Exercise 9-2: Configure Standard Attribute-Based Pricing

Scenario

Everything's set up ok, so you're ready to create the standard decision matrix and its associated expression set. This will look at the download and upload speeds for the DSL product, to decide the one-time and recurring charges that should be applied.

Goals

- Add data to a standard attribute-based pricing lookup table
- Create a new expression set to price the line item in the cart
- Add a new step to the default pricing plan

Tasks

1. Create the Attribute PricingMatrix lookup table
2. Create the AttributePricingProcedure expression set
1. Configure a new pricing plan step for standard attribute-based pricing

Time: 20 mins

Task 1: Create the AttributePricingMatrix lookup table

Your first task is to create a new version of the **AttributePricingMatrix**, which is the sample decision matrix for standard attribute-based pricing.

Instructions

1. Using the App Launcher, search for and select **Lookup Tables**.
2. Change the List Views to **All Decision Matrices**. Notice a sample Attribute Pricing Matrix has been installed for each type of attribute-based pricing: standard, range, and source.
3. Select **AttributePricingMatrix**, which was installed from the DataPack, to open it.
4. Select the **Related** tab and click **AttributePricingMatrix V1** to open the decision matrix.
5. Click **New Version** in the **AttributePricingMatrix V1** header and complete the following details for the new version of the matrix.

Field	Value
Version Data Selection	**Include column headers**
Name	`AttributePricingMatrix V2`
Start Date Time	**[Yesterday's date]**
End Date Time	**[leave blank]**
Rank	`1`
Version Number	`2`
Group Key Value and Sub Group Key Value	**[leave blank]**

> If more than one matrix version is enabled, the Rank field in the New Decision Matrix Version configuration dialog determines which version to use. The version with the highest number in the rank field will be used for expression sets.

6. Click **Save**. You're taken to the new version of the matrix. Notice the preconfigured columns showing the Input and Output Data.
7. Add data to the matrix.
   a. In the AttributePricingMatrix V2, click **Add Row** four times to add four rows to the matrix.
   b. Enter the following information to populate the matrix rows. Data must be entered exactly as displayed, including spacing and proper case. These columns match the product and its attributes; therefore, they must be exact.

Source Product Name (Text)	Source Product Code (Text)	Characteristic Name (Text)	Characteristic Value (Text)	MRC ($)	NRC ($)
DSL Service	C-DSL-001	Download Speed;Upload Speed	20 Mbps;2 Mbps	50.00	0
DSL Service	C-DSL-001	Download Speed;Upload Speed	20 Mbps;896 Kbps	45.00	0
DSL Service	C-DSL-001	Download Speed;Upload Speed	40 Mbps;2 Mbps	55.00	0
DSL Service	C-DSL-001	Download Speed;Upload Speed	40 Mbps;896 Kbps	45.00	0

   c. Select **Save**.

8. In the AttributePricingMatrix V2 header, select **Edit**.

9. Check the **Enabled** checkbox and clear the End Date Time **Date** and **Time** fields, then select **Save**.

Notice a mistake in the matrix after enabling? Click **Clone** from the dropdown arrow menu and correct the mistake in the new version of the matrix. Make sure that the new version is Enabled once you're done.

## Task 2: Create the AttributePricingProcedure expression set

Now that Eliza has set up the lookup table, she'll create expression sets to perform calculations using the data entered in the matrices. Before you start, let's make sure you're familiar with navigating the expression set builder.
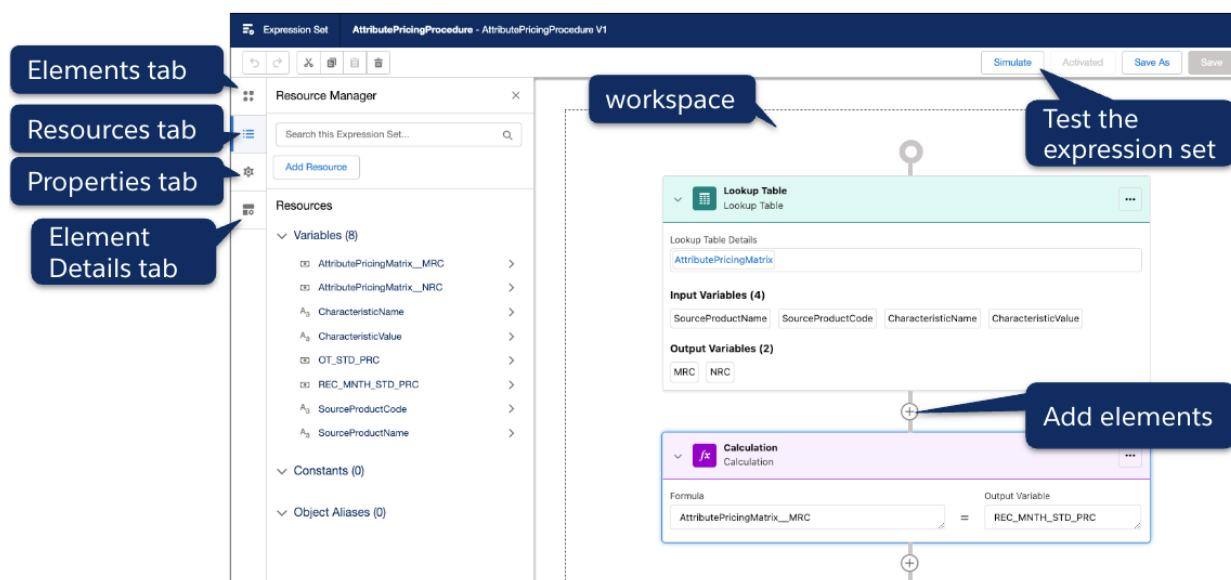
If you'd like to find out more about expression sets, refer to the Salesforce Help. But now, let's go ahead and create an expression set to determine the price for the DSL product based on its attributes.

1. Create a new expression set called AttributePricingProcedure.
   d. Using the **App Launcher**, search for and select **Expression Sets**.
   e. Change the List View to **All Expression Sets** and pin it so that All Expression Sets display instead of Recently Viewed.
   f. In the Expression Set list view, click **New** to create a new expression set.
   g. In the New Expression Set dialog box, enter `AttributePricingProcedure` in the **Name** field and select **Save**.
   h. Click the **Related** tab.
   i. Select the menu ⌄ next to **AttributePricingProcedure V1** and select **Edit**.
   j. In the **Rank** field, enter `1` and click **Save**.

2. Open the expression set for editing.
    a. Click **AttributePricingProcedure V1** to open it.
    b. In the **AttributePricingProcedure V1** header click **Open in Expression Set Builder**.

3. Add the AttributePricingMatrix lookup table to the expression set.
    a. In the **Expression Set Builder** window, select the **+** symbol in the central pane to open the **Add Element** dialog box.
    b. Select **Lookup Table** from the Add Element menu to add a Lookup Table element to the expression set.
    c. In the Lookup Table Details field, search for and select **AttributePricingMatrix**.
    d. With the Lookup Table element selected, click the **Element Details** tab, and check the **Include in Output** checkbox. Notice the lookup table has the two output variables: MRC (monthly recurring charge) and NRC (non-recurring charge) that you added data to in Step 2.
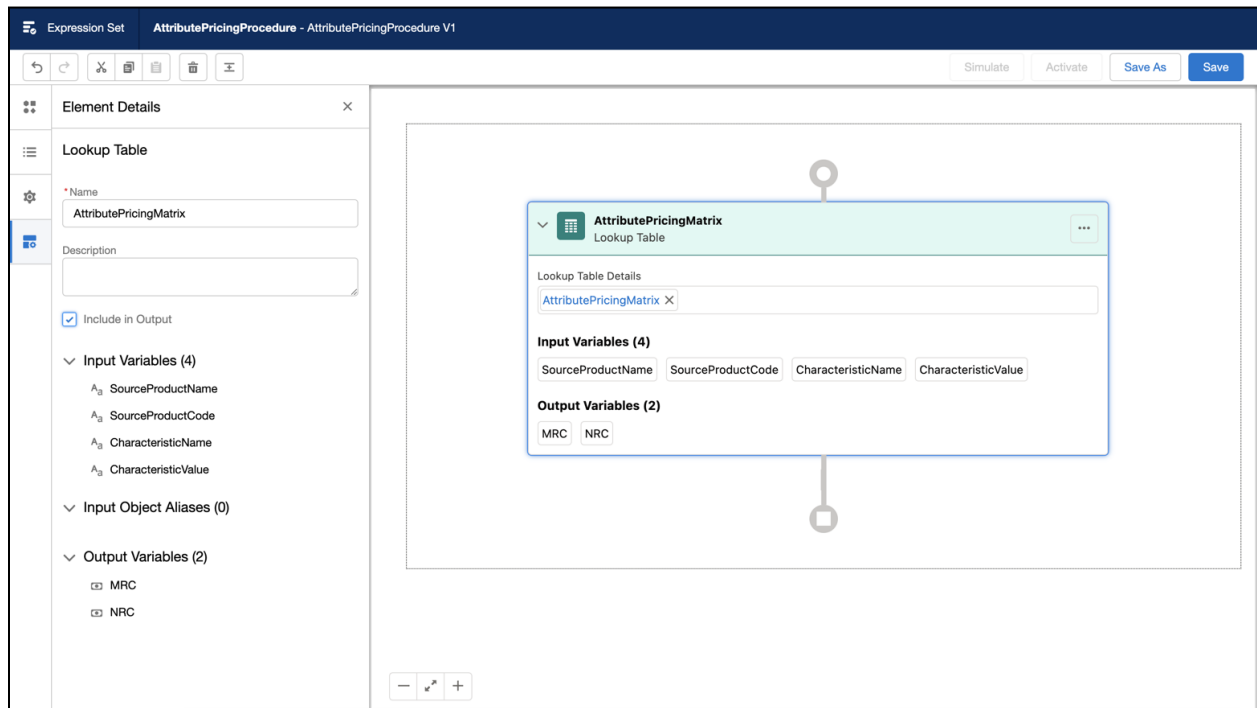
4. Add a variable for recurring monthly price
    a. Click the **Resource Manager** tab and click **Add Resource**.
    b. In the **Add New Resource** dialog, enter the following information to create the recurring monthly standard price variable:

Field	Entry
Resource Type	Variable
Resource Name	REC_MNTH_STD_PRC
Data Type	Currency
Decimal	2

Add New Resource

*Resource Type
Variable

*Resource Name
REC_MNTH_STD_PRC
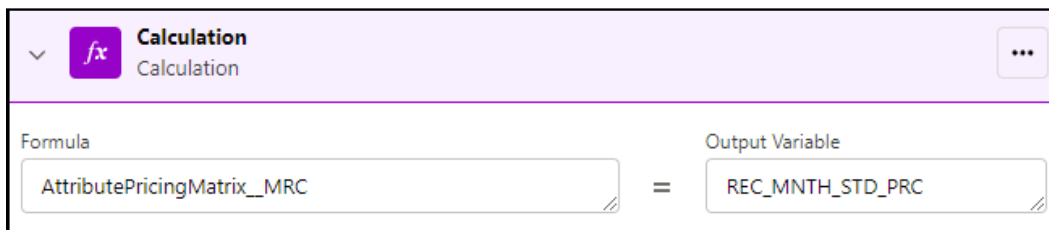
*Data Type
Currency

Decimal
2

Default Value
Enter default value

Cancel   Done And New   Done

    c. Click **Done**.

5. Add a variable for one-time price.
   a. Click **Add Resource**.
   b. In the **Add New Resource** dialog, enter the following information to create the recurring monthly standard price variable and click **Done**:

Field	Entry
Resource Type	Variable
Resource Name	OT_STD_PRC
Data Type	Currency
Decimal	2

   c. Notice the two variables you've just created appear in the **Variables** section of the Resources list in the left pane.

6. Create the recurring monthly standard price calculation element. This will look at the monthly recurring charge (MRC) variable of the matrix to calculate the monthly charge, then output the value to the REC_MNTH_STD_PRC variable.

   a. Under the Lookup Table element, click the **+** symbol to open the **Add Element** dialog box, and select **Calculation**.
   b. In the **Formula** field of the new Calculation element, search for and select **AttributePricingMatrix__MRC**.
   c. In the **Output Variable** field, search for and select **REC_MNTH_STD_PRC**.

   d. With the new Calculation element selected, click the **Element Details** tab and check the **Include in Output** checkbox.

7. Create the one-time standard price calculation element. This will look at the non-recurring charge (NRC) variable in the matrix to calculate the one-time charge, then output the value to the OT_STD_PRC variable.

    a. Under the Lookup Table element, click the **+** symbol to open the **Add Element** dialog box, and select **Calculation**.

    b. In the **Formula** field of the new Calculation element, search for and select **AttributePricingMatrix__NRC**.

    c. In the **Output Variable** field, search for and select **OT_STD_PRC**.

	Calculation
⌄ *fx*	**Calculation** Calculation •••

Formula   Output Variable
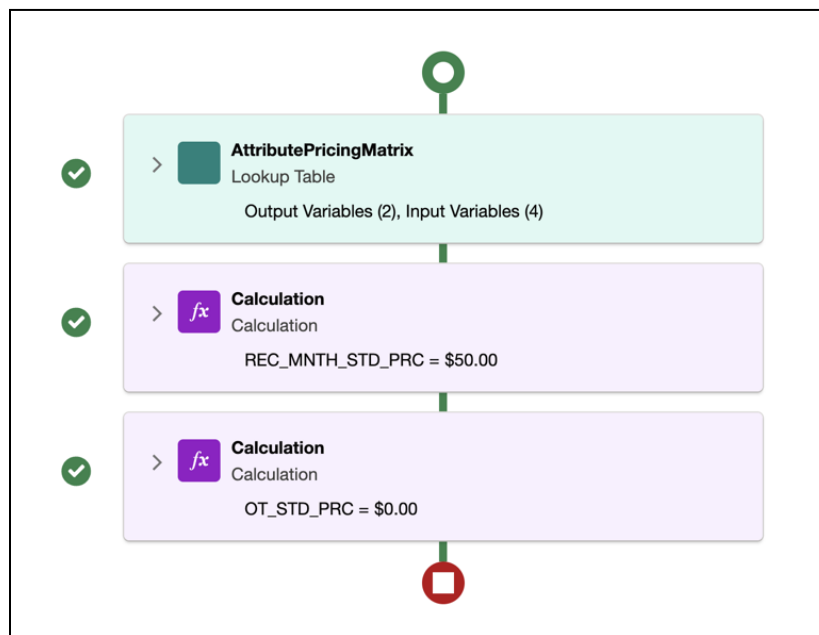
AttributePricingMatrix__NRC   =   OT_STD_PRC

    d. With the new Calculation element selected, click the **Element Details** tab and check the **Include in Output** checkbox.

8. Save, activate, and test the AttributePricingProcedure.

    a. In the Expression Set Builder header, select **Save** and then click **Activate**.

    b. To test out the procedure, click **Simulate**.

    c. Enter the following input variables into the simulation input fields.

Field	Entry
Simulate Date	**[tomorrow's date]**
CharacteristicName	`Download Speed;Upload Speed`
SourceProductCode	`C-DSL-001`
SourceProductName	`DSL Service`
CharacteristicValue	`20 Mbps;2 Mbps`

d. Click **Simulate** to run the expression set.

e. Notice the green check marks that indicate that each element executed successfully. Also, notice the output of the REC_MNTH_STD_PRC calculation step is $50.00. This price matches the value you entered in the 20 Mbps;2 Mbps row of the decision matrix.

AttributePricingMatrix
Lookup Table

Output Variables (2), Input Variables (4)

fx **Calculation**
Calculation

REC_MNTH_STD_PRC = $50.00

fx **Calculation**
Calculation

OT_STD_PRC = $0.00

9. Close the Expression Set Builder browser tab.

If your simulation doesn't work, something's gone wrong with your configuration. Here's how to troubleshoot:
1. Check there is no end date on your decision matrix, that it is enabled, and that it has the highest rank.
2. Check that you've typed the configuration data into the expression set exactly as specified.
3. If those don't work, try checking each step of the process.
4. As a final resort, create a new version of the expression set and start again.

Task 3: Create a new pricing plan step for standard attribute-based pricing

Next, create a new pricing plan step to reference the lookup table and expression set you just created.

Instructions

1. Open the Default Pricing Plan and review the current pricing plan steps.
   a. Use the **App Launcher** to locate and open the **Vlocity Product Console**.
   b. Next to **Pricing Plan** in the Pricing area, click the **search icon**.
   c. In the **Search Pricing Plan...** dialog box, press the return or enter key to display the Default Pricing Plan.
   d. Click on the **Default Pricing Plan**.
   e. Click on the **Pricing Plan Steps** facet. Review the sequence of steps. There's a description of each Pricing Plan Service Step on the next page.

Sequence	Name	Purpose
10	Initialize Pricing Context	Pricing context information used by steps
20	Load Price List Entries	Loads price list entries for products in the cart (tightest match)
30	Initialize Pricing Variables	Charges applied pricing variables for each line item
35	Apply Context Discounts	Apply order, account, or contract-based discounts
40	Apply Offer Adjustments	Apply overrides/adjustments defined in the offer
50	Apply Promotion Adjustments	Apply overrides/adjustments defined in promotions
60	Apply Charge Manual Adjustments	Apply overrides/adjustments added manually
70	Calculate Rollups	Calculates line level totals and roll-up pricing variables
75	Load Margin Ranges	Invokes an expression set and matrix
80	Save Line Items	Saves updated line items to the database
90	Apply Parent Variables	Calculates/saves the pricing variables of the parent object.

> ❗ All attribute pricing steps must occur before the Initialize Pricing Context step; therefore, the sequence must be before 10.

2. Create the Attribute Based Pricing step.

   a. Click **New Item**.

   b. Enter the following data in the **General Properties** pane:

Field	Entry
Name	Calculate Attribute Based Pricing
Implementation Name	CustomPricingPlanStepImpl
Method Name	GetMatrixPrice
Sequence	**5**
Active	✔

   c. Click the **Edit** icon ✏ to open the **Parameters** dialog box.

   d. Click the plus **+** symbol to add the following parameters:

First Box	Second Box
ProcedureName	AttributePricingProcedure
MatrixName	AttributePricingMatrix
DecisionMatrix	true

e. Click **Done**. Notice the parameters are converted into JSON format.

f. Click **Save** in the General Properties pane. Your new pricing step appears at the top of the pricing plan.

Yay! All done!

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