Business Center™

Customization Guide

Release 8.5

October 2009

Sterling Commerce
An IBM Company

Contents

Overview of Business Center Customization

The Business Center™ application can be customized based on the business requirements of users. A user may want to make changes in the way information is displayed in the user interface (UI) without changing the functionality. This topic provides an overview of the types of customizations possible in the Business Center application.

You can customize the search criteria used in the Advanced Search screens in Business Center. For more information about customizing the advanced search criteria, refer to the topic, “Customize Advanced Search Criteria for Business Center”.

In addition to the advanced search criteria, the following Web UI Framework components can also be customized:

- Basic Differential Screen extensions: You can add a new field or hide an existing field in the UI. Moreover, you can also modify the properties of the out-of-the-box fields.
- Mashup extensions: You can customize the input XML and the output template of an API call. In addition to this, you can define new mashups also.
- Resource bundles: You can define new bundle entries and override the out-of-the-box bundle entries.
- Struts extensions: You can define new Struts and override the existing Struts.
- Cascading Style Sheets (CSS): You can create new CSS entries.
- Data types: You can define new data types and modify the existing data types.
- Login screen: You can define your own Login screen and use it to log in to Business Center.

  For more information about customizing the Web UI Framework components, refer to the following guide:

  - *Selling and Fulfillment Foundation: Customizing the Web UI Framework Guide*
  - *Selling and Fulfillment Foundation: Customization Basics Guide*
  - *Selling and Fulfillment Foundation: Extending the Database Guide*

Note: To monitor the execution of a program that is run to trap errors when customizing Business Center, you can use the debugging tools provided with the application. For more information about the debugging tools, refer to the *Selling and Fulfillment Foundation: Customizing the Web UI Framework Guide*.

Customize Advanced Search Criteria for Business Center

Business Center™ enables users to perform basic and advanced searches. You, as an implementer, can customize the advanced search criteria. The advanced search criteria can be modified by either removing a few attributes or adding a few attributes to the corresponding Advanced Search metadata file. All the customizations for the Advanced Search screens must be performed by defining an Advanced Search metadata file in the `<INSTALL_DIR>/extensions/sbc/webpages/sbc/metadata/advancedsearch` folder. An Advanced Search metadata file must be created to specify the search attributes, along with details such as the controls to be displayed in the user interface (UI), query types to be used, and so on.

The following table lists the Advanced Search metadata files that must be created to customize the corresponding Advanced Search screens:

Screen Name	Advanced Search Metadata File Name
Coupon Search	`Coupon.xml`
Entitlement Search	`Entitlement.xml`
Item Search	`Item.xml`
Price List Search	`Pricelist.xml`
Pricing Rule Search	`PricingRule.xml`
Service Search	`Service.xml`
Service Option Search	`ServiceOption.xml`

Add or Modify a Search Attribute

You can add a search attribute to a list of existing search attributes in an Advanced Search screen. In addition, you can also modify an existing search criteria.

To add or modify a search attribute:

1. Create a corresponding Advanced Search metadata file if it does not already exist in the `<INSTALL_DIR>/extensions/sbc/webpages/sbc/metadata/advancedsearch` folder.
2. Create an element, Attribute, as a child element of the root element, Attributes.
3. Set the value of the XML attribute, Action, to `ADD`.

4. Define the values of the other XML attributes.

   Refer to the following table for more information about defining the values of the otherXML attributes:

Component	Component Type	Component Location	Description
Name	Attribute	Attributes/Attribute	Indicates the XML name of the search attribute. This component, along with the XPath, is used to set the source and target binding for the control that is displayed in the UI.
DataType	Attribute	Attributes/Attribute	Indicates the data type of the search attribute. If data Type is not provided, it is derived using the XPath and the Name attribute values. You can use the DataType attribute to override the default data types. Each data type is mapped to String, Date, or Number. If query types are not explicitly mentioned, this mapping is used to display the query types in the UI.
DisplayName	Attribute	Attributes/Attribute	Indicates the bundle key of a label that is displayed in a drop-down list for search attributes. If the label is not mentioned, the Name attribute is considered as the bundle key to display the label.
XPath	Attribute	Attributes/Attribute	Indicates the XML path of the element to which the search attribute belongs.
DefaultQuery Types	Attribute	Attributes/Attribute	Indicates the default query type for the search attribute. If DefaultQueryTypeDesc is not set for an attribute, set it by performing this procedure: Get the supported query types by either reading the overridden query types or using the out-of-the-box query types for the data type of the attribute. Because Equal is the most commonly used query type, verify if it is one of the supported query types. If yes, use Equal as the default. Otherwise, use the first query type, which is displayed in the list of supported query types.
StringQueryT ypes	Element	Attributes/Attribute	Indicates that out-of-the-box string query types are being overridden with the child elements of the StringQueryTypes element. If all the possible StringQueryTypes are not required, create one QueryType child element of StringQueryType for each query type you want to support.
DateQueryTy pes	Element	Attributes/Attribute	Indicates that out-of-the-box date query types are being overridden with the child elements of the DateQueryTypes element. If all the possible date query types are not required, create one QueryType child element of DateQueryType for each query type you want to support.
NumericQuer yTypes	Element	Attributes/Attribute	Indicates that out-of-the-box numeric query types are being overridden with the child elements of the NumericQueryTypes element. If all the possible NumericQueryTypes are not required, create one QueryType child element of NumericQueryType for each query type you want to support.

<table>
<tr><th>Component</th><th>Component Type</th><th>Component Location</th><th>Description</th></tr>
<tr><td>QueryType</td><td>Element</td><td>Attributes/Attribute/StringQueryTypes
OR
Attributes/Attribute/DateQueryTypes
OR
Attributes/Attribute/NumericQueryTypes</td><td>Indicates the query types that are supported for the search attribute. Following are the query types that can be supported:
◆ Query types for strings
<table><tr><th>QueryType</th><th>QueryTypeDesc</th><th>Description</th></tr><tr><td>EQ</td><td>is</td><td>is</td></tr><tr><td>FLIKE</td><td>starts_with</td><td>starts with</td></tr><tr><td>LIKE</td><td>contains</td><td>contains</td></tr></table>◆ Query types for numbers
<table><tr><th>Query Type</th><th>QueryTypeDesc</th><th>Description</th></tr><tr><td>EQ</td><td>is</td><td>is</td></tr><tr><td>GE</td><td>greater_than_or_equal_to</td><td>greater than or equal to</td></tr><tr><td>LE</td><td>less_than_or_equal_to</td><td>less than or equal to</td></tr><tr><td>NE</td><td>not_equal_to</td><td>not equal to</td></tr><tr><td>LT</td><td>less_than</td><td>less than</td></tr><tr><td>GT</td><td>greater_than</td><td>greater than</td></tr></table>◆ Query types for dates
<table><tr><th>Query Type</th><th>QueryTypeDesc</th><th>Description</th></tr><tr><td>EQ</td><td>is</td><td>is</td></tr><tr><td>GE</td><td>greater_than_or_equal_to</td><td>greater than or equal to</td></tr><tr><td>LE</td><td>less_than_or_equal_to</td><td>less than or equal to</td></tr><tr><td>NE</td><td>not_equal_to</td><td>not equal to</td></tr><tr><td>LT</td><td>less_than</td><td>less than</td></tr><tr><td>GT</td><td>greater_than</td><td>greater than</td></tr><tr><td>BETWEEN</td><td>between_from_and_to</td><td>between</td></tr></table></td></tr>
</table>

Component	Component Type	Component Location	Description
QueryType	Attribute	Attributes/Attribute/StringQueryTypes/QueryType OR Attributes/Attribute/DateQueryTypes/QueryType OR Attributes/Attribute/NumericQueryTypes/QueryType	Indicates the query type. For more information about the supported query types, refer to the description of the QueryType Element.
QueryTypeDesc	Attribute	Attributes/Attribute/StringQueryTypes/QueryType OR Attributes/Attribute/DateQueryTypes/QueryType OR Attributes/Attribute/NumericQueryTypes/QueryType	Indicates the bundle key of the label that is displayed for the query type in the UI. If the value of QueryTypeDesc is not set, the QueryTypeDesc attribute value corresponding to the query type is considered as the bundle key that will display the query type label. For more information about the supported query types, refer to the description of the QueryType Element.
Configuration	Element	Attributes/Attribute	Indicates that the search attribute will have certain configuration for UI control and possible values of the search attribute.
ActionURL	Attribute	Attributes/Attribute/Configuration	Indicates the action that returns the list of possible values for the search attribute. This action may either return the static list of predefined values or call the corresponding API to get them , and then return them. For example, the ActionURL can return the values pertaining to the common codes, currency, and countries.
UIControlConfiguration	Element	Attributes/Attribute/Configuration	Indicates that the search attribute will have certain configurations for UI control.

<table>
<tr><th>Component</th><th>Component Type</th><th>Component Location</th><th>Description</th></tr>
<tr><td>xtype</td><td>Attribute</td><td>Attributes/Attribute/Configuration/UIControlConfiguration</td><td>Indicates the type of the control that is displayed in the Advanced Search screen for the search attribute. Following are the possible xtypes for an attribute:

<table><tr><th>xtype</th><th>Description</th></tr><tr><td>xadvancedtextcontrol</td><td>Used to display a text box in the UI.</td></tr><tr><td>xadvancedradiocontrol</td><td>Used to display radio buttons in the UI.</td></tr><tr><td>xadvanceddatecontrol</td><td>Used to display a field for entering date in the UI.</td></tr><tr><td>xadvancedcomboboxcontrol</td><td>Used to display a drop-down list in the UI.</td></tr><tr><td>xadvancedtriggercontrol</td><td>Used to display a trigger field in the UI.</td></tr><tr><td>xadvattributelookup</td><td>Used to display an attribute lookup widget in the UI.</td></tr><tr><td>xadvancednumbercontrol</td><td>Used to display a number field in the UI.</td></tr></table></td></tr>
<tr><td>optionsBinding</td><td>Attribute</td><td>Attributes/Attribute/Configuration/UIControlConfiguration</td><td>The optionsBinding attribute is used to specify the repeating elements of the list that constitutes one value of either combo box values or radio button values.
Note: This is applicable only for a combo box and a radio button.</td></tr>
<tr><td>displayField</td><td>Attribute</td><td>Attributes/Attribute/Configuration/UIControlConfiguration</td><td>The displayField attribute specifies the attribute whose value is used as the label.
Note: This is applicable only for a combo box and a radio button.</td></tr>
<tr><td>valueField</td><td>Attribute</td><td>Attributes/Attribute/Configuration/UIControlConfiguration</td><td>The valueField attribute is used to uniquely identify the repeating element in order to display the correct value of the selected option from either a combo box or a radio button.</td></tr>
</table>

Note: Ensure that you rebuild the Enterprise ARchive (EAR) after adding a new search attribute.

For more information about building an EAR, refer to the *Selling and Fulfillment Foundation Installation Guide*.

Adding a Search Attribute - An Example

You may want to enable users to search the child price lists of a master price list. In such a scenario, you can add the master price list ID attribute to the list of advanced price list search attributes. Because master price list IDs are string values, you can allow the query types, starts with or is, and use a text box as the input control.

To add the master price list ID as a search criteria:

1. Create the Pricelist.xml file in the `<INSTALL_DIR>/extensions/sbc/webpages/sbc/metadata/advancedsearch` folder if the file does not exist in the folder. Ensure that the root element of the XML is Attributes.
2. Create an element, Attribute, as a child element of the root element, Attributes.
3. Set the value of the XML attributes, Action, to `ADD`.
4. Set the value of the XML attribute, Name, to `PricelistName` in the element, Attribute. This is because the XML attribute that is set with the master price list ID in the input XML is `PricelistName`.
5. Set the value of the XML attribute, XPath, to `PricelistHeader\InheritFromPricelistHeader` in the element, Attribute. This is because the XML path of the `PricelistName` attribute for the master price list ID is `PricelistHeader\InheritFromPricelistHeader`.
6. To define the user interface (UI) label in the search attribute drop-down list, set the XML attribute, `DisplayName`, to any key. Ensure that you add a bundle entry as the key for this attribute.
7. To use a text field for the attribute, set the XML attribute, xtype, to `xadvancedtextcontrol`.
8. Create an element, Configuration, as the child element of the element, Attribute.
9. Create an element, UIControlConfiguration, as the child element of the element, Configuration.
10. To use only a few string query types, create the element, StringQueryTypes, as the child element of the element, Attribute.

11. To support the query types, is and starts with, perform the following steps:
    a. Add the QueryType elements with the value of the QueryType XML attribute as `EQ` and `FLIKE`.
    b. To customize the query type description, set the value of the QueryTypeDesc XML attribute to the correct bundle key.

    The search attribute is added.

    Following is the newly added attribute element for the master price list ID field:

```
<Attribute Action="ADD" Name="PricelistName"
DisplayName="b_Price_List_Name"
XPath="PricelistHeader/InheritFromPricelistHeader">
<Configuration>
<UIControlConfiguration xtype="xadvancedtextcontrol"/>
</Configuration>
<StringQueryTypes>
<QueryType QueryType="EQ" QueryTypeDesc="is"/>
<QueryType QueryType="FLIKE"/>
</StringQueryTypes>
</Attribute>
```

Modifying a Search Attribute - An Example

Users may want to allow only the `is` query type and `starts with` query type for the Item ID field in the Advanced Search Item screen in order to improve the performance of the search task. In such a scenario, you can modify the existing query types for the search attribute.

To modify the XML attribute, QueryType:

1. Create the `Item.xml` file if it does not exist in the `<INSTALL_DIR>/extensions/sbc/webpages/sbc/metadata/advancedsearch` folder.
2. Create an element, Attribute, as a child element of the root element, Attributes.
3. Set the value of the attribute, Name, to `ItemID`.

   Following is the XML attribute that has to be modified:

```
<Attribute Name="ItemID" DisplayName="b_ItemSearch_Item_ID" XPath="Item">
<Configuration>
<UIControlConfiguration xtype="xadvancedtextcontrol"/>
</Configuration>
</Attribute>
```

4. Set the value of the attribute, Action, to `ADD`.
5. Add the QueryType elements with the value of the QueryType XML attribute as `EQ` and `FLIKE`.

6. To customize the query type description, set the value of the QueryTypeDesc XML attribute to the correct bundle key.

   The XML attribute is modified.

   Following is the attribute element that is modified:

```
<Attribute Name="ItemID" DisplayName="b_ItemSearch_Item_ID" XPath="Item"
Action="ADD">
<Configuration>
<UIControlConfiguration xtype="xadvancedtextcontrol"/>
</Configuration>
<StringQueryTypes>
<QueryType QueryType="EQ" QueryTypeDesc="is"/>
<QueryType QueryType="FLIKE" QueryTypeDesc="starts_with"/>
</StringQueryTypes>
</Attribute>
```

Remove a Search Attribute

You may want users to exclude a search attribute when performing an advanced search. In such a scenario, you can remove the corresponding attribute from the search criteria.

To remove a search attribute:

1. Create a corresponding Advanced Search metadata file if it does not already exist in the `<INSTALL_DIR>/extensions/sbc/webpages/sbc/metadata/advancedsearch` folder.
2. Create an element, Attribute, as a child element of the root element, Attributes.
3. Set the value of the attribute, Name, to the name of the search attribute you want to remove.
4. Set the value of the corresponding XML attribute, Action, to `DELETE`.

   The search attribute is removed.

   Note: Ensure that you rebuild the Enterprise ARchive (EAR) after removing a search attribute.

   For more information about building the EAR, refer to the *Selling and Fulfillment Foundation Installation Guide*.

Removing a Search Attribute - An Example

You may, for example, want users to exclude the attribute, target, as a search criteria from the Advanced Pricing Rule Search screen. In such a scenario, you can remove the corresponding XML attribute from the `PricingRule.xml` file.

To remove the attribute, `target`:

1. Create the `PricingRule.xml` file if it does not exist in the `<INSTALL_DIR>/extensions/sbc/webpages/sbc/metadata/advancedsearch` folder.
2. Create an element, Attribute, as a child element of the root element, Attributes.
3. Set the value of the attribute, `Name`, to `TargetAttributeValue`.

4. Set the value of the corresponding XML attribute, Action, to `DELETE`.

   The search attribute is removed.

   Following is the attribute element that is removed:

   ```
   <Attribute Name="TargetAttributeValue" Action="DELETE">
   </Attribute>
   ```

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