

# Landed Cost Simulator

## Overview

### About Landed Cost Simulator

Oracle Global Trade Management (GTM) is a global trade automation platform that enables companies to optimize and streamline business processes related to cross-border trade.

As a result of globalization and a shift to sourcing from low cost countries, supply chain management has become more complex. This complexity mostly affected the process of selecting sourcing options since it is not enough to make decisions based only on product price any more. In addition to introduction of international freight and insurance charges, other costs like duties and taxes, and other criteria like country of origin, Incoterms, mode of transportation, etc. became part of the process. Consequently, in order to choose the optimum supplier, all costs occurring in delivery of the product at the buyer's (importer's) facility are estimated and called Estimated Landed Cost (ELC).

Landed Cost Simulator is a tool that will enhance your sourcing option selection processes by providing you with flexibility and visibility. It supports different ELC formula creation for different criteria like country of import, country of export, Incoterms, etc. In addition to calculating the ELC for different sourcing options, GTM's Landed Cost Simulator provides the ability to estimate the costs included in ELC. Furthermore, you have the visibility of Customs Value (duty base), Duty and Taxes, and financial benefits of the available Trade Agreements.

GTM Landed Cost Simulator allows you to define flexible configuration settings to meet different business needs using a Landed Cost Simulator Logic Configuration.

You will be able to perform or run the following major processes.

### Landed Cost Simulator

You can perform an ad hoc simulation process considering multiple sourcing scenarios. The complete process will assign a set of costs and their formulas based on the Logic Configuration, call an external tax engine to get estimated customs value, duty and taxes, and assign any additional cost and/or formula to calculate the estimated landed cost.

The logic configuration 'GTM Landed Cost Simulator' helps you to define Landed Cost Model Configurations, allowing you to group rules to assign value sets (e.g. costs) and their formulas. Create as many LANDED COST MODEL LOGIC CONFIGURATIONS as you require to support different business needs.

Refer to [Ad Hoc Landed Cost Simulator](#) for more information.

## Landed Cost Estimation on Trade Transactions

You can also estimate landed cost on trade transactions and declarations. The complete process will assign the costs and their formulas, call an external tax engine to get estimated customs value, duty and taxes, and assign any additional costs and/or formula to calculate the estimated landed cost.

Use Compliance Rule Screening to assign the VALUE SETS (e.g. cost set) and VALUE QUALIFIER FORMULAS to the trade transaction. The service, ESTIMATE DUTY AND TAXES makes the callout to the external tax engine.

Refer to About Landed Cost Estimation on a Trade Transaction or a Declaration for more information.

### Related Topics

#### [Setup](#)

Trade Compliance Management Generic Setup

#### [Landed Cost Simulator PDF](#)

## Setup

### Landed Cost Setup Overview

You can define flexible configurations to meet different business needs or tune Landed Cost Simulator services using a combination of service parameters and properties. This section describes the different service parameters required to execute the following processes:

- [Simulation of landed cost \(ad hoc\)](#)
- Estimation of landed cost on a trade transaction (transactional)

Both the processes require the following setup:

- Value Qualifiers and Value Sets
- Compliance Rules, Rule Sets, and Rule Set Groups
- General parameters such as Incoterms, Incoterm Profiles, Transport Modes, and Transport Mode Profiles
- Configuring the external system for callout to an external tax engine
- Properties related to the callout to an external tax engine

Additional setup required for landed cost simulator (ad hoc):

- Properties specific to landed cost simulator
- Logic configuration

For further details about configuration, see:

- [Value Qualifiers Setup](#)
- [Formula Expression Setup](#)
- [General Setup](#)

- [Compliance Rule Setup](#)
- [Duty Tax UOM Attributes on Product Classification Code](#)
- [UOM Conversion Factor on Item](#)
- [Duty and Taxes Setup](#)
- [Properties Setup](#)
- [Logic Configuration for Landed Cost](#)

## Related Topics

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## Value Qualifiers Setup

GTM uses value qualifiers to model different components of the estimated landed cost such as charges (e.g. freight, insurance, etc.), duty and taxes, and other values required to be calculated in the process (e.g. FOB Invoice Value, Insurance, International Freight, Domestic Freight, Bank Processing Fee, Harbor Maintenance Fee, etc). You have to setup the following:

- Value Qualifier
- Value Type
- Value Category
- Value Set

### Value Qualifier

Value qualifiers are used to model the price of the product, any cost, duty or tax as well as any other value required to calculate the landed cost. For example, FOB VALUE and INVOICE VALUE.

### Value Type

Value type is a sub-categorization of the value qualifier from the business perspective. This classification is used to group resulting values when executing the Landed Cost Simulator. For example, the value type of the value qualifiers FOB VALUE and INVOICE VALUE is PROCUREMENT.

### Value Category

Value category is a categorization of the value type from the business perspective. This classification is used to group resulting value types when executing the Landed Cost Simulator. For example, the value category of value types COMMISSION and MARKETING is PROCUREMENT.

### Value Set

Value set is a group of values that will be used for landed cost calculation.

GTM provides two value sets by default:

- **BASE VALUE SET:** Group of values like INVOICE VALUE, INSURANCE, FOB VALUE, INTERNATIONAL FREIGHT, DOMESTIC INLAND FREIGHT, etc. required to calculate the base amounts for determining the customs duty and taxes.
- **ELC VALUE SET:** Once the duty and tax is determined, this value set can be used to assign the Estimated Landed Cost (ELC) value qualifier.

Note: The best practice would be to add value sets according to your own business needs.

## Related Topics

[Landed Cost Setup Overview](#)

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## Formula Expression Setup

This page is accessed via Master Data > Power Data > Configurations > Formula Expressions.

For more information on configuration, see Formula Expression.

Note: The best practice would be to add formula expressions according to your own business needs.

By default, GTM provides a few formulas required to calculate:

1. **FOB VALUE from different Incoterms:** These formula expressions consider three variables (i.e. identifiers): Invoice Value, International Freight, and Insurance. The following are two examples of the formula expressions shipped with GTM:
  - $\text{FOB VALUE FROM DDP} = \text{INVOICE\_VALUE} - \text{INTERNATIONAL\_FREIGHT}$
  - $\text{FOB VALUE FROM CIF} = \text{INVOICE\_VALUE} - \text{INTERNATIONAL\_FREIGHT} - \text{INSURANCE}$

Take the example of a formula expression FOB VALUE FROM CIF. Here the Object Type of the formula expression is Transaction Line as the FOB VALUE is calculated at the item line level. The Usage Type is F (i.e. Formula) since the output qualifier is known. There are four expression identifiers used in the formula:

- **INTL\_FREIGHT:** It will be found at the line level and the corresponding attribute qualifier (i.e. value qualifier) will be INTERNATIONAL FREIGHT.
  - **INSURANCE:** It will be found at the line level and the corresponding attribute qualifier (i.e. value qualifier) will be INSURANCE.
  - **INVOICE VALUE:** It is the purchase price of the item and it will be found at the line level and the corresponding attribute qualifier (i.e. value qualifier) will be INVOICE VALUE.
  - **FOB VALUE FROM CIF:** It is the base value determined from the other three identifiers.
2. **ELC Formula:** This formula is used to determine the estimated landed cost irrespective of the Incoterm, considering Invoice and Cost Values, and Customs Duty and Taxes:
    - $\text{ESTIMATED LANDED COST} = \text{FOB\_VALUE} + \text{INTL\_FREIGHT} + \text{INSURANCE} + \text{DMSTC\_INLAND\_FREIGHT} + \text{BROKERAGE\_FEE} + \text{BANK\_FEE} + \text{DUTY} + \text{EXCISE\_TAX} + \text{OTHER\_TAX} + \text{HMF} + \text{MPF} + \text{VAT}$

## Related Topics

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## General Setup for Landed Costs

General setup includes configuring the following:

- Incoterm
- Incoterm Profile
- Transport Mode
- Transport Mode Profile

### Incoterm

Incoterms rules or International Commercial Terms are a series of pre-defined commercial terms published by the International Chamber of Commerce (ICC). They are widely used in international commercial transactions or procurement processes. A series of three-letter trade terms related to common contractual sales practices, the Incoterms are intended primarily to clearly communicate the tasks, costs, and risks associated with the transportation and delivery of goods.

The Incoterms are accepted by governments, legal authorities, and practitioners worldwide for the interpretation of most commonly used terms in international trade. They are intended to reduce or remove altogether uncertainties arising from different interpretation of the rules in different countries. As such they are regularly incorporated into sales contracts worldwide.

In some jurisdictions, the duty costs of the goods may be calculated against a specific Incoterm (for example, in India duty is calculated against the CIF value of the goods, and in South Africa the duty is calculated against the FOB value of the goods). Because of this, it is common for contracts to export to these countries to use these Incoterms, even when they are not suitable for the chosen mode of transport. Care must be exercised to ensure that the liability issues are addressed by negotiation with the customer.

Identification of the Incoterm in a trade transaction is necessary in order to arrive at the customs duty base amount as well as other taxes base amounts to calculate the estimated landed cost.

### Incoterm Profile

You can group Incoterms into Incoterm profiles and use this profile or group as a parameter in a compliance rule. For example, you can group Incoterms FOB and CIF under an Incoterm Profile called INFOTERM-PROFILE-CIF-FOB and use this profile in compliance rules.

## Transport Mode

You can define new modes of transportation or use the public transportation modes. A transport mode can also be assigned to Transport Mode Profiles which are used to check compatibility of goods imported or exported by a group of transport modes. For example, when you import goods by TL or LTL modes, same set of value qualifiers applies. You can create a transport mode profile as a group of TL and LTL modes and then screen the transport mode of the imported goods against this mode profile.

## Transport Mode Profile

You can group transport modes and use this group as a parameter in a compliance rule. For example, you can group VESSEL-CH, VESSEL-CO, VESSEL-NO under a Transport Mode Profile called OCEAN-PROFILE and use this profile in compliance rules.

## Related Topics

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## Compliance Rule Setup

As in other GTM features, you have to configure the following to calculate landed cost:

- Compliance Rule
- Compliance Rule Set
- Compliance Rule Set Group

## Compliance Rule

Compliance rules need to be configured for landed costs.

Note: The best practice would be to add compliance rules according to your own business needs.

GTM has the following additional types of rules:

1. VALUE SET RULE. This compliance rule allows you to assign a value set. The following are the characteristics of this type of rule:
  - Control Category: The control category for this type of rule is VALUE\_SET.
  - Parameters: Additional parameters are added to the existing parameters - Incoterm, Incoterm Profile, Transport Mode, and Transport Mode Profile.
  - Controls: The Value Set information should be provided on the Compliance Rule: Controls tab.

By default, GTM provides compliance rules that will assign a value set to a sourcing option:

- BASE VALUE SET - RULE: This rule does not come with any specific parameter. It assigns the BASE VALUE SET (i.e. the charges and any other value required to calculate customs duty and tax base amounts) to a sourcing option.
  - ELC VALUE SET - RULE: This rule does not come with any specific parameter. It assigns the ELC VALUE SET (i.e. the charges and any other value required to calculate the landed cost) to a sourcing option.
2. VALUE QUALIFIER FORMULA RULE. This compliance rule allows you to apply formula expressions to one or more value qualifiers. The following are the characteristics of this type of rule:
- Control Category: The control category for this type of rule is VALUE\_QUALIFIER\_FORMULA.
  - Parameters: Additional parameters are added to the already existing parameters - Incoterm, Incoterm Profile, Transport Mode, and Transport Mode Profile.
  - Controls: The information to be provided on the Compliance Rule: Controls tab is Value Qualifier, Formula Expression, and Formula Rank.

The VALUE QUALIFIER FORMULA RULE, assigns the formula and also calculates the corresponding amount. By default, GTM provides the following compliance rules:

- FOB VALUE FROM INCOTERM FORMULAS - Rule: GTM provides rules that calculate the FOB value from a commercial invoice value considering different Incoterms. Let's take one of them as an example, the FOB VALUE FROM CIF FORMULA – RULE. This rule will be applied to any sourcing option of landed cost simulator or any trade transaction line whose Incoterm is CIF. The FOB VALUE FROM CIF formula expression will be assigned as a result to the FOB VALUE qualifier, where  $FOB\ VALUE\ FROM\ CIF = INVOICE\_VALUE - INTERNATIONAL\_FREIGHT - INSURANCE$ .
- ELC FORMULA – Rule: GTM provides a pre-seeded rule that calculates the landed cost. GTM will apply the ELC - Formula expression to the ESTIMATED LANDED COST value qualifier, where  $ESTIMATED\ LANDED\ COST = FOB\_VALUE + INTL\_FREIGHT + INSURANCE + DMSTC\_INLAND\_FREIGHT + BROKERAGE\_FEE + BANK\_FEE + DUTY + EXCISE\_TAX + OTHER\_TAX + HMF + MPF + VAT$ .

## Compliance Rule Set

Compliance rule sets allow you to group the compliance rules to assign value sets or formula expressions based on similar characteristics.

Note: The best practice would be to add compliance rule sets according to your own business needs.

You can use compliance rule sets to group rules for the following purposes:

- Assign Value Sets to sourcing options to calculate the duty and tax base amounts.
- Assign Formulas to sourcing options in order to apply the formulas to value qualifiers for calculating the duty and tax base amounts.
- Assign Value Sets to sourcing options to calculate landed cost.
- Assign Formulas to sourcing options in order to apply the formulas to value qualifiers for calculating landed cost.

GTM provides the following rule sets by default:

- BASE VALUE SET – RULE SET: This rule set contains the rules that assign the default BASE VALUE SET to a sourcing option. In this case only one rule, the BASE VALUE SET RULE, is included in the rule set.

- **BASE FORMULA – RULE SET:** This rule set contains the rules needed to calculate the FOB value from an invoice value considering different Incoterms. It includes the eleven default rules pre-seeded in GTM.
- **ELC VALUE SET – RULE SET:** This rule set contains the one ELC VALUE SET - RULE compliance rule that assigns the default ELC VALUE SET to a sourcing option.
- **ELC FORMULA – RULE SET:** This rule set contains the rules that assign the default ELC FORMULA - RULE to a sourcing option.

## **Compliance Rule Set Group**

Compliance rule set groups allow you to group the rule sets necessary to perform landed cost calculation.

Note: The best practice would be to add compliance rule set groups according to your own business needs.

By default, GTM provides the following compliance rule set groups:

- **BASE VALUE SET – RULE SET GROUP:** This rule set group contains BASE VALUE SET - RULE SET that assigns a value set to a sourcing option.
- **BASE FORMULA – RULE SET GROUP:** This rule set group contains one BASE FORMULA - RULE SET required to calculate the FOB value.
- **ELC VALUE SET – RULE SET GROUP:** This rule set group contains ELC VALUE SET - RULE SET that assigns landed cost value sets to a sourcing option.
- **ELC FORMULA – RULE SET GROUP:** This rule set group contains the rule sets required to calculate landed cost. In this case, the group includes only one rule set, the ELC FORMULA - RULE SET.

## **Related Topics**

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## **Duty Tax UOM Attributes on Product Classification Code**

GTM allows you to download product classification codes from the third party data provider. Once downloaded, you can access the codes via Classification > Product Classification Codes.

With every classification code, the data provider can send up to 5 duty tax UOM related attributes to GTM. The names of these attributes start with DUTY RATE UOM. Later when GTM makes the tax callout to the data provider for estimating the landed cost, GTM prepares the quantity details of the goods imported in these 5 different UOMs and sends it to the data provider. The data provider uses the quantities in these UOMs to determine tax and duty.

## **Related Topics**

[Landed Cost Setup Overview](#)

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## Unit of Measure Conversion Factor on Item

This page is accessed via:

- Order Management > Material Management > Item
- Classification > Items
- Master Data > Items

You can classify items and assign the relevant product classification code to the item. The third party content provider can send up to 5 duty tax UOMs with every product classification code downloaded. You can define the conversion factor for converting the quantity present in GTM to the quantities in the 5 duty tax UOMs as required by the data provider.

You can define an item-specific conversion factor on the Trade Item manager. For example, suppose you import 100 dozen of apples but the tax is on kilogram weight of the apples imported. Here you can enter the 100 dozen apples imported as quantity on trade transaction, define a conversion factor from dozen to kilogram on item apple. Then you can perform the Convert UOMs action to transform the dozens of apples imported to kilogram weight and send it to the data provider.

You can also define global conversion factors in the UOMMAP table. For example, you use LB as UOM for pound weight in GTM, but the data provider needs the kilogram weight quantities in KGS (KG). You can handle this situation by defining the conversion factor from KG to KGS as 1 in public UOMMAP table.

### Related Topics

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## Duty and Taxes Setup

Estimated duty and taxes are provided by an external tax engine. GTM has an out-of-the-box integration with third party data providers system for that purpose.

### External System

An external system is any remote system where you can send GTM data. Use the External System Manager to define the outside source where you want to forward records. By default, GTM ships a public external system.

GTM prepares an XML request for duty and tax and sends to the external system. The external system calculates the duty and tax and sends these details as part of XML response.

Also see:

- Request Structure Information
- Response Structure Information

## Landed Cost Simulator Service

For Landed Cost Simulator service, the data is modeled in the background as a trade transaction. Some of the elements required to be passed to the external tax engine are captured at the trade transaction level and others at the line level:

- Per Option (Request)
  - Trade Transaction (header) is built with:
    - Source, Destination, Shipment ID, Incoterm, Transport Mode
- Trade Transaction Lines are built with:
  - Item, Classification (HTS Codes from Classification Type), Reporting Quantities (Duty and Tax UOMs), Country of Origin, Values/Costs (Freight, Insurance, Cost of Goods)
- Per Option (Response)
  - Multiple Duties (General and FTA Specific Rates)
  - Trade Transaction Level Taxes are added directly to Landed Cost
  - Trade Transaction Line Level Taxes are added to Landed Cost

Note: All the duties and taxes are returned as estimates only. Sometimes taxes are approximated as there is not enough information available.

## Related Topics

[Landed Cost Setup Overview](#)

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## Properties Setup

You have to configure the following set of properties for landed cost calculation:

- gtm.dutyTax Properties
- gtm.lcs Properties

## Related Topics

[Landed Cost Setup Overview](#)

[About Landed Cost Simulator](#)

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## Logic Configuration for Landed Cost

For more information on configuration, see Logic Configuration - GTM Landed Cost Simulator.

GTM ships with a default logic configuration GTM LANDED COST SIMULATOR DEFAULT that will group the following rule set groups:

- BASE VALUE SET – RULE SET GROUP
- BASE FORMULA – RULE SET GROUP
- ESTIMATED LANDED COST VALUE SET - RULE SET GROUP
- ESTIMATED LANDED COST FORMULA - RULE SET GROUP

Note: The best practice would be to add logic configuration according to your own business needs.

### Parameters

When defining a LANDED COST MODEL, specify the following mandatory parameters:

- RULE SET GROUP FOR TAX VALUE SET: The rule set group to assign the base value set to the simulator.
- RULE SET GROUP FOR TAX BASE AMOUNT FORMULA: The formula rule set group that will be used to assign the appropriate formula based on rules and then calculate the charges (and/or additional values).
- ELC VALUE SET-RULE SET GROUP: The rule set group to assign the ELC value set and the qualifier to the simulator.
- ELC FORMULA-RULE SET GROUP: The rule set group to determine the formula for the estimated landed cost.

### Related Topics

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## Ad Hoc Landed Cost Simulator

### Ad Hoc Landed Cost Simulator Overview

The Landed Cost Simulator estimates landed cost for multiple scenarios in an ad hoc fashion helping you to select the best sourcing option.

Based on the information you provide related to the importing country and potential exporting countries, this simulator will calculate the landed cost for each one of these options (exporting countries) offering graphic comparison of the results and highlighting the lowest landed cost option.

The following is a summary of the functional steps to follow when simulating landed cost:

1. ENTER IMPORT SHIPMENT INFORMATION. You should provide basic [Sourcing Information](#) such as country of import, tariff code, exchange rate date, classification code or item, and quantities.
2. [ASSIGN COSTS](#). GTM will assign costs (and any other related values) to the trade transaction based on business rules specified in the Logic Configuration (i.e. service parameters) you have selected.
3. TUNE COST AMOUNTS. You will be able to enter cost values manually or change cost amounts that have been calculated previously by the application.
4. RECALCULATE VALUES. GTM will [recalculate](#) cost values depending on the modifications you have done manually.
5. [SHOW LANDED COST](#). GTM will calculate landed cost for the different sourcing options. The following sub-processes run in the background:
  1. Callout to an external tax engine to get estimated duty and taxes.
  2. Assign costs (and any other related values) required to estimate landed cost.
  3. Estimate landed cost for each one of the sourcing options. Each one of these options will have potentially multiple results as there could be more than one duty rate due to existing trade agreements associated with the tariff code.
6. [SAVE SIMULATION DATA/VALUES](#). You can save the information entered in the simulation. You will be able to recover them and use them in future simulations. Results of the simulation will not be saved.

## Related Topics

[About Landed Cost Simulator](#)

[Setup](#)

About Landed Cost Estimation on a Trade Transaction or a Declaration

[Landed Cost Simulator PDF](#)

## Sourcing Information

This page is accessed via Landed Cost > Landed Cost Simulator.

You need to enter the following information to calculate the landed cost:

- Logic Configuration
- Header Information
- Sourcing Options

## Related Topics

[Ad Hoc Landed Cost Simulator Overview](#)

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## Assign Costs

When you select the Assign Costs button after entering the attributes for each one of the sourcing options, the application will run the following processes in the background:

- Compliance rule screening: This process will assign a group of charges. These charges may vary depending on the transport mode, Incoterm, ship-from country, etc. The screening will use the RULE SET GROUP FOR TAX BASE AMOUNT defined in the [Logic Configuration](#) associated with the simulation.
- Compliance rule screening: This process will apply the formulas and do the corresponding calculations of the assigned charges. The screening will use the RULE SET GROUP FOR TAX BASE AMOUNT FORMULA defined in the Logic Configuration associated with the simulation.

For more information, see Sourcing Details.

To configure costs/value qualifiers, see [Value Qualifiers Setup](#).

### Related Topics

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### Recalculate

When you select Recalculate, the following process is executed in the background:

- Compliance rule screening with RULE SET GROUP FOR TAX BASE AMOUNT FORMULA as a service parameter. This process will do the recalculation of the values of the unlocked formula-driven value qualifiers.

### Related Topics

[Ad Hoc Landed Cost Simulator Overview](#)

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Sourcing Details

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## Show Landed Cost

When you select Show Landed Cost, the following sub-processes are executed in the background:

- Callout to an external tax engine to get estimated duty and taxes
- Assign and calculate costs and other values required to calculate landed cost
- Show and compare landed cost results

### Callout to an External Tax Engine

The following are the steps followed by the application:

1. Prepare a Tax XML Request with product classification code and all the [sourcing information](#).
2. Add the quantity details in the 5 duty and tax UOMs requested by the third party data provider to the XML request.
3. Prepare the value data elements (i.e. base amounts) required by the external tax engine to calculate duty and taxes. For the data provider, they are as follows:
  - COST OF GOODS: the FOB price of the item (i.e. not considering international freight and insurance).
  - INTERNATIONAL FREIGHT: the international freight value.
  - INSURANCE: the insurance value.
  - DUTIABLE INTERNATIONAL FREIGHT: In some cases this value differs from the International Freight. For example, in Europe when importing from India with a transportation mode AIR, the dutiable freight could be 70% of the International Freight.

GTM will add up the values manually entered or calculated by the system into these buckets.

Let's take an example with two sourcing options:

#### Option 1

- Country of Export = CHN
- Country of Origin = CHN
- Transport Mode = AIR
- Incoterm = CIF
- Invoice Value = 50000 CNY
- Domestic Inland Freight = 500 CNY
- Insurance = 100 CNY
- International Freight = 250 CNY
- Bank Fee = 200 CNY
- Brokerage Fee = 300 CNY

#### Option 2

- Country of Export = IND
- Country of Origin = IND
- Transport Mode = AIR
- Incoterm = FOB

- Invoice Value = 40000 INR
- Domestic Inland Freight = 500 INR
- Insurance = 100 USD
- International Freight = 250 USD
- Bank Fee = 200 USD
- Brokerage Fee = 300 USD

In our example, the following are the values to be passed to the data provider:

#### Option 1

- COST OF GOODS = FOB PRICE = INVOICE VALUE – FREIGHT – INSURANCE = 50000 CNY – 100 CNY – 250 CNY = 49650 CNY
- INTERNATIONAL FREIGHT= 250 CNY
- INSURANCE = 100 CNY

#### Option 2

- COST OF GOODS = FOB PRICE = INVOICE VALUE = 40000 INR
- INTERNATIONAL FREIGHT= 250 USD
- INSURANCE = 100 USD

GTM will pass these values to the external tax engine in the currency they were entered. The external tax engine will make any currency conversion they need to calculate duty and taxes.

For detailed information on how to setup the mapping between GTM and the data provider, refer to [Properties Setup](#).

1. Make the call out to the data provider to request the calculation of duty and taxes.
2. Receive the response from the data provider and do the mapping to the value qualifiers setup for that purpose. Based on the pre-seeded setup offered by GTM, the following are the value qualifiers received in the response:
  - DUTY: the customs duty. If there is more than one customs duty, it will represent the sum of all of them.
  - EXCISE: any excise tax. If there is more than one excise tax, it will represent the sum of all of them.
  - VAT: any VAT tax. If there is more than one VAT tax, it will represent the sum of all of them.
  - OTHER: any other tax not covered by the above groups. If there is more than one tax in this category, it will represent the sum of all of them.

GTM may receive multiple duty values for the same sourcing option as the tariff code may have multiple duty rates due to one or more existing trade agreements.

GTM supports duty and taxes at the trade transaction header and line level. Since the ad hoc simulation scenarios are modeled as a single trade transaction line in the background, any duty or tax received at the header level will be added up to the duty or tax at the line level.

## Assign and Calculate Costs and Other Values

GTM will require assigning and calculating any other cost or value required to calculate landed cost. For that purpose, the application will execute the following sub-processes:

- Compliance rule screening using the ELC VALUE SET-RULE SET GROUP as a parameter. This process will assign any additional cost/value required to estimate the landed cost.
- Compliance rule screening using the ELC FORMULA-RULE SET GROUP as a parameter. This process will apply the formulas to any additional cost/value and estimate the landed cost.

For detailed information on how to assign costs/values and calculate them, refer to [Value Qualifiers Setup](#).

## Landed Cost Results

The landed cost results are calculated for each sourcing option and displayed in the Estimated Landed Cost page.

Following the example in the previous section, there will be multiple tariff rates for tariff code HTS-GB 8482400000 as follows:

- For Country of Origin CHN there are two duty rates:
  - the general or default rate
  - the ERGA OMNES special rate
- For Country of Origin IND there are three duty rates:
  - the general or default rate
  - the SPGL special rate
  - the ERGA OMNES special rate.

In this case, there will be two lowest landed cost results, both of them coming from the second sourcing option - the first one taking advantage of the SPGL agreement, and the second one taking advantage of the ERGA OMNES agreement.

## Related Topics

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## Save Simulation Data

For detailed information about how to save simulation data, see Saved Simulations.

## **Related Topics**

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