
Catalog Search Using Web Services

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About This Feature

This feature is available in:

- Ariba Procurement Content

Ariba Procurement Content now supports web services requests for catalog search from external systems. The supported search options include free text, product key, and specific attributes, among others.

Previously, support for web services in Ariba Procurement Content to integrate with external systems did not exist.

Enabling This Feature

This is an out-of-the-box feature available to all customers. You must ensure your site is configured for web services and the Inbound end point. Inbound end points are used when the task is initiated by the Enterprise Application Integration (EAI) system.

Ariba web services use the W3C SOAP messaging framework to exchange messages over HTTP or HTTPS. Ariba strongly recommends that you use Ariba web services over an HTTPS link to the EAI system as Ariba web services provide integration tasks, or integration events, that send and receive SOAP messages. An integration task requires an end point for the logical communication channel used by web services. An end point consists of the URL and authentication information that controls access to the end point.

For information on Ariba Web Services and how to configure an end point, see *Ariba Data Maintenance and Fundamentals Guide*.

Implementation Overview

Configuring Web Services

Consider the following guidelines before implementing catalog item validation requests from external systems using web services:

- Blank search of catalog items are not allowed. At least one search term must be provided.
- Refining of search results are not supported.
- Image files are not transferred while searching for catalog items.
- A maximum of 100 search results are returned.

- Search using parametric fields are not supported

Understanding Catalog Item Search Web Service

Catalog Item Search

Ariba On Premise uses the `CatalogItemSearch` web service to search for catalog items. The following general guidelines apply to the `CatalogItemSearch` web service:

- The supported operators are `like` and `or`.
- Operator `like` is supported for all searchable fields.
- Operator `or` is supported only for the `Key` field.
- In case of Operator `like`, only one value is supported. In case of Operator `or` multiple values are supported.
- If multiple search terms are specified; and operation is applied on all the search terms.
- Use `MatchAll` field for free text search. e.g. 'Monitor OR Keyboard'.

Catalog Search Term

The following search terms are supported in the Catalog Search Item web service and are defined using the properties listed below:

- **Attribute Name**- Name of an attribute
- **Attribute Type**- Type of an attribute
- **Data Type** - Determines the value of an attribute

Supported Search Terms

Attribute Name	Attribute Type	Data Type
----------------	----------------	-----------

SupplierID	DomainValuePair	
CatalogName	Id	literal
SupplierPartId	PartId	string
TerritoryAvailable	TerritoryCode	literal
PunchoutEnabled	Flag	boolean
AribaInternalMAId	Id	literal
IsPartial	Flag	boolean
ClassificationCode	DomainValuePair	
TypeName	Id	literal
PunchoutStore	Id	literal
Language	Id	literal
Price	Money	
ManufacturerName	Name	

Supported Search Terms

Attribute Name	Attribute Type	Data Type
ManufacturerPartId	PartId	string
Keywords	Id	List of literal

The catalog item search web service receives `CatalogSearchQueryRequest` messages and sends `CatalogSearchQueryResponse` messages.

Common Header Elements in Catalog Item Search

The following elements are common to SOAP headers for all web service events.

Element	Required	Description
variant	Mandatory	String. Specify a value for this element
partition	Mandatory	String. Specify a value for this element

WSCatalogSearchRequest Elements

The `WSCatalogSearchRequest` element consists of the following sub-elements

- `WSCatalogItemSearchRequest`
- `WSCatalogSearchQueryRequest_Item`
- `WSCatalogSearchQueryRequest`

WSCatalogSearchQueryRequest consists of the following sub-elements.

Element	Required	Description
SearchTerms	Mandatory	<p>Consists of one or more WSCatalogSearchTerm elements (at least one search term is mandatory). Child elements WSCatalogSearchTerm are:</p> <ul style="list-style-type: none"> Field - Key Operators - Like, or Values
Sort	Optional	<p>You can sort the catalog item search results with the following options:</p> <ul style="list-style-type: none"> For sort, validation is applied if the value is provided. The supported fields are Relevance, Price, Description, and Short Name. Relevance - sorts the items with the best or most complete string match and is set as the default value. Price - Ascending sorts the items by price in ascending order. Price - Descending sorts the items by price in descending order. Best Selling sorts items by popularity. Name - Ascending sorts the items by name in ascending order. Name - Descending sorts the items by name in descending order.
SortDirection	Optional	<ul style="list-style-type: none"> For sort direction, validation is applied if the value is provided. The supported values are asc and desc.
UserID	Mandatory	<p>This element searches for user information. The user search is based on the user's unique name and the locale of the search results is based on the user's locale.</p>

WSCatalogItemSearchReply Elements

WSCatalogItemSearchReply consists of the following sub-elements:

```

WSCatalogSearchResponse
  WSCatalogSearchResponse_Item
    CatalogItems
      WSCatalogItem
  
```

Each WSCatalogItem element contains sub-elements with attributes such as BuyerPartId, Price, and SupplierId.

DomainValuePair Elements

Some attributes, such as SupplierId and UnitOfMeasure, contain WSDomainValuePair elements. For example,

```

<UnitOfMeasure>
  <Domain>ANSI</Domain>
  <Value>EA</Value>
</UnitOfMeasure>
  
```

Money

The Money element has the following child elements:

- Amount (optional decimal): Decimal amount.
- Currency (optional complex type): Contains UniqueName (optional string). Specifies the currency type using the ISO 4217 alphabetic code (for example, USD, EUR, or CNY).

For example,

```
<NonContractPrice>
  <Currency>USD</Currency>
  <Amount>408</Amount>
</NonContractPrice>
```

Custom Attributes

Custom attributes are returned in ExtrinsicAttributes elements, which contain a FieldName element and one or more Values elements. For example:

```
<ExtrinsicAttributes>
  <item>
    <Values>Acceptable</Values>
    <FieldName>Condition</FieldName>
  </item>
</ExtrinsicAttributes>
```

Errors

The Errors element consists of a list of items and its severity is (error or confirmation) returned by the web service in the response. For example,

```
<Errors>
  <item>Provide valid search field and value - MatchAll:[]
</item>
</Errors>
```

For more information on resolving errors, see “[Troubleshooting](#)” on page 12.

Sample Catalog Item Search Request

- **Specific catalog item search** - You can search for a specific catalog item in Ariba Procurement Content (APC) using web services with the product ID. A product ID is a unique identifier of an item in APC and search by product ID consists of **BuyerSystemID**, **SupplierPartID**, and **SupplierPartAuxID**. Note, search for single or multiple product IDs in a requisition at the same time is allowed.

The following is an example of searching for specific in Ariba Procurement Content using web services with the product ID. This is a request to search for a specific product sid498|RAY41400 for the user adavis. The value of the searchable field name is `<urn:Field>Key</urn:Field>` with `<urn:Operator>like</urn:Operator>`.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:urn="urn:Ariba:Buyer:vrealm_1">
  <soapenv:Header>
    <urn:Headers>
      <urn:variant>vrealm_1</urn:variant>
```

```

        <urn:partition>prealm_1</urn:partition>
      </urn:Headers>
    </soapenv:Header>
    <soapenv:Body>
      <urn:WSCatalogItemSearchRequest partition="prealm_1" variant="vrealm_1">
        <urn:WSCatalogSearchQueryRequest_Item>
          <urn:item>
            <urn:SearchTerms>
              <urn:item>
                <urn:Field>Key</urn:Field>
                <urn:Operator>like</urn:Operator>
                <urn:Values>
                  <urn:item>sid498|RAY41400</urn:item>
                </urn:Values>
              </urn:item>
            </urn:SearchTerms>
            <urn:Sort></urn:Sort>
            <urn:SortDirection></urn:SortDirection>
            <urn:UserId>adavis</urn:UserId>
          </urn:item>
        </urn:WSCatalogSearchQueryRequest_Item>
      </urn:WSCatalogItemSearchRequest>
    </soapenv:Body>
  </soapenv:Envelope>

```

Sample Catalog Item Search Response

The following is a response returned for the specific catalog item search request for **sid498|RAY41400** on variant **vrealm_1** and partition **prealm_1**.

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header>
    <Headers xmlns="urn:Ariba:Buyer:vrealm_84">
      <variant>vrealm_84</variant>
      <partition>prealm_84</partition>
    </Headers>
  </soap:Header>
  <soap:Body>
    <WSCatalogItemSearchReply xmlns="urn:Ariba:Buyer:vrealm_84">
      <WSCatalogSearchResponse_Item>
        <item>
          <Errors/>
          <CatalogItems>
            <item>
              <SupplierPartAuxiliaryId/>
              <ManufacturerPartId>303/357-1W</ManufacturerPartId>
              <Key>sid498|RAY41400</Key>
              <PunchoutEnabled>false</PunchoutEnabled>
              <CatalogName>SchaferOffice</CatalogName>
              <EffectiveDate/>
              <Thumbnail/>
              <InKitOnly>false</InKitOnly>
              <ExpirationDate/>
              <ManufacturerName/>
              <ErrorSeverity/>
              <AribaInternalMAId/>
              <PriceBasisQuantityUOM>
                <Domain/>
                <Value/>

```

```

</PriceBasisQuantityUOM>
<LinkedBuyerFacility/>
<ReportingPath/>

<BuyerPartId/>
<ManufacturerURL/>
<ContractPrice>
  <Currency>USD</Currency>
  <Amount>1.56</Amount>
</ContractPrice>
<AribaInternalIsContractOrderable>false</AribaInternalIsContractOrderable>
<LeadTime>1</LeadTime>
<SpecSheet/>
<Price>
  <Currency>USD</Currency>
  <Amount>1.56</Amount>
</Price>
<ShortName/>

<SupplierId>
  <item>
    <Domain>buyersystemid</Domain>
    <Value>sid498</Value>
  </item>
</SupplierId>
<OriginatingLineNumber>0</OriginatingLineNumber>
<HazmatSheet/>
<Filtered>false</Filtered>
<ApplicableContracts/>
<ClassificationCode>
  <item>
    <Domain>UNSPSC</Domain>
    <Value>26111711</Value>
  </item>
</ClassificationCode>
<PriceBasisQuantityDesc/>
<OriginatingColumnNumber>0</OriginatingColumnNumber>
<InternalPartId>false</InternalPartId>
<ExtrinsicAttributes>
  <item>
    <Values>
      <item/>
    </Values>
    <FieldName>bestprice</FieldName>
  </item>
  <item>
    <Values>
      <item/>
    </Values>
    <FieldName>hazardousmaterials</FieldName>
  </item>
  <item>
    <Values>
      <item/>
    </Values>
    <FieldName>green</FieldName>
  </item>
</ExtrinsicAttributes>
<NonContractPrice>
  <Currency>USD</Currency>
  <Amount>1.56</Amount>
</NonContractPrice>
<PriceBasisQuantity/>
<SubscriptionVersionId/>

```

```

        <Availability/>
        <PunchoutLevel/>
        <UnitOfMeasure>
            <Domain>UN</Domain>
            <Value>EA</Value>
        </UnitOfMeasure>
        <Image/>
        <PreviewFilterName/>
        <SupplierPartId>RAY41400</SupplierPartId>
        <URL/>
        <PunchoutStore/>
        <PreviewFiltered>>false</PreviewFiltered>
        <TerritoryAvailable/>
        <ConversionFactor/>
        <CatalogTypeName>system:catalogitem</CatalogTypeName>
        <Partial>>false</Partial>
        <Description>Watch/Calculator Batteries - 1.5 Silver</Description>
        <Demo/>
        <LinkedBuyerPart/>
        <ProcureItemType/>
        <PropertiesMask/>
        <ItemNumber>0</ItemNumber>
        <Language>en_US</Language>
        <SupplierName>Schafer Office</SupplierName>
    </item>
</CatalogItems>
</item>
</WSCatalogSearchResponse_Item>
</WSCatalogItemSearchReply>
</soap:Body>
</soap:Envelope>

```

- **Multiple Product ID Search** - You can search for multiple catalog items in Ariba Procurement Content (APC) using web services with the product ID. A product ID is a unique identifier of an item in APC and search by product ID consists of **BuyerSystemID**, **SupplierPartID**, and **SupplierPartAuxID**. Note, search for single or multiple product IDs in a requisition at the same time is allowed.

The following is an example of searching for multiple catalog items in Ariba Procurement Content using web services with the product IDs. A request to search for multiple products is as follows:

```

<urn:SearchTerms>
    <urn:item>
        <urn:Field>Key</urn:Field>
        <urn:Operator>or</urn:Operator>
        <urn:Values>
            <urn:item>sid498|RAY41400</urn:item>
            <urn:item>sid498|RAY45052</urn:item>
        </urn:Values>
    </urn:item>
</urn:SearchTerms>

```

Where

- Products are sid498|RAY41400, sid498|RAY45052
- Value of the searchable **Field** name is **Key**
- Supported **Operator** is **or**
- **Free text search** - You can perform free text search for catalog items. For example, you can search for a catalog item “monitors and keyboards” and monitor and keyboards across multiple catalogs, within a single catalog, or within categories across multiple catalogs are retrieved.

The following is an example of free text searching in Ariba Procurement Content using web services using the MatchAll field with the like operator as like is supported for all searchable fields.

Free Text Search Request

```
<urn:SearchTerms>
  <urn:item>
    <urn:Field>MatchAll</urn:Field>
    <urn:Operator>like</urn:Operator>
    <urn:Values>
      <urn:item>Monitor or Keyboard</urn:item>
    </urn:Values>
  </urn:item>
</urn:SearchTerms>
```

- **Attribute search** - An attribute search is a search that requires you to specify the set of attributes to perform the search. The following is an example of searching catalog items for <SupplierPartAuxiliaryId/> and <SupplierId> attributes.

Attribute Search Request

```
<urn:item>
<!--You may enter the following 4 items in any order-->
  <urn:SearchTerms>
    <!--1 or more repetitions:-->
      <urn:item>
        <!--You may enter the following 3 items in any order-->
          <urn:Field>MatchAll</urn:Field>
          <urn:Operator>like</urn:Operator>
          <urn:Values>
            <!--1 or more repetitions:-->
              <urn:item>JohnDoe1513</urn:item>
          </urn:Values>
        </urn:item>
      </urn:SearchTerms>
      <urn:Sort></urn:Sort>
      <urn:SortDirection></urn:SortDirection>
      <urn:UserId>jham</urn:UserId>
    </urn:item>
```

Troubleshooting

The following table lists the commonly-encountered errors related to searching catalog items using web services:

Error	Resolution
Invalid user ID	Provide a valid user ID
Invalid search term	Provide a valid search term
Product ID validation failed due to an unexpected error	Provide a valid product ID

Error	Resolution
Search term not supported	Provide a search term that is supported.
Invalid search field and value	Provide a valid search value
Invalid search operator	Provide a correct search operator
Search request has reached the maximum limit	The search request has reached the maximum of 10000 search results. You can narrow down the search operations and try again.
Search field already exists. Duplicate search fields are not allowed.	Provide a unique search field
Specified sort by field is incorrect	Provide the correct sort by field option
Invalid sort direction	Provide a correct sort direction