Manipulating the Price Object with Snap

When using a configurator customers want to see details on their configured product's components and overall price. You can control those details, called price items, by creating pricing rules in Snap.

By the end of this course, you'll understand the Price Object and its Line Items.

You'll be able to explain how the system uses Line-Item Properties.

Be able to build line items through pricing rules

And leverage additional Snap functions to handle unique needs, like set up fees and sub-assemblies.

Select a topic or tap the right arrow to get started.

Objectives

- Price Object Structure
- Line Item Properties
- Pricing Rules: Simple Logic
- Pricing Rules: Useful Snap Blocks

Price Object Structure

When you generate a quote, that quote contains one or more products. Standard products have a simple cost and price. Custom products, designed through a configurator, have a dynamic cost and price. This is managed through a part of the configurator called the Price Object. You might also hear it called the sales Bill of Materials.

This Price Object is empty by default, but your configurator may need any number of Price Items inside it. Price Items are the individual components or line items of the configured product you want your customer to see. These price items together compose the Price Object.

The price items in the price object can appear or disappear, depending on the choices your user makes in the configurator. The logic to create the right price items for these choices is stored in pricing rules.

The pricing rules are part of the rule cycle. This means that whenever a user changes a field, the system recalculates the price object automatically.

Also, you should know that price items can "roll up".

In another course, you may have learned about nested configurators, where one configurator is the parent to another child configurator.

If any configurator is used as a child in this nested relationship, it's price object by default automatically rolls up into the parent. Without any code on your part.

In this way you can maintain the pricing logic for a child assembly in one place, even though that assembly is used in many other parent configurators.

Select the right arrow icon to continue to line-item properties.

Line-Item Properties

The Price Object appears within the Price Widget. By default, you can find this in the upper-right hand corner of the configurator. The widget appears only when your configurator contains Price Items. It updates as part of the rule cycle.

Your customer clicks the details button to view a breakdown of the individual Price Items. Keep in mind that the price object should include only the rows of components you want the customer to see. It's a sales BOM, not an engineering BOM.

In the breakdown of a Price Object, you'll see the details of the Price Items shown in columns.

A well-formed price item must have, at a minimum, these 4 columns: The SKU or stock keeping unit.

The item's Description.

Then you have your Quantity. And finally, some cost, either the cost of the material used in that item, or the labor to create it, or both.

Other columns are optional and can help your customer understand more about the components in their custom product.

For each Line Item, you can track cost and margin for labor and material. (Material Cost, Material Margin, Labor Cost, Labor Margin).

A line item can have a Discount. Along with a Discount Type of either currency or percentage.

You can assign a line item's Weight. Having this on every Line Item is helpful in determining the weight of the final configured product.

Each item can have its own Lead Time. The longest lead time from all the price items is shown as the lead time for the final configured product.

These are the standard properties. All of them can be set through the Snap rules built by an administrator. If needed, you can also create custom price columns to fit your needs, as discussed later.

In addition to these line-item columns, several others are automatically calculated.

Material Price is calculated from Material Cost and Material Margin.

Likewise, Labor Price is based on Labor Cost and Labor Margin.

When you add the Material Price and Labor Price together, you get the Net Price.

The Extended Net Price is the Net Price times the Quantity.

Keep in mind that you don't need to use all these properties. Just include the ones that make sense.

There are a few things to keep in consideration about these price attributes.

Pricing rules are part of the rule cycle. Meaning that they'll be managed in the configurator's Rules node in the workspace. The system recalculates these with every field edit.

Normally, everything in the rule cycle runs in a customer's browser. We call this "client-side" code, and it is ideal for fast performance.

But pricing rules can be based on sensitive data, like cost, so they are an exception to this. Pricing Rules are calculated securely in the cloud, and only the result is sent to the customer's browser. They don't have access to how the cost was calculated, only the results.

Because of this, you can only use field values for pricing logic. Other configurator attributes, like page names or field control types may not be used to decide the price

This communication between the user's device and the cloud is done asynchronously.

The structure of the Price Object and Line items is Provided. It's up to you as an administrator to write the Snap rules to fill it with data.

A common strategy is to build the BOM with basic SKU and Quantity data. From there, query a database to fill in the rest of the information.

Select the right arrow icon for a quick Knowledge Check, then we'll move onto Configuring Pricing Rules with Snap.

Pricing Rules: Simple Logic

Let's look at Pricing Rules in Snap.

Inside a product configurator, Price Items are added using Pricing Rules.

Select Rules and click on the plus icon to create a new Rule. Choose Pricing.

You'll see a new Rule category appear labeled Pricing. Notice a dollar sign icon, instead of the usual folder icon. This is not an indicator of a currency, rather a reminder that it may contain sensitive pricing information and calculates server-side.

Select the Pricing Rule and enter a name for it. We'll call our example the Base Cube Rule. Later we could add additional Pricing Rules for things like polishing and assembly. For now, we'll stick with just this one.

Let's begin by adding a Price Item block. Select Pricing Rule, Pricing, and drag the Add Price Item block into Snap.

Each price item must have price column values set. Select plus, and then Set Column/Property to add a new price column.

You can add as many price columns to this price item as the component needs. One "Add price Item" block may have just the 4 mandatory columns… another "add price item" block may have many of them.

Repeat this for each price column you wish to include and enter the corresponding value for each. In this example, we'll use just the minimum terms discussed previously: Sku, Description, Quantity, and some sort of Cost.

You should include at least one price item in your configured product so it has a price and can be quoted.

In a price item, you should include at least the 4 mandatory properties discussed before.

You can use Snap to enter more dynamic data into these properties. For example, we can change our description, so that it changes based on the materials selected.

Now save and run the configuration.

Now when we view the configurator the price widget appears in the corner. Select the details to see the price attributes we added.

Here you can view information about that item like Sku, Description, etc.

What if you want to change the label of a price column? Or move it left, or right? Or even hide it from some users, while keeping it visible to others?

You can control how price columns display in these details view across all configurators. To do this, select Products > Price Columns.

Use the Add button to add a new price column your product requires, such as "country of origin" or "requires refrigeration".

Modify an existing Price Column By clicking its name. You'll see the details of that price column appear.

You can enter a label if you don't like the default name. You can adjust the display width of that column, if you need more space for a long description. You can even control if the column is visible…

and if it is visible, which roles can view it.

Select the right arrow icon for a brief knowledge check.

Pricing Rules: Useful Snap Blocks

There are a few other features related to pricing rules that you should be aware of.

You can use a wide range of Snap blocks to create just the right price items. Let's say you want to add a service charge for a set up fee on small orders.

We can use a Logic > If block to control whether or not that setup charge applies. In this case, if the Quantity In Quote is less than or equal to 5, the system will add this price item.

Now, we only ever want to add the setup charge once regardless of how many cubes a customer orders. The Fixed Quantity block lets us control this. If it is set to false (the default), then the cost will be multiplied by the quantity. When set to true, the cost only applies once.

This is a good way to manage one time fees like setup or licensing. Where the fee doesn't change if the customer is buying multiples of an item.

On the add price item block, you can enter an optional name. This name is not shown to the customer, but lets you nest another price item below this one.

If you've named a price item, then you can nest other price items below it. Use the pricing block "add price item as a child of" to accomplish this.

Enter the price item name and use the dropdown to select the parent price item.

Now when you view the price object details, the child price items will appear in a hierarchy. Sub-assemblies are a common case where you might use this.

Select the right arrow icon to continue to the recap and complete the course.

Recap

When using a configurator customers want to see details on what their configurated product costs. You can now control those details by creating price rules in Snap.

You should understand what the Price Object and Line Items are.

Be able to describe the Line Item Properties,

Build Price Rules using Snap Logic

And leverage additional snap functions to handle unique needs, like set up fees and sub assemblies.

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