

User Guide

Avalara AvaTax Connector Rest API v.2 for HCL Commerce v9

v1.0

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About Avatax extension

Avalara Avatax is well known platform that dynamically delivers instantaneous sales tax decisions based on precise geo-location. Tax can be calculated for almost all countries in the world. You do not need to create or rewrite tracking zones, rates, tax rules. AvaTax continuously updates data, making accurate sales tax calculations available immediately in real time. Avatax extension performs address validation and normalization, looks for taxability determination, uses jurisdiction assignment technology for correct and valid tax calculation.

The main purpose of the extension is to calculate tax with Avalara Avatax Platform. A lot of settings allow to configure extension regarding to specifics of your stores, products, clients.

All Avatax operations and requests are saved as logs in a table so admin can review and use existing information for own and business goals.

Avatax extension is easy installed to WebSphere Commerce platform and can be configured differently for all available stores. If Avatax extension is disabled for any store, tax can be calculated by using other services (for example, Default WebSphere Commerce Rules).

Flow and integration with StoreFront

Every time when tax needs to be calculated (on Checkout) and record sale (Invoice/Credit Memo) for filing and reporting in Avatax system, Avatax extension starts its work.

Calculation is an Avatax request to calculate tax for Order.

Transaction is an Avatax request to record sale (Invoice/Credit Memo) for filing and reporting in Avatax system.

Validate is an Avatax Request to validate and normalize Shipping Address.

Filter is a log that is created to indicate situation when **Validate/Calculation/Transaction** cannot be performed for entered Shipping Address because of admin settings for **Filter Request** (admin is able to select countries and regions which validation and tax calculation should or should not be performed for). If Shipping Address is filtered, then **Validate/Calculation/Transaction** is skipped.

Installation










Installation of the Avatax integration to HCL commerce store should be done according to Integration Deployment Guide which contains required steps and describes places where changes must be applied.

General Settings

To set up Avatax extension go to *Management Center > Store Management*, select specific store in the list and go to the *Avatax* tab.

General settings area contains connection settings and general configuration settings.

— General Settings

URL to connect		<input type="text" value="https://sandbox-rest.avatax.com"/> 
Account number		<input type="text" value="2000226328"/>
Key		<input type="text" value="B8B71004DD258CB1"/>
Company code		<input type="text" value="DEFAULT-HCL"/> 
Enable BIN#/VAT ID field		<input type="checkbox"/>
Prices include taxes		<input type="checkbox"/>
Display item taxes		<input checked="" type="checkbox"/>
Tax code identifier		<input type="text" value="TaxCode"/>

To connect Avatax extension you should enter valid credentials:

- **URL:** Base URL of Avalara Service that will provide tax calculation and address validation / normalization options.

- **Account Number:** This string is a UUID issued by Avalara to identify the Avalara account that owns the company identified by the Company Code.
- **Key:** The Authorization Key is used to identify the actor (person or system) making the request.
- **Company Code:** Identifies the company profile/legal entity with which the Avatax operations are associated (values should be available when URL, Account Number and Key are entered).
- **Enable VAT ID field** - This option adds field to input **Business Identification Number** (Business Identification No) which is also known as VAT Registration ID. Field is added to registration page and my account page.
- **Prices include taxes** - Unchecked value stands for tax calculations based on product prices set without any tax, also called net prices.
- **Display item taxes** - Display taxes breakdown per item
- **Tax code identifier** - Specifies ID of the attribute which contains product tax code values.

Tax Calculation Settings

— Tax Calculation Settings

Tax calculation	Calculation and submitting tax€.. ▾
Action of error	Disable calculation
Default tax rate	Only calculation without submitting taxes
	Calculation and submitting taxes
	<div><div>+</div><div>×</div><div>📄</div></div>
Supported Countries:	<div><div>* Country or region</div><div>United States ▾</div><div>0 of 1 selected</div></div>

- **Tax calculation** – Disable Calculation, only calculation without submitting taxes, or calculation and submitting taxes.
- **Action of error** - proceed, do not proceed, or use default rate.
- **Default tax rate** - default rate which will be used in case of error if option is enabled.
- **Supported countries** - select countries for taxes should be calculated.




Address Validation settings


— Address Validation Settings

Validate address on:

- ☒ Registration page
- ☒ Addresses page in My Account
- ☒ Quick Profile page in My Account
- ☒ Checkout

Supported Countries:

* Country or region
United States 
0 of 1 selected

- **Validate address on** - pages where address should be validated.
- **Supported countries** – Address validation is supported only for United States and Canada.

Address Validation

For tax calculation process, **Address Validation** should be performed.

Address Validation is the process that is used to check the validity and deliverability of a physical mailing address. The main purpose of **Validation** is to verify whether address is valid and really exists.

Address Normalization is process of changing address entered by user to full and well-formed.

Address validation options are configured in 'Address Validation Settings' in the Avatax tab in Management Center > Store Management section.

Address Validation Settings

Validate address on:

<input checked="" type="checkbox"/>	Registration page
<input checked="" type="checkbox"/>	Addresses page in My Account
<input checked="" type="checkbox"/>	Quick Profile page in My Account
<input checked="" type="checkbox"/>	Checkout

Admin can enable Address Validation on the following areas - Registration page, Addresses pages in My Account, Quick Profile page in My Account, Checkout.

If address validation is enabled for the area and address has some inconsistencies the next dialog appears to customer. Customer can select suggested address or to use initial one.

We Have Validated Your Address.

Original Address:

☒ 330 potrero ave Sunnyvale CA 94085 US

Suggested address:

☐ 330 Potrero Ave Sunnyvale CA 94085-4113 US

Cancel

Continue

Pay attention that address can be normalized only when Response block of Validate Request contains **resolutionQuality: Rooftop**. If you get any other **resolutionQuality**, it means that address cannot be normalized.

To find more details about Address Validation process please follow this [link](#).

Tax Calculations

Avatax extension uses two Request Types for tax calculation:

- **Calculation**: process of tax calculation for Order. Calculation Request is sent when user places Order.
- **Transaction**: such request is related to record sale (Invoice/Credit Memo) for filing and reporting in Avatax system. When Invoices / Credit Memo is sent from Avatax Order Sync Queue table to Avalara admin, tax need to be calculated. Request **Transaction** is sent for this purpose.

Calculations and **Transactions** Requests are similar and have the same structure.

Such Requests include:

- information about user: tax class, buyer type, metadata etc.
- information about transaction: date, transaction type, currency etc.
- information about products: quantity, UPC (or SKU), price, description etc.
- information about shipping: send as new item; shipping costs is sent.

Response block of **Calculations** and **Transactions** include detail tax amount for every item and entire Order. Response also contains jurisdiction details, tax types, comments etc.

Calculation Details

Calculation Request is sent each time when data needed for tax calculation is changed.

Transaction Details

Transaction Request is sent once when Invoice / Credit Memo is sent to Avalara Admin.

Only one **Transaction** Request is sent for one Invoice / Credit Memo per one processing Queue.

Tax inclusive and exclusive prices

HCL Commerce AvaTax extension is able to handle both tax inclusive and exclusive product prices. Behavior is driven by setting *Prices include taxes* in Avatax panel on Store level in Management Center.

Default unchecked value of **Prices include taxes** stands for tax calculations based on product prices without any tax, also called net prices. Below is an example of Order review page.

Order Subtotal:	\$55.00
Discount:	(\$5.50)
Tax:	\$3.76
Shipping:	\$0.00
Shipping Tax:	\$0.00
Order Total:	\$53.26 = Product Price - Discount + Tax + Shipping Tax

To calculate tax basing on gross price, meaning sale amount and tax being backcalculated from product price, *Price include taxes* setting should be checked. Below is example of Order Review page in this case.

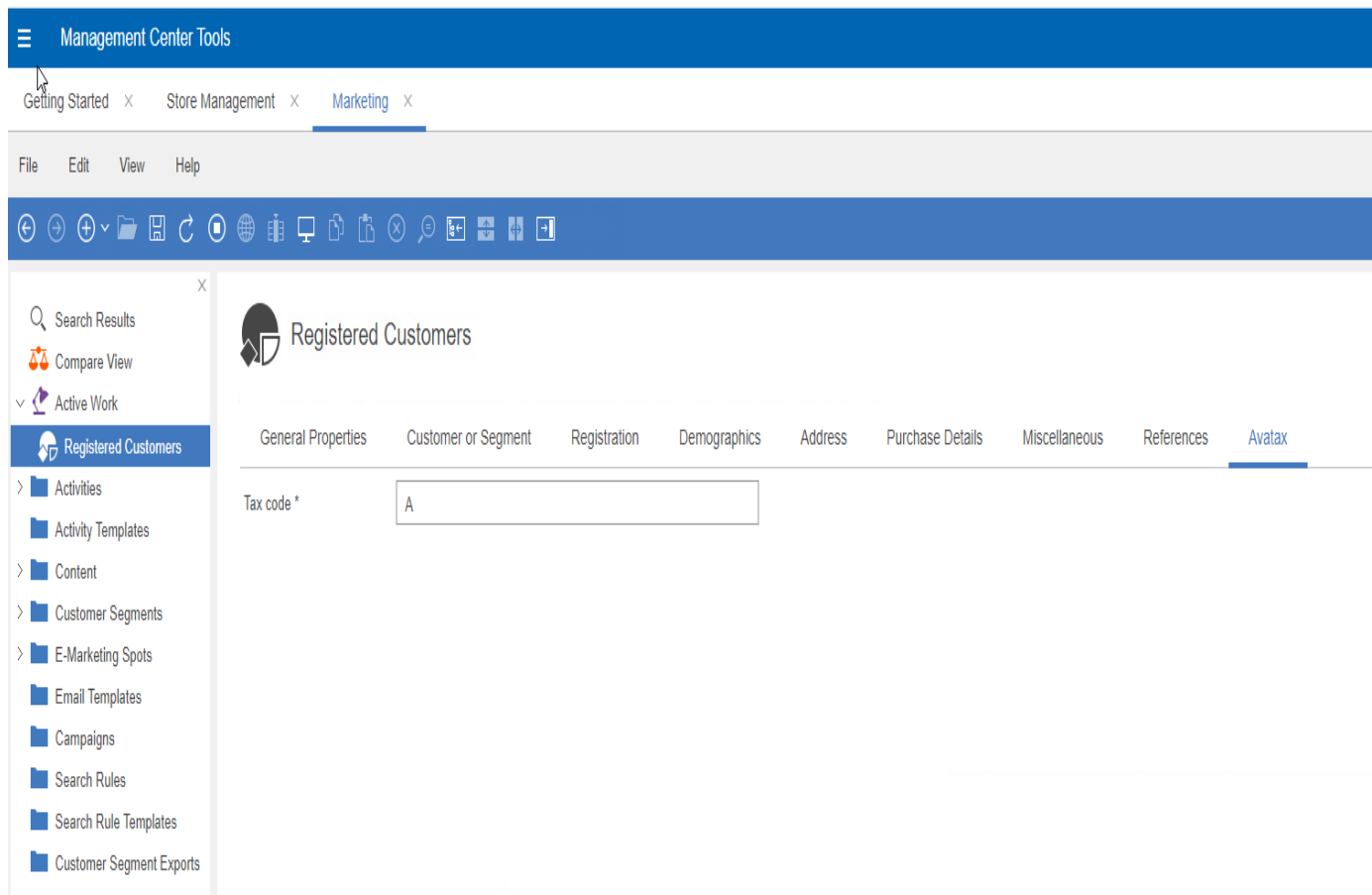
Order Subtotal:	\$55.00
Discount:	(\$5.50)
Tax:	\$3.50
Shipping:	\$0.00
Shipping Tax:	\$0.00
Order Total:	\$49.50 = Product Price - Discount

Tax Classes

The main purpose of Tax Classes is to configure special rules for tax calculation or exempt customers from tax.

Admin can configure the following Tax Classes:

- **Customer Tax Classes.** To configure it go to *Management Center > Marketing > Customer Segments*. Open required segment and go to Avatax tab where you can specify Tax code.



Valid values for Customer Tax Classes are:

- A - Federal Government
- B - State/Local Govt.
- C - Tribal Government
- D - Foreign Diplomat
- E - Charitable Organization
- F - Religious/Education
- L - Other
- N - Local Government
- R - Non-resident (Canada)

See [AvaTax API](#) documentation to find more information about standard avatax codes.

Customer Tax Class Code will be sent as **defaultBuyerType** in Transaction and Calculation Requests.

➤ **Products Tax Classes.**

You can apply tax classes to products in Management Center. In order to do this, you have to create an attribute and assign it to required SKUs. This attribute must contain ID of product tax code.

Creating of an attribute can be done according to the instructions '[Creating attributes in the attribute dictionary](#)' in HCL Commerce help center.

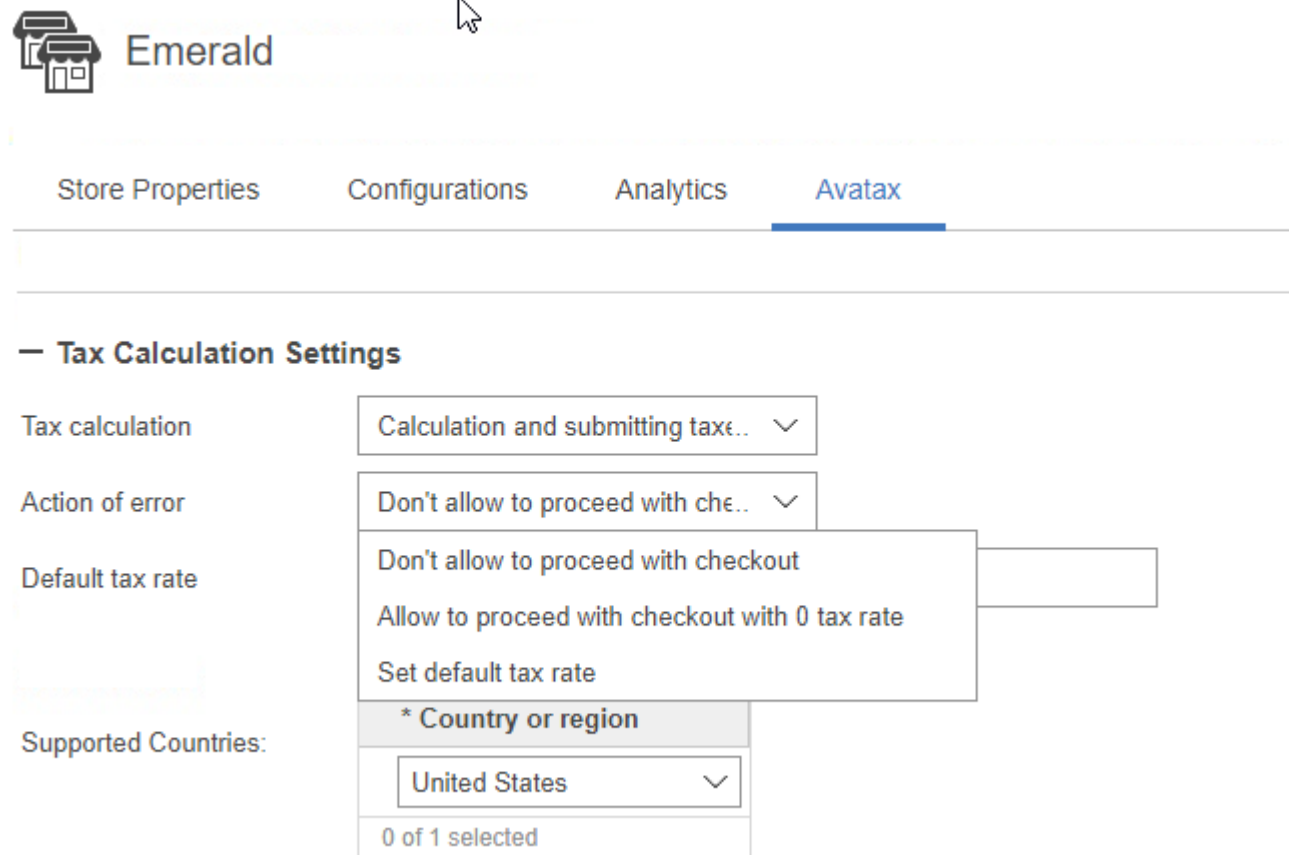
Value of this attribute (**Product Tax Code**) will be sent as **avalaraGoodsAndServicesType** in Calculation and Transaction Requests.

Error Handling

Error Handling allows to set up system behavior in case when tax cannot be calculated.

To set up *Error Handling* go to *Management Center > Store Management*, select required store and go to *Avatax* tab.

Error handling can be configured in Tax Calculation Settings areas:



The screenshot shows the Emerald Management Center interface. At the top, there's a navigation bar with tabs: Store Properties, Configurations, Analytics, and Avatax. The Avatax tab is selected. Below the navigation bar, there's a section titled "Tax Calculation Settings". This section contains several configuration options:

- Tax calculation:** A dropdown menu with the option "Calculation and submitting tax..." selected.
- Action of error:** A dropdown menu with the option "Don't allow to proceed with che..." selected.
- Default tax rate:** A dropdown menu with three options: "Don't allow to proceed with checkout", "Allow to proceed with checkout with 0 tax rate", and "Set default tax rate".
- Supported Countries:** A section with a header "* Country or region" and a dropdown menu showing "United States". Below the dropdown, it says "0 of 1 selected".

Admin can select one of three available values for **Action on Error**:

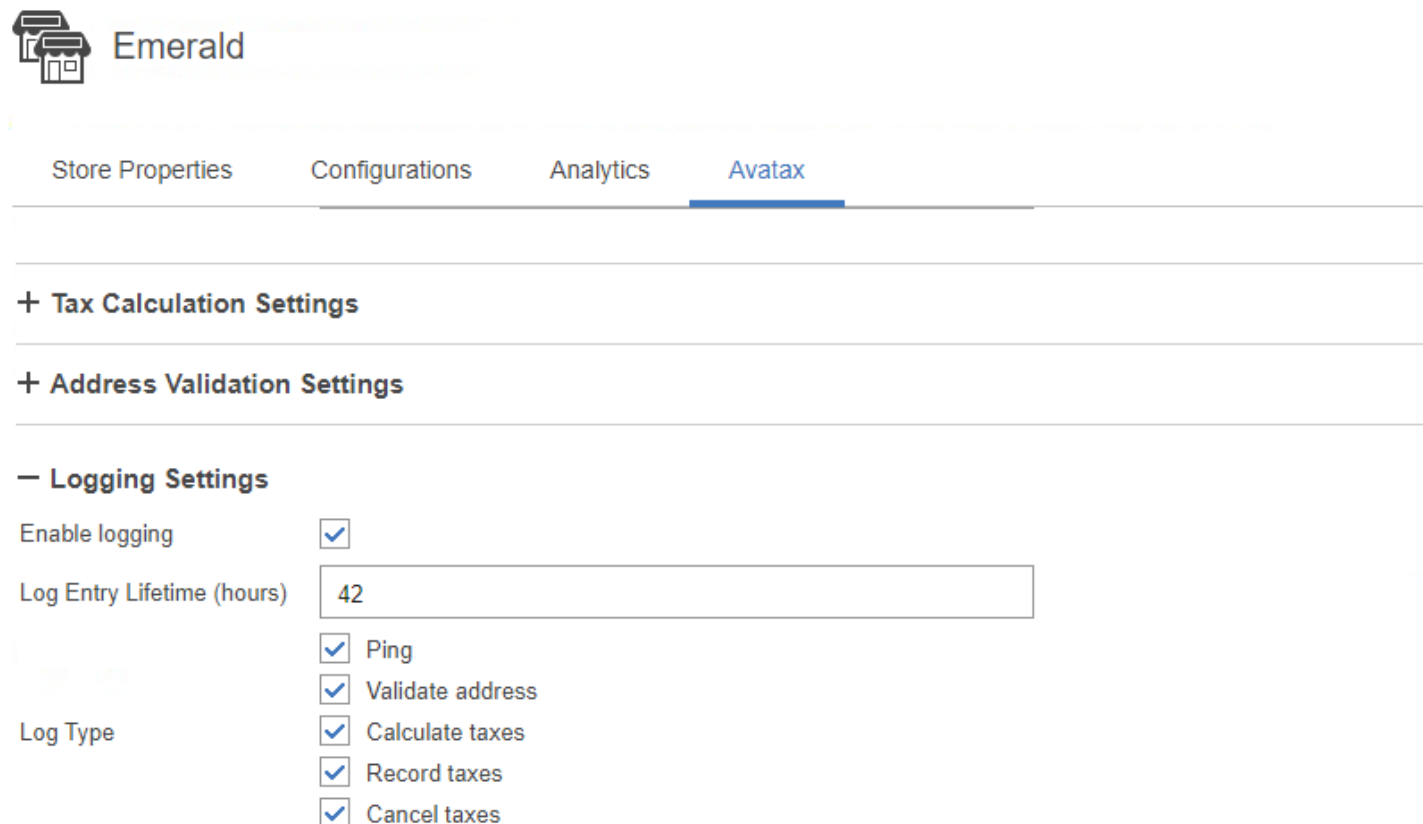
- **Do not allow to proceed with checkout.** This setting does not allow user to place order in case some issue occurs with tax calculation.


- **Allow to proceed with checkout with 0 tax rate.** In case of tax calculation issue taxes are set as 0 for the order and customer can place order.
- **Set default tax rate.** This setting sets default tax rate for order items in case of issue with calculation. Value for Default tax rate is configured in the same area in Management Center.

Logging

Data logging is used to collect information about any Avatax actions or requests to Avalara. Logs are saved in logs directory inside in the file avalara.log. Usually this is folder C:\WCDE_V9\wasprofile\logs\server1

To configure Logs, go to *Management Center > Store Management*, select required store and go to *Avatax* tab.



 Emerald

Store Properties Configurations Analytics **Avatax**

+ Tax Calculation Settings

+ Address Validation Settings

— Logging Settings

Enable logging ☒

Log Entry Lifetime (hours)

Log Type

- ☒ Ping
- ☒ Validate address
- ☒ Calculate taxes
- ☒ Record taxes
- ☒ Cancel taxes

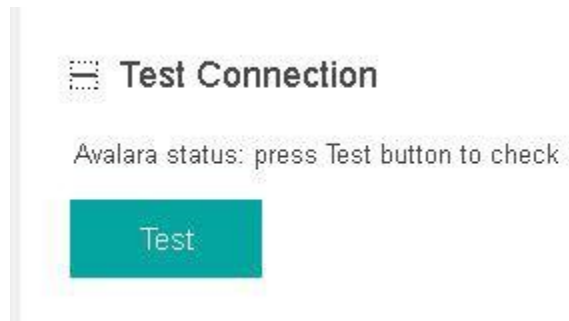
- **Enable logging:** admin can enable/disable logs saving.
- **Log Entry Lifetime:** Records in the Log are automatically deleted after duration specified.

- **Log Type:** only selected log types will be saved to Logs table. Not selected log types will be ignored and will not be saved to table.

There are 5 **Log Types**:

- **Ping:** it is not Request to Avalara; it is a log that is sent when customer clicks Test button in the Test section of Avatax settings in Management Center.
- **Calculate taxes:** Every time when tax for Order needs to be calculated, **Calculation** request is sent, and appropriate log is saved to the Log file.
- **Record taxes:** It works like Calculation but saves **Transaction** Request which is related to Invoice and Credit Memo. Transaction is sent when tax for Invoice or Credit Memo needs to be calculated.
- **Validate address:** it is a request to Avalara to validate and normalize shipping address.
- **Cancel taxes:** When order is cancelled state of recorded transaction in Avatax is changed to Voided. If 'Cancel taxes' checkbox is enabled requests for changing state of transactions are saved in the log file.

Test connection



There is a button to test connection to specified Avalara endpoint and credentials. Click it to test connection.

When test is passed it will look like on image below

