

Lesson 3 Extending the Data Model

An insurance company wants to extend TrainingApp functionality by capturing more details about each contact. The complete requirement will be implemented over multiple modules.

The screenshot shows a web browser window with the URL `http://localhost:8880/ab/ContactManager.do`. The browser title is "[DEV mode - 9.0.15] Guidewire TrainingApp". The page header includes "TrainingApp" and navigation links "Search", "Contact", and "Administration". A "Go to (Alt+I)" button is also present. The main content area displays a form for a contact named "Person: William Andy". The form has a left sidebar with tabs: "Actions", "Summary", "Details", "Addresses (1)", "Notes (0)", "Analysis", "Interactions", and "History". The "Summary" tab is selected, and within it, the "Analysis" sub-tab is active. The "Contact Analysis" section contains the following fields: "Contact Tier" (dropdown menu showing "Bronze"), "Customer Rating" (text input showing "87.50"), "Strategic Partner" (radio buttons for "Yes" and "No", with "No" selected), "Last Courtesy Contact" (calendar icon showing "04/19/2016"), "Fraud Investigations" (text input showing "2"), and "Web Address" (text input showing "www.facebook.com/AndyW"). A red bracket on the right side of the form points to a yellow callout box that says "Configure the tab to collect more information about the contact".

In this exercise your job is to make the necessary **data model changes** to meet customer requirements. As a configuration developer, you will use the Entity Editor in Guidewire Studio to modify the TrainingApp data model. You will implement the **user interface changes** later in a later lesson.

3.1 Prerequisites

For this exercise, use TrainingApp, Guidewire Studio, and a supported web browser.

`http://localhost:8880/ab/ContactManager.do` is the default URL for TrainingApp. To view, edit, and delete various contacts, log in to TrainingApp as Alice Applegate. The login/password for Alice Applegate is `aapplegate/gw`.

3.2 Lab: Modify an existing Entity Extension

You will use the Entity Editor to modify the existing ABContact.etx Entity Extension and use the column element to add new data fields to the ABContact base application entity.

Review the field definitions received from the business analysts. This table below summarizes the requirements for each field. Note: The Contact Tier field is missing from this list, because it has already been added by one of our fellow configuration developers.

Field name	Datatype	Null ok?
WebAddress_Ext	String of up to 40 characters	true
FraudInvestigationNum_Ext	Integer	true
LastCourtesyContact_Ext	Date (a date and time value)	true
CustomerRating_Ext	A decimal in the format XXX.Y (Values will range from 0.0 to 999.9)	true
IsStrategicPartner_Ext	Bit (a Boolean value)	true



Important!

Read carefully.

For each new entity element, remember to set the nullok attribute to true if not specifically defined to be false. When required, add an element description and specify column parameters.



Best practice

Use _Ext in entity field name

Notice that every field in the table above has an _Ext suffix. For fields that are added to a base application entity, Guidewire recommends that the field name should end with _Ext. This is to prevent potential conflicts during the upgrade to the next version of the Guidewire application.

1. Open Guidewire Studio

- From the TrainingApp folder, open a command window and start Guidewire Studio for TrainingApp.
- Note: Alternatively, use the Start TrainingApp Studio shortcut.

2. Navigate to ABContact.etx

3. Add fields to ABContact.etx to capture additional details

- a) Add the elements defined in the table below.

Field name	Datatype	Null ok?
WebAddress_Ext	String of up to 40 characters	True
FraudInvestigationNum_Ext	Integer	True
LastCourtesyContact_Ext	Date (a date and time value)	True
CustomerRating_Ext	A decimal in the format XXX.Y (Values will range from 0.0 to 999.9)	True
IsStrategicPartner_Ext	Bit (aBoolean value)	True

4. Validate your changes in Guidewire Studio and generate the Java class

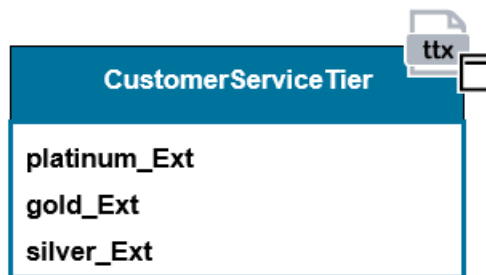
- a) Either click on the validate icon in the Entity Editor or use CTRL + S to save your changes
- b) If the code generation was successful (no errors shown in the Codegen tool window) then open the generated Java class and verify you can find your newly added fields

5. Deploy your changes

- a) From studio, restart the server using Debug 'Server'.
- b) If open, review the Messages Make window for compilation errors.
- c) Review the Debug console for errors.
- d) Verify that the application is running in the Debug console.

3.3 Lab: Extend a base application Typelist

"We also defined new customer service tiers, so we can properly prioritize customer request. Please see the diagram below and configure the Data Model to meet the requirement." – Insurance company business analysts



As a configuration developer, you want to be able to extend base application Typelists so you can add new Typecodes as needed. In this exercise, you will create an extension for the CustomerServiceTier Typelist and use the Typelist Editor to define three new Typecodes.

3.3.1 Configuration

1. Extend the CustomerServiceTier Typelist

- a) Create a new TTX file
- b) Define the following Typecodes to display in the order listed using recommended naming conventions:
 - Platinum
 - Gold
 - Silver

2. Validate your changes in Guidewire Studio and generate the Java class

- a) Either click on the validate icon in the Typelist Editor or use CTRL + S to save your changes
- b) If the code generation was successful (no errors shown in the Codegen tool window) then open the generated Java class and verify you can find your newly added Typecodes

3. Deploy your changes

- a) From studio, restart the server using Debug 'Server'.
- b) If open, review the Messages Make window for compilation errors.
- c) Review the Debug console for errors.
- d) Verify that the application is running in the Debug console.



Best practice

Use intervals when defining priorities

Guidewire recommends using intervals when defining priorities. For example.: 10, 20, 30 This enables you to insert a new value between two existing values without renumbering the other priorities. E.g. you can insert a new Typecode in a later release with the priority 15



Best Practice

Naming typecodes

For typecodes that are added to a base application typelist, Guidewire recommends that the typecode's code should end with `_Ext`. This is to prevent potential conflicts during the upgrade to the next version of the Guidewire application.

3.3.2 Verification



Activity

Verify the work you have done

Regenerating the data dictionary is not required. Regenerating the data dictionary is a best practice because it creates current documentation for the data model. In addition, the build process for the data dictionary can identify issues beyond schema validation such as referential integrity in the data model.

1. Build the data dictionary from the command window

- a) From the bin folder, open a command window.
- b) In the command window, enter the command to build the data dictionary.

2. Open the data dictionary

- a) In Windows Explorer, navigate to the data dictionary.
- b) Open the data dictionary using your preferred browser.

3. View the ABContact entity

- a) Verify each new field and associated datatype.

4. View the CustomerServiceTier Typelist

- a) Verify each new Typecodes.



Best practice

Regenerate the Data Dictionary

Regenerating the data dictionary is not required. Regenerating the data dictionary is a best practice because it creates current documentation for the data model. In addition, the build process for the data dictionary can identify issues beyond schema validation such as referential integrity in the data model.

3.4 Lab Solution: Modify an existing Entity Extension

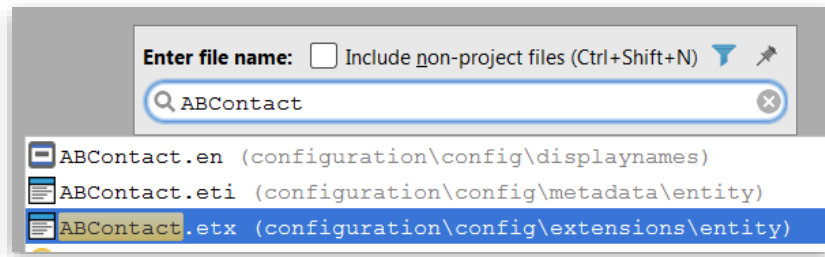


Solution

1. Open Guidewire Studio

```
Administrator: C:\Windows\system32\cmd.exe
C:\Guidewire\TrainingApp>gwb studio
```

2. Use CTRL + SHIFT + N to navigate to the existing Entity Extension



3. Add the new elements (and subelements) to ABContact.etx
4. Add the new WebAddress_Ext column

- a) Right click on the WebAddress_Ext column and add select Add New... columnParam to add a columnParam with the following details:

Element	Primary Value	Secondary Value	Name	Value
column	WebAddress_Ext	varchar	name	size
columnParam	size	40	value	40

5. Add the new FraudInvestigationNum_Ext integer column:

ABContact.etx x				
<div> + column Show All ABContact.eti </div>				
Element	Primary Value	Secondary Value	Name	Value
▼ column	WebAddress_Ext	varchar	name	FraudInvestigationNum_Ext
columnParam size		40	type	integer
column	FraudInvestigationN...	integer	nullok	true
implementsInter	com.guidewire.pl.do...	com.guidewire.ab.d...	desc	

6. Add a new LastCourtesyContact_Ext column:

ABContact.etx x				
<div> + column Show All ABContact.eti </div>				
Element	Primary Value	Secondary Value	Name	Value
► column	WebAddress_Ext	varchar	name	LastCourtesyContact_Ext
column	FraudInvestigationN...	integer	type	datetime
column	LastCourtesyContact...	datetime	nullok	true
implementsInter	com.guidewire.pl.do...	com.guidewire.ab.d...	desc	Date and Time of courtesy interaction

7. Add a new decimal column with the following details:

ABContact.etx x				
<div> + column Show All ABContact.eti </div>				
Element	Primary Value	Secondary Value	Name	Value
column	LastCourtesyContact...	datetime	name	CustomerRating_Ext
column	CustomerRating_Ext	decimal	type	decimal
implementsInter	com.guidewire.pl.do...	com.guidewire.ab.d...	nullok	true
implementsInter	com.guidewire.pl.sy...	com.guidewire.ab.d...	desc	Customer Rating

8. Right click on the CustomerRating_Ext column and add select Add New... columnParam to add a columnParam with the following details:

Element	Primary Value	Secondary Value	Name	Value
column	LastCourtesyConta...	datetime	name	precision
column	CustomerRating_Ext	decimal	value	4
columnParam	precision	4		

9. Right click on the CustomerRating_Ext column again and add select Add New... columnParam to add a second columnParam with the following details:

Screenshot of the ABContact.etx extension, with the new column

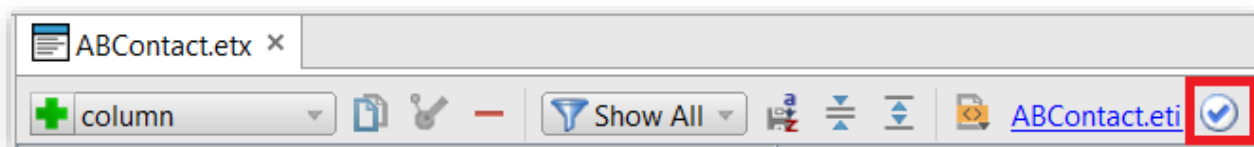
Element	Primary Value	Secondary Value	Name	Value
column	LastCourtesyConta...	datetime	name	scale
column	CustomerRating_Ext	decimal	value	1
columnParam	precision	4		
columnParam	scale	1		

10. Add the new IsStrategicPartner_Ext column with the following details:

Element	Primary Value	Secondary Value	Name	Value
column	IsStrategicPartner_Ext	bit	name	IsStrategicPartner_Ext
implementsInterface	com.guidewire.pl.d...	com.guidewire.ab...	type	bit
implementsInterface	com.guidewire.pl.s...	com.guidewire.ab...	nullok	true
implementsInterface	gw.ab.addressbook...	com.guidewire.ab...	desc	Is Strategic Partner?

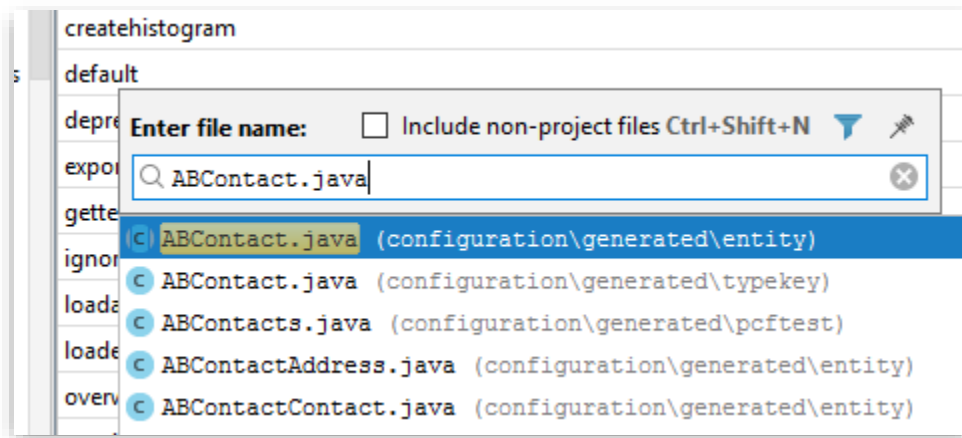
11. Validate changes in Studio and generate the Java class

a) Either click on the validate icon in the Entity Editor or use CTRL + S to save your changes

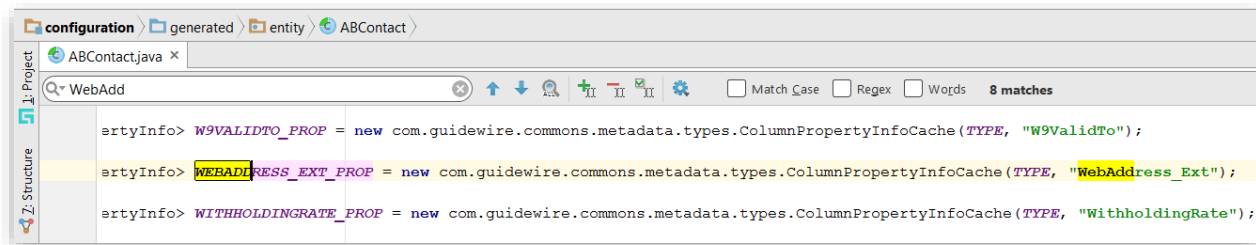


12. If the code generation was successful (no errors shown in the codegen tool window) then open the generated Java class and verify you can find your newly added fields.

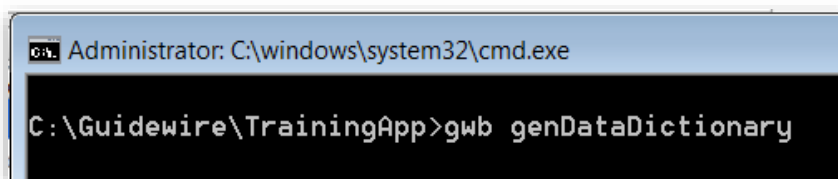
- a) Use CTRL + SHIFT + N to search for the Java class. Note that the Java class is in the configuration\generated\entity package.



The simplest way to locate the new properties is searching for them using the **CTRL + F** shortcut. For example, we are searching for WebAddress_Ext in the following screenshot:

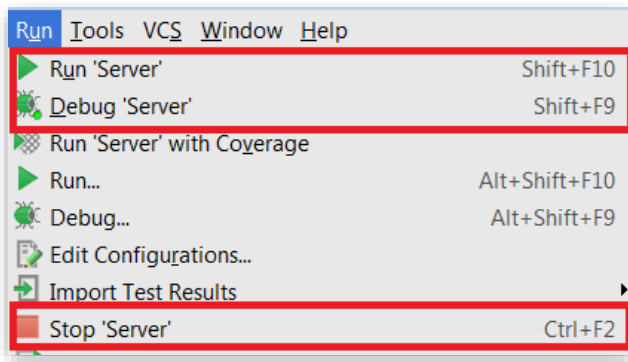


13. Build the Data Dictionary



14. Deploy changes

- a) To restart the server, first select Main Menu → Run → Stop, then select Main Menu → Run → Run 'Server' or Debug 'Server'.

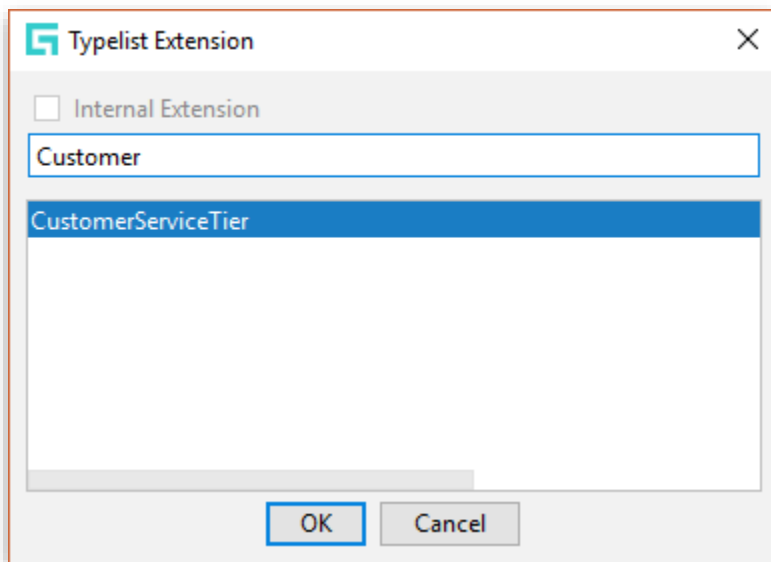


3.5 Lab Solution: Extend a base application Typelist



Solution

1. Create the Typelist Extension



2. Add Typecodes by clicking the typecode button (the icon with the green plus icon)

configuration > config > extensions > typelist > CustomerServiceTier.ttx					
CustomerServiceTier.ttx x					
+ typecode Show All CustomerServiceTier.tti 1-2-					
Element	Code	Name	Priority	Name	Value
typelistextens	CustomerServ...	Represents th...		code	platinum_Ext
typecode	platinum_Ext	Platinum	10	name	Platinum
typecode	gold_Ext	Gold	20	desc	Platinum
typecode	silver_Ext	Silver	30	identifierCode	
				priority	10
				retired	false

configuration > config > extensions > typelist > CustomerServiceTier.ttx					
CustomerServiceTier.ttx x					
+ typecode Show All CustomerServiceTier.tti 1-2-					
Element	Code	Name	Priority	Name	Value
typelistextens	CustomerServ...	Represents th...		code	gold_Ext
typecode	platinum_Ext	Platinum	10	name	Gold
typecode	gold_Ext	Gold	20	desc	Gold
typecode	silver_Ext	Silver	30	identifierCode	
				priority	20
				retired	false

configuration > config > extensions > typelist > CustomerServiceTier.ttx					
CustomerServiceTier.ttx x					
+ typecode Show All CustomerServiceTier.tti 1-2-					
Element	Code	Name	Priority	Name	Value
typelistextens	CustomerServ...	Represents th...		code	silver_Ext
typecode	platinum_Ext	Platinum	10	name	Silver
typecode	gold_Ext	Gold	20	desc	Silver
typecode	silver_Ext	Silver	30	identifierCode	
				priority	30
				retired	false