



Avalara AvaTax Solution for Microsoft Dynamics 365

Technical Document for Avalara AvaTax Solution

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Integration Points

Avalara AvaTax solution utilizes the following main entities:

Sr. No	Entity	Description
1	Account	This entity is used to store Entity/Use Code and Business Identification number.
2	Invoice	This entity is used to store custom fields required for Tax calculation.
3	Invoice Product	This entity is used to store the Tax code for Write-In Product.
4	Order	This entity is used to store custom fields required for Tax calculation.
5	Order Product	This entity is used to store the Tax code for Write-In Product.
7	Quote	This entity is used to store custom fields required for Tax calculation.
8	Quote Product	This entity is used to store the Tax code for Write-In Product.
9	Product	This entity is used to store the Tax Code of the product.

Custom Prefix

We use custom prefix as “ava” for our Custom entity and custom attributes. Any new components and fields added in Avalara AvaTax solution have prefix as “ava.”

Set the prefix name for custom entities and fields

Prefix *

Name Preview

Data Model and Design

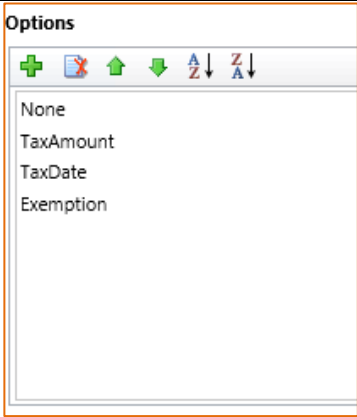
Account Entity

We have used the Account entity to store taxability and tax code information for the customer. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_entityusecodeid	Entity/Use Code ID	Lookup	True	Used to browse the Entity/Use Code from the Entity Use Code extension.
ava_businessidnumber	Business Identification Number	A single line of text.	True	Used to store the BIN number.
ava_avalartax	Avalara Tax	Lookup	True	Relationship Name : ava_ava_avalartax_account
ava_isaddressvalid	IsAddressValid	Two Options	True	No Yes Default value: No
ava_addressvalidation	AddressValidation	Two Options	True	Invalid Valid/Override Default value : Invalid
ava_line1	line1	A single line of text.	True	Dummy field used for storing validated address for line1.
ava_line2	line2	A single line of text.	True	Dummy field used for storing validated address for line2.
ava_line3	line3	A single line of text.	True	Dummy field used for storing validated address for line3.
ava_city	city	A single line of text.	True	Dummy field used for storing validated address for the city.
ava_stateorprovince	stateorprovince	A single line of text.	True	Dummy field used for storing validated address for stateorprovince.
ava_postalcode	postalcode	A single line of text.	True	Dummy field used for storing validated address for postalcode.
ava_country	country	A single line of text.	True	Dummy field used for storing validated address for the country.

Invoice/Order/Quote Entity

We have used the Invoice/Order/Quote entity to store custom fields required for tax calculation. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_addressvalidation	AddressValidation	Two Options	True	Invalid Valid/Override Default value : Invalid
ava_avalاراتax	Avalara Tax	Lookup	True	Relationship Name : ava_ava_avalاراتax_invoice_AvalaraTax
ava_calculatetax	Calculate Tax	Two Options	True	No Yes Default Value : No
ava_customerponumber	Customer PO Number	A single line of text.	True	
ava_isaddressvalid	IsAddressValid	Two Options	True	No Yes Default Value : No
ava_istaxcalculated	IsTaxCalculated	Two Options	True	No Yes Default Value: No
ava_originaccount	Origin Account	Lookup	True	Relationship Name : ava_account_invoice_OriginAccount
ava_overridetax	Override Tax	Two Options	True	No Yes Default Value : No
ava_taxoverridetype	Tax Override Type	Option set	True	
ava_taxoverrideamount	Tax Override Amount	Currency	True	
ava_taxoverrideamount_base	Tax Override Amount (Base)	Currency	True	
ava_taxoverridedate	Tax Override Date	Date and Time	True	

ava_taxoverrideason	Tax Override Reason	A single line of Text.	True	
ava_businessidnumber	Business Identification Number	A single line of Text.	True	
ava_invoicemessages	Invoice Messages	Multiple lines of text.	True	
ava_line1	line1	A single line of text.	True	Dummy field used for storing validated address for line1.
ava_line2	line2	A single line of text.	True	Dummy field used for storing validated address for line2.
ava_line3	line3	A single line of text.	True	Dummy field used for storing validated address for line3.
ava_city	city	A single line of text.	True	Dummy field used for storing validated address for the city.
ava_stateorprovince	stateorprovince	A single line of text.	True	Dummy field used for storing validated address for stateorprovince.
ava_postalcode	postalcode	A single line of text.	True	Dummy field used for storing validated address for postalcode.
ava_country	country	A single line of text.	True	Dummy field used for storing validated address for the country.
ava_shiptoline1	shipToline1	A single line of text.	True	Dummy field used for storing validated address for shipToline1.
ava_shiptoline2	shipToline2	A single line of text.	True	Dummy field used for storing validated address for shipToline2.
ava_shiptoline3	shipToline3	A single line of text.	True	Dummy field used for storing validated address for shipToline3.
ava_shiptocity	shipTocity	A single line of text.	True	Dummy field used for storing validated address for shipTocity.
ava_shiptopostalcode	shipTopostalcode	A single line of text.	True	Dummy field used for storing validated address for shipTopostalcode.
ava_shiptocountry	shipTocountry	A single line of text.	True	Dummy field used for storing validated address for shipTocountry.

Invoice Product/ Order Product/Quote Product Entity

We have used the Invoice Product/ Order Product/Quote Product entity to store tax code for a discount. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_taxcode	Tax Code	Lookup	True	Relationship name: ava_avataxtypecode_invoicedetail_taxcode Used to map tax code for write in product

Product Entity

We have used the Product entity to store taxability and tax code for Products. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_taxcode	Tax Code	Lookup	True	Relationship name : ava_ava_avataxtypecode_product_TaxCode

Avalara Tax Setup Entity

We have used the Avalara Tax Setup entity to store Configuration related information for AvaTax. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_avataxaccountnumber	AvaTax Account Number	A Single Line of Text.	True	
ava_avataxadminconsole	AvaTax Admin Console	A Single Line of Text.	True	
ava_avataxlicensekey	AvaTax License Key	A Single Line of Text.	True	
ava_avataxlogged	AvaTax Logged	Two Options	True	No Yes Default Value: No
ava_avataxurl	AvaTax Url	A Single Line of Text.	True	
ava_webserviceurl	WebService URL	Two Options	True	Sandbox Production
ava_commit	Commit	Two Options	True	at invoice payment at invoice creation Default Value: at invoice payment
ava_companycode	Company Code	A Single Line of Text.	True	
ava_licensekey	License Key	Multiple lines of Text.	True	
ava_disabletaxcalculation	Disable Tax Calculation	Two Options	True	No Yes Default Value: No
ava_disableaddrval	Disable Address Validation	Two Options	True	No Yes Default Value: No
ava_originaccount	Origin Account	Lookup	True	Relationship name: ava_avalاراتax_OriginAccount
ava_shippingtaxcode	Shipping Tax Code	Lookup	True	Relationship name: ava_avalاراتax_shippingtaxcode
ava_version	Version	A Single Line of Text.	True	
ava_txtcompanycode	txtcompanycode	A Single Line of Text.	True	

Field Name	Display Name	Type	Custom Attribute	Comments
ava_companyname	companyName	A Single Line of Text.	True	
ava_txtcompanynames	txtcompanynames	A Single Line of Text.	True	

AvaTax Log Entity

We have used the AvaTax Log entity to provide general information for a GetTax request and Response. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_avataxconfig	AvaTax Config	Lookup	True	Relationship name: <code>ava_ava_avalartax_ava_avataxlog_AvaTaxConfig</code>
ava_executiondate	Execution Date	Date and Time	True	
ava_message	Message	Multiple Lines of Text	True	
ava_quote	Quote	Lookup	True	Relationship name: <code>ava_quote_ava_avataxlog_Quote</code>
ava_requestbody	Request Body	Multiple Lines of Text	True	
ava_response	Response	Multiple Lines of Text	True	
ava_responsebody	Response Body	Multiple Lines of Text	True	
ava_result	Result	A Single Line of Text.		
ava_salesorder	Sales Order	Lookup	True	Relationship name: <code>ava_salesorder_ava_avataxlog_SalesOrder</code>

AvaTax Type code Entity

We have used the AvaTax Type code entity to import or create any new Tax codes. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_additionalinformation	Additional Information	Multiple Lines of Text	True	
ava_description	Description	A single line of text.	True	

Entity/Use Codes Entity

We have used the Entity / Use code entity to import or create any new entity/use codes. We have created and customized the following fields.

Field Name	Display Name	Type	Custom Attribute	Comments
ava_entityid	entityid	A single line of text	True	
ava_description	Description	A single line of text	True	

Plug-in Assemblies

AvalaraTaxIntegration assembly includes 5 different plugins as described below:

Plugin	Description	Step Name	Pre-Image
AvalaraTax.ConfigurationValidation	Validates Avalara license key and account number entered in the Configuration window.	AvalaraTax.ConfigurationValidation: Create of ava_avalartax	No
		AvalaraTax.ConfigurationValidation: Update of ava_avalartax	No
AvalaraTax.CancelCommitTax	Gather's all the required parameters from the Preimage and fires Cancel Tax call.	AvalaraTax.CancelCommitTax: SetState of invoice	Yes
		AvalaraTax.CancelCommitTax: SetStateDynamicEntity of invoice	Yes
AvalaraTax.PromptTaxCalculation	The plugin prompts the required warnings/messages in case if Tax is not updated on the entity. Get the required parameters from the Preimage registered and prompts the warning/messages.	AvalaraTax.PromptTaxCalculation: Update of quote	Yes
		AvalaraTax.PromptTaxCalculation: Update of invoice	Yes
		AvalaraTax.PromptTaxCalculation: Update of salesorder	Yes
AvalaraTax.TaxCalculation	This plugin holds the logic to fetch the information for address, Customer data, Document discounts, Product lines, Freight line, Tax Override, Doc type, etc. for Tax calculation.	AvalaraTax.TaxCalculation: Update of quote	Yes
		AvalaraTax.TaxCalculation: Update of salesorder	Yes
		AvalaraTax.TaxCalculation: Update of invoice	Yes
AvalaraTax.AddressValidation	This plugin validates the address in the entity sales order, invoice and quote.	AvalaraTax.AddressValidation: Update of salesorder	Yes
		AvalaraTax.AddressValidation: Update of invoice	Yes
		AvalaraTax.AddressValidation: Update of quote	Yes
		AvalaraTax.AddressValidation: Update of account	Yes

Plugin: AvalaraTax.ConfigurationValidation

Step: AvalaraTax.ConfigurationValidation: Create of ava_avalartax.

General Configuration Information

Message	Create
Primary Entity	ava_avalartax
Secondary Entity	none
Filtering Attributes	Message does not support Filtered Attributes
Event Handler	(Plugin) AvalaraTax.ConfigurationValidation
Step Name	AvalaraTax.ConfigurationValidation: Create of ava_avalartax
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.ConfigurationValidation: Create of ava_avalartax

Event Pipeline Stage of Execution Execution Mode Deployment

Pre-validation Asynchronous Server

Pre-operation Synchronous Offline

Post-operation

Delete AsyncOperation if StatusCode = Successful

Step: AvalaraTax.ConfigurationValidation: Update of ava_avalartax

General Configuration Information

Message	Update
Primary Entity	ava_avalartax
Secondary Entity	none
Filtering Attributes	ava_avataccountnumber, ava_avatlicensekey, ava_avat...
Event Handler	(Plugin) AvalaraTax.ConfigurationValidation
Step Name	AvalaraTax.ConfigurationValidation: Update of ava_avalartax
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.ConfigurationValidation: Update of ava_avalartax

Event Pipeline Stage of Execution Execution Mode Deployment

Pre-validation Asynchronous Server

Pre-operation Synchronous Offline

Post-operation

Delete AsyncOperation if StatusCode = Successful

Plugin: AvalaraTax.CancelCommitTax

Step: AvalaraTax.CancelCommitTax: SetState of invoice

General Configuration Information

Message	SetState
Primary Entity	invoice
Secondary Entity	none
Filtering Attributes	Message does not support Filtered Attributes
Event Handler	(Plugin) AvalaraTax.CancelCommitTax
Step Name	AvalaraTax.CancelCommitTax: SetState of invoice
Run in User's Context	Calling User
Execution Order	3
Description	AvalaraTax.CancelCommitTax: SetState of invoice

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.CancelCommitTax: SetStateDynamicEntity of invoice

General Configuration Information

Message	SetStateDynamicEntity
Primary Entity	invoice
Secondary Entity	none
Filtering Attributes	Message does not support Filtered Attributes
Event Handler	(Plugin) AvalaraTax.CancelCommitTax
Step Name	AvalaraTax.CancelCommitTax: SetStateDynamicEntity of invoice
Run in User's Context	Calling User
Execution Order	3
Description	AvalaraTax.CancelCommitTax: SetStateDynamicEntity of invoice

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Plugin: AvalaraTax.PromptTaxCalculation

Step: AvalaraTax.PromptTaxCalculation: Update of quote

General Configuration Information		
Message	Update	
Primary Entity	quote	
Secondary Entity	none	
Filtering Attributes	accountid, ava_avalartax, billto_composite, freightamount ...	
Event Handler	(Plugin) AvalaraTax.PromptTaxCalculation	
Step Name	AvalaraTax.PromptTaxCalculation: Update of quote	
Run in User's Context	Calling User	
Execution Order	1	
Description	AvalaraTax.PromptTaxCalculation: Update of quote	
Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.PromptTaxCalculation: Update of invoice

General Configuration Information		
Message	Update	
Primary Entity	invoice	
Secondary Entity	none	
Filtering Attributes	accountid, billto_composite, customerid, freightamount, di ...	
Event Handler	(Plugin) AvalaraTax.PromptTaxCalculation	
Step Name	AvalaraTax.PromptTaxCalculation: Update of invoice	
Run in User's Context	Calling User	
Execution Order	1	
Description	AvalaraTax.PromptTaxCalculation: Update of invoice	
Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.PromptTaxCalculation: Update of salesorder

General Configuration Information

Message	Update
Primary Entity	salesorder
Secondary Entity	none
Filtering Attributes	accountid, billto_composite, customerid, freightamount, di ...
Event Handler	(Plugin) AvalaraTax.PromptTaxCalculation
Step Name	AvalaraTax.PromptTaxCalculation: Update of salesorder
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.PromptTaxCalculation: Update of salesorder

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Plugin: AvalaraTax.TaxCalculation

Step: AvalaraTax.TaxCalculation: Update of quote

General Configuration Information

Message	Update
Primary Entity	quote
Secondary Entity	none
Filtering Attributes	ava_calculatetax ...
Event Handler	(Plugin) AvalaraTax.TaxCalculation
Step Name	AvalaraTax.TaxCalculation: Update of quote
Run in User's Context	Calling User
Execution Order	2
Description	AvalaraTax.TaxCalculation: Update of quote

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.TaxCalculation: Update of salesorder

General Configuration Information

Message	Update
Primary Entity	salesorder
Secondary Entity	none
Filtering Attributes	ava_calculatetax ...
Event Handler	(Plugin) AvalaraTax.TaxCalculation
Step Name	AvalaraTax.TaxCalculation: Update of salesorder
Run in User's Context	Calling User
Execution Order	2
Description	AvalaraTax.TaxCalculation: Update of salesorder

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.TaxCalculation: Update of invoice

General Configuration Information

Message	<input type="text" value="Update"/>
Primary Entity	<input type="text" value="invoice"/>
Secondary Entity	<input type="text" value="none"/>
Filtering Attributes	<input type="text" value="ava_calculatetax"/> ...
Event Handler	<input type="text" value="(Plugin) AvalaraTax.TaxCalculation"/> ▼
Step Name	<input type="text" value="AvalaraTax.TaxCalculation: Update of invoice"/>
Run in User's Context	<input type="text" value="Calling User"/> ▼
Execution Order	<input type="text" value="2"/>
Description	<input type="text" value="AvalaraTax.TaxCalculation: Update of invoice"/>

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input checked="" type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Plugin: AvalaraTax.AddressValidation

Step: AvalaraTax.AddressValidation: Update of salesorder

General Configuration Information

Message	Update
Primary Entity	salesorder
Secondary Entity	none
Filtering Attributes	ava_isaddressvalid ...
Event Handler	(Plugin) AvalaraTax.AddressValidation
Step Name	AvalaraTax.AddressValidation: Update of salesorder
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.AddressValidation: Update of salesorder

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input checked="" type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.AddressValidation: Update of invoice

General Configuration Information

Message	Update
Primary Entity	invoice
Secondary Entity	none
Filtering Attributes	ava_isaddressvalid ...
Event Handler	(Plugin) AvalaraTax.AddressValidation
Step Name	AvalaraTax.AddressValidation: Update of invoice
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.AddressValidation: Update of invoice

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input checked="" type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.AddressValidation: Update of quote

General Configuration Information

Message	Update
Primary Entity	quote
Secondary Entity	none
Filtering Attributes	ava_isaddressvalid
Event Handler	(Plugin) AvalaraTax.AddressValidation
Step Name	AvalaraTax.AddressValidation: Update of quote
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.AddressValidation: Update of quote

Event Pipeline Stage of Execution	Execution Mode	Deployment
<input type="radio"/> Pre-validation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
<input type="radio"/> Pre-operation	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input checked="" type="radio"/> Post-operation		
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		

Step: AvalaraTax.AddressValidation: Update o account

General Configuration Information

Message	Update
Primary Entity	account
Secondary Entity	none
Filtering Attributes	ava_isaddressvalid
Event Handler	(Plugin) AvalaraTax.AddressValidation
Step Name	AvalaraTax.AddressValidation: Update of account
Run in User's Context	Calling User
Execution Order	1
Description	AvalaraTax.AddressValidation: Update of account

Event Pipeline Stage of Execution	Execution Mode	Deployment
PreOperation	<input type="radio"/> Asynchronous	<input checked="" type="checkbox"/> Server
	<input checked="" type="radio"/> Synchronous	<input type="checkbox"/> Offline
<input type="checkbox"/> Delete AsyncOperation if StatusCode = Successful		