# Understanding the Sync Process

KatanaPIM for Magento 2

Understanding how synchronization works in KatanaPIM Connect. Learn the difference between Full and Incremental sync, and when to use each.

## Overview

KatanaPIM Connect synchronizes data in two stages:

1. **Import from PIM** - Fetch data from KatanaPIM API into intermediate tables
2. **Create in Magento** - Process intermediate data to create/update Magento entities

This two-stage approach allows you to review imported data before creating Magento products.

## Sync Types

### Full Update

A complete synchronization of all entities from KatanaPIM.

**What it does:**

- Fetches ALL products, categories, attributes, and assets from PIM
- Compares with existing data using hash comparison
- Marks items as "Needs Update" when changes are detected
- Can optionally trigger Magento reindex after completion

**When to use:**

- Initial setup and first import
- After major changes in PIM
- Weekly/daily scheduled maintenance
- When incremental sync has gaps

**Run via CLI:**

```
# Full sync of everything
bin/magento katana:import:full

# Sync specific entity types only
bin/magento katana:import:full --attributes
bin/magento katana:import:full --categories
bin/magento katana:import:full --products
```

```
bin/magento katana:import:full --assets
```

### Incremental Update

A delta synchronization that only processes changed items.

**What it does:**

- Fetches only items modified since last sync
- Much faster than full update
- Lower server load
- Ideal for frequent updates

**When to use:**

- Regular scheduled updates (every few hours)
- After individual product changes in PIM
- To keep Magento in sync throughout the day

**Run via CLI:**

```
bin/magento katana:import:incremental
```

## Sync Order

Entities should be synchronized in this order:

1. **Attributes** - Required first for product data mapping
2. **Categories** - Optional, needed if using PIM categories
3. **Products** - Main product data
4. **Assets** - Product images and videos (requires products)

The Full Update command handles this order automatically.

## What Gets Synced

### Products

| PIM Data | Magento Field |
| --- | --- |
| Product name | name (mapped attribute) |

| PIM Data | Magento Field |
|---|---|
| Description | description (mapped attribute) |
| SKU | sku |
| GTIN | gtin (mapped attribute) |
| Price data | price, special_price, cost |
| Category assignments | category_ids |
| Attribute values | Custom attributes |

## Categories

| PIM Data | Magento Field |
|---|---|
| Category name | name |
| URL key | url_key |
| Parent/child hierarchy | path, level |
| Position | position |

## Attributes

| PIM Data | Magento Field |
|---|---|
| Attribute code | attribute_code (katanapim_ prefix) |
| Attribute label | frontend_label |
| Attribute type | frontend_input |
| Options | attribute options |

## Assets

| PIM Data | Magento Field |
|---|---|
| Image URL | Product gallery |
| Image order | position |

| PIM Data | Magento Field |
|---|---|
| Video URL | Product video |
| Alt text | label |

## Hash Comparison

The module uses hash comparison to detect changes:

1. When data is imported from PIM, a hash is calculated
2. When Magento entity is created/updated, another hash is calculated
3. If hashes differ, the item is marked "Needs Update"
4. Matching hashes mean no update is required

This prevents unnecessary Magento saves and improves performance.

## The "Needs Update" Flag

In all grids, you'll see a "Needs Update" column:

| Value | Meaning |
|---|---|
| **Yes** | PIM data differs from Magento - update recommended |
| **No** | Data is in sync - no action needed |

Items marked "Needs Update" will be processed during the next sync if automation is enabled.

## The "Skipped" Flag

Mark items as "Skipped" to exclude them from synchronization:

- Skipped items are ignored during auto-sync
- Useful for products you don't want in Magento
- Can be set/unset via mass action

## Automation Flow

When automation is enabled:

1. **Cron triggers** based on configured frequency
2. **Incremental/Full Update** fetches data from PIM
3. **Auto-create** (if enabled) creates new Magento entities
4. **Existing items** with "Needs Update" are updated
5. **Sync Log** records the results

## Manual vs Automatic Creation

**Automatic (via cron):**

- Enable "Auto create new products" in Automation settings
- New products are created automatically during sync
- Less control, more convenience

**Manual (via grid):**

- Leave auto-create disabled
- Review imported products in grid first
- Select items and use "Update/Create Magento Products" mass action
- More control over what gets created

## Performance Tips

1. **Use Incremental** for frequent updates (hourly)
2. **Use Full** for periodic maintenance (daily/weekly)
3. **Adjust batch sizes** if experiencing timeouts
4. **Disable reindex** in production - run manually after sync
5. **Use CLI** for large imports - avoids browser timeouts

## Need More Help?

**Documentation:**

- All Help Articles - Complete documentation overview

**Support:**

- Contact Support - Get help from our team

For a complete overview of features and configuration options, see the KatanaPIM extension on magmodules.eu

# All articles for KatanaPIM

## Installation

| | |
|---|---|
| 1 | Installation using Composer (recommended) |
| 2 | Install through FTP and SSH |

## Configuration

| | |
|---|---|
| 1 | Quick Start Guide |
| 2 | Configuration |
| 3 | Categories Grid |
| 4 | Attribute Mapping |
| 5 | Configurable Products Setup |
| 6 | Automation |

## Troubleshooting

| | |
|---|---|
| 1 | Troubleshooting |

## Grids

| | |
|---|---|
| 1 | Products Grid |
| 2 | Attributes Grid |
| 3 | Assets Grid |
| 4 | Sync Log Grid |

## Background

| | |
|---|---|
| 1 | CLI Commands |

| | |
|---|---|
| 2 | Cron Jobs |
| 3 | Product to Website Matching |
| **4** | **Understanding the Sync Process** **(current)** |

