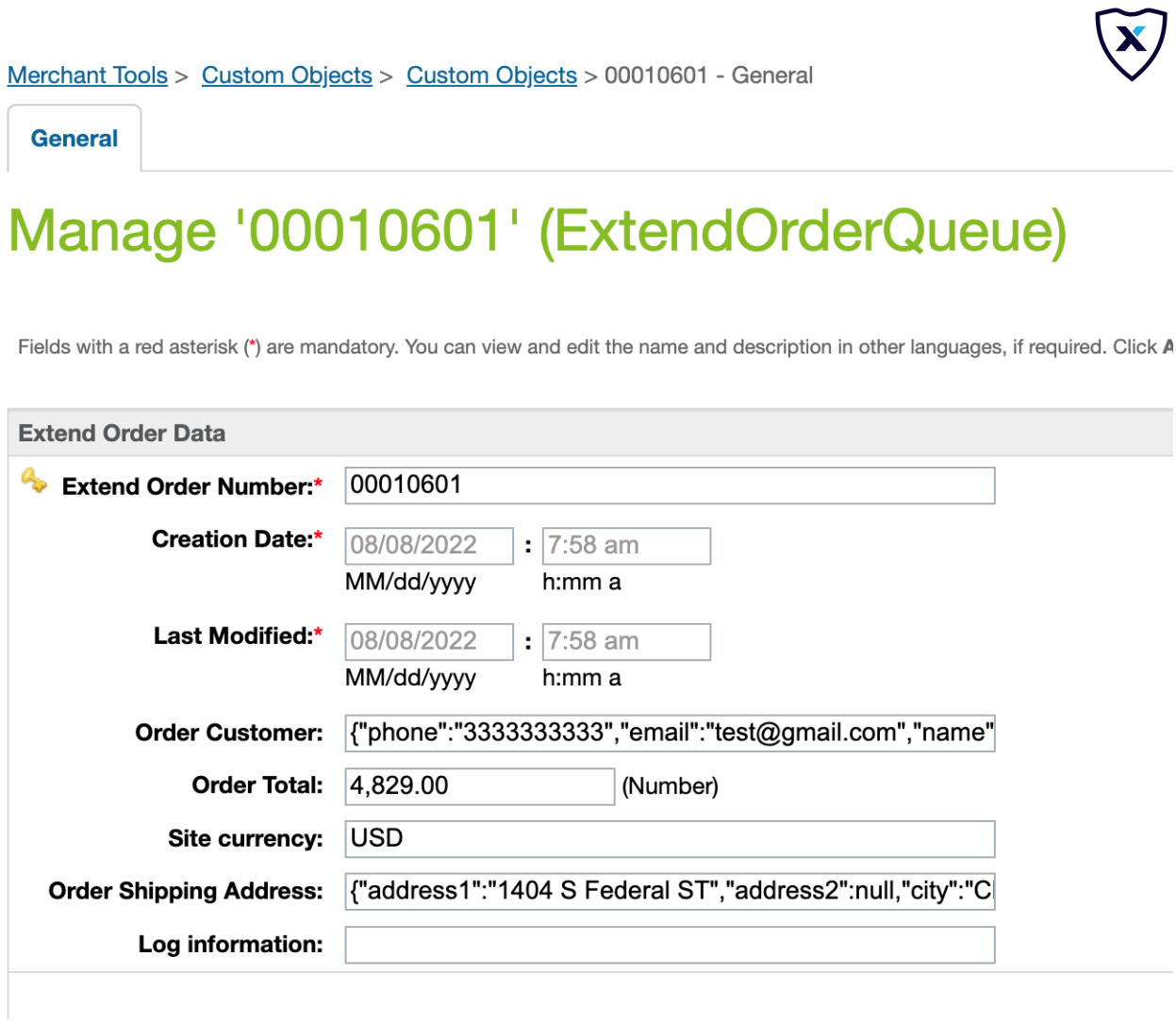
This custom object is used to track which SFCC order has not been processed yet. **Orders API on Schedule** creates a custom queue record (*ExtendOrderQueue*) upon order creation in the SFCC Business Manager, but will not integrate with Extend until the Job is run manually or on a schedule. This job will consume the custom queue.

Steps:
1. Buying the product with/without any extensions.
2. In the case of **Orders API on Schedule** method is chosen the custom objects created.
3. There are examples below:



Extend Order Number (OrderNo) - Order number for further processing
List Modified - Creation Date
Expires On - Date when the object will be deleted if it is not processed

There is an order information below:



Extend Order Number - SFCC Order Number
Order Customer - Buyer Information
Order Total - Order Summary Total
Site Currency - Currency
Order Shipping Address - Shipping Address
Log information - Log field for error message

All the fields (besides three first) are custom. Could be changed/deleted/added the new fields.

4. Then, if necessary, using the job all the custom objects are processed. There are two cases possible:

- In case of buying without any extensions the lead token is created. Objects are deleted after processing

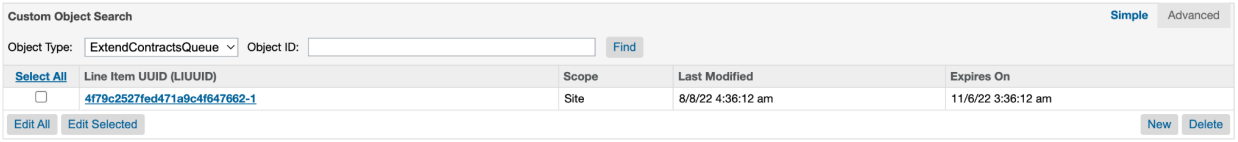
4.2. In case of buying with an extension the contractId is created. Objects are deleted after processing.

4.3. ExtendContractsQueue custom object

Contracts API on Schedule is a legacy feature whereby only Contract creation occurs (requires Extend API Version 2021-04-01 or earlier). Integration with Contracts API uses a Job that consumes a custom queue (ExtendContractQueue) when run manually or on a schedule. This job will consume the custom queue.

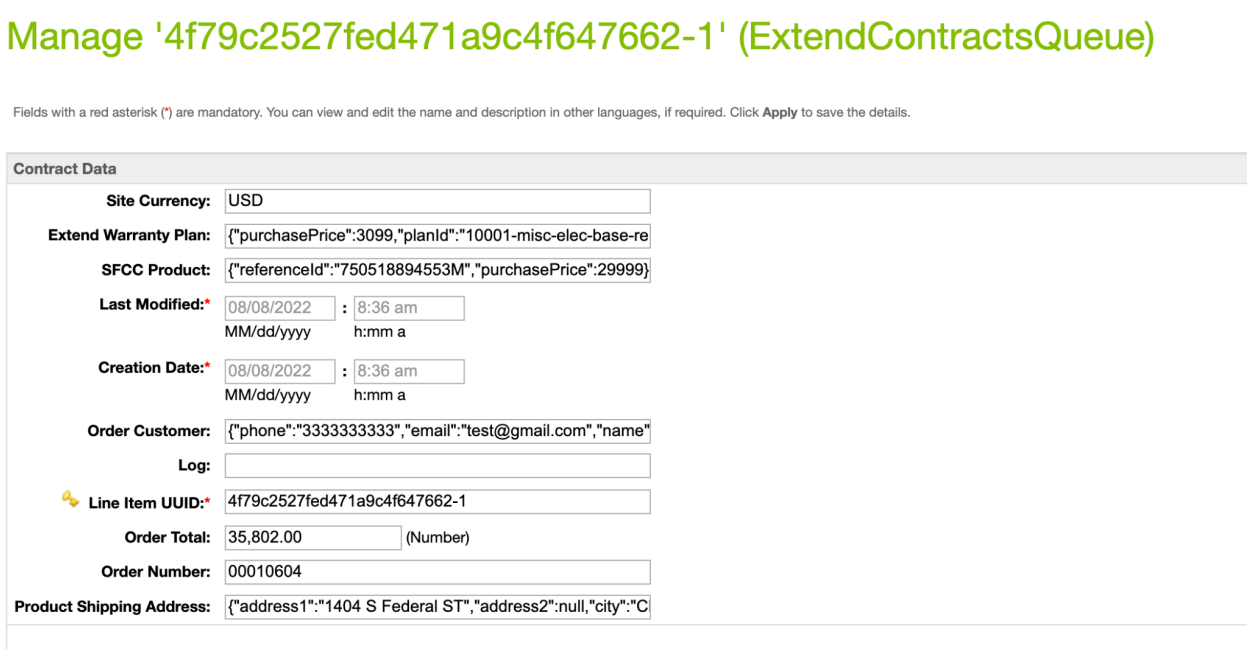
The custom objects are created ONLY in case of buying the product with an extension.

Steps:
1. Buying the product **WITH** an extension.
2. In the case of **Contracts API on Schedule** method is chosen the custom objects created.
3. There are examples below:



Line Item UUID - Unique identifier for the extension
List Modified - Creation Date
Expires On - Date when the object will be deleted if it is not processed

There is an extension information below:



Site Currency - Currency
Extend Warranty Plan - Warranty Plan Information
SFCC Product - Information about the product for which the warranty was purchased
Order Customer - Buyer Information
Log - Log field for error message
Line Item UUID - Unique identifier for the extension
Order Total - Order Summary Total
Order Number - Order Number
Product Shipping Address - Shipping Address

All the fields (besides marked* fields) are custom. Could be changed/deleted/added new fields.

4. Then, if necessary, using the job all the custom objects are processed. ContractID's are created for all the extensions. Object are deleted after processing.

Questions? Feedback?

At Extend, customer experience is our North Star, and that goes for both our merchant customers (you!) and your store's customers as they buy your products and our protection plans. So, we want to do anything we can to make your Extend integration successful and to make your customers' experiences outstanding.

If you have any questions, please don't hesitate to reach out to us any time or contact integrations@extend.com for help. And if you have any feedback about our documentation, integration process, or our APIs and SDK, we are all ears!