



The Global Language of Business

ECCnet Outbound API

Development and Implementation Guide



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1 Introduction

Read this document to understand some basic concepts around GS1 data transfer leveraging API. The intended audience is GS1 Canada data recipients who are implementing ECCnet Outbound API.

Note that a description of an example for API quickly relies on the involvement of developers and architects for API implementations.

With Outbound API, a client application can search for new or updated products, export product details, report export status, and delist a product.

We have consolidated API for multiple Industry Managed Solutions so that multiple user applications can access GS1 data leveraging a single API pipe.

1.1 Overview

The purpose of ECCnet Outbound API is to enable a data recipient to retrieve community product content into their own local system applications. This enhanced API allows a data recipient to use a single technical method rather than having to use multiple approaches to gather information from different data sources.

Through our unique community management role, GS1 Canada is directed by industry to solve non-competitive business process issues through the delivery of ECCnet Industry Managed Solutions.

Our global standards-based solutions meet the needs of businesses of all sizes across multiple sectors, whether you are looking to launch a new product, access perpetually cleansed and updated product content, or increase safety and operational efficiencies.

Our one-to-many approach ensures product data is loaded once, and then efficiently shared with all trading partners from one place, at the same time. Designed to deliver optimal efficiency, our solutions contain flexible content capture, loading and sharing options, data excellence tools and premium features to meet the evolving needs of industry and the demand for increased visibility and data quality.

Business processes that might require this product information are (for example):

- New product listing
- Merchandising
- Shelf space planning
- Warehousing and logistics
- Flyer production and other marketing actions
- Menu planning and recipe creation
- Health and wellness program descriptions
- Online sales
- Regulatory reporting
- Patient safety information

2 ECCnet Industry Managed Solutions and Data Excellence Levels

GS1 is a global leader in data excellence and acts as a non-profit, non-competitive supplier of product data and images.

Directed by industry, GS1 Canada solves non-competitive business process issues through the delivery of ECCnet Industry Managed Solutions. Designed for optimal efficiency through a one-to-many sharing process, our non-proprietary global standards-based solutions are developed to meet industry demand for increased visibility and data quality.

All GS1 Canada's ECCnet Industry Managed Solutions are powered by TrueSource™ and by GS1 Canada's commitment to be the one source of truth for reliable and complete product data, enabling subscribers to meet Canadian trading requirements at the lowest possible cost to industry.

As a proven global leader in data excellence, this commitment is foundational to all our solutions and enables business leaders to rely on accurate and complete bilingual data to fuel their business processes, helping to build trust and increase transparency and traceability along the value chain.

Table 1: Industry Managed Solutions (IMS) Descriptions

Industry Managed Solution (IMS)	IMS Description	Principal Uses	Data Excellence Level
ECCnet New Item Setup	Streamlines the product listing process for all trading partners to bring products to market quickly and efficiently while ensuring product data meets Canadian trading partner and regulatory requirements.	Supply chain, warehousing, merchandising, shelf planning, product assortment, listing process, product research	3: Validated & Normalized
ECCnet eCommerce Content	To support data recipients' on-line storefronts, the eCommerce Content IMS provides packaging images and information for many product categories in a standardized format, based on text printed on the product packaging.	On-line channel	1: Brand Owner Certified 2: Third party Verified
ECCnet Certified Nutritional Content	Provides access to the highest possible quality of extended nutritional information	Foodservice menu planning in healthcare. Recipe cards and healthy eating initiatives for some grocery retailers.	1: Brand Owner Certified

Industry Managed Solution (IMS)	IMS Description	Principal Uses	Data Excellence Level
ECCnet Planogram Content	Shares global standard product images and accurate weights and dimensions, used to design innovative in-store displays and optimal use of shelf space.	Space planning, product assortment, merchandising	2: Third party Verified (W&D, images)
ECCnet Marketing Content	Shares content that highlights manufacturer's products. High-quality images showcase latest packaging for advertising and marketing collateral.	Print and digital flyer, in-store promotions	2: Third party Verified
ECCnet Foodservice Content	Shares a series of standardized product images tailored to meet the requirements of the foodservice industry including montages.	Product Information Cards (PIC), Online ordering applications, Electronic product catalogues, Product sourcing.	2: Third party Verified
Certified Pharmaceutical Content	Provides the highest quality of extended pharmaceutical data and image content to reduce the risk of potential adverse medication events.	Medication dispensing	1 – Brand Owner Certified Data
ECCnet Enhanced Assets	Provides enhanced visual information for the customer, or relevant features that could positively influence a purchasing decision. These images, videos and documents provide quick, visual information and context about the product.	Product Packaging Label, QR code, Preparation instructions, Certification seals	3: Validated & Normalized

2.1 Data Excellence Levels

All GS1 Canada's ECCnet Industry Managed Solutions are powered by TrueSource™, GS1 Canada's commitment to be the one source of truth for reliable and complete product data.

As a proven global leader in data excellence, this commitment is foundational to all our solutions and drives the ongoing development of data excellence tools and processes, such as Dashboard, Content Certification, Data Quality Reports (GDRs) and Category Completion Audits.

With over 200,000 annual updates, the data in our ECCnet registries can be relied upon as the most reliable, perpetually cleansed and updated content available, enabling business leaders to rely on accurate and complete bilingual data to fuel their business processes, and helping to build trust along the value chain.

Different business processes require different levels of data quality, and industry provides this direction when solutions are created.

2.2 Five Levels of Data Excellence

GS1 Canada Levels of

Data Excellence

Ensuring the highest level of data quality required to meet your business process needs.



- **Level 1 – Brand Owner Certified Data**
Data and images that have been 100% certified by the brand owner, ensuring the highest level of data excellence. This data has been certified through our ECCnet eCommerce Content, ECCnet Nutritional Content, ECCnet Pharmaceutical Content and ECCnet Recall solutions.
- **Level 2 – Third-Party Verified Data**
Data and images successfully audited and verified by a certified third party. For example, all Planogram, Marketing and Foodservice content as well as non-certified eCommerce data in ECCnet Registry.
- **Level 3 – Validated and Normalized Data**
Data and images provided by an authenticated source governed by industry protocols to meet system validations and industry standards. For example, data that has been validated through ProSYNC software and meets Canadian trading partner and regulatory requirements.

- Level 4 – Authenticated Source Data
Data and images provided by a recognized source from a company with a valid GS1 Company Prefix. For example, new Item Setup data that has been provided through GDSN.
- Level 5 – Unknown Source
Data and images whose sources are unknown and cannot be authenticated.

3 Industry Managed Solutions Data Bundles

ECCnet Outbound API provides access to product content from data bundles for each Industry Managed Solutions.

3.1 Industry Managed Solutions API Bundles

For each IMS, product content is available including data and images:

Table 2: Industry Managed Solutions API Bundles

Industry Managed Solution (IMS)	Format	Bundle Description	Data Source	Access Type*
ECCnet New Item Setup	-REST API support JSON	DATA: Information provided by brand owner includes supply chain, marketing (claims), nutritional content, healthcare and pharmaceutical content, packaging hierarchy (etc.)	Provided to GS1 by brand owner.	Pub/Sub
ECCnet eCommerce Content	-REST API support JSON -Images in JPEG or TIFF format	DATA: On-pack content including descriptions, claims, ingredients, allergens, NFT, off-pack top-up info. IMAGES: Front facing, NFT, Ingredients Panel, Marketing images	Captured by GS1 Canada, verbatim from product packaging.	Open
ECCnet Certified Nutritional Content	-REST API support JSON -Images in JPEG format	DATA: Ingredients, allergens, servings per pack, daily %, nutritional/ingredient claims, certification bodies (etc.) IMAGES: NFT, Ingredients Panel	Typically, from product packaging; can also be fed from ECCnet Registry.	Pub/Sub
ECCnet Planogram Content	Targa or JPG formats available	DATA: Package Dimensions including weight, space planning specific attributes (units per tray, nesting depth, max height, peg holes) IMAGES: Planogram (including facings used in space planning,	Captured by GS1 Canada including standardized methodology for W&D capture.	Open

Industry Managed Solution (IMS)	Format	Bundle Description	Data Source	Access Type*
		trays, displays and consumer units)		
ECCnet Marketing Content	Images in TIFF format	DATA: attributes to support creation of product promotional material (for example, brand name, product description, promotion end date) IMAGES: angled images for marketable faces of product	Captured by GS1 Canada.	Open
ECCnet Foodservice Content	Images in JPEG format	DATA: N/A IMAGES: Case, Inner pack, Product, Montage images	Captured by GS1 Canada.	Open
Certified Pharmaceutical Content	Images in JPEG format	DATA: Attributes to support pharmaceutical products including dimensions, markings, DIN, Active ingredients. IMAGES: Oral solid pill – front, back and side views.	Brand owner. Images captured by GS1 Canada, brand owner or partner.	Pub/Sub
ECCnet Enhanced Assets	REST API Supports JSON Images, videos and documents in TIFF, JPG, CSV, DOC, MKV, MOV, MP4, PDF, TXT, WMV, XLS	ASSET: Attributes include, Asset type (image, video, document), description, Foodservice, state, language, product packaging label, excellence level	Provided to GS1 by brand owner.	Open

*Access Type - Some product data is available through publication/subscription (Pub/Sub) method. The brand owner publishes data to their product catalogue. To access that data, the data recipient subscribes to the brand owner's product catalogue. Where the Access Type shows "Open", (for example eCommerce Content), all data is available. Regardless of access type, only the product owner has access to their own private label products.

3.2 Outbound API provides data responses in JSON format.

Below is a JSON example of an eCommerce Content data bundle. Colours in the sample identify different sections of code.

JSON Sample

A

```
{
  "identification": {
    "productType": "EA",
    "gtin": "7540157810013",
    "gtin14": "07540157810013",
    "targetMarketCountryCode": "124",
    "catalogueGln": "0068780724967",
    "dataProviderName": "Test GS1",
    "gpc": "10000045",
    "gpcDescription": "Chocolate and Chocolate/Sugar Candy Combinations - Confectionery"
  },
```

B

```
  "ecommerceContent": [
    {
      "productNameEnglish": "GS1 Canada Milk Chocolate Salted Caramel 90 g",
      "productNameFrench": "GS1 Canada Chocolat au Lait Caramel Salé 90 g",
      "functionalNameEnglish": "milk chocolate",
      "functionalNameFrench": "chocolat au lait",
      "variantEnglish": "salted caramel",
      "variantFrench": "caramel salé",
      "brandNameEnglish": "GS1 Canada",
      "brandNameFrench": "GS1 Canada",
      "netContentEnglish": "90 g",
      "netContentFrench": "90 g",
      "allergyOtherTextEnglish": "May contain other tree nuts.",
      "allergyOtherTextFrench": "Peut contenir d'autres types de noix.",
      "productMarketingEnglish": "Milk chocolate with caramelized toffee pieces and a hint of salt\nSmooth, sophisticated milk chocolate with buttery, caramelized toffee pieces and a touch of sea salt. An exquisite balance of sweetness, saltiness and delicate crunch.",
      "productMarketingFrench": "Chocolat au lait agrémenté de morceaux de caramel anglais et d'un soupçon de sel\nUn chocolat au lait onctueux et raffiné agrémenté de morceaux de caramel anglais au beurre et d'un soupçon de sel marin. L'équilibre exquis de sa saveur sucrée-salée est parfaitement relevé par sa texture délicate et croquante.",
      "otherInformationEnglish": "Net wt 3.1 oz",
      "otherInformationFrench": "Poids net 90 g",
      "manufacturersAddressEnglish": "1500 Don Mills Road, Suite 800\nToronto, Ontario",
      "manufacturersAddressFrench": "1500 Don Mills Road, Suite 800\nToronto, Ontario",
      "storageEnglish": "To ensure product quality, please keep this package stored in a cool place, at or below 65°F (18°C).",
      "storageFrench": "Afin de garantir la qualité de produit, veuillez conserver cet emballage dans un endroit frais à une température maximum de 65°F (18°C).",
      "height": "191.8",
      "heightUOM": "91418",
      "width": "76.2",
      "widthUOM": "91418",
      "depth": "10.2",
      "depthUOM": "91418",
      "grossWeight": "93",
      "grossWeightUOM": "91415",
      "warrantyDescriptionEnglish": "1500 Don Mills road, Suite 800\nToronto, Ontario\n1-800-567-7084\nwww.gs1ca.org",
      "warrantyDescriptionFrench": "1500 Don Mills Road, Suite 800\nToronto, Ontario\n1-800-567-7084\nwww.gs1ca.org",
    }
  ],
```

D

```
  "identification": {
    "excellenceLevel": "1",
    "dateUpdated": "2019-03-27T17:47:33.707-04:00",
    "ecommerceStatusNutritionStatus": "Certified",
    "gln": "0005587200010",
    "gtin": "07540157810013",
    "systemVersion": "2018-05-08T14:37:42.000-04:00"
  },
```

The elements to the left of the colon (:), are the attributes names. The elements to the right of the colon (:) are the values entered by the data suppliers. In some cases, the value is a code. The green, blue and grey sections are repeated in the file for each Industry Managed Solution.

- **Section A:** This is the header of the JSON file called the "Identification" section. This section contains the product key, such as the GTIN (in this case "07540157810013") and the catalogue GLN (in this case "0068780724967"). It also contains the main elements of the product data such as the product type (for example, "Each", "Case", "Consumer Unit," etc.), the data provider's name ("Test GS1"), etc.
- **Section B:** This identifies which Industry Managed Solution (IMS) the data is associated with. In the above example, the product data highlighted in grey and green comes from the IMS "ECCnet eCommerce Content".
- **Section C:** Attributes associated with this GTIN within the context of the named IMS. Please refer to the ECCnet Outbound API attribute guide for a complete list of attributes.
- **Section D:** This contains the main elements of IMS data, such as data excellence level (in this case "1"). For an IMS that supports multiple versions, the IMS identification section contains version specific information, such as system version (in this case "2018-05-08T14:37:42.000-04:00"), certification status (in this case "Certified"), etc.

Additional Notes

- The Identification section (A) contains multiple GTIN (Global Trade Item Number) formats (12, 13 or 14 characters). The GTIN-12 and GTIN-13 identifies the product uniquely for point of sale. The GTIN-14 will always contain 14 digits. Where required, one or two leading zeros are added.
- The Identification section may identify multiple versions for a product within ECCnet eCommerce Content, Certified Nutritional Content and Certified Pharmaceutical Content. The data provider may provide multiple versions of a product for seasonal packaging, promotional packaging or minor changes to a formulation or ingredients. The general guideline is to capture the most recent product version.

4 Implementation Approaches

The purpose of this chapter is to provide general guidelines for developing a RESTful web service client to search new or updated products, export and delist a product. This document does not cover REST API specifications or attribute definitions. Please refer to the ECCnet Outbound API Technical Reference and ECCnet Outbound API Attribute Guide for details as part of the Welcome Pack that you receive from GS1 Canada.

Different scenarios listed below are examples showing how a data recipient can retrieve GS1 Canada product content from Industry Managed Solutions (IMS) data sources:

- Scenario 1: The data recipient fetches the product content from one IMS only.
- Scenario 2: The data recipient fetches the product content from more than one IMS:
 - Scenario 2a: The data recipient fetches the product content on separate terms and calls one IMS at a time. For example, the data recipient first pulls the content from the IMS "ECCnet New Item Setup". Then, they fetch the content from the IMS "ECCnet Planogram Content", and finally they fetch the content from the IMS "ECCnet Marketing Content".
 - Scenario 2b: The data recipient fetches the product content from all IMSs they are registered for at the same time. For example, the data recipient pulls all the content from the IMSs ECCnet New Item Setup, ECCnet Planogram Content and ECCnet Marketing Content within the same API calls.
- Scenario 3: The data recipient uses the Coverage List method to fetch the product content from the IMSs they are interested in. For a description of the Coverage List method, see "Coverage List" (page 16).

4.1 Implementation Example

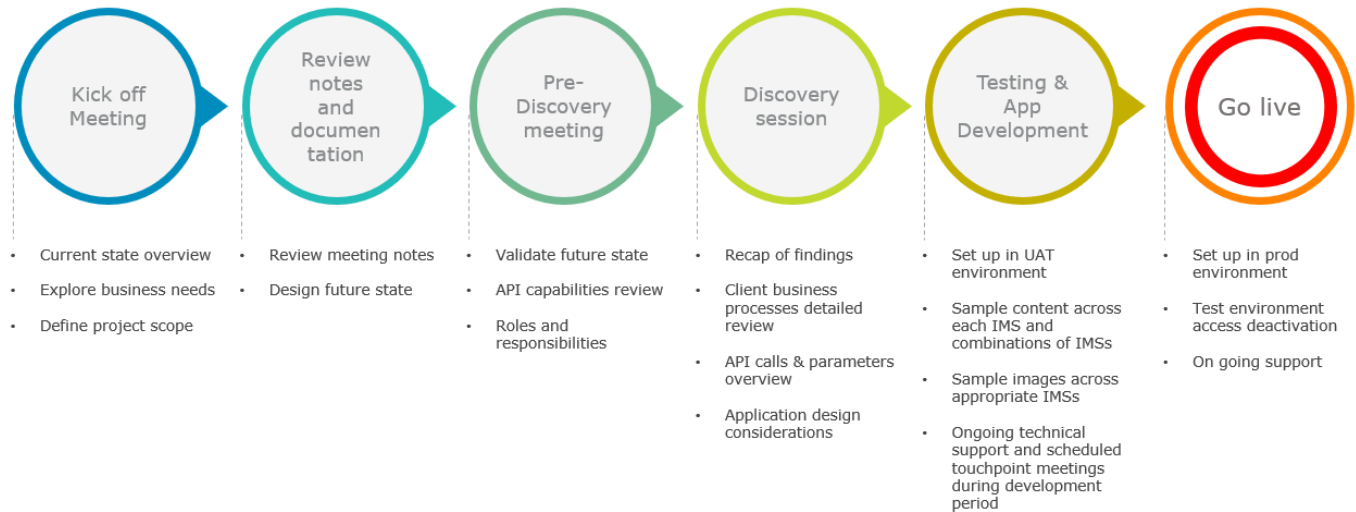
Business case description:

You might be developing a website for public access where they can purchase products online. The actual products that you are selling is going to be unique to your business. In this example, we will use food items for consumers where you want to display product names, brand names, ingredients, nutrition facts and the front face image. So, you know what data you want.

The IMSs that you have registered for is ECCnet eCommerce Content, ECCnet Marketing Content and ECCnet Planogram Content.

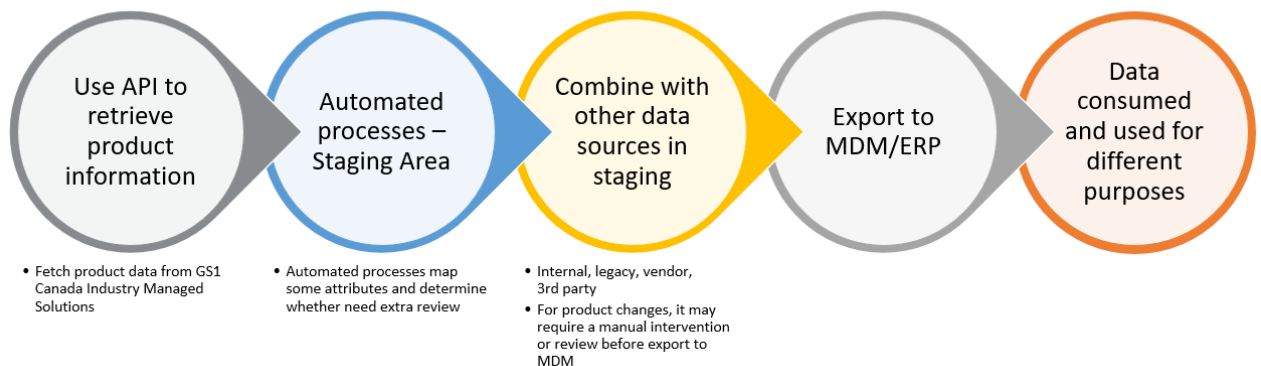
Onboarding/implementation process:

You will have a kickoff meeting with representatives from GS1 Canada to discuss the short term and long-term vision of the project. You will also discuss the implementation plan of the Outbound API as well as timelines and the following steps.



The Staged integration solution is highly recommended as you will have a centralized data repository and a streamlined process with your various applications and the flexibility of expanding scope as required without involving external parties. With the Staging environment you can also input product content from GS1 Canada and from other product content sources.

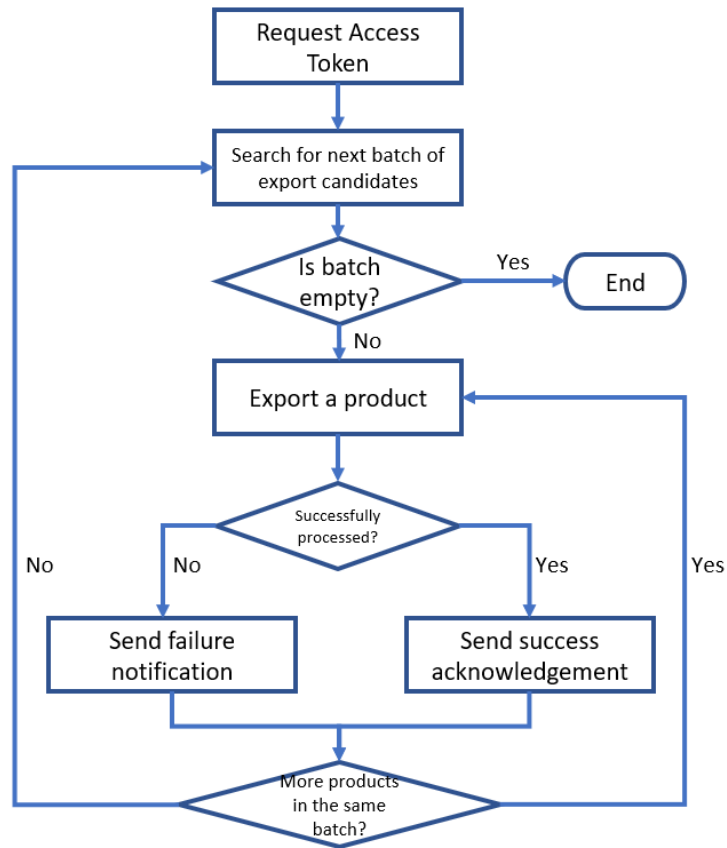
Staged/batch integration – Recommended approach



4.2 Export

This description of the export function applies to all Industry Managed Solutions.

The diagram below shows a typical flow to export products from any Industry Managed Solution (IMS):



For a description of concurrent processing, see "Sequential vs Concurrent Processing" (page 21).

4.2.1 Obtaining an Access Token

This description applies to all Industry Managed Solutions.

Request an Access Token with basic scope if a client application does not have a valid one. (see Technical Reference guide, chapter 5.1).

Example: POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipie nt.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipie nt.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

When a client application requests an access token using credentials, it will receive a refresh token along with an access token. Both will expire in 30 minutes. If the client application tries to obtain a token using credentials again within the 30 minutes, then it will receive the same access token. However, a client application can request a new access token before it is expired using the refresh token. The new access token will expire in another 30 minutes.

4.2.2 Overall process for identifying candidates for download and exporting content.

This description applies to all Industry Managed Solutions

- Search for the first batch of New products (see Technical Reference guide, chapter 4.1).

Example 1: One IMS = New Item Setup. Command = GET

[https://\\$RESOURCE_SERVER\\$/api/products/brand-new/keys.json?ims=newItemSetup&limits=25&cursor=3](https://$RESOURCE_SERVER$/api/products/brand-new/keys.json?ims=newItemSetup&limits=25&cursor=3)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Example 2: Multiple IMSs = Pharmaceutical + Marketing. Command = GET

[https://\\$RESOURCE_SERVER\\$/api/products/brand-new/keys.json?ims=pharmaceuticalContent+marketingContent&limits=25&cursor=3](https://$RESOURCE_SERVER$/api/products/brand-new/keys.json?ims=pharmaceuticalContent+marketingContent&limits=25&cursor=3)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

- Search for the next batch of Updated products (see Technical Reference guide, chapter 4.1).

Example: One IMS = New Item Setup. Command = GET

[https://\\$RESOURCE_SERVER\\$/api/products/updated/keys.json?ims=newItemSetup&limit s=50&cursor=1](https://$RESOURCE_SERVER$/api/products/updated/keys.json?ims=newItemSetup&limit s=50&cursor=1)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

- Search for the first batch of New **and** Updated products (see Technical Reference guide, chapter 4.11)

Example: One IMS = eCommerce. Command = GET

[https://\\$RESOURCE_SERVER\\$/api/products/keys.json?resultType=brand-new+updated&ims=ecommerceContent&limits=25&cursor=2](https://$RESOURCE_SERVER$/api/products/keys.json?resultType=brand-new+updated&ims=ecommerceContent&limits=25&cursor=2)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

- Search for the first batch of New and Updated products in a specific catalogue (see Technical Reference guide, chapter 4.3).

Example: One IMS = Marketing. Command = GET

[https://\\$RESOURCE_SERVER\\$/api/products/10041120160004?ims=marketingContent&baseGln=0068780070934](https://$RESOURCE_SERVER$/api/products/10041120160004?ims=marketingContent&baseGln=0068780070934)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

4.2.3 How to export product data & notify the GS1 Canada Server

This description applies to all Industry Managed Solutions. Follow these steps in order.

1. Loop through the product keys acquired in "4.2.2" and perform export action on each product (see Technical Reference guide, chapter 4.2).

Example: Command = POST

[https://\\$RESOURCE_SERVER\\$/api/products/exported.json](https://$RESOURCE_SERVER$/api/products/exported.json)

Request Payload

```
{
  "gtin": "10041120160004",
  "baseGln": "0068780070934",
  "ims": "pharmaceuticalContent"
}
```

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

2. Notify GS1 Canada Server of export status after a product is processed (see Technical Reference guide, chapter 4.4).

If the product has been successfully processed, send an acknowledgement message.

Example: Command = POST

[https://\\$RESOURCE_SERVER\\$/api/products/exportStatus.json](https://$RESOURCE_SERVER$/api/products/exportStatus.json)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Request Payload

```
{
  "gtin": "10041120160004",
  "baseGln": "0068780070934",
  "ims": "pharmaceuticalContent+marketingContent",
  "exportStatus": 0
}
```

If a client application fails to process the product, send failure notification to move the product to Updated state so that it will be an export candidate next time.

Example: Command = POST

[https://\\$RESOURCE_SERVER\\$/api/product/0068780070934/10041120160004.json](https://$RESOURCE_SERVER$/api/product/0068780070934/10041120160004.json)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Request Payload

```
{
  "gtin": "10041120160004",
  "baseGln": "0068780070934",
  "ims": "ecommerceContent",
  "exportStatus": 1
}
```

3. Repeat steps to search New/Updated products and export content until API responds with next_cursor = "0".
4. If you receive "HTTP Error 401", re-authenticate (see Technical Reference guide, chapter 5.1) or refresh token (see Technical Reference guide, chapter 5.3).

4.3 Coverage List

4.3.1 Overall process for defining coverage list

Coverage is the list of the GTINs for which a data recipient would like to receive updates. It can be set up for either one IMS or all the IMSs that the data recipient is subscribed to.

To add products to coverage list, the typical flow involves the following activities:

1. Request an Access Token with basic scope if a client application does not have a valid one (see Technical Reference guide, chapter 5.1).

Example: Command = POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipient.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipient.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

2. Add the list of GTINs that a data recipient wishes to receive updates (see Technical Reference guide, chapter 4.12). In POST coverage method, data recipients would need to specify the GTIN list and the IMS they need those GTINs to be added to. If no IMS is specified, GTINs will be added to all IMS coverage. Each call to the POST coverage endpoint can add up to 1000 GTINs.

Important: Please note that each time a data recipient makes a call to update the Coverage List file (to either add or delete GTINs from the list), it will take 60 minutes for our system to process the call and update the coverage file. Therefore, the data recipient must wait at least 60 minutes after each POST or DELETE coverage calls.

Example: Command =POST

[https://\\$RESOURCE_SERVER\\$/api/coverage?ims=ecommerceContent](https://$RESOURCE_SERVER$/api/coverage?ims=ecommerceContent)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

3. Request Payload

```
{
  "keys": [
    {"gtin": "33457900555", "gln": "0774882000068"},
    {"gtin": "10064541314900"}
  ]
}
```

4. Data recipients can add new GTINs to the coverage by using the same method and it will add those GTINs to the existing range list.
5. In order to remove the discontinued or obsolete GTINs from the coverage, data recipients would use DELETE coverage API method. In DELETE coverage, data recipients can specify the list of GTINs to be removed from the coverage, and the IMS that they would like to remove the GTINs from. If GTINs not specified, full coverage will be deleted.

Example: Command =DELETE

[https://\\$RESOURCE_SERVER\\$/api/coverage?ims=ecommerceContent](https://$RESOURCE_SERVER$/api/coverage?ims=ecommerceContent)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

6. Request Payload

```
{
  "gtins": ["33457900555"]
}
```

4.4 Delist

This description applies to all Industry Managed Solutions.

4.4.1 Overall process for delisting product so that future updates are not received

To delist a product, the typical flow involves the following activities:

1. Request an Access Token with basic scope if a client application does not have a valid one (see Technical Reference guide, chapter 5.1).

Example: Command = POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipient.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipient.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

2. Delist a product (see Technical Reference guide, chapter 4.5).

Example: One IMS = New Item Setup. Command = DELETE

[https://\\$RESOURCE_SERVER\\$/api/products/10041120160004.json](https://$RESOURCE_SERVER$/api/products/10041120160004.json)

Request payload

```
{
```

```
"baseGln": "0068780070934",
"ims": "newItemSetup"
}
Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38
```

4.5 Get Image and Digital Asset

This description applies to: ECCnet eCommerce Content, ECCnet Nutritional Content, ECCnet Pharmaceutical Content, ECCnet Planogram Content, ECCnet Marketing Content, ECCnet Foodservice Content and ECCnet Enhanced Assets Content.

4.5.1 Overall process for retrieving images and digital assets based on GDTI in main payload

To get an image using GDTI, the typical flow involves the following activities:

1. Request an Access Token with basic scope if a client application does not have a valid one (see Technical Reference guide, chapter 5.1).

Example: Command = POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipie.nt.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipie.nt.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

2. Export a product successfully from an IMS (see step 4.2.3).
3. Get GDTI of image from product attributes (see Technical Reference guide, chapter 4.2).

Example:

```
"digitalassetfoodservice": [
{
"digitalassetformatfoodservice": "JPG",
"digitalassetgdtifoodservice": "754000000016500000000003514625",
"digitalassetimagetypefoodservice": "M",
"digitalassetsubmitterglnfoodservice": "0068780095548"
}]
```

4. Get image or digital asset using GDTI (see Technical Reference guide, chapter 4.7).

Example: Command = GET

[https://\\$RESOURCE_SERVER\\$/api/image/754000000016500000000003514625](https://$RESOURCE_SERVER$/api/image/754000000016500000000003514625)

Authorization: Bearer 037907a8-d5f6-4722-a073-d31f12e29289

Example Result: 754000000015800000000001160464.jpg

4.6 Search

This description applies only to ECCnet New Item Setup.

The typical flow to retrieve products by searching partial/full keyword on descriptive attributes across the all published/subscribed catalogues and not from a specific trading partner and GLN involves the following activities:

1. Request an Access Token with basic scope if a client application does not have a valid one (see Technical Reference guide, chapter 5.1).

Example: Command = POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipie.nt.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipie.nt.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

2. Retrieve products by searching partial/full keyword (see Technical Reference guide chapter 4.9)

Example: Command = POST

[https://\\$RESOURCE_SERVER\\$/api/query](https://$RESOURCE_SERVER$/api/query)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Payload: {"keyword": "1234"}

3. Loop through the search result using the query id acquired in step 2.

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Example: Command = GET

[https://\\$RESOURCE_SERVER\\$/api/query/12/page/1](https://$RESOURCE_SERVER$/api/query/12/page/1)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

4.7 Advanced search

This description applies only to ECCnet New Item Setup.

To retrieve products by using one or multiple search criteria, the typical flow involves the following activities:

1. Request an Access Token with basic scope if a client application does not have a valid one (see Technical Reference guide, chapter 5.1).

Example: Command = POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipie.nt.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipie.nt.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

2. Retrieve products by using one or multiple criteria (see Technical Reference guide chapter 4.11)

Example: Command = POST

[https://\\$RESOURCE_SERVER\\$/api/query/advanced](https://$RESOURCE_SERVER$/api/query/advanced)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Payload: {"gtin": "1234"}

3. Loop through the search result using the query ID acquired in step 2.

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

Example: Command =GET

[https://\\$RESOURCE_SERVER\\$/api/query/12/page/1](https://$RESOURCE_SERVER$/api/query/12/page/1)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

4.8 Full Hierarchy Search

4.8.1 Retrieve the full hierarchy (New Item Setup only)

To get full packaging hierarchy of product using GLN and GTIN, the typical flow involves the following activities:

1. Request an Access Token with basic scope if a client application does not have a valid one (see Technical Reference guide, chapter 5.1).

Example: Command = POST

[https://\\$AUTH_SERVER\\$/oauth/token?grant_type=password&username=api@datarecipie nt.ca&password=password&scope=basic](https://$AUTH_SERVER$/oauth/token?grant_type=password&username=api@datarecipie nt.ca&password=password&scope=basic)

Authorization: Basic c3VuY29yYXBwOnNlY3JldA==

2. Retrieve the full hierarchy of product using GLN and GTIN (see Technical Reference guide, chapter 4.8).

Example: Command = GET

[https://\\$RESOURCE_SERVER\\$/api/product/0068780070934/032477000054/full_hierarchy](https://$RESOURCE_SERVER$/api/product/0068780070934/032477000054/full_hierarchy)

Authorization: bearer ffbf8e31-7bd1-4030-bebf-fa5880310e38

4.9 Test Environment Requirements

GS1 Canada provides a Test environment during the Setup phase to enable data recipients to test their integration. Sample product data and images across each IMS, as applicable, will be made accessible.

Data recipients can provide their testing scenarios and applicable test data will be provided such as product changes, discontinuation, etc. The Test environment and product content can be refreshed upon request.

Once testing has been completed, notify GS1 Canada to setup the Production environment.

Contact GS1 Canada at ECCnetsupport@gs1ca.org

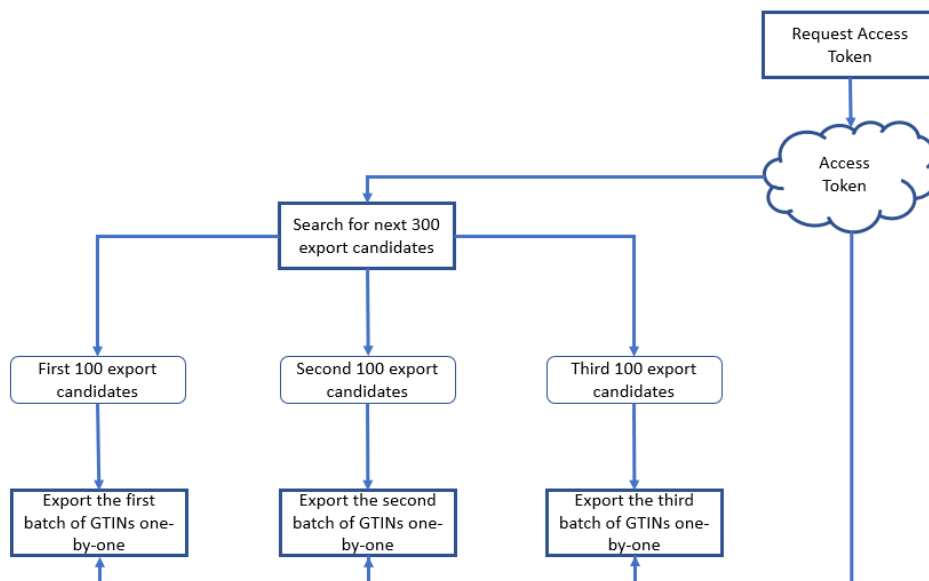
5 Sequential vs Concurrent Processing

5.1 Recommended approaches and considerations

Each data recipient can make a maximum of five concurrent calls and average about 100 calls per minute. The figure in section 4.2 describes the typical sequential export process. The Figure below shows an example of exporting GTINs in parallel. In this example, the client application requests 300 waiting-for-export products and distributes the load evenly to three processes.

Things to consider:

- One credential can have only one active access token at any time. No matter how many times that access token is requested, the authentication server returns the same active access token. If one process acquires a new access token using the refresh token, it will invalidate the previous access token, and may lead to errors in other processes/threads if they continue use the previous access token.
- Exporting a GTIN moves the GTIN out of the waiting-for-export queue. As the result, the sequential order of GTINs in the queue changes. If export and search for export candidates are called at the same time, it may lead to skipping GTINs in the waiting-for-export queue.



6 Nutritional Content Capture: Single Component and Multiple Components

In most cases, product details captured during the Content Capture service returns one set of nutrition facts and ingredients. Nevertheless, and depending on the product packaging, there can be multiple sets of nutrition facts and ingredients. Please see the three examples below:

Example 1: Single component – one set of nutrition facts and one set of ingredients

Valeur nutritive	
Nutrition Facts	
par 1/2 tasse (125 ml) Per 1/2 cup (125 ml)	
Teneur Amount	% valeur quotidienne % Daily Value
Calories / Calories 70	
Lipides / Fat 2 g	3 %
saturés / Saturated 0.5 g	3 %
+ trans / Trans 0 g	
Cholestérol / Cholesterol 10 mg	
Sodium / Sodium 590 mg	25 %
Glucides / Carbohydrate 10 g	3 %
Fibres / Fibre 2 g	8 %
Sucres / Sugars 4 g	
Protéines / Protein 4 g	
Vitamine A / Vitamin A	8 %
Vitamine C / Vitamin C	8 %
Calcium / Calcium	2 %
Fer / Iron	4 %

Ingredients: Crushed tomatoes (water, tomato paste, salt, citric acid (acidulant)), water, pork, beef, onions, carrots, modified corn starch, salt, sugar, canola oil, citric acid (acidulant), black pepper, parsley, chillies, spices.

May contain wheat, milk.

Example 2: Single component – multiple sets of nutrition facts and one set of ingredients

Nutrition Facts Valeur nutritive		
Per 3/4 cup (30 g) / pour 3/4 tasse (30 g) About 1/2 cup skim milk / environ 1/2 tasse de lait écrémé		
Amount Teneur	Cereal Céréales	+ 1/2 cup skim milk* + 1/2 tasse de lait écrémé*
Calories / Calories	120	160
% Daily Value / % valeur quotidienne		
Fat / Lipides 1 g*	2 %	2 %
Saturated / saturés 0 g	0 %	0 %
+ Trans / trans 0 g		
Cholesterol / Cholestérol 0 mg		
Sodium / Sodium 80 mg	3 %	5 %
Carbohydrate / Glucides 26 g	9 %	11 %
Fibre / Fibres 2 g	8 %	8 %
Sugars / Sucres 8 g		
Protein / Protéines 2 g		
Vitamin A / Vitamine A	0 %	8 %
Vitamin C / Vitamine C	2 %	2 %
Calcium / Calcium	0 %	15 %
Iron / Fer	2 %	2 %

*Amount in cereal / Dans les céréales.
 1/2 cup skim milk adds 40 Calories, 65 mg sodium, 6 g carbohydrate (6 g sugars) and 4 g protein.
 1/2 tasse de lait écrémé ajoute 40 Calories, 65 mg sodium, 6 g glucides (6 g sucres) et 4 g protéines.

INGREDIENTS: Whole grain corn meal*, corn meal*, cane sugar*, sea salt. *Organic. May contain tree nuts, peanuts or soy.

Example 3: Multiple components – multiple sets of nutrition facts and ingredients

Nutrition Facts Valeur nutritive		
Per 12 pieces (42 g) / pour 12 unités (42 g)		
Amount Teneur	% Daily Value % valeur quotidienne	
Calories / Calories 200		
Fat / Lipides 10 g	15 %	
Saturated / saturés 2.5 g	14 %	
+ Trans / trans 0 g		
Cholesterol / Cholestérol 0 mg	0 %	
Sodium / Sodium 135 mg	6 %	
Potassium / Potassium 220 mg	6 %	
Carbohydrate / Glucides 17 g	6 %	
Fibre / Fibres 4 g	16 %	
Sugars / Sucres 8 g		
Protein / Protéines 11 g		
Vitamin A / Vitamine A	0 %	
Vitamin C / Vitamine C	0 %	
Calcium / Calcium	6 %	
Iron / Fer	10 %	
Vitamin E / Vitamine E	10 %	
Niacin / Niacine	15 %	
Folate / Folate	6 %	
Phosphorus / Phosphore	15 %	
Magnesium / Magnésium	15 %	
Zinc / Zinc	8 %	
Manganese / Manganèse	8 %	

Nutrition Facts Valeur nutritive		
Per 2 Crisps (25 g) pour 2 barres (25 g)		
Amount Teneur	% Daily Value % valeur quotidienne	
Calories / Calories 100		
Fat / Lipides 2 g	3 %	
Saturated / saturés 1 g	5 %	
+ Trans / trans 0 g		
Cholesterol / Cholestérol 0 mg	0 %	
Sodium / Sodium 80 mg	3 %	
Potassium / Potassium 25 mg	1 %	
Carbohydrate / Glucides 20 g	7 %	
Fibre / Fibres 1 g	4 %	
Sugars / Sucres 7 g		
Protein / Protéines 1 g		
Vitamin A / Vitamine A	0 %	
Vitamin C / Vitamine C	0 %	
Calcium / Calcium	2 %	
Iron / Fer	4 %	
Thiamine / Thiamine	6 %	
Folate / Folate	8 %	

Nutrition Facts Valeur nutritive		
Per 1 bar (22 g) pour 1 barre (22 g)		
Amount Teneur	% Daily Value % valeur quotidienne	
Calories / Calories 90		
Fat / Lipides 2.5 g	4 %	
Saturated / saturés 0.5 g	3 %	
+ Trans / trans 0 g		
Cholesterol / Cholestérol 0 mg	0 %	
Sodium / Sodium 105 mg	4 %	
Potassium / Potassium 5 mg	0 %	
Carbohydrate / Glucides 17 g	6 %	
Fibre / Fibres 0 g	0 %	
Sugars / Sucres 8 g		
Protein / Protéines 1 g		
Vitamin A / Vitamine A	0 %	
Vitamin C / Vitamine C	0 %	
Calcium / Calcium	0 %	
Iron / Fer	4 %	
Riboflavin / Riboflavine	6 %	
Niacin / Niacine	6 %	
Folate / Folate	10 %	

INGREDIENTS : SOY PROTEIN, PEANUTS, ROASTED SOYBEANS, ALMONDS, CORN SYRUP, DARK CHOCOLATE (DRIED CANE SYRUP, CHOCOLATE LIQUOR, COCOA BUTTER, SOY LECITHIN, NATURAL FLAVOUR), PEANUT BUTTER, CORN SYRUP (FIBRE), WHOLE GRAIN OATS, DEXTROSE, SUGAR, FRUCTOSE, CHOCOLATE LIQUOR, MODIFIED PALM OIL SHORTENING, GLYCERIN, NATURAL FLAVOUR (PEANUT OIL, SESAME OIL), SALT, VEGETABLE OIL, SOY LECITHIN, MILK INGREDIENTS.
CONTAINS SOY, PEANUT, ALMOND, OAT, SESAME AND MILK INGREDIENTS. MAY CONTAIN OTHER TREE NUTS.

INGREDIENTS: WHEAT FLOUR, SUGAR, VEGETABLE GLYCERIN, FRUCTOSE, DEXTROSE, MALTODEXTRIN, VEGETABLE AND MODIFIED PALM OIL SHORTENING, PALM KERNEL AND/OR PALM OIL, MODIFIED CORN STARCH, APPLE POWDER, PALM OIL, MODIFIED MILK INGREDIENTS, STRAWBERRY PUREE CONCENTRATE, CORN STARCH, BAKING POWDER, SOY LECITHIN, SALT, ACETYLATED TARTARIC ACID ESTERS OF MONO- AND DIGLYCERIDES, COLOUR (CARROT JUICE CONCENTRATE), SODIUM CITRATE, NATURAL FLAVOUR, CELLULOSE GEL, CITRIC ACID, MALIC ACID, MONO- AND DIGLYCERIDES, CELLULOSE GUM, SODIUM ALGINATE.
CONTAINS WHEAT, MILK AND SOY INGREDIENTS.

INGREDIENTS: CEREAL (RICE, SUGAR, SALT, CORN AND BARLEY MALT EXTRACT, MONOGLYCERIDES, VITAMINS [NIACINAMIDE, FOLIC ACID], IRON, COLOUR), MARSHMALLOW (CORN SYRUP, SUGAR, GELATIN, NATURAL AND ARTIFICIAL FLAVOUR), FRUCTOSE, SOYBEAN AND PALM OIL SHORTENING, CORN SYRUP SOLIDS, GLYCERIN, DEXTROSE, SALT, NATURAL AND ARTIFICIAL FLAVOUR (CONTAINS MILK), ACETYLATED TARTARIC ACID ESTERS OF MONO- AND DIGLYCERIDES, ACETYLATED MONOGLYCERIDES, BHT.
CONTAINS BARLEY AND MILK INGREDIENTS.

Please note that for products with multiple sets of nutrition facts and ingredients, GS1 Canada does not sort the nutrition values nor the ingredients in a specific order. Therefore, it is the responsibility of the data recipient to select the set of nutrition & ingredients they are interested in.

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1.1	December 1 st 2020	Nicolas Munoz	Added chapter 6 Nutritional Content Capture: Single Component and Multiple Components.
1.2	December 15 th 2020	Nicolas Munoz	Revised step #2 in 4.3.1 Overall process for defining coverage list.
1.3	November 1 st , 2021	Bhavna Sharma	Added ECCnet Enhanced Assets to the IMS list in various places.

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