

Search Properties, xClasses, and xProperties

You can search for properties, xClasses, and xProperties associated with items using Simple, Advanced and AML search. The xClass and xProperty criteria can also be saved to a Saved Search.

Using the Column Selector in Main and Relationship grids

The Main and Relationship grid toolbars contain the Refine Search icon . When you click the icon, a dialog box similar to the following appears. The dialog contains 2 columns - **Properties** and **Classifications**.

Important

The data displayed in the following dialog uses example data.



Properties	Classifications
☒ Extended	 
☒ Capacitor Type ☒ Description ☒ Diameter ☒ Height ☒ Series ☒ Shape ☒ xp-capacitance	Any Classification ☐ Electronic ☐ Antenna ☐ Resistor ☐ Fuse ☐ Capacitor ☐ Fixed Capacitor ☐ Variable Capacitor ☐

In the Main Grid, the Properties column displays a list of properties associated with the item. Select one of the following from the dropdown list:

- **All** (the default) displays the standard properties, explicitly-defined xProperties, and extended properties associated with an item.
- **Standard** displays the standard properties and explicitly defined xProperties.
- **Extended** displays all of the xProperties assigned through the xClassification trees.

In the Relationship grid the **Properties** column displays a list of properties associated with the item. Select one of the following from the dropdown list:

- **All** (the default) displays all the properties.



- **Standard** displays all Properties where hidden2 = false **and** explicitly defined xProperties on the **Related ItemType**
- **Relationship** displays Properties where hidden2 = false as well as explicitly defined xProperties **and** xProperties assigned through xClass Trees for the **Relationship ItemType**
- **Extended** displays all the xProperties that are assigned through xClassification Trees for the **Related ItemType**

The standard properties that you select appear as column headings in the Main and Relationship grids. Deselecting properties removes them from the grid.

The **Classifications** column displays the xClassification Tree associated with an item.

To search for several xProperties or xClasses, click the AND icon null . Click the OR icon null to search for a particular xProperty or xClass.

- For example if the User searches for xClass X OR xClass Y the search should only return Items classified as X or items classified as Y, or Items classified as both X and Y. And Items classified by X and Z. And Items classified by Y and Z. And Items classified by X, Y and Z. etc. As long as an item is classified by X or Y, it should be returned no matter what else it is classified with.
- If the User searches for xClass X AND xClass Y the search should return Items classified as both X and Y and Items classified by X, Y and Z.



Sedan

Sedan

☆

Edit

BOM

BOM Structure

Alternates

AML

Documents

CAD Documents

Goals

Changes

MyBOM

Parts

☆

Hidden

Seq...	Part Number	Revi...	Name
1	Automatic Gearbox	A	Automatic
2	C-000001	A	Carburetor
3	Hybrid Engine	A	Hybrid Engi
4	Simple Engine 2.0	A	Simple Eng

Properties

All

☒ Claimed
 ☒ Part Number
 ☒ Revision
 ☒ Name
 ☒ Type
 ☒ State
 ☒ Unit
 ☒ Changes
 ☐ Capacitor Type

Classifications

Any Classification

Electronic

Antenna

Resistor

Fuse

Capacitor

Fixed Capacitor

Variable Capacitor

Reference Designator	Chan...
	☐
	☐
	☐
	☐

Filtering the Property Column List by xClasses

You can search for xProperties that are only associated with a particular xClass by filtering xProperty Columns by selecting xClasses. When you select an xClass in the Classifications Column, the xProperties associated with that xClass appear in the Properties column. If you select multiple xClasses, the xProperties for all of the xClass selections are displayed in the Properties Column. Unselecting the “xClass Filter” control for xClasses causes the assigned xProperties for those xClasses to not appear in the Properties column.

As shown in the following screenshot, selecting the filter for the “Fixed Capacitor” xClass results in the xProperties associated with the Fixed Capacitor xClass appearing in the Properties column. The filter icon for each xClass is located to the right of the xClass name. The default state of the icon is grey (unselected). When you select the filter for a given xClass, the filter icon appears in orange.

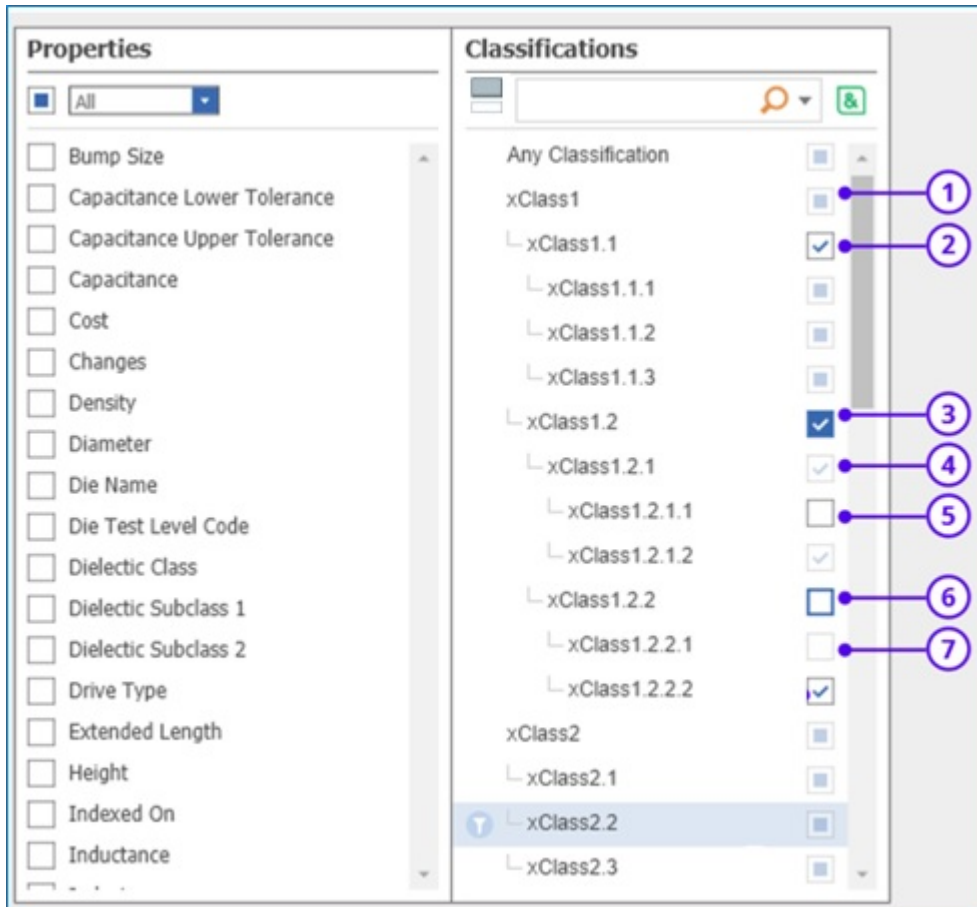


Properties	Classifications
☒ Extended	 
☒ Capacitor Type	Any Classification ☐
☐ Description	Electronic ☐
☒ Diameter	Antenna ☐
☒ Height	Resistor ☐
☐ Series	Fuse ☐
☒ Shape	Capacitor ☐
☒ xp-capacitance	Fixed Capacitor ☐
	Variable Capacitor ☐

xClass Search Options

In the Classifications Column of the Column Selector, the following states (1-7, shown in the diagram below) are available for selecting the xClass to include in the Search criteria.





The check boxes on the right of the xClass name enable you to select the xClass to include in the search criteria. The xClass you select for the search is displayed in the xClass bar. For more information refer to [Using The xClass Bar](#) .

Figure 18 shows the different states for the checkboxes. Each of these states is described here:

1. **Unselected + Indeterminate** - This is the default search state for all xClasses. The indeterminate symbol indicates that it is .inactive. Grid results may or may not be classified by this xClass.
2. **Checked** - When you click the box, the check symbol that appears indicates that the xClass has been included as a single search criterion.
3. **Hard Checked** (include subclasses) — When you click an xClass checkbox twice the inverted colors on the check symbol indicate that both this xClass and all associated subclasses are included as search criteria. (Only available while using 'AND' logic).

4. **Soft Checked** - The normal check symbol is grayed out to indicate that the xClass is included as a single search criterion. You cannot click to this state. It only appears if a parent xClass was set to “Hard Checked”.
5. **Unchecked** - The empty box indicates that the search results must ‘NOT’ include this xClass.
6. **Hard Unchecked** (exclude subclasses) - The blue border around the empty box indicates that the search results must ‘NOT’ include this xClass or any of its subclasses. (Only available while using ‘AND’ logic).
7. **Soft Unchecked** - The empty box indicates that the search results must ‘NOT’ include the xClass. You cannot select this state. It only appears if a parent xClass was set to “Hard Unchecked”.

The Click-through cycle for xClasses that have subclasses where ‘AND’ logic is active starts with the default “Unselected + Indeterminate”. It then progresses through Checked, Hard Checked, Unchecked, Hard Unchecked, then back to Unselected + Indeterminate.

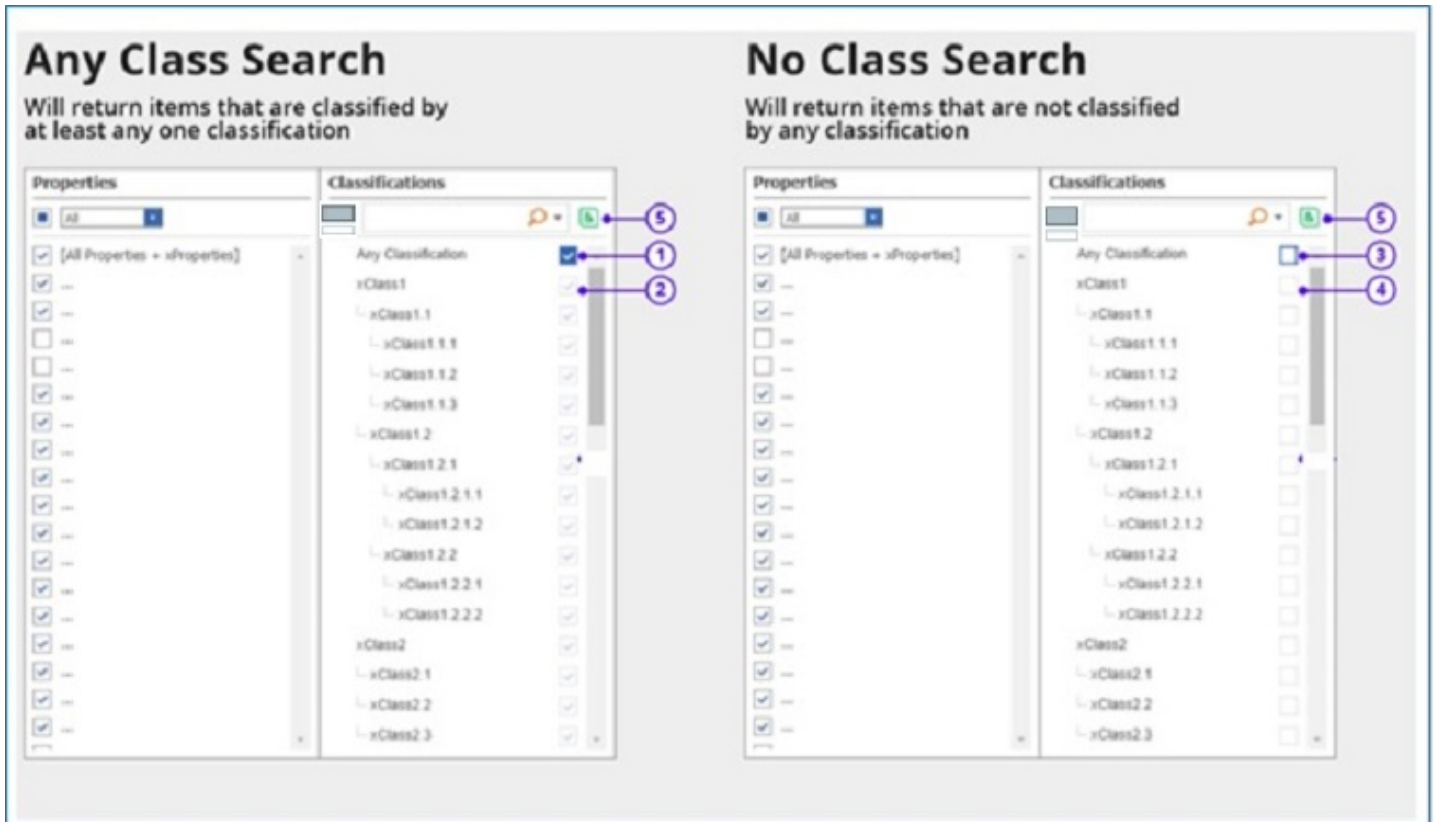
The Click-through cycle for all other conditions, beginning with the default Unselected + Indeterminate is Checked, Unchecked, and then back to Unselected + Indeterminate.

Clicking anywhere outside the menu closes the menu.

Clicking **Run Search** from the search toolbar executes the xClass search criteria and returns the results.

Clicking **Clear Search Criteria** from the search toolbar, clears all xClass search criteria.

Any Classification – Users can also search Items with Any or No Classification as shown in the following diagram.



1. Set “Any Classifications” to Hard Checked to search for items that are classified by at least one xClass from the xClassification Trees.
2. When you select “Any Classifications” then all the xClasses in the Trees should be Soft Checked.
3. Set “Any Classifications” to Hard Unchecked to search for items that are not included in any classification.
4. After setting “Any Classifications” to Hard Unchecked, all xClasses should display “Soft Unchecked”.

The logic used has no effect on searching by “Any Classification” - if set to either “AND” or “OR” the operation functions the same.

Using The xClass Bar

When you select xClasses and click the null icon, they appear in the xClass bar that appears in the Main grid as shown in figure 22.



Parts x

Parts v ☆

Search Clear Simple Current Today

Electronic AND Capacitor AND Fixed Capacitor AND Variable Capacitor

Part Number	Revi...	Name	Type	State	Co
Automatic gearbox	A	Automatic Gearbox		Preliminary	
C-0001	A	Carburator		Preliminary	
C10001	A	Electronic		Preliminary	
Hybrid Engine	A	Hybrid Engine		Preliminary	
Sedan	A	Sedan		Preliminary	
Simple Engine 2.0	A	Simple Engine 2.0		Preliminary	

Properties

Extended

Capacitance

Description

Diameter

Height

Shape

xp-capacitor_type

Classifications

Any Classification

Electronic

Antenna

Resistor

Fuse

Capacitor

Fixed Capacitor

Variable Capacitor

The Relationship grid displays xClasses and xProperties this way:

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes MyBOM

Parts v ☆

Hidden

Electronic AND Capacitor AND Fixed Capacitor AND Variab

Seq... ↑ 1	Quantity	Reference Designator
5	1	
6	1	

Properties

All

Claimed

Part Number

Revision

Name

Type

State

Unit

Changes

Classifications

Any Classification

Electronic

Antenna

Resistor

Fuse

Capacitor

Fixed Capacitor

Variable Capacitor

When you perform an Advanced search, the grid displays xClasses like this:

Parts

Search Clear Advanced Current Today

ItemType	Property	Operation	Criteria[...]
Electronic	AND	Antenna	AND Capacitor
Fixed Capacitor	AND	Variable Capacitor	

Part Number	Revi...	Name	Type	State	Cost
Automatic gearbox	A	Automatic Gearbox		Preliminary	
C-0001	A	Carburetor		Preliminary	
C10001	A	Electronic		Preliminary	
Hybrid Engine	A	Hybrid Engine		Preliminary	
Sedan	A	Sedan		Preliminary	
Simple Engine 2.0	A	Simple Engine 2.0		Preliminary	

Properties

Extended

Capacitance

Description

Diameter

Height

Shape

xp-capacitor_type

Classifications

Any Classification

Electronic

Antenna

Resistor

Fuse

Capacitor

Fixed Capacitor

Variable Capacitor

For an AML search, xClasses appear this way:

BOM BOM Structure Alternates AML Documents CAD Documents Goals Changes

Parts

AML

```

<Item type="Part BOM" action="get" page="1" select="quantity,reference
eated_by_id,created_on,modified_by_id,modified_on,locked_by_id,major
<AND xClassSearchCriteria="1">
<related_id>
<Item type="Part" action="get">
<AND>
<Relationships>
<Item type="Part_xClass" action="get">
<related_id="3D07F3D385FC485FA5FC6AD433404C23">
</Item>

```

Electronic AND Capacitor AND Fixed Capacitor AND Variab

Seq...	Part Number	Revi...	Name
1	2		

Prev Next Page: 1

Properties

Extended

Capacitance

Description

Diameter

Height

Shape

xp-capacitor_type

Classifications

Any Classification

Electronic

Antenna

Resistor

Fuse

Capacitor

Fixed Capacitor

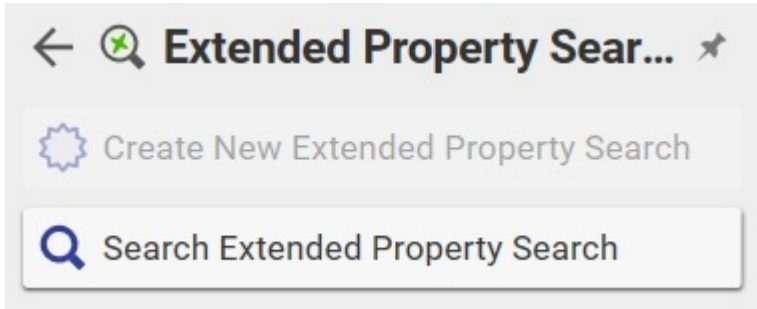
Variable Capacitor

Searching for xProperties across Multiple ItemTypes

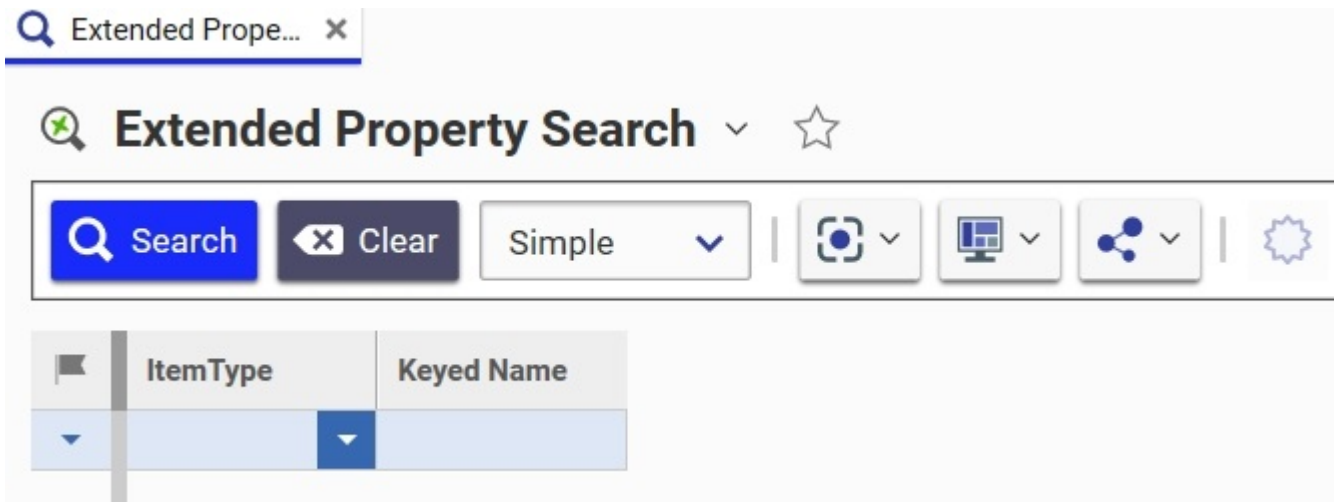


You can assign xProperties to items regardless of type. You can search for items that have xProperties associated with them using the following procedure:

1. Select **My InnovatorExtended Property Search** from the TOC. The following menu appears:



2. Select **SearchExtended Property Search**. The search grid appears.



3. To search for items associated with a specific ItemType, you can either enter the ItemType Name or select it from the dropdown list in the ItemType column. To see a list of all items that have xProperties associated with them, leave the ItemType column empty and click the **Search** icon.



Extended Property Search

Search

Clear

Simple



	ItemType	Keyed Name
▼	Part	
	Part	Automatic ge...
	Part	C10001
	Part	C-0001
	Part	Hybrid Engine
	Part	Sedan
	Part	Simple Engin...
	Part	Sedan

4. Select an item in the grid and click the **Select Columns** icon to see a list of Properties, xProperties, and xClasses associated with the selected item.

Extended Prope... x

Extended Property Search

Search

Clear

Simple

Item Type	Keyed Name
Part	
Part	Automatic ge...
Part	C10001
Part	C-0001
Part	Hybrid Engine
Part	Sedan
Part	Simple Engin...
Part	Sedan

Properties

☐ All

☒ Claimed

☒ ItemType

☒ Keyed Name

☐ Batch Size

☐ Capacitance

☐ Capacity

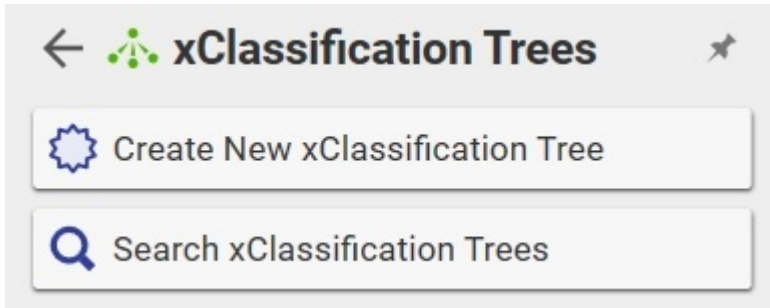
☐ Cluster Response Timeout

☐ Current Instance Power

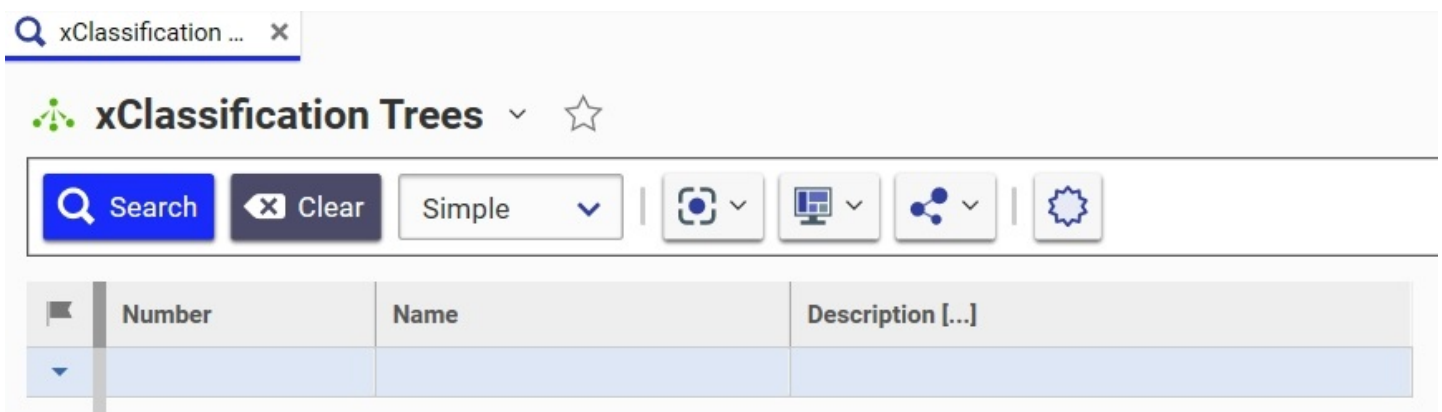
Classifications

xClass not Found

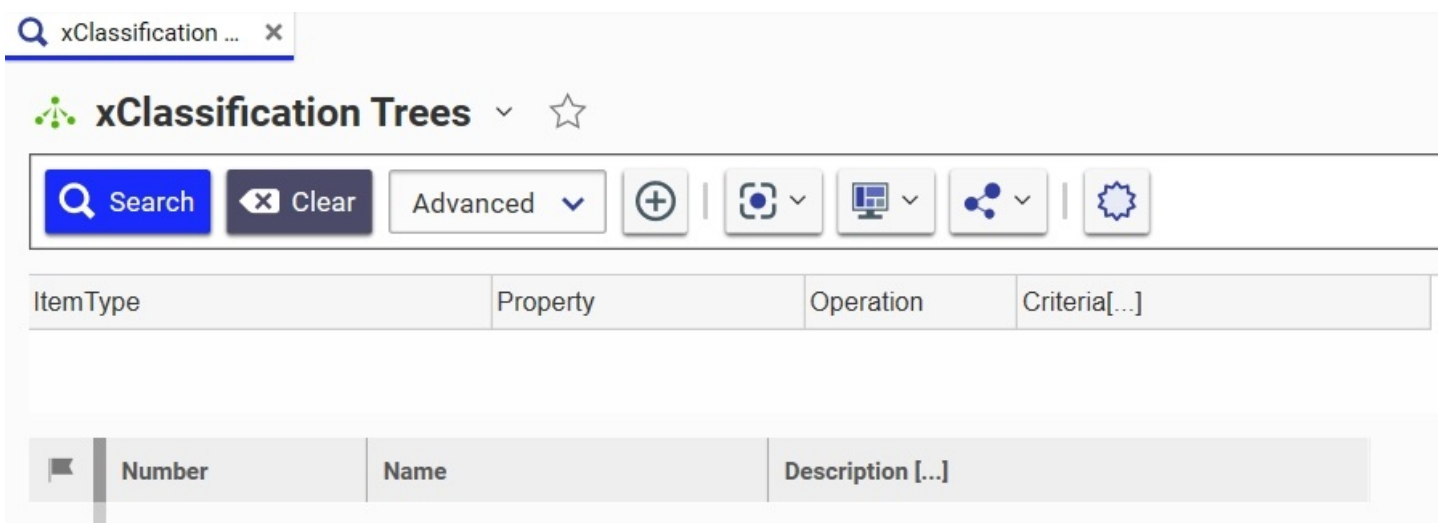
following menu:



2. Click **SearchxClassification Trees**. The Search Grid appears.



3. Select **Advanced** from the Search dropdown. The xProperty Selector row appears, enabling you to search for xProperties associated with specific ItemTypes.



4. Click the Add Criteria icon to add your search criteria.

Q xClassification ... x

xClassification Trees

☆

Q Search

✕ Clear

Advanced ▾

⊕

⌕ ▾

🖨 ▾

🔗 ▾

⚙

ItemType	Property	Operation	Criteria[...]
xClassificationTree	Classification	=	

🚩

Number	Name	Description [...]

5. Select the ItemType from the dropdown list:

Q xClassification ... x

xClassification Trees

☆

Q Search

✕ Clear

Advanced ▾

⊕

⌕ ▾

🖨 ▾

🔗 ▾

⚙

ItemType	Property	Operation	Criteria[...]
xClassificationTree/Relationships/xClassi...	behavior	=	Float

🚩

Number	Name	Description [...]
C0001	electronic	
ES_ComponentClas...	ES_ComponentClassification	Classification tree for "ES Components"

6. Select the **Property** cell and click the ellipses. The Property dialog box appears.



Property

×

Properties of

No properties to display

Apply

7. Select **xClassification Tree/Relationships/xClassificationTree_ItemType** from the Properties list. A list of properties associated with the ItemType appears.

Property

×

Properties of

xClassificationTree_ItemType

modified_on

modified_by_id

Classification

current_state

state

locked_by_id

is_current

Apply



- 8. Select **behavior** and click **Apply**.
- 9. Click the dropdown button in the **Operations** cell and select **=**.
- 10. Select the dropdown button in the **Criteria** cell and select **Float**.
- 11. Click **Search**. A list of xClassification trees associated with the specified criteria appears in the grid.

Q xClassification ... x

xClassification Trees

▼

☆

Q Search

✕ Clear

Advanced ▼

⊕

⌕ ▼

🖨 ▼

🔗 ▼

⚙

ItemType	Property	Operation	Criteria[...]
xClassificationTree/Relationships/xClassi...	behavior	=	Float

🚩

Number	Name	Description [...]
C0001	electronic	
ES_ComponentClas...	ES_ComponentClassification	Classification tree for "ES Components"

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