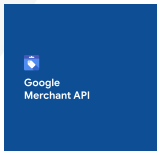
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Google Shopping Merchant API Sync Explained

Google Shopping - Merchant API for Magento 2

This guide explains how the Google Shopping API extension synchronizes your Magento products with Google Merchant Center in real-time.

XML Feed vs. API Sync

XML Feed (Google Shopping - Feed module)

1. Magento generates an XML file with all product data
2. The feed is delivered to Google via scheduled fetch (URL) or SFTP upload
3. **Batch-based**: The entire catalog is sent each time

Ideal for: Stores with stable pricing and inventory that update on a predictable schedule (daily, hourly). Simple setup, reliable, and works great for most merchants.

API Sync (This add-on module)

1. Product changes in Magento automatically trigger a sync
2. Updates are sent directly to Google via their Merchant API
3. **Event-driven**: Only changed products are synced

Ideal for: Stores with frequent price changes, dynamic inventory, or real-time stock from ERP/PIM systems. Keeps Google in sync without waiting for the next scheduled feed.

Using Both Together

This module is an **add-on** to the Feed module, not a replacement. Many stores benefit from using both:

- **XML Feed**: Ensures Google always has a complete, up-to-date baseline of all products
- **API Sync**: Pushes critical changes (price, stock) to Google immediately

This combination gives you the reliability of scheduled feeds plus the speed of real-time updates.

The Sync Process

Overview

1. **Product saved in Magento** - You update a product in admin or via import
2. **Flagged for sync** - The indexer marks the product as "needs update"
3. **Added to queue** - A cron job picks up flagged products and adds them to the queue
4. **Synced to Google** - The queue consumer sends the data to Google Merchant API

5. **Visible in Google Shopping** - Changes appear in Google within minutes

Step 1: Change Detection

When you save a product in Magento (or stock updates via import), the extension automatically flags it for synchronization. This happens via Magento's indexer system - the same technology that updates your category pages and search results.

What triggers a sync:

- Product save (admin or API)
- Stock quantity change
- Price update
- Any attribute change that affects the feed

What doesn't trigger a sync:

- Products not included in your feed (filtered out by category, attribute, etc.)
- Disabled products
- Out-of-stock products (if configured to exclude)

Step 2: Queue Processing

The extension doesn't sync immediately when you save a product. Instead, it uses Magento's message queue system:

1. **Cron job runs every few minutes** - Picks up flagged products
2. **Products added to queue** - Grouped in batches for efficiency
3. **Queue consumer processes** - Sends data to Google

Why a queue?

- Prevents timeout issues during bulk imports
- Handles rate limits gracefully
- Allows retries on failures
- Doesn't slow down your admin panel

Step 3: Data Comparison

Before sending data to Google, the extension compares your current product data with what was previously synced:

1. Fetches fresh product data from Magento

2. Calculates a "fingerprint" (hash) of the data
3. Compares with the stored fingerprint
4. Only syncs if something actually changed

Why this matters:

- Saves API quota - no unnecessary calls to Google
- Faster processing - skips unchanged products
- Accurate tracking - you know exactly what's synced

Step 4: Google API Call

When a product needs syncing, the extension:

1. Transforms Magento data to Google's format
2. Sends an update request to the Merchant API
3. Records the response (success or error)
4. Updates the product status in the grid

Sync Types

Full Product Sync

Updates all product attributes: title, description, price, images, shipping, etc.

Used when:

- Product is first added
- Any non-inventory attribute changes
- Manual sync from admin grid

Inventory-Only Sync

Updates only price and availability - faster and with higher API limits.

Used when:

- Only price changes
- Only stock quantity changes
- Scheduled inventory refresh

Product Statuses

In the admin grid (**Marketing > Google Shopping API > Products**), each product shows a status:

Status	Meaning
Pending	New product, never synced
Queued	In queue, waiting to be processed
Synced	Successfully synced to Google
Error	Sync failed - check error message
Pending Delete	Will be removed from Google

Timing

When do changes appear in Google?

Under normal conditions:

- **Indexer flags product**: Instant (on save)
- **Cron picks up**: Within 5 minutes
- **Queue processes**: Within 1-2 minutes
- **Google reflects change**: Within 5-30 minutes

Total: Typically under 15 minutes

What can slow things down?

- Large queue backlog (bulk imports)
- Google API rate limits
- Cron not running
- Queue consumers not running

Relationship with Feed Module

This module works **alongside** the Google Shopping Feed module, not as a replacement:

Feature	Feed Module	API Module

Data source	Uses Feed module's product data	Uses Feed module's product data
Attribute mapping	Configured in Feed module	Inherited from Feed module
Product filters	Configured in Feed module	Inherited from Feed module
Delivery method	XML file for Google to fetch	Direct API calls
Update speed	Depends on fetch schedule	Near real-time

Important: Both modules use the same product data configuration. If a product is excluded from your feed (via filters), it won't be synced via API either.

For a detailed guide on using both modules together, including how Offer IDs work and data source configuration, see Using Feed and API Together.

Configuration Impact

What's configured in Feed module (inherited)

- Attribute mapping (which Magento attributes map to Google fields)
- Product filters (which products to include/exclude)
- Category mapping
- Static values (brand, condition, etc.)

What's configured in API module

- Google Cloud credentials (Service Account)
- Merchant ID and Data Source
- Sync intervals and batch sizes
- Error retry settings

Error Handling

Automatic Retries

When a sync fails, the extension:

1. Logs the error with details
2. Keeps the product in "Error" status
3. Retries after a configurable interval (default: 4 hours)

Common Errors

Error	Cause	Solution
`Invalid price`	Price format issue	Check price attribute mapping
`Missing required field`	Required Google field empty	Check attribute mapping for title, description, etc.
`Image not accessible`	Google can't fetch image	Ensure images are publicly accessible
`Product not found`	Product doesn't exist in data source	Verify data source configuration

Manual Intervention

From the admin grid, you can:

- **View error details** - Click the status to see the full error
- **Retry single product** - Use the "Sync" action
- **Retry multiple products** - Select products and use mass action

Monitoring

Admin Grid

Marketing > Google Shopping API > Products

Shows all products with their sync status, last sync time, and any errors.

CLI Commands

```
# Check overall sync status
bin/magento googleshopping:api:status --store=1

# Manually sync specific products
bin/magento googleshopping:api:sync --store=1 --product-ids=1,2,3

# Test connection
bin/magento googleshopping:api:test-connection --store=1
```

Logs

Debug logging (when enabled) writes to:

```
var/log/googleshopping_api.log
```

Best Practices

Initial Setup

1. Configure the Feed module first (attribute mapping, filters)
2. Set up API module credentials
3. Test connection
4. Use "Initialize Products" to populate the sync table
5. Monitor first batch for errors

Ongoing Operations

- Keep cron running reliably
- Monitor the Products grid for errors
- Check Google Merchant Center for disapprovals
- Review logs periodically

Large Catalogs

For stores with 10,000+ products:

- Increase batch size (up to 1000)
- Ensure queue consumers are running
- Consider dedicated cron for queue processing
- Initial sync may take several hours

Troubleshooting

Products not syncing

1. Check if cron is running: `bin/magento cron:run`
2. Check if product is in feed: Review Feed module preview
3. Check product status in grid: Look for errors
4. Check queue: `bin/magento queue:consumers:list`

Changes not appearing in Google

1. Verify product shows "Synced" status
2. Check last sync time in grid
3. Wait 15-30 minutes for Google to process
4. Check Merchant Center for product disapprovals

High error rate

1. Review error messages in grid
2. Check attribute mapping in Feed module
3. Verify all required fields are mapped
4. Test with a single product first

Further Reading

- Service Account Setup - Configure Google Cloud credentials
- Google Merchant Center Help - Official Google documentation
- Merchant API Reference - Technical API details

For a complete overview of features and configuration options, see the Google Shopping - Merchant API extension on magmodules.eu

All articles for Google Shopping - Merchant API

Installation

1	Installation using Composer (recommended)

Configuration

1	Google Cloud Service Account Setup

Background

1	**Google Shopping Merchant API Sync Explained** **(current)**
2	Using Feed and API Together

