

Dynamic Categories API Overview

The dynamic category expression controls the product membership of the dynamic category.

Dynamic Category Types

There are two types of dynamic categories: precomputed and realtime.

Precomputed Categories

The product membership of precomputed categories is calculated when products are indexed in the catalog, such as when products are added, updated, or deleted from the catalog, and also when the categories themselves are updated, such as when their expressions change.

For example, you have a precomputed category that includes all products that have a property of red, and you currently have a red dress in your catalog. This red dress is included in your precomputed category; however, if you removed the property of red from the dress and saved the change, this dress would be removed from the precomputed category when you save the change.

Realtime Categories

The product membership of realtime categories is calculated in realtime and on demand when a shopper navigates to the realtime category. When the shopper navigates to the realtime category, Kibo performs a query for products in the catalog that should be included in the category. This allows Kibo to evaluate dynamic product fields such as product pricing after discounts have been applied.

For example, you have a realtime category that includes all products that have a discounted sale price, and you currently have a discount on all dresses. When a shopper navigates to this realtime category, Kibo performs a query to identify the products that have a discounted sale price, and it finds the dresses that are discounted. These dresses then appear on the realtime category page.

You cannot target realtime categories for discounts.

Setting the Category Type

The **categoryType** field controls whether the dynamic category is precomputed or realtime. When you set this field to **DynamicPreComputed**, the category is a dynamic precomputed category and you can select it as a discount target. When set to **DynamicRealTime**, the category is a dynamic realtime category and you cannot select it as a discount target.

Comparison of Dynamic Categories

Refer to the following table for more information about the differences between precomputed and realtime dynamic categories:

| Feature | Category Type | |
|--|---------------------|------------------|
| | Dynamic Precomputed | Dynamic Realtime |
| Can evaluate a product's sale price and sale price type (the price after a discount is applied) as part of the membership expression | No | Yes |
| Can evaluate catalog list prices as part of the membership expression | Yes | Yes |
| Can evaluate product properties as part of the membership expression | Yes | Yes |
| Navigating to a parent category displays products included in the child category | Yes | No |
| Can be used as target criteria for a discount | Yes | No |
| Becomes a complex search filter at runtime | No | Yes |

Expression Fields

When you write a dynamic category expression, you define values for the supported fields in order to build out the expression.

Refer to the following table for the supported expression fields and their operators:

Precomputed and Realtime Categories

| Field | Supported Operators | Data Type | Allow Null Values? |
|-------------|---|-----------|--------------------|
| ProductCode | EQ (is equal to) NE (does not equal) IN (is one of the following) | String | No |

| Field | Supported Operators | Data Type | Allow Null Values? |
|--|---|-----------|--------------------|
| Categories.CategoryCode | EQ (is equal to) REQ (is equal to and includes child categories) NE (does not equal) IN (is one of the following) | String | No |
| ProductTypeId | EQ (is equal to) NE (does not equal) IN (is one of the following) | Integer | No |
| Price.CatalogListPrice | EQ (is equal to) NE (does not equal) LT (is less than) LE (is less than or equal to) GT (is greater than) GE (is greater than or equal to) IN (is one of the following) | Decimal | No |
| Price.CatalogSalePrice This field refers to the sale price of a product entered on the product page in Admin, or in the product properties. | EQ (is equal to) NE (does not equal) LT (is less than) LE (is less than or equal to) GT (is greater than) GE (is greater than or equal to) IN (is one of the following) | Decimal | Yes |

| Field | Supported Operators | Data Type | Allow Null Values? |
|--|--|---|--------------------|
| <p>DaysAvailableInCatalog</p> <p>This field is calculated using the First Available Date field in the product properties.</p> | <p>EQ (is equal to)</p> <p>NE (does not equal)</p> <p>LT (is less than)</p> <p>LE (is less than or equal to)</p> <p>GT (is greater than)</p> <p>GE (is greater than or equal to)</p> <p>IN (is one of the following)</p> | Integer | No |
| <p>FulfillmentTypesSupported</p> | <p>EQ (is equal to)</p> <p>NE (does not equal)</p> <p>IN (is one of the following)</p> | <p>String</p> <p>Valid values: "DirectShip", "InStorePickup", "Digital"</p> | No |
| <p>Measurements.Package Weight.Value</p> | <p>EQ (is equal to)</p> <p>NE (does not equal)</p> <p>LT (is less than)</p> <p>LE (is less than or equal to)</p> <p>GT (is greater than)</p> <p>GE (is greater than or equal to)</p> <p>IN (is one of the following)</p> | Decimal | Yes |

| Field | Supported Operators | Data Type | Allow Null Values? |
|--------------------------------------|---|-----------|--------------------|
| Measurements.Package Height.Value | EQ (is equal to) NE (does not equal) LT (is less than) LE (is less than or equal to) GT (is greater than) GE (is greater than or equal to) IN (is one of the following) | Decimal | Yes |
| Measurements.Package Width.Value | EQ (is equal to) NE (does not equal) LT (is less than) LE (is less than or equal to) GT (is greater than) GE (is greater than or equal to) IN (is one of the following) | Decimal | Yes |
| Measurements.Package Length.Value | EQ (is equal to) NE (does not equal) LT (is less than) LE (is less than or equal to) GT (is greater than) GE (is greater than or equal to) IN (is one of the following) | Decimal | Yes |

| Field | Supported Operators | Data Type | Allow Null Values? |
|--|--|---|---------------------------|
| <p>properties.</p> <p>This field is based on the available product properties and uses the fully-qualified name (FQN) of the property.</p> | <p>The supported operators of this field are dependent on the selected property.</p> | <p>The value of this field is dependent on the selected property's value.</p> | <p>Yes</p> |

Realtime Categories Only

| Field | Supported Operators | Data Type | Allow Null Values? |
|--|--|------------------|---------------------------|
| <p>Price.SalePrice</p> <p>This field refers to the post discount price of a product.</p> | <p>EQ (is equal to)</p> <p>NE (does not equal)</p> <p>LT (is less than)</p> <p>LE (is less than or equal to)</p> <p>GT (is greater than)</p> <p>GE (is greater than or equal to)</p> <p>IN (is one of the following)</p> | <p>Decimal</p> | <p>Yes</p> |

| Field | Supported Operators | Data Type | Allow Null Values? |
|----------------|---|--|--------------------|
| Price.SaleType | EQ (is equal to) NE (does not equal) IN (is one of the following) | String Valid values: "CatalogSalePrice", "DiscountedListPrice", "DiscountedCatalogSalePrice" Refer to Sale Type Values for more information about these values. | Yes |

Sale Type Values

The price.SaleType field has three different values that each apply to a product's various sale types: Catalog Sale Price, Discounted List Price, and Discounted Catalog Sale Price. Refer to the following table for more information about each of these values and their relationship to a product's various sale prices.

| Value | Description |
|----------------------------|--|
| CatalogSalePrice | The price specified in a product's Sale Price field. |
| DiscountedList | The product's list price after applicable discounts are applied. |
| DiscountedCatalogSalePrice | The price specified in a product's Sale Price field after applicable discounts are applied. |

Expression Examples

Example 1

The following example shows a precomputed dynamic category expression that includes all products that have been in the catalog for 30 days or less:

Tree View

```
{
  "type": "container",
  "logicalOperator": "or",
  "nodes": [
    {
      "type": "predicate",
      "left": "daysavailableincatalog",
      "right": 30,
      "operator": "le"
    }
  ]
}
```

Text View

```
daysavailableincatalog le 30
```

Example 2

The following example shows a precomputed dynamic category expression that includes all products with the property color set to red:

Tree View

```
{
  "type": "container",
  "logicalOperator": "or",
  "nodes": [
    {
      "type": "predicate",
      "left": "properties.color",
      "operator": "eq",
      "right": "red"
    }
  ]
}
```

Text View

```
properties.color eq "red"
```

Example 3

The following example shows a precomputed dynamic category expression that includes all products with the property color set to red and are in the apparel category.

Tree View


```

{
  "type": "container",
  "logicalOperator": "and",
  "nodes": [
    {
      "type": "predicate",
      "left": "Categories.CategoryCode",
      "operator": "eq",
      "right": "apparel"
    },
    {
      "type": "predicate",
      "left": "properties.color",
      "operator": "eq",
      "right": "red"
    }
  ]
}
>}

```

Text View

Categories.CategoryCode eq "apparel" and properties.color eq "red"

Example 4

The following example shows a realtime dynamic category expression that includes all products with a discounted sale price and are in the apparel category. You must set the `categoryType` field to `DynamicRealTime` in order to access the dynamic realtime fields.

Tree View

```

{
  "type": "container",
  "logicalOperator": "and",
  "nodes": [
    {
      "type": "container",
      "logicalOperator": "and",
      "nodes": [
        {
          "type": "predicate",
          "left": "Price.SaleType",
          "operator": "eq",
          "right": "DiscountedList"
        },
        {
          "type": "predicate",
          "left": "Categories.CategoryCode",
          "operator": "eq",
          "right": "apparel"
        }
      ]
    }
  ]
}

```

Text View

(Price.SaleType eq "DiscountedList" and Categories.CategoryCode eq "apparel")