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Version Open API

BETA services

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Overview

This document describes only **newly added services** (BETA) of Open API over the *Version* entity of the DealHub CPQ system.
In the CPQ system the *Version* is an entity that consolidates the configuration of products, prices, discount policies, and various business flows to allow sales reps to ensure the delivery of accurate quotes to buyers.

Some of the APIs below are asynchronous. Thus the response system will return the `request_id` parameter so that the consuming system will be able to track the result of the asynchronous request execution.

Authentication

Current API document designed for system-to-system integration with token-based authentication. The header of each request described below must include a DealHub Authentication Token. This token should be generated by the CPQ administrator and shared with the consuming application in advance.

```
Authorization: Bearer <TOKEN_THAT_WAS_PROVIDED_BY_CPQ_ADMIN>
```

Asynchronous request processing and tracking

For an asynchronous API, the system will respond with the `request_id` parameter. The same `request_id` will be part of the WebHook event that is published by CPQ once the request is complete. For more information on CPQ events, please refer to the ***Open API WebHooks*** document.

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Product Catalog v1 - GET

Request

The data returned by this service includes comprehensive information about products and bundles in the catalog. This information encompasses product attributes, assignment details, price details, and more.

By utilizing this service, the consuming system will be able to retrieve a list of the products configured for a specific Version.

If the `limit` value in the request exceeds the maximum limit, the system will return a response based on the maximum limit.

type: GET
URI: `/api/v1/version/{version_id}/products_catalog`

Request example:
`/api/v1/version/160EDBdA51E28FAA/products_catalog`

Mandatory Request Parameters

Name	Description	Valid values/Notes
version_id	ID of the *Version*	Max length 16 chars

Optional Request Parameters

Name	Description	Valid values/Notes
sku	One or more product SKUs to filter the result E.g.: `GET /api/v1/version/123/products_catalog?sku=SKU001&sku=SKU002` If the parameter is provided, the service will return	multiple `sku` parameters allowed

Name	Description	Valid values/Notes
	only products with the matching SKU(s). If none of the provided SKUs match, the service will return an **empty list.** If specific SKUs are provided, `limit` and `offset` parameters on request (if provided) **will be ignored**.	
offset	Part of the offset-based pagination. Parameter helps the system to identify how many products should be skipped.	`0 – 10000` Default value: `0`
limit	Part of the offset-based pagination. Parameter determines the maximum number of products returned by this API	`1 – 100` Default value: `100`

Response

System will retrieve products catalog as configured within CPQ in context of specific Version.

Code: 200 (Success)
Response format: JSON

Response example:
```
{
  "products": [
    {
      "sku": "ABC-12345-S-BL",
      "name": "GRM Service",
      "description": "GRM Service\n",
      "tags": [],
      "primary_tag": null,
      "merge_products": false,
      "product_attributes": {
        "Department": {
          "type": "NUMBER",
          "value": ""
```

```
    },
    "Model": {
      "type": "TEXT",
      "value": "01-200-GRM-M"
    },
    "Manufacture Date": {
      "type": "DATE",
      "value": "May 31, 2024"
    }
  },
  "product_assignments": [
    {
      "assignment": "RULE_BASED",
      "playbook": "Master_playbook_24",
      "assignment_rules": [
        {
          "ordinal": 0,
          "name": "Seasonal assignment",
          "rule": "[General.partner_program] = \"Direct Sales\"",
          "note": null,
          "product_factors": [
            {
              "name": "Duration",
              "value": "12",
              "applicable": true
            },
            {
              "name": "Quantity",
              "value": "1",
              "applicable": true
            },
            {
              "name": "Sits",
              "value": "1",
              "applicable": false
            }
          ],
          "proposal_attributes": [
            {
              "name": "custom_proposal_attribute",
              "value": "Direct",
              "applicable": true
            }
          ]
        }
      ]
    }
  ],
  "product_pricing": {
```

```
"advanced": true,
"pricing_rules": [
  {
    "playbook": "Master_playbook_24",
    "ordinal": 0,
    "currency": null,
    "rule": "",
    "price": "0",
    "level": 0,
    "note": null,
    "price_format": "BASIC",
    "rounding_policy": null,
    "dynamic_price": false,
    "name": null,
    "price_type": "SOLID",
    "apply_to": "GENERATED_ITEMS",
    "apply_to_templates": "",
    "apply_to_rules": "",
    "max_discount": "100",
    "default_discount": "0",
    "based_of_tags": "",
    "based_of_price": null,
    "limit_type": "AS_IS",
    "limit_min_value": null,
    "limit_max_value": null,
    "disable_rounding": false,
    "include_positive": false,
    "volume_discount": {}
  },
  {
    "playbook": "Master_playbook_24",
    "ordinal": 1,
    "currency": null,
    "rule": "true",
    "price": "888",
    "level": 0,
    "note": null,
    "price_format": "ADVANCED",
    "rounding_policy": null,
    "dynamic_price": false,
    "name": null,
    "price_type": "SOLID",
    "apply_to": "GENERATED_ITEMS",
    "apply_to_templates": "",
    "apply_to_rules": "",
    "max_discount": "100",
    "default_discount": "0",
    "based_of_tags": "",
    "based_of_price": null,
```

```
            "limit_type": "AS_IS",
            "limit_min_value": null,
            "limit_max_value": null,
            "disable_rounding": false,
            "include_positive": false,
            "volume_discount": {}
        }
      ]
    },
    "product_conditional_names": []
  }
],
"bundles": [
  {
    "sku": "Products summary",
    "name": "Products summary",
    "description": "<p>Products summary</p>\n",
    "tags": [
      "Products summary"
    ],
    "primary_tag": "Products summary",
    "product_attributes": {
      "Department": {
        "type": "NUMBER",
        "value": ""
      },
      "Model": {
        "type": "TEXT",
        "value": ""
      },
      "Manufacture Date": {
        "type": "DATE",
        "value": ""
      }
    },
    "product_assignments": [
      {
        "assignment": "RULE_BASED",
        "playbook": "Master_playbook_24",
        "assignment_rules": [
          {
            "ordinal": 0,
            "name": "bundle3",
            "rule": "[FixedSummary_bundles.Add_products_summary_bundle] = \"Yes\"",
            "note": null,
            "product_factors": [
              {
                "name": "Duration",
                "value": "1",
```

```
                    "applicable": false
                },
                {
                  "name": "Quantity",
                  "value": "1",
                  "applicable": true
                },
                {
                  "name": "Sits",
                  "value": "1",
                  "applicable": false
                }
            ],
            "proposal_attributes": [
                {
                  "name": "custom_proposal_attribute",
                  "value": "",
                  "applicable": true
                }
            ]
        }
      ]
    }
  ],
  "product_pricing": {
    "advanced": false,
    "pricing_rules": [
        {
          "playbook": "Master_playbook_24",
          "ordinal": 0,
          "currency": null,
          "rule": "",
          "price": "50",
          "level": 0,
          "note": null,
          "price_format": "BASIC",
          "rounding_policy": null,
          "dynamic_price": false,
          "name": null,
          "price_type": "FROM_ALL_QUOTE",
          "apply_to": "GENERATED_ITEMS",
          "apply_to_templates": "",
          "apply_to_rules": "",
          "max_discount": "100",
          "default_discount": "0",
          "based_of_tags": "",
          "based_of_price": null,
          "limit_type": "AS_IS",
          "limit_min_value": null,
```

```
        "limit_max_value": null,
        "disable_rounding": false,
        "include_positive": false,
        "volume_discount": {}
      }
    ]
},
"product_conditional_names": [],
"bundle_type": "PRODUCT_SUMMARY",
"price_in_bundle_is_zero": false,
"sync_to_crm": true,
"sync_bundle_price": false,
"bundle_items": [
  {
    "sku": "Product2",
    "ordinal": 1,
    "how_to_add": "AUTOMATIC",
    "enable_modify_factors": false,
    "product_factors": [
      {
        "name": "Duration",
        "value": "1",
        "applicable": true
      },
      {
        "name": "Quantity",
        "value": "2",
        "applicable": true
      },
      {
        "name": "Sits",
        "value": "1",
        "applicable": true
      }
    ]
  },
  {
    "sku": "Product3",
    "ordinal": 2,
    "how_to_add": "MANUAL",
    "enable_modify_factors": true,
    "product_factors": [
      {
        "name": "Duration",
        "value": "1",
        "applicable": true
      },
      {
        "name": "Quantity",
```

```
        "value": "3",
        "applicable": true
      },
      {
        "name": "Sits",
        "value": "0",
        "applicable": true
      }
    ]
  },
  {
    "sku": "Product1",
    "ordinal": 0,
    "how_to_add": "AUTOMATIC",
    "enable_modify_factors": true,
    "product_factors": [
      {
        "name": "Duration",
        "value": "1",
        "applicable": true
      },
      {
        "name": "Quantity",
        "value": "1",
        "applicable": true
      },
      {
        "name": "Sits",
        "value": "0",
        "applicable": true
      }
    ]
  },
  {
    "sku": "Product4",
    "ordinal": 3,
    "how_to_add": "COMBINED",
    "enable_modify_factors": false,
    "product_factors": [
      {
        "name": "Duration",
        "value": "1",
        "applicable": true
      },
      {
        "name": "Quantity",
        "value": "4",
        "applicable": true
      },
```

```
        {
          "name": "Sits",
          "value": "1",
          "applicable": true
        }
      ]
    }
  ]
}
  ],
  "info": {
    "version_id": "7b34133847401b12",
    "version_status": "DRAFT",
    "more_results_matching_the_request": false,
    "limit": 100,
    "offset": 0
  }
}
```

Fields details:

Name		Description	Empty Value	Format/Notes
info		Basic information about returned payload	no	
	version_id	The ID of the version for which products were retrieved	no	

	version_status	The status of the version for which products were retrieved	no	Valid values:
				`DRAFT`
				`ACTIVE`
				`DEACTIVATED`

	more_results_matching_the_request	Flag that specifies to consuming system if there are more entries on the Dealhub side that are matching the request criteria	no	Valid values:
				`true`
				`false`

	offset	Offset as provided in HTTP request. If not explicitly provided in the request, the system will use the default offset (0)	no	
	limit	Limit as provided in HTTP request. If not explicitly provided, the system will use	no	

Name		Description	Empty Value	Format/Notes
		the default limit (100).		
products		List of products matching specified criteria. Each element in the list contains the following information:	yes	
	sku	The unique identifier of the product in the catalog	no	
	name	Product name	no	
	description	Product description	yes	
	tags	List of tags associated with the specific product	yes	Semi-colon separated list of alphanumeric values
	primary_tag	Primary tag of the specific product	yes	Alphanumeric

	merge_products	Identifies if multiple instances of this product should be merged into a single line during proposal configuration	no	Valid values:
				`true`
				`false`

	product_attributes	List of product attributes of the specific product as defined in the CPQ version. E.g.:
		```"product_attributes": {```
		``` "Attr A": {```
		``` "type": "NUMBER",```
		``` "value": "5"```
		``` },```
		``` "Attr B": {```
		``` "type": "TEXT",```
		``` "value": "X01-200-GRM-M"```
		``` },```
		``` "Attr C": {```
		``` "type": "DATE",```
		``` "value": "May 31, 2024"```
		``` }```
		``` }```
			yes	Valid Values of `type` property:
				`DATE`
				`TEXT`
				`TEXT_LIST`
				`NUMBER`
				`BOOLEAN`
				`COGS`

	product_assignm	List of product assignment rules defined	yes	

Name		Description	Empty Value	Format/Notes
	ents	for the product. The structure of each element in the list is defined in the product_assignments Structure section.		
	product_pricing	List of pricing definitions for the specific SKU. The structure of each element in the list is defined in the product_pricing Structure section.	yes	Empty if "assignment" : "NEVER"
	product_conditional_names	List of 'conditional name' rules for the specific SKU. The structure of each element in the list is defined in the product_conditional_names Structure section.	yes	
bundles	List of bundles matching specified criteria. Each element in the list contains the following information:			
	sku	The unique identifier of the bundle in the catalog	no	
	name	Bundle name	no	
	description	Bundle description	yes	
	bundle_type	The type of the bundle	no	Valid values: FIXED_PRICE PRODUCT_SUMMARY
	price_in_bundle_is_zero	This field determines whether the price of bundled products (aka items within the bundle) should be displayed in the proposal as $0.	no	Valid values: true false
	sync_to_crm	This field specifies if the bundle should be synchronized to CRM.	no	Valid values: true

Name		Description	Empty Value	Format/Notes
				`false`

	sync_bundle_price	Determine how bundle price should be synchronized to CRM.
		`true` - to synchronize the price on the bundle level.
		`false` - to synchronize the price on the bundled items level. Bundle price will be synched as 0.
			no	Valid values:
				`true`
				`false`

	tags	List of tags associated with the specific bundle.	yes	Alphanumeric
	primary_tag	Primary tag of the specific bundle.	yes	Alphanumeric

	product_attributes	List of product attributes of the specific bundle as defined in the CPQ version.
		E.g.:
		`"product_attributes": {`
		`    "Attr A": {`
		`      "type": "NUMBER",`
		`      "value": "5"`
		`    },`
		`    "Attr B": {`
		`      "type": "TEXT",`
		`      "value": "X01-200-GRM-M"`
		`    },`
		`    "Attr C": {`
		`      "type": "DATE",`
		`      "value": "May 31, 2024"`
		`    }`
		`  }`
			yes	Valid Values of `type` property:
				`DATE`
				`TEXT`
				`TEXT_LIST`
				`NUMBER`
				`BOOLEAN`
				`COGS`

	product_assignments	List of bundle assignment rules defined for the product. The structure of each element in the list is defined in the product_assignments Structure section.	yes	
	product_pricing	List of pricing definitions for the specific SKU.	yes	Empty if `"assignment" : "NEVER"`

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Name		Description	Empty Value	Format/Notes
		The structure of each element in the list is defined in the product_pricing Structure section.		
	product_conditional_names	List of the product conditional names. The structure of each element in the list is defined in the product_conditional_names Structure section.	yes	
	bundle_items	List of the products included into the bundle. The structure of each element in the list is defined in the bundle_items Structure section.	no	

product_assignments Structure

Name	Description	Empty Value	Format/Notes

assignment	Directive for the product assignment.	no	Valid values:
			`RULE_BASED`
			`ALWAYS`
			`NEVER`

playbook	The name of the playbook to which below `assignment_rules` apply	no	
assignment_rules	List of the assignment rules. The structure of each element in the list is defined in the assignment_rules Structure section.	yes	Empty if `"assignment" : "NEVER"`

assignment_rules Structure

Name	Description	Empty Value	Format/Notes
ordinal	The order in which the rule should be evaluated	no	
name	The name of the assignment rule	no	
rule	The business condition that should trigger the rule	no	
note	Free text	yes	
product_factors	The list of available product factors configured in context of the current assignment rule. The structure of each element in the list is defined in the product_factors Structure section.	no	Max 4 factors in the list
proposal_attributes	The list of available proposal attributes	yes	

Name	Description	Empty Value	Format/Notes
	configured in context of the current assignment rule. The structure of each element in the list is defined in the proposal_attributes Structure section.		

product_factors Structure

Name	Description	Empty Value	Format/Notes
name	The name of the factor.	no	
value	Factor value. This field might have a value even when the factor is not applicable	yes	

applicable	The field indicates if a specific factor is applicable in context of the assignment rule.	no	Valid values:
			`true`
			`false`

proposal_attributes Structure

Name	Description	Empty Value	Format/Notes
name	The name of the proposal attribute.	no	
value	Attribute value. This field might have a value even when the attribute is not applicable	yes	

applicable	The field indicates if a specific proposal attribute is applicable in the context of assignment rule.	no	Valid values:
			`true`
			`false`

product_pricing Structure

Name	Description	Empty Value	Format/Notes

advanced	Pricing policy.
	Use `false` for basic pricing policy.
		no	Valid values:
			`true`
			`false`

pricing_rules	List of the product pricing rules. The structure of each element in the list is defined in the pricing_rules Structure section.	no	

pricing_rules Structure

Name	Description	Empty Value	Format/Notes
playbook	The name of the playbook under which this rule should be evaluated.	no	
ordinal	The order in which the system will evaluate the pricing rule. E.g.: the rule with ordinal=0 will be evaluated first.	no	Numeric
name	The name of the pricing rule	no	
rule	The business condition that system should evaluate when `"price_format"="ADVANCED"`	no	
price	The amount configured for this pricing rule. If price_type = SOLID the value will be Numeric. Otherwise	no	Alphanumeric
price_format	This field specifies rule association with the pricing mode	no	Valid values: `BASIC`

Name	Description	Empty Value	Format/Notes
			`ADVANCED`

price_type	Price type.		Valid values:
			`SOLID`
			`FROM_ALL_QUOTE`
			`ITEM`
			`GROUP`
			`NEGATIVE`
			`GROUP_NEGATIVE`
			`ERP`

currency	This field specifies if a specific currency is configured for the given `'price'`. Relevant in case a tenant account is configured to work with multiple currencies.	yes	`NULL` in case price is defined in the default account currency. ISO-4217 code in case specific currency is configured for the given `'price'`. `NO_EXCHANGE_RATE` if the system should refer to the `'price'` as an absolute value.

dynamic_price	Specifies if a seller is allowed to overwrite the list price during proposal configuration.	no	Valid values:
			`true`
			`false`

rounding_policy	ID of the rounding policy. Relevant when non-default rounding policy is explicitly associated with the pricing rule.	yes	
max_discount	Maximum allowed discount	no	Valid values: `0 - 100`
default_discount	Default discount	no	Valid values: `0 - 100`
apply_to	This field specifies if the pricing rule	no	Valid values:

Name	Description	Empty Value	Format/Notes
	should be applied on any assignments of the product or only on the specific assignment rule/s or template/s.		`ASSIGNMENT_RULES` `GENERATED_ITEMS`
apply_to_templates	List of template name/s for which this pricing rule should be evaluated. Relevant for case apply_to =	yes	Comma separated list of assignment template names
apply_to_rules	List of assignment rule name/s for which this pricing rule should be evaluated	yes	Comma separated list of assignment rule names
level	The level the should be included into the price calculation	no	`Valid values:` **`0 – 2`**
note	Free text note that is associated to specific pricing rule	yes	
based_of_tags	Specifies based on which tags of products the price should be calculated. Sum of products with specified tags will be taken as baseline to calculate the price of the given product.	yes	Comma separated list of tags. To be specified if 'price_type' equals **GROUP or GROUP_NEGATIVE**
based_of_price	Specifies which price of the referenced product/s with tag/s should be taken as a base price.	yes	`When "based_on_tags" = "GROUP", the valid values are:` **`UNIT`** **`NET`** **`LIST`** **`BOTH`** **`USER`** **`MSRP`** `When "based_on_tags" = "GROUP_NEGATIVE", the valid values are:` **`NET`** **`LIST`**
limit_type	Specifies the limit type of the price for the product price that is based on tags.	yes	To be specified if 'price_type' equals `GROUP` `or GROUP_NEGATIVE`

Name	Description	Empty Value	Format/Notes

			`Valid values:`
			`MIN`
			`MAX`
			`AS_IS`
			`RANGE`

limit_min_value	Specifies the min limit value of the price for the product price that is based on tags.	no if limit_type = `MIN` or `RANGE`	Numeric
limit_max_value	Specifies the max limit value of the price for the product price that is based on tags.	no if limit_type = `MAX` or `RANGE`	Numeric

disable_rounding	Specifies if rounding for the price should be disabled	no	`Valid values:`
			`true`
			`false`

include_positive	Relevant for negative-price products whose price should be calculated based on other products (by tag).
	Specifies if also products with positive price should be included into calculation of the base price for the current rule. By default only the products with negative price will be taken into calculation.
		yes	To be specified if 'price_type' equals `GROUP_NEGATIVE`
			
			`Valid values:`
			`true`
			`false`

volume_discount	List of the volume discounts associated with the given pricing rule.
	E.g.:
	"volume_discount": {
	   "Quantity": "VolD1",
	   "Duration": "VolD2"
	}
		yes	Each element in the list represented as a pair of <factor_name>:<volume_dicount_table_name>

product_conditional_names Structure

Name	Description	Empty Value	Format/Notes
playbook	The name of the playbook	no	
ordinal	The order in which the system will evaluate 'conditional name' rules. E.g.: the rule with ordinal=0 will be evaluated first	no	Numeric
rule	The business condition that system should evaluate.	no	
name	The name that should be assigned to the specific product instance if business condition (rule) is evaluated to `true`.	yes	
description	The description that should be assigned to the specific product instance if business condition (rule) is evaluated to `true`.	yes	

bundle_items Structure

Name	Description	Empty Value	Format/Notes
sku	The unique identifier of the product in the catalog	no	
ordinal	The order of the product in the bundle	no	
how_to_add	Specifies how the product should be managed within the bundle during a proposal configuration.		`Valid values for` **FIXED_PRICE** `bundle:` **AUTOMATIC** `Valid values for` **PRODUCT_SUMMARY** `bundle:` **AUTOMATIC** **MANUAL** **COMBINED**

Name	Description	Empty Value	Format/Notes
enable_modify_factors	Specifies if the seller is allowed to modify bundled product factors (e.g. quantity, duration, etc.) Relevant for **PRODUCT_SUMMARY** bundles only.		Valid values: **true** **false**
product_factors	The list of product factors configured for this product in context of the current bundle. The structure of each element in the list is defined in the product_factors Structure section.	no	

Product Catalog v1 - POST

Utilize this service to upload the products catalog to the DRAFT version of CPQ. Each product or bundle will be created based on the details provided in the request JSON.

If the SKU provided in the request already exists in the system, CPQ will completely replace all the data for this SKU, including assignment, pricing, and other relevant information. Note that if the replacement of products cannot be completed, the system will retain the old definition of the product.

In case the version reference in the request is ACTIVE/DEACTIVATED the request will fail.

Request

type: POST
URI: `/api/v1/version/{version_id}/products_catalog`

Request body format: JSON

Request example:
```
{
  "products": [
    {
      "sku": "ABC-12345-S-BL",
      "name": "GRM Service",
      "description": "GRM Service\n",
      "tags": [],
      "primary_tag": null,
      "merge_products": false,
      "product_attributes": {
        "Department": {
          "value": "1022"
        },
        "Model": {
          "value": "01-200-GRM-M"
        },
        "Manufacture Date": {
          "value": "May 31, 2024"
        }
      },
      "product_assignments": [
        {
          "assignment": "RULE_BASED",
          "playbook": "Master_playbook_24",
          "assignment_rules": [
```

```json
    {
      "ordinal": 0,
      "name": "Seasonal assignment",
      "rule": "[General.partner_program] = \"Direct Sales\"",
      "note": null,
      "product_factors": [
        {
          "name": "Duration",
          "value": "12",
          "applicable": true
        },
        {
          "name": "Quantity",
          "value": "1",
          "applicable": true
        },
        {
          "name": "Sits",
          "value": "1",
          "applicable": false
        }
      ],
      "proposal_attributes": [
        {
          "name": "custom_proposal_attribute",
          "value": "Direct",
          "applicable": true
        }
      ]
    }
  ]
}
],
"product_pricing": {
  "advanced": true,
  "pricing_rules": [
    {
      "playbook": "Master_playbook_24",
      "ordinal": 0,
      "currency": null,
      "rule": "",
      "price": "0",
      "level": 0,
      "note": null,
      "price_format": "BASIC",
      "rounding_policy": null,
      "dynamic_price": false,
      "name": null,
      "price_type": "SOLID",
```

```
            "apply_to": "GENERATED_ITEMS",
            "apply_to_templates": "",
            "apply_to_rules": "",
            "max_discount": "100",
            "default_discount": "0",
            "based_of_tags": "",
            "based_of_price": null,
            "limit_type": "AS_IS",
            "limit_min_value": null,
            "limit_max_value": null,
            "disable_rounding": false,
            "include_positive": false,
            "volume_discount": {}
          },
          {
            "playbook": "Master_playbook_24",
            "ordinal": 1,
            "currency": null,
            "rule": "true",
            "price": "888",
            "level": 0,
            "note": null,
            "price_format": "ADVANCED",
            "rounding_policy": null,
            "dynamic_price": false,
            "name": null,
            "price_type": "SOLID",
            "apply_to": "GENERATED_ITEMS",
            "apply_to_templates": "",
            "apply_to_rules": "",
            "max_discount": "100",
            "default_discount": "0",
            "based_of_tags": "",
            "based_of_price": null,
            "limit_type": "AS_IS",
            "limit_min_value": null,
            "limit_max_value": null,
            "disable_rounding": false,
            "include_positive": false,
            "volume_discount": {}
          }
        ]
      },
      "product_conditional_names": []
    }
  ],
  "bundles": [
    {
      "sku": "Products summary",
```

```json
"name": "Products summary",
"description": "<p>Products summary</p>\n",
"tags": [
  "Products summary"
],
"primary_tag": "Products summary",
"product_attributes": {
  "Department": {
    "value": ""
  },
  "Model": {
    "value": ""
  },
  "Manufacture Date": {
    "value": ""
  }
},
"product_assignments": [
  {
    "assignment": "RULE_BASED",
    "playbook": "Master_playbook_24",
    "assignment_rules": [
      {
        "ordinal": 0,
        "name": "bundle3",
        "rule": "[FixedSummary_bundles.Add_products_summary_bundle] = \"Yes\"",
        "note": null,
        "product_factors": [
          {
            "name": "Duration",
            "value": "1",
            "applicable": false
          },
          {
            "name": "Quantity",
            "value": "1",
            "applicable": true
          },
          {
            "name": "Sits",
            "value": "1",
            "applicable": false
          }
        ],
        "proposal_attributes": [
          {
            "name": "custom_proposal_attribute",
            "value": "",
            "applicable": true
```

```
            }
          ]
        }
      ]
    }
  ],
  "product_pricing": {
    "advanced": false,
    "pricing_rules": [
      {
        "playbook": "Master_playbook_24",
        "ordinal": 0,
        "currency": null,
        "rule": "",
        "price": "50",
        "level": 0,
        "note": null,
        "price_format": "BASIC",
        "rounding_policy": null,
        "dynamic_price": false,
        "name": null,
        "price_type": "FROM_ALL_QUOTE",
        "apply_to": "GENERATED_ITEMS",
        "apply_to_templates": "",
        "apply_to_rules": "",
        "max_discount": "100",
        "default_discount": "0",
        "based_of_tags": "",
        "based_of_price": null,
        "limit_type": "AS_IS",
        "limit_min_value": null,
        "limit_max_value": null,
        "disable_rounding": false,
        "include_positive": false,
        "volume_discount": {}
      }
    ]
  },
  "product_conditional_names": [],
  "bundle_type": "PRODUCT_SUMMARY",
  "price_in_bundle_is_zero": false,
  "sync_to_crm": true,
  "sync_bundle_price": false,
  "bundle_items": [
    {
      "sku": "Product2",
      "ordinal": 1,
      "how_to_add": "AUTOMATIC",
      "enable_modify_factors": false,
```

```
"product_factors": [
  {
    "name": "Duration",
    "value": "1",
    "applicable": true
  },
  {
    "name": "Quantity",
    "value": "2",
    "applicable": true
  },
  {
    "name": "Sits",
    "value": "1",
    "applicable": true
  }
]
},
{
  "sku": "Product3",
  "ordinal": 2,
  "how_to_add": "MANUAL",
  "enable_modify_factors": true,
  "product_factors": [
    {
      "name": "Duration",
      "value": "1",
      "applicable": true
    },
    {
      "name": "Quantity",
      "value": "3",
      "applicable": true
    },
    {
      "name": "Sits",
      "value": "0",
      "applicable": true
    }
  ]
},
{
  "sku": "Product1",
  "ordinal": 0,
  "how_to_add": "AUTOMATIC",
  "enable_modify_factors": true,
  "product_factors": [
    {
      "name": "Duration",
```

```
            "value": "1",
            "applicable": true
          },
          {
            "name": "Quantity",
            "value": "1",
            "applicable": true
          },
          {
            "name": "Sits",
            "value": "0",
            "applicable": true
          }
        ]
      },
      {
        "sku": "Product4",
        "ordinal": 3,
        "how_to_add": "COMBINED",
        "enable_modify_factors": false,
        "product_factors": [
          {
            "name": "Duration",
            "value": "1",
            "applicable": true
          },
          {
            "name": "Quantity",
            "value": "4",
            "applicable": true
          },
          {
            "name": "Sits",
            "value": "1",
            "applicable": true
          }
        ]
      }
    ]
  }
 ]
}
```

Request Parameters

Name		Description	Mandatory	Valid values/Limits
products		List of products that should be created in the products catalog. Each element in the list contains the following information:		
	sku	The unique identifier of the product in the catalog.	Yes	Alphanumeric Max Size = 200
	name	Product name.	Yes	Alphanumeric Max Size = 400
	description	Product description.	No	Alphanumeric Max Size = 21,844
	tags	List of tags associated with the specific product.	No	Alphanumeric List Tag Max Size = 200
	primary_tag	Primary tag of the specific product.	No	Alphanumeric Max Size = 200
	merge_products	Identifies if multiple instances of this product should be merged into a single line during proposal configuration.	No	Valid values: `true` `false` - default

	product_attributes	List of product attributes with their respective values. Note that product attributes should be declared in the CPQ version.
		E.g.:
		`"product_attributes": {`
		`    "AttrA": {`
		`      "value": "some value"`
		`    },`
		`    "AttrB": {`
		`      "value": "another value"`
		`    }`
			No	<u>Attribute Name:</u>
				Alphanumeric
				Max length: 50
				
				<u>Attribute Value:</u>
				Max length = 2000
				Use ';' as a delimiter for product attribute type `TEXT_LIST`

Name		Description	Mand atory	Valid values/Limits
		}		
	product_assignm ents	List of product assignment rules defined for the product. The structure of each element in the list is defined in the product_assignments Structure section.	Yes	
	product_pricing	The list of pricing definitions for a specific SKU. Note, if no pricing is configured for a specific SKU, the system will not instantiate an instance of that product (i.e., a line item) during the proposal configuration process, even if the assignment rule matches the business conditions. The structure of each element in the list is defined in the product_pricing Structure section.	No	Can be empty list if "assignment" : "NEVER"
	product_conditio nal_names	List of 'conditional names' rules for the specific SKU. The structure of each element in the list is defined in the product_conditional_names Structure section.	No	
bundles	List of bundles matching specified criteria. Each element in the list contains the following information:			
	sku	The unique identifier of the bundle in the catalog.	Yes	Alphanumeric Max Size = 200
	name	Bundle name.	Yes	Alphanumeric Max Size = 400

Name		Description	Mand atory	Valid values/Limits
	description	Bundle description.	No	Alphanumeric Max length = 21,844
	bundle_type	The type of the bundle.	No	Valid values: `FIXED_PRICE` `PRODUCT_SUMMARY` - default
	price_in_bundle _is_zero	This field determines whether the price of bundled products, i.e., items within the bundle, should be displayed as $0.	No	Valid values: `true` `false` - default
	sync_to_crm	This field specifies if the bundle should be synchronized to CRM.	No	Valid values: `true` `false` - default
	sync_bundle_pri ce	Determine how bundle price should be synchronized to CRM. `true` - to synchronize the price on the bundle level. `false` - to synchronize the price on the bundled items level. Bundle price will be synched as 0.	No	Valid values: `true` `false` - default
	tags	List of tags associated with the specific bundle.	No	Alphanumeric List Tag length = 200 Use ';' as a delimiter between tags
	primary_tag	Primary tag of the specific bundle.	No	Alphanumeric Max length = 200
	product_attribut es	List of bundle attributes and their values. Each element in this list presented as "<attribute_name>":"<attribute_value>"	No	<u>Attribute Name:</u> Alphanumeric Max length: 50 <u>Attribute Value:</u>

Name			Description	Mand atory	Valid values/Limits
					Max length = 2000 Use ';' as a delimiter for product attribute type `TEXT_LIST`
	product_assignm ents		List of bundle assignment rules defined for the product. The structure of each element in the list is defined in the product_assignments Structure section.	Yes	
	product_pricing		List of pricing definitions for the specific SKU. The structure of each element in the list is defined in the product_pricing Structure section.	No	Empty list if `"assignment" : "NEVER"`
	product_conditio nal_names		List of the product conditional names. The structure of each element in the list is defined in the product_conditional_names Structure section.	No	
	bundle_items		List of the products included into the bundle. The structure of each element in the list is defined in the bundle_items Structure section.	Yes	

product_assignments Structure

Name	Description	Manda tory	Format/Notes
assignment	Directive for the product assignment.	No	Valid values: `RULE_BASED` `ALWAYS`

	At least 1 rule must be provided if the assignment is `RULE_BASED` or `ALWAYS`. Otherwise SKU creation will fail.		`NEVER` - default
playbook	The name of the <u>existing</u> playbook to which the rules are meant to be applied.	Yes	Alphanumeric
assignment_rules	List of assignment rules. The <u>order of the elements</u> in this list determines the sequence in which the assignment rules are evaluated by the CPQ system. The structure of each element in the list is defined in the assignment_rules Structure section.	No	Empty list if `"assignment" : "NEVER"`

assignment_rules Structure

Name	Description	Mandatory	Format/Notes
name	The name of the assignment rule. Should be unique in context of this SKU. If an empty value is provided the system will use `ordinal` value as a rule name.	Yes	Alphanumeric Max length: 200 chars
rule	The business condition that should trigger the rule. Send `NULL` if `"assignment" : "NEVER"`	Yes	Alphanumeric Max Size: 2048 chars Default value: `false`
note	Free text	No	Alphanumeric Max length: 4096 chars
product_factors	The list of available product factors configured in context of the current assignment rule. At least one factor should be "`applicable`" : "`true`" and have explicit `value` definition.	Yes	Max 4 factors in the list.

Name	Description	Mandatory	Format/Notes
	Otherwise rule creation will fail. The structure of each element in the list is defined in the product_factors Structure section.		
proposal_attributes	The list of available proposal attributes configured in context of the current assignment rule. The structure of each element in the list is defined in the proposal_attributes Structure section.	No	If not specified, all proposal attributes will be treated as "`applicable`" : "`true`" and will get an empty value

product_factors Structure

Name	Description	Mandatory	Format/Notes
name	The name of the factor.	Yes	Must be existing factor's name
value	Factor value. This field might have a value even when the factor is not applicable	No	Numeric Default value: `1`
applicable	The field indicates if a specific factor is applicable in context of the assignment rule.	No	Valid values: `true` `false` - Default

proposal_attributes Structure

Name	Description	Mandatory	Format/Notes
name	The name of the proposal attribute.	Yes	Alphanumeric Max length: 50 chars

value	Attribute value. NOTE: If `"value":null` the system will define this attribute as not applicable in context of the assignment rule.	Yes	Alphanumeric Max length: 2000 chars
applicable	The field indicates if a specific proposal attribute is applicable in the context of assignment rule.	No	Valid values: `true` `false` - Default

product_pricing Structure

Name	Description	Mandatory	Format/Notes
advanced	Pricing policy. Use `false` for basic pricing policy.	No	Valid values: `true` `false` - Default
pricing_rules	List of the product pricing rules. The <u>order of the elements</u> in this list determines the sequence in which the pricing rules are evaluated by the CPQ system. If `"advanced":false`, the `pricing_rules` list should have only 1 rule definition with `price_format:BASIC`. If such configuration won't be provided in the request, the system will create a default rule with price 0. In case there are more than 1 rule in the `pricing_rules` list with `price_format:BASIC`, the system will use 1st definition and the rest will be ignored. If `"advanced":true`, the `pricing_rules` list must have at least 1 rule definition with `price_format:ADVANCED`. Otherwise the product won't be created.	Yes	

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	The structure of each element in the list is defined in the pricing_rules Structure section.		

pricing_rules Structure

Name	Description	Mandatory	Format/Notes
playbook	The name of the playbook under which this rule should be evaluated.	Yes	Alphanumeric Must be existing playbook name
name	The name of the pricing rule	No	Alphanumeric Max Size: 256
rule	The business condition that system should evaluate when `"price_format":"ADVANCED"`	Mandatory if `"price_format":"ADVANCED"`	Alphanumeric Max Size: 4096

price_format	This field specifies the rule's association with the pricing mode.
	Note that during quotation, the system will evaluate pricing rules based on the definition of the `advanced` policy, which is part of the `products_pricing` structure. This means that if `"advanced": false` and the `pricing_rules` list contains multiple rules with `"price_format": "ADVANCED"`, those rules will not be evaluated by the CPQ system.
		Yes	Valid values:
			`BASIC`
			`ADVANCED`

price_type	This field defines the type of price. The following options are available:
	
	SOLID - for the fixed price value.
	
	ITEM: Use this price type when the price of the SKU should be based on the price of another SKU in the
		Yes	Valid values:
			`SOLID`
			`ITEM`
			`FROM_ALL_QUOTE`
			`GROUP`
			`NEGATIVE`
			`GROUP_NEGATIVE`
			`ERP`

Name	Description	Mandatory	Format/Notes

	catalog.
	The `price` field in this case should be formatted as follows:
	<BASE_SKU>;%;<PERCENTAGE_OF_BASE_PRICE>.
	Example:
	`"price": "SKU1;%;90"`
	The price is configured as 90% of the SKU1 price.
	
	GROUP: Use this price type when the price of the SKU should be based on the prices of other products in the proposal that are associated with specific tag(s) in the catalog.
	The `price` field in this case should be formatted as follows:
	<LIST_OF_TAGS>;<PERCENTAGE_OF_BASE_PRICE>;
	<<u>WHICH_PRICE_TO_USE</u>>;<<u>HOW_TO_USE_PRICE</u>>.
	Example:
	`"price": "SUPPORT,SW;50;BOTH;AS_IS;"`
	The price is configured as 50% of other product(s) in the proposal that have tags 'SUPPORT' or 'SW'.
	
	FROM_ALL_QUOTE: Use this price type when the price of your product should be based on the prices of all other products within the proposal.
	The `price` field in this case should be formatted as follows:
	<PERCENTAGE_OF_OTHER_PRODUCTS_PRICE>
	Example: `"price": "10"`
	The price is configured as 10% of the prices of all other products in the proposal.
	
	NEGATIVE: Use this price type for negative price product(s). The `price` field value should be negative.		

Name	Description	Mandatory	Format/Notes
	GROUP_NEGATIVE: Use this price type when the negative price of your product should be based on the prices of other products in the proposal that are associated with specific tag(s) in the catalog. By default the system will refer to negative product(s) with specified tag(s), unless `"include_positive": true` The "`price`" field in this case should be formatted as follows: <LIST_OF_TAGS>;<PERCENTAGE_OF_BASE_PRICE>; <WHICH_PRICE_TO_USE>;<HOW_TO_USE_PRICE>. Example: `"price": "SUN,FF5;30;NET;AS_IS;"` The price is configured as 30% of other negative product(s) in the proposal that have tags 'SUN' or 'FF5'. **ERP**: Use this price type when the price of the product should be retrieved from the 3rd party system during the proposal configuration.		
price	The amount for this pricing rule. The value can be either numeric or a formula that will be evaluated by the CPQ system during the proposal configuration when adding a SKU to the proposal.	Yes if price_type is `SOLID` or	Alphanumeric Max Size: 4096
currency	This field defines the directive for the 'price' in the pricing rule, especially relevant for tenant accounts configured to work with multiple currencies. The available options are: ● **EXCHANGE_RATE**: Use this when the price in the rule represents the MSRP price in the default	No	Valid values: `EXCHANGE_RATE` – default `NO_EXCHANGE_RATE` <ISO-4217 code>

Name	Description	Mandatory	Format/Notes
	account currency. This base amount will be converted into the currency of the proposal configured in CPQ. ● **NO_EXCHANGE_RATE**: Use this if the system should treat the 'price' as an absolute value in any currency. ● **ISO-4217 code**: Use this if the system should not perform currency exchange, and a specific currency is configured for the given 'price'. NULL in case price is defined in the default account currency. NULL or empty string will be treated as EXCHANGE_RATE		
dynamic_price	Specifies if a seller is allowed to overwrite the list price during proposal configuration. Relevant for any price type except ERP or ITEM (price is based on other product)		Valid values: **true** **false** **Default: false**
rounding_policy	ID of the rounding policy. Relevant when non-default rounding policy is explicitly associated with the pricing rule.	No	if not null: 1. account flag enable rounding policy need to be true 2. price item type = *ADVANCED* 3. price item currency != *NO_EXCHANGE_RATE* 4. need to be if of existing rounding policy Default: null
max_discount	Maximum allowed discount	No	Valid values: **0 – 100**

Name	Description	Mandatory	Format/Notes
default_disc ount	Default discount	Yes	`Valid values:` `0 – 100`
apply_to	This field specifies if the pricing rule should be applied on any assignments of the product or only on the specific assignment rule/s or template/s.	No	Valid values: `ASSIGNMENT_RULES` `GENERATED_ITEMS` - default
apply_to_te mplates	List of template name/s for which this pricing rule should be evaluated. Relevant for case apply_to =	no	Comma separated list of assignment template names
apply_to_rul es	List of assignment rule name/s for which this pricing rule should be evaluated	no	Comma separated list of assignment rule names Default: null

level	The level the should be included into the price calculation	no	`Valid values:`
			`0 – 2`
			`Default 0`

note	Free text note that is associated to specific pricing rule	No	`Alphanumeric` Default: null Max Size: 4096
based_of_ta gs	Specifies based on which tags of products the price should be calculated. Sum of products with specified tags will be taken as baseline to calculate the price of the given product.	No	Comma separated list of tags. To be specified if 'price_type' equals `GROUP` `or GROUP_NEGATIVE`

based_of_pri ce	Specifies which price of the referenced product/s with tag/s should be taken as a base price.	No	`When "based_on_tags"`
			`= "GROUP", the valid`
			`values are:`
			`UNIT`
			`NET`
			`LIST`
			`BOTH`
			`USER`
			`MSRP`

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Name	Description	Mandatory	Format/Notes
			When "based_on_tags" = "GROUP_NEGATIVE", the valid values are: **NET** **LIST**
limit_type	Specifies the limit type of the price for the product price that is based on tags.	yes if 'price_type' equals GROUP or GROUP_NEGATIVE	Valid values: **MIN** **MAX** **AS_IS** **RANGE**
limit_min_value	Specifies the min limit value of the price for the product price that is based on tags.	yes if limit_type = **MIN** or **RANGE**	Numeric
limit_max_value	Specifies the max limit value of the price for the product price that is based on tags.	yes if limit_type = **MAX** or **RANGE**	Numeric
disable_rounding	Specifies if rounding for the price should be disabled		Valid values: **true** **false**
include_positive	Relevant for negative-price products whose price should be calculated based on other products (by tag). Specifies if also products with positive price should be included into calculation of the base price for the current rule. By default only the products with negative price will be taken into calculation.		To be specified if 'price_type' equals GROUP_NEGATIVE Valid values: **true** **false**
volume_discount	List of the volume discounts associated with the given pricing rule. E.g.: "volume_discount": { "Quantity": "VolD1", "Duration": "VolD2" }		Each element in the list represented as a pair of <factor_name>:<volume_dicount_table_name>

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WHICH_PRICE_TO_USE

Possible values for this directive are:

Value	Description
UNIT	Use this value when the price of the product should be based on the unit price of other products.
LIST	Use this value when the price of the product should be based on the list price of other products.
NET	Use this value when the price of the product should be based on the net price of other products.
BOTH	Use this value when the price of the product should be based on the list price and sales discount of other products. Note that a max discount cannot be configured for a product with this price type.
USER	Use this value when the price of the product should be based on the user price of other products.
MSRP	Use this value when the price of the product should be based on the MSRP of other products.

HOW_TO_USE_PRICE

Possible values for this directive are:

Value	Description
AS_IS	Use this constant when the price of the product should be determined based on the exact conditions of the "`price_type`" attribute.
MIN	Use this constant when the price of the product should be determined based

Value	Description
	on the conditions of the price type, but not less than the value defined in the "`limit_min_value`" attribute.
MAX	Use this constant when the price of the product should be determined based on the conditions of the price type, but not more than the value defined in the "`limit_max_value`" attribute.
MIN_MAX	Use this constant when the price of the product should be determined based on the conditions of the price type, but the price value should fall within the range defined by "`limit_min_value`" and "`limit_max_value`".

product_conditional_names Structure

Name	Description	Mandatory	Format/Notes

playbook	The name of the playbook	Yes	`Alphanumeric`
			`Must be`
			`existing`
			`playbook name`

ordinal	The order in which the system will evaluate 'conditional name' rules. E.g.: the rule with ordinal=0 will be evaluated first		Numeric
rule	The business condition that system should evaluate.		`Alphanumeric` Max Size: 2048 Default: null
name	The name that should be assigned to the specific product instance if business condition (rule) is evaluated to `true`.		`Alphanumeric` Max Size: 400 Default: null
description	The description that should be assigned to the		`Alphanumeric`

Name	Description	Mandatory	Format/Notes
	specific product instance if business condition (rule) is evaluated to `true`.		Max Size: 8192 Default: null

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bundle_items Structure

Name	Description	Mandatory	Format/Notes
sku	The unique identifier of the product in the catalog	Yes	**need to be sku of existing product**
ordinal	The order of the product in the bundle	No	Number Default: 0
how_to_add	Specifies how the product should be managed within the bundle during a proposal configuration.	No	Valid values for **FIXED_PRICE** bundle: **AUTOMATIC** Valid values for **PRODUCT_SUMMARY** bundle: **AUTOMATIC MANUAL COMBINED** Default: **PRODUCT_SUMMARY**
enable_modify_factors	Specifies if the seller is allowed to modify bundled product factors (e.g. quantity, duration, etc.) Relevant for **PRODUCT_SUMMARY** bundles only.		Valid values: **true false**
product_factors	The list of product factors configured for this product in context of the current bundle. The structure of each element in the list is defined in the product factors Structure section.		
inherit_proposal_attr ibutes	List of attributes that should receive attribute value from the respective bundle attribute. Proposal attributes that are not	No	

Name	Description	Mandatory	Format/Notes

	mentioned in the list explicitly will NOT inherit the value from the bundle.
	
	List example:
	<pre>"inherit_proposal_attributes": [
	    {
	        "name":"proposal_attr_123",
	        "inherit":true
	    },
	    {
	        "name":"proposal_attr_ABC",
	        "inherit":true
	    }
	]</pre>		

Response

Code: 200 (Success)
As a response the system will return the ID of the asynchronous request for products upload.
This request_id will be published in the relevant Version event when request processing will complete.

Expected response example in case of success:
```
{
  "request_id": "4D114DAD97"
}
```

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Product Catalog v1 - DELETE (all)

Utilize this API service to delete all products from the product catalog of CPQ. In addition it will delete the product hierarchy tree.

- This service can only be triggered for a CPQ Version in 'DRAFT' status.

- If the service is called for a Version in 'ACTIVE' or 'DEACTIVATED' status, the system will return an HTTP 400 error.

Request

type: DELETE
URI: `/api/v1/version/{version_id}/products_catalog/all`

Mandatory Request Parameters

Name	Description	Valid values/Notes
version_id	ID of the *Version*	max length 16 chars

Optional Request Parameters - N/A

Response

Code: 200 (Success)

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Product Catalog v1 - DELETE (by SKU)

Utilize this API service to delete specific products from the product catalog of CPQ.
In addition it will delete the product from the hierarchy tree.
A product cannot be deleted if it has a child in the hierarchy tree, is marked as mandatory, or is set as an alternative in the hierarchy tree.

- This service can only be triggered for a CPQ Version in 'DRAFT' status.

- If the service is called for a Version in 'ACTIVE' or 'DEACTIVATED' status, the system will return an HTTP 400 error.

Request

type: DELETE
URI: `/api/v1/version/{version_id}/products_catalog/by_sku`

Request body example:
```
{

  "skus": [

     "SKU-1",

     "SKU-45"

  ]

}
```

Mandatory Request Parameters

Name	Description	Valid values/Notes
version_id	ID of the *Version*	max length 16 chars
skus	List of SKUs that should be deleted	

Optional Request Parameters - N/A

Response

Code: 200 (Success)

Product Catalog v1.1 - GET

Request

The core functionality of the v1.1 service is identical to that of Product Catalog v1.
However, this version should be used **if the tenant account is utilizing the DH Subscriptions solution**.
In such cases, all interactions with the product catalog should be handled via the v1.1 product catalog service.
For details on the core functionality, please refer to the [Product Catalog v1 documentation](#).

type: GET
URI: `/api/v1.1/version/{version_id}/products_catalog`

Request example:
`/api/v1.1/version/160EDBdA51E28FAA/products_catalog`

Response

System will retrieve products catalog as configured within CPQ in context of specific Version.

Code: 200 (Success)
Response format: JSON

Response example:
```
{
  "products": [
    {
      "sku": "ABC-12345-S-BL",
      "name": "GRM Service",
      "description": "GRM Service\n",
      "tags": [],
      "primary_tag": null,
      "merge_products": false,
```

```json
"product_attributes": {
  ...
  },
"billing_attributes": { //PRODUCT LEVEL DEFINITION
  "ChargeDescription": "Some charge description",
  "SubscriptionItemType": "Recurring",
  "BillingPeriod":  "Monthly"
  },
},
"product_assignments": [
  {
    "assignment": "RULE_BASED",
    "playbook": "Master_playbook_24",
    "assignment_rules": [
      {
        "ordinal": 0,
        "name": "Seasonal assignment",
        "rule": "[General.partner_program] = \"Direct Sales\"",
        "note": null,
        "product_factors": [
          {
            "name": "Duration",
            "value": "12",
            "applicable": true
          },
          {
            "name": "Quantity",
            "value": "1",
            "applicable": true
          }             ],
        "proposal_attributes": [
          {
            "name": "custom_proposal_attribute",
            "value": "Direct",
            "applicable": true
          }
        ],
        "billing_attributes": [
          {
            "name": "custom_proposal_attribute",
            "value": "Direct"
          }
        ]

      }
    ]
  }
],
...
```

```
  ],
  "bundles": [
    ...
  ],
  "info": {
    ...
  }
}
```

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Get Asynchronous Request Execution Summary v1

This REST service is designed to return the results of asynchronous processing.

An asynchronous API (e.g., product upload) will return a request_id to the consuming system. Upon completion of the request processing, CPQ will publish relevant events to the configured endpoint (see WebHook Open API for more information).

In cases where asynchronous processing finishes with errors, the consumer can query CPQ for a summary of the request execution.

Request

type: GET
URI: `/api/v1/request/{request_id}/summary`

Mandatory Request Parameters

Name	Description	Valid values/Notes
request_id	ID of the asynchronous request (as received in response to duplicate/activate version)	max length 16 chars

Optional Request Parameters - N/A

Response

Expected response example:
```
{
  "status": "done",
  "summary": {
    "success_count": 1,
    "errors_count": 0,
    "warnings": [
      "Missing currency in price item for SKU KY014X, using default currency: USD"
    ],
    "errors": []
  }
}
```

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Response details

Name	Description		Empty value	Valid Values/Notes
status	The status of the asynchronous request.		no	Valid values: `In Progress, Completed, Error`
summary	Summary of the executed request. Relevant only if request processing is complete.		yes	
	success_count	The number of successfully processed records.	no	
	errors_count	The number of records that could not be processed.	no	
	warnings	List of warnings that occurred during the execution of an asynchronous process. Note that warning/s do not impact the execution processing and do not increase the error count.	yes	
	errors	List of errors that occurred during the execution of an asynchronous process.	yes	

Product Hierarchy v1 - GET

Request

The data returned by this service provides comprehensive information about product hierarchy. It includes information about product/ bundle / label relationships and restrictions.

The consuming system will be able to retrieve a list of the product hierarchy tree, including relationships between products and restrictions between them.

type: GET
URI: `/api/v1/version/{version_id}/products_hierarchy`

Request example:
`/api/v1/version/160EDBdA51E28FAA/products_hierarchy`

Mandatory Request Parameters

Name	Description	Valid values/Notes
version_id	ID of the *Version*	Max length 16 chars

Response

System will retrieve product hierarchy tree as configured within CPQ in context of specific Version.

Code: 200 (Success)
Response format: JSON

Response example:

```
[
    {
        "element": {
            "type": "PRODUCT",
```

```json
                "mandatory": false,
                "labelNameOrSku": "product 1",
                "alternative": false
            },
            "children": [
                {
                    "element": {
                        "type": "PRODUCT",
                        "mandatory": false,
                        "labelNameOrSku": "product 3",
                        "alternative": false
                    },
                    "children": []
                }
            ]
        },
        {
            "element": {
                "type": "PRODUCT",
                "mandatory": false,
                "labelNameOrSku": "product 4",
                "alternative": false
            },
            "children": [
                {
                    "element": {
                        "type": "LABEL",
                        "mandatory": true,
                        "labelNameOrSku": "Label A",
                        "alternative": false
                    },
                    "children": [
                        {
                            "element": {
                                "type": "PRODUCT",
                                "mandatory": false,
```

```
                    "labelNameOrSku": "product 5",
                    "alternative": false
                },
                "children": []
            },
            {
                "element": {
                    "type": "PRODUCT",
                    "mandatory": true,
                    "labelNameOrSku": "product 6",
                    "alternative": false
                },
                "children": []
            }
        ]
    },
    {
        "element": {
            "type": "LABEL",
            "mandatory": false,
            "labelNameOrSku": "Label B",
            "alternative": false
        },
        "children": [
            {
                "element": {
                    "type": "PRODUCT",
                    "mandatory": false,
                    "labelNameOrSku": "product 1",
                    "alternative": false
                },
                "children": [
                    {
                        "element": {
                            "type": "PRODUCT",
                            "mandatory": false,
```

```
                    "labelNameOrSku": "product 4",
                    "alternative": false
                },
                "children": []
            }
        ]
    }
    ]
    }
    ]
}
]
```

Fields details:

Name	Description		Empty Value	Format/Notes
children	List of product hierarchy with their relations and restrictions. Each element in the list contains the following information:			

	type	Hierarchy item type	no	Valid values:
				`Product`
				`Label`
				`Bundle`

	mandatory	Product restriction, is it mandatory	no	Valid values:
				`true`
				`false`

	labelNameOrSku	Product SKU or label name	no	Alphanumeric

	alternative	Product restriction, is it one of list of options	no	Valid values:
				`true`
				`false`

children	list of elements objects (as described above)		yes	

Product Hierarchy v1 - POST

Utilize this service to upload products hierarchy to the DRAFT version of CPQ.
Product hierarchy tree will be created based on the details provided in the request JSON.

If a product hierarchy tree exists in the system, the CPQ will completely replace all the data, the existing hierarchy tree will be deleted and will be replaced with the new one received in the post.

In case the version specified in the request is ACTIVE/DEACTIVATED the request will fail.
The maximum number of elements in the request is 50,000 (products or labels)

Request

type: POST
URI: /api/v1/version/{version_id}/products_hierarchy

Request body format: JSON

Request example:

```
[
    {
        "element": {
            "type": "PRODUCT",
            "mandatory": false,
            "labelNameOrSku": "product 1",
            "alternative": false
        },
        "children": [
            {
                "element": {
                    "type": "PRODUCT",
                    "mandatory": false,
                    "labelNameOrSku": "product 3",
                    "alternative": false
                },
                "children": []
```

```
                }
            ]
        },
        {
            "element": {
                "type": "PRODUCT",
                "mandatory": false,
                "labelNameOrSku": "product 4",
                "alternative": false
            },
            "children": [
                {
                    "element": {
                        "type": "LABEL",
                        "mandatory": true,
                        "labelNameOrSku": "Label A",
                        "alternative": false
                    },
                    "children": [
                        {
                            "element": {
                                "type": "PRODUCT",
                                "mandatory": false,
                                "labelNameOrSku": "product 5",
                                "alternative": false
                            },
                            "children": []
                        },
                        {
                            "element": {
                                "type": "PRODUCT",
                                "mandatory": true,
                                "labelNameOrSku": "product 6",
                                "alternative": false
                            },
                            "children": []
```

```
                }
            ]
        },
        {
            "element": {
                "type": "LABEL",
                "mandatory": false,
                "labelNameOrSku": "Label B",
                "alternative": false
            },
            "children": [
                {
                    "element": {
                        "type": "PRODUCT",
                        "mandatory": false,
                        "labelNameOrSku": "product 1",
                        "alternative": false
                    },
                    "children": [
                        {
                            "element": {
                                "type": "PRODUCT",
                                "mandatory": false,
                                "labelNameOrSku": "product 4",
                                "alternative": false
                            },
                            "children": []
                        }
                    ]
                }
            ]
        }
    ]
}
]
```

Request Parameters

Name		Description	Mand atory	Valid values/Limits
element		Products Hierarchy that contains a list of products/ bundles/ labels with their restriction and relations that should be created in the products hierarchy. Each element in the list contains the following information:		
	type	Hierarchy item type	yes	Valid values: `Product` `Label` `Bundle`
	mandatory	Product restriction, is it mandatory	yes	Valid values: `true` `false`
	labelNameOrSku	Product SKU or label name Label contains: alphanumeric characters. Allowed Characters: - A-Z (uppercase and lowercase letters) and 0-9 (numeric digits). - Allow any special characters or symbols - Allow spaces	yes	Alphanumeric Max size = 50 (Label) Max size = 200 (SKU)
	alternative	Product restriction, is it one of a list of options	yes	Valid values: `true` `false`
children		list of elements objects (as described above)	no	

Response
Code: 200 (Success)

Product Hierarchy v1 - DELETE

Utilize this API service to delete product hierarchy from the CPQ.

- This service can only be triggered for a CPQ Version in 'DRAFT' status.

- If the service is called for a Version in 'ACTIVE' or 'DEACTIVATED' status, the system will return an HTTP 400 error.

Request

type: DELETE
URI: `/api/v1/version/{version_id}/products_hierarchy`

Mandatory Request Parameters

Name	Description	Valid values/Notes
version_id	ID of the *Version*	max length 16 chars

Optional Request Parameters - N/A

Response

Code: 200 (Success)

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Errors

HTTP code	When to return	Error Message
400	Invalid payload format	Invalid payload format. Supported format: JSON
400	Parameter within request payload exceed its limit(s)	The request parameter <PARAM_NAME> exceeds its limits. Allowed maximum length: <MAX_LENGTH>
400	Request payload missing one or more mandatory fields	Request payload missing mandatory field(s): <comma separated list of missing mandatory fields
400	One or more parameters are invalid (length, valid value etc.)	Invalid parameter format (<param_name>: <error>)
400	The system got a request with an ID that does not exist in DealHub (version ID, account ID etc.)	Entity (ID = <unknown_id>) not found
400	Mismatch between domain name of the source version account and target version accounts during the duplicate request.	The domain name of the source version account does not match the target version account
400	Version activation fails due to errors. The system will not list all validation errors to the consuming app as fixing Version errors require manual admin intervention in any case. This error will be published in the Failure event as a response to an async request of Version activation.	Version could not be activated due to validation errors. Please contact the administrator to fix all errors before activation.
400	Received activation request for an active Version	Version (id = <version_id>) already active.
400	New version name is not unique	New version name should be unique. Please change the name and try again

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HTTP code	When to return	Error Message
400	Received request to fetch 'MODIFIED' version products (products catalog) for 'DRAFT' version	'MODIFIED' products option is not available for version in 'DRAFT' status. Fetch 'ALL' products instead.
400	No explicit version ID was provided in request, thus CPQ system approached 'ACTIVE' version to fetch requested products (by SKU)	Could not find the 'ACTIVE' version.
400	Invalid value sent for one of the parameters	<PARAMETER_NAME> - Invalid parameter value. Valid value(s): <VALID_VALUES>
400	The consuming app requests to receive a few products (based on SKU), while some of them do not exist in the specified version.	The following SKUs not found: <SEMICOLON_SEPARATED_LIST_OF_SKUS>
403	If the request is not authenticated (authentication token is missing or invalid)	Unauthenticated
400	Too many SKUs in the fetch request.	The number of requested items exceeds the allowed limit of <MAX_LIMIT>. Reduce the number of SKUs.
400	SKU does not exist in the system	Invalid data found at [p4 -> toner A -> p5]. The SKU [SKU] does not exist in the products list. Please add the SKU to the system products or remove it from the product hierarchy and try again.
400	The field SKU/ Label name is empty	Invalid data found at [p4 -> toner A] ,SKU/ Label name field cannot be empty.
400	Type field value is invalid / empty	Invalid data found at [p4 -> toner A -> p5] .The field type is invalid. Valid types are [PRODUCT, LABEL, and BUNDLE].
400	label name is exceed the max characters limit	Invalid data found at [p4 -> toner A -> p5] .A label name cannot exceed 50 characters.

HTTP code	When to return	Error Message
400	SKU exceed the max characters limit	Invalid was found at [p4 -> toner A -> p5] .A SKU cannot exceed 200 characters.
400	label name contains invalid characters.	Invalid data found at [p4 -> toner A -> p5] The label name contains invalid characters.
400	Invalid structure, label must have at least one child (product/bundle)	Invalid data found at [p4 -> toner A -> p5] .Label [label name] is set without any related products. Please remove the label or add related products.
400	Invalid structure, In case type label & set as mandatory → it has at least one child that is a product or bundle and set as mandatory	Invalid data found at [p4 -> toner A -> p5] .Label [label name] is a mandatory label without any mandatory products. Please set mandatory product(s) or change its restriction.
400	Invalid structure, item that set as alternative→does not have at least one more item product/label as an alternative at the same level	Invalid data found at [p4 -> toner A -> p5]. [product/bundle/label NAME] has incomplete configuration. Please ensure there is at least one more alternative at the same level for proper setup.
400	Invalid structure, item that set as alternative & mandatory →all product/label at the same level is not set as alternative & mandatory	Invalid data found at [p4 -> toner A -> p5] .for [labelNameOrSku] .You have an alternative option in this level, and one is set as mandatory. Please set all fields as both mandatory and alternative.
400	Invalid structure, mandatory field is not set as either true or false/ empty	Invalid data was found at [p4 -> toner A -> p5]. The item "[labelNameOrSku]" has invalid mandatory field value. The valid types are [TRUE, FALSE).
400	Invalid structure, alternative field is not set as either true or false / empty	Invalid data was found at [p4 -> toner A -> p5]. The item "[labelNameOrSku]" has invalid alternative field value. The valid types are [TRUE, FALSE].
400	element contains more than 10 levels	Invalid data found at [p4 -> toner A -> p5]. For [labelNameOrSku] You have reached the maximum limit of 10 levels that can be added to a product or a label.

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HTTP code	When to return	Error Message
400	Delete product that has a children in the hierarchy tree, this product cannot be deleted	Unable to delete product [SKU] that has related product/s in the product hierarchy. Please remove any associated child products from the product hierarchy and try again.
400	Delete product that set as mandatory in the hierarchy tree, this product cannot be deleted	Unable to delete product [SKU] that was set as mandatory in the product hierarchy. Please remove it from the product hierarchy and try again.
400	Delete product that set as alternative in the hierarchy tree, this product cannot be deleted	Unable to delete product [SKU] that was set as an alternative in the product hierarchy. Please remove it from the product hierarchy and try again.
400	If the items in the product hierarchy has 50,000 items, an error message will appear	You can only add a maximum of 50,000 products or labels to the product hierarchy.
400	Invalid version status	Specified version cannot be modified: Invalid version status.