

2010



## **COOKBOOK**

CreatedBy, CreatedOn, ModifiedBy, ModifiedOn,...

Let's add tracking of user activity in the *Customers* table of *Northwind* database. We'll start by adding four new fields: *CreatedBy*, *CreatedOn*, *ModifiedBy*, and *ModifiedOn*. This can be done in *SQL Server Management Studio*.

Customers *			
	Column Name	Data Type	Allow Nulls
🔑	CustomerID	nchar(5)	<input type="checkbox"/>
	CompanyName	nvarchar(40)	<input type="checkbox"/>
	ContactName	nvarchar(30)	<input checked="" type="checkbox"/>
	ContactTitle	nvarchar(30)	<input checked="" type="checkbox"/>
	Address	nvarchar(60)	<input checked="" type="checkbox"/>
	City	nvarchar(15)	<input checked="" type="checkbox"/>
	Region	nvarchar(15)	<input checked="" type="checkbox"/>
	PostalCode	nvarchar(10)	<input checked="" type="checkbox"/>
	Country	nvarchar(15)	<input checked="" type="checkbox"/>
	Phone	nvarchar(24)	<input checked="" type="checkbox"/>
	Fax	nvarchar(24)	<input checked="" type="checkbox"/>
	CreatedBy	nvarchar(50)	<input checked="" type="checkbox"/>
	CreatedOn	datetime	<input checked="" type="checkbox"/>
	ModifiedBy	nvarchar(50)	<input checked="" type="checkbox"/>
	ModifiedOn	datetime	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

Now let's create a *Web Site Factory* application that will automatically populate these fields with relevant data. Give it the name of "TrackingChanges".

**New Project**

Vendor: Code OnTime LLC  
<http://www.codeontime.com>

**Web Site Factory**  
Create an ASP.NET/AJAX web site with navigation system, role-based security, membership manager, built-in data export and reporting, adaptive filtering, advanced search options, and much more. The generated project is managed via the file system folder structure.

Review a [complete feature list](#) of this project. Try a [live demo](#) now.

Name:

Connect to your server and select the *Northwind* database. Use the *Object Selector* to exclude all other tables from the project except the *Customers* table.

**Database Connection**

A valid connection string compatible with the selected data provider is required to generate the project. Data controller descriptors are automatically built from your database and are easy to maintain with the provided XML schemas.

Data Provider:  
↓ .Net Framework Provider for SqlServer (System.Data.SqlClient) ↓

Connection String:

Click [here](#) if you need assistance to build the connection string.  
 [Select](#) the database tables and views included in the project.

The following database objects are included in this project:

- dbo.Customers

Enable reporting for the application.

Reports:

Enable dynamic and static reports in my application.

Enable *ASP.NET Membership*. If necessary, you can connect to a standalone membership database for the application.

**Authentication and Membership**

Please select authentication and membership options for your application. Some options will require custom coding or not compatible with each other.

Application Membership Features:

- Enable support for *ASP.NET Membership* with membership bar and user manager.
- Enable *Windows Authentication*. Recommended for *Intranet* applications only.
- Enable custom authentication and membership implementation. Requires additional coding.
- Enable a dedicated login page instead of a fly-over login dialog.
- Display "Remember Me" option on the fly-over login dialog.
- Login option "Remember Me" is set by default.
- Display "Password Recovery" link on the fly-over login dialog.
- Display "Sign Up" link on the fly-over login dialog.
- Display "My Account" link on the membership bar.
- Display "Help" link on the membership bar and support page-level help.
- Detect if user is idle for longer than  minutes and log the user out of the application.
- Membership will use a *standalone database* that already exists.

*ASP.NET Membership* gives you a built-in way to validate and store user credentials and helps you manage user authentication in your Web sites.

Standard *ASP.NET* membership features can be enhanced with AJAX-enabled user and role manager. Membership bar component will be displayed at the top of all pages and will provide an attractive AJAX-enabled login window, access to self-registration, password recovery, and user account modification with no code to write.

**ASP.NET Membership requires an instance of Microsoft SQL Express 2008 installed on your computer.** You may opt to host a *standalone database* membership database or keep the membership structures in your own database.

Specify a valid connection string compatible with the selected data provider if you want to use a standalone membership database.

Data Provider:  
[.Net Framework Provider for SqlServer (System.Data.SqlClient) ▼]

Connection String:

If the connection string is left blank and membership is enabled then *ASP.NET* will expect that *Microsoft SQL Express* is installed on this computer.  
 Click [here](#) if you need assistance to build the connection string.

Cancel Back Next

Continue with the project wizard and generate the application. When finished, a web page will appear with the fresh application. There are only three pages available, *Home*, *Customers*, and *Membership*. Navigate to *Customers*. You can see that the new fields are not visible in grid view, but can be viewed and edited from detail view.

**Review Customers**

Please review customers information below. Click Edit to change this record, click Delete to delete the record, or click Cancel/Close to return back.

**Customers**

These are the fields of the customers record that can be edited.

Customer # *	ANATR
Company Name *	Ana Trujillo Emparedados y helados
Contact Name	Ana Trujillo
Contact Title	Owner
Address	Avda. de la Constitución 2222
City	México D.F.
Region	
Postal Code	05021
Country	Mexico
Phone	(5) 555-4729
Fax	(5) 555-3745
Created By	
Created On	
Modified By	
Modified On	

Summary

Customer # ANATR  
Company Name Ana Trujillo Emparedados y helados  
Contact Name ANATR  
Contact Title ANTON  
Owner AROUT  
Address BERGS  
Avda. de la Constitución 2222 BLAUS  
About BLONP  
This page allows customers management. BOLID  
See Also BONAP  
\* Home BOTTM  
\* Membership

View: Customers

Country	Phone
Germany	030-0074321
Mexico	(5) 555-4729
Mexico	(5) 555-3932
UK	(171) 555-7788
Sweden	0921-12 34 65
Germany	0621-08460
France	88.60.15.31
Spain	(91) 555 22 82
France	91.24.45.40
Canada	(604) 555-4729

Showing 1-10 of 91 items | Refresh

Our goal here is to make the fields non-editable in grid and detail view, and not displayed in *New Customers* page. Switch back to the *Generator*, click on the project name, and press the *Design* button. From the list of *All Controllers*, select the *Customers* controller. Switch to *Fields* tab, and select the first field that was made, *CreatedBy*. Edit the field, and change the *Code Default* field to “Context.User.Identity.Name”. This will insert the name of the user creating the record.

Home > Controller: Customers > Field: **CreatedBy**

Field | Items | Validators | Data Fields | Field Outputs

Please review the field information below. Click Edit to change this record, click Delete to delete the record, or click Cancel/Close to return back.

Record ▾ View: Field ▾

\* - indicates a required field

OK Delete Cancel

**General**  
Specify field name, type, and data properties of the field.

*Server Default* is a SQL expression used as a field value when no value is provided for the field in INSERT and UPDATE statement.

Indicate that the field is *computed* if the field is not physically present in the dataset produced by controller's command. Computed field requires a mandatory *formula* that must be defined as a valid SQL expression. This expression is automatically inserted in SELECT statements when needed.

*Calculated* field values can be produced by business rule methods with attribute *ControllerAction*. You must list the context fields that will cause the calculation. Optional code formula is embedded into an automatically created business rule and is calculated whenever any context field is changed.

*Code Default* is an expression written in the programming language of your project. The expression is evaluated in an automatically created business rule to produce a default value for the field of the new row before it is presented in the user interface.

*Code Value* is an expression written in the programming language of your project. This expression is evaluated every time a record is saved to the database.

Name \*  
CreatedBy

Controller  
Customers

Type \*  
String

Allow null values.

The value of this field is computed at run-time by SQL expression.

The value of the field is calculated by a business rule expression.

Server Default

Code Default  
Context.User.Identity.Name

Save this field, and click on the next field, *CreatedOn*. In the *Code Default* field, insert “DateTime.Now”. This will insert the date that the field was created on. Scroll down, and in the *Data Format String* field, type in “{0:G}” or “G”. This will show the date and time, up to the seconds. If lowercase “g” is used, seconds will not be displayed.

*Code value* is an expression written in the programming language of your project. This expression is evaluated every time a record is saved to the database.

The field must be marked as *on-demand* if the field is a large binary object (BLOB) or text in order to speed up record retrieval.

**Presentation**  
Presentation interface properties of the field.

A data format string is applied to the field value on the client via JavaScript *String.format* function. You can override the data format string on the data field level in views.

A data format string is applied to the field value on the client via JavaScript *String.format* function. You can enable a server-side formatting via .NET *System.String.Format* function if *Format On Client* is set to *No*.

Editor is a custom user control responsible for rendering of the field value in "edit" mode. Standard editor with name *RichEditor* is available in each project. We recommend using the *TextMode* property with the corresponding data fields to enable "rich" editing of the field value.

Code Default  
DateTime.Now

Code Value

Value is retrieved on demand

Label \*  
Created On

Values of this field cannot be edited.

Show In Summary

HTML encoding

Data Format String  
G

Use data format strings compatible with *String.format* functions.

Now, save and move on to the *ModifiedBy* field. As this field needs to be updated every time the record is modified, we will use the *Code Value* field. Type in “Context.User.Identity.Name”, and save.

<p><b>General</b></p> <p>Specify field name, type, and data properties of the field.</p> <p><i>Server Default</i> is a SQL expression used as a field value when no value is provided for the field in INSERT and UPDATE statement.</p> <p>Indicate that the field is <i>computed</i> if the field is not physically present in the dataset produced by controller's command. Computed field requires a mandatory <i>formula</i> that must be defined as a valid SQL expression. This expression is automatically inserted in SELECT statements when needed.</p> <p><i>Calculated</i> field values can be produced by business rule methods with attribute <i>ControllerAction</i>. You must list the context fields that will cause the calculation. Optional code formula is embedded into an automatically created business rule and is calculated whenever any context field is changed.</p> <p><i>Code Default</i> is an expression written in the programming language of your project. The expression is evaluated in an automatically created business rule to produce a default value for the field of the new row before it is presented in the user interface.</p> <p><i>Code Value</i> is an expression written in the programming language of your project. This expression is evaluated every time a record is saved to the database.</p> <p>The field must be marked as <i>on-demand</i> if the field is a large binary object (BLOB) or text in order to speed up record retrieval.</p>	<p>Name * ModifiedBy</p> <p>Controller Customers</p> <p>Type * String</p> <p><input checked="" type="checkbox"/> Allow null values.</p> <p><input type="checkbox"/> The value of this field is computed at run-time by SQL expression.</p> <p><input type="checkbox"/> The value of the field is calculated by a business rule expression.</p> <p>Server Default _____</p> <p>Code Default _____</p> <p>Code Value Context.User.Identity.Name</p>
---	---

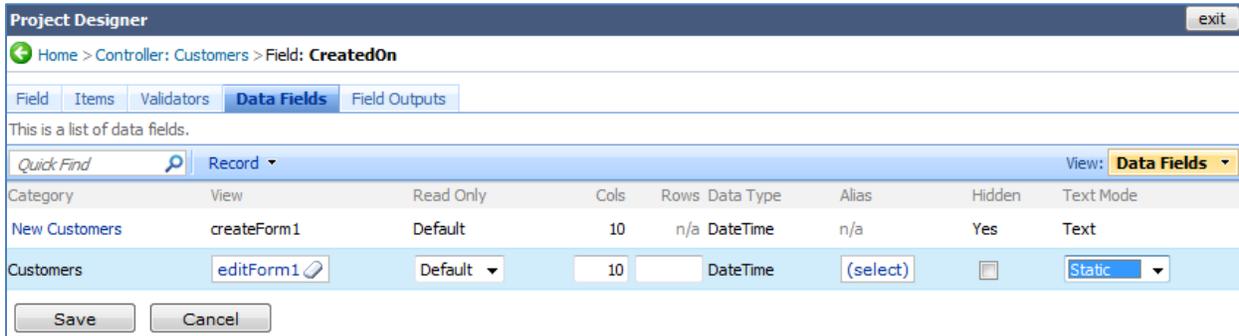
Next, go to the *ModifiedOn* field. In the *Code Value* property, type in “DateTime.Now”, and in the *Data Format String* property, type in “{0:G}” or “G”. These expressions work for both *Visual Basic.NET* and *C#*.

<p>order to speed up record retrieval.</p>	<p>Code Value DateTime.Now</p> <p><input type="checkbox"/> Value is retrieved on demand</p>
<p><b>Presentation</b></p> <p>Presentation interface properties of the field.</p> <p>A data format string is applied to the field value on the client via JavaScript <i>String.format</i> function. You can override the data format string on the data field level in views.</p> <p>A data format string is applied to the field value on the client via JavaScript <i>String.format</i> function. You can enable a server-side formatting via <i>.NET System.String.Format</i> function if <i>Format On Client</i> is set to <i>No</i>.</p> <p>Editor is a custom user control responsible for rendering of the field value in "edit" mode. Standard editor with name <i>RichEditor</i> is available in each project. We recommend using the <i>TextMode</i> property with the corresponding data fields to enable "rich" editing of the field value.</p>	<p>Label * Modified On</p> <p><input type="checkbox"/> Values of this field cannot be edited.</p> <p><input type="checkbox"/> Show In Summary</p> <p><input checked="" type="checkbox"/> HTML encoding</p> <p>Data Format String G</p> <p>Use data format strings compatible with <i>String.format</i> functions.</p>

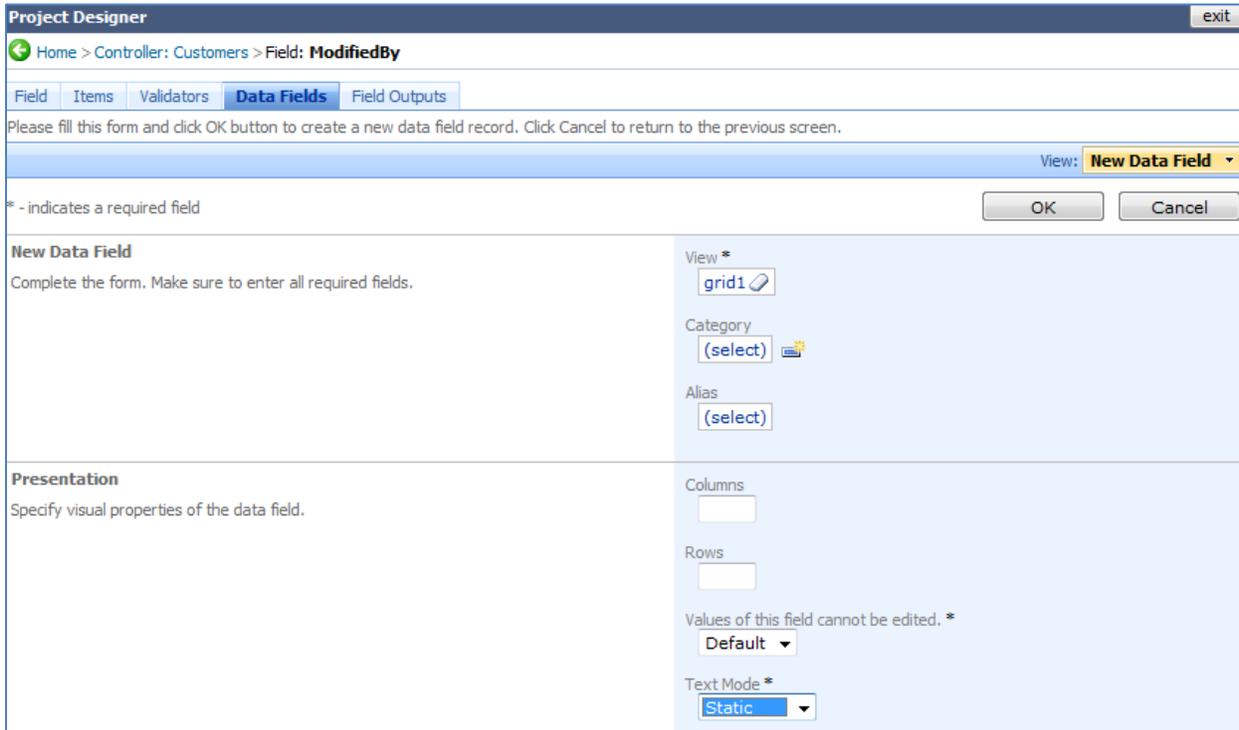
Next, we'll modify the bindings of each field to the respective data views. Select *CreatedBy*, and switch to the *Data Fields* tab. Edit the first binding so that the field is hidden in *createForm1*, and change *Text Mode* to “Static” for *editForm1*.

Category	View	Read Only	Cols	Rows	Data Type	Alias	Hidden	Text Mode
New Customers	createForm1	Default	50	n/a	String	n/a	Yes	Text
Customers	editForm1	Default	50		String	(select)	<input type="checkbox"/>	Static

Save, and go back to the list of fields. Select the *CreatedOn* field, and switch to the *Data Fields* tab. Perform the same changes as with *CreatedOn*.



Go back to the list of fields. The *Modified* fields will require an additional modification. Select the *ModifiedBy* field, and switch to *Data Fields* tab. On the action bar, press *New | New Data Field*. Specify the *View* field as “grid1”, change *Text Mode* to “Static”, and save.



Also, change *createForm1* data field to *Hidden* and change *editForm1* so that *Text Mode* is “Static”.



Go back to the list of fields and select *ModifiedOn*. Switch to *Data Fields* tab, and perform the same operations as with *ModifiedBy*.

The screenshot shows the 'Project Designer' interface with the 'Data Fields' tab selected. The breadcrumb path is 'Home > Controller: Customers > Field: ModifiedOn'. Below the breadcrumb, there are tabs for 'Field', 'Items', 'Validators', 'Data Fields', and 'Field Outputs'. The main content area displays a table of data fields for 'ModifiedOn'.

Category	View	Read Only	Cols	Rows	Data Type	Alias	Hidden	Text Mode
New Customers	createForm1	Default	10	n/a	DateTime	n/a	Yes	Text
Customers	editForm1	Default	10	n/a	DateTime	n/a	No	Static
n/a	grid1	Default	n/a	n/a	DateTime	n/a	No	Static

Exit the *Designer*, and generate the application. When the web page opens, navigate to the *Customers* page. You can see that *ModifiedBy* and *ModifiedOn* fields are now present in grid view. However, if you edit the row in-line, the fields will be read-only.

The screenshot shows the 'MyCompany' web application interface. The breadcrumb path is 'Home > Customers'. The main content area displays a table of customers with columns for Customer #, Company Name, Contact Name, Contact Title, Address, City, Region, Postal Code, Country, Phone, Modified By, and Modified On. The 'ANATR' record is highlighted, and an inline edit form is visible above it.

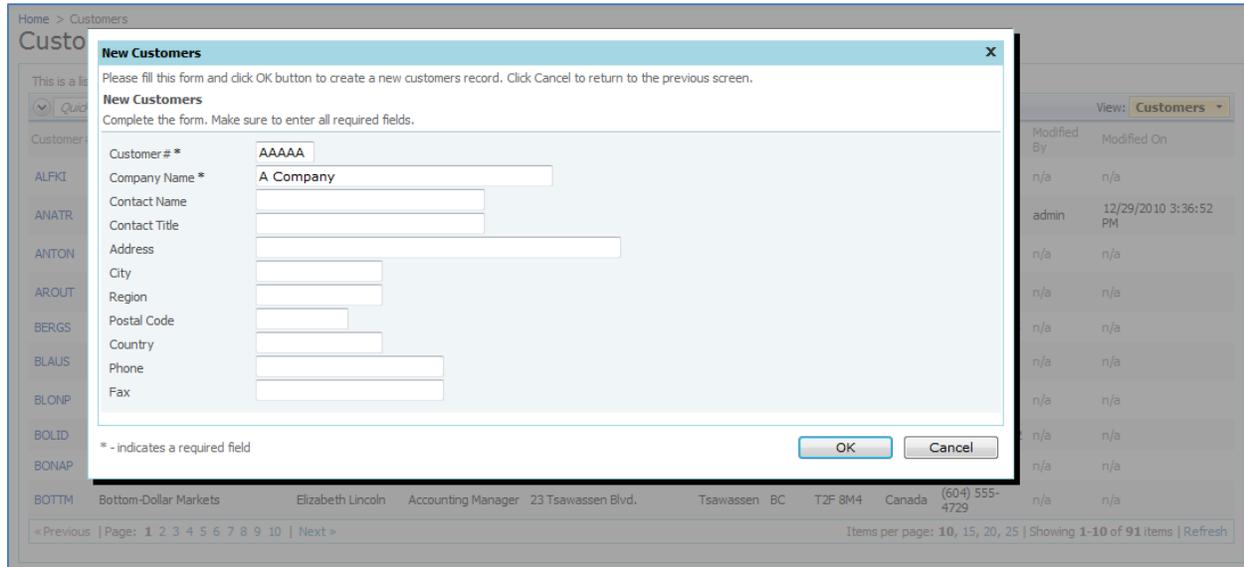
Customer #	Company Name	Contact Name	Contact Title	Address	City	Region	Postal Code	Country	Phone	Modified By	Modified On
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	n/a	12209	Germany	030-0074321	n/a	n/a
ANATR	Ana Trujillo Empar	Ana Trujillo	Owner	Avda. de la Consti	México D.F.		05021	Mexico	(5) 555-4729	n/a	n/a
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	n/a	05023	Mexico	(5) 555-3932	n/a	n/a
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	n/a	WA1 1DP	UK	(171) 555-7788	n/a	n/a
BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	n/a	S-958 22	Sweden	0921-12 34 65	n/a	n/a
BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	n/a	68306	Germany	0621-08460	n/a	n/a
BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	n/a	67000	France	88.60.15.31	n/a	n/a
BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid	n/a	28023	Spain	(91) 555 22 82	n/a	n/a

If you modify a record, you can see that the *Modified* fields will be updated as well.

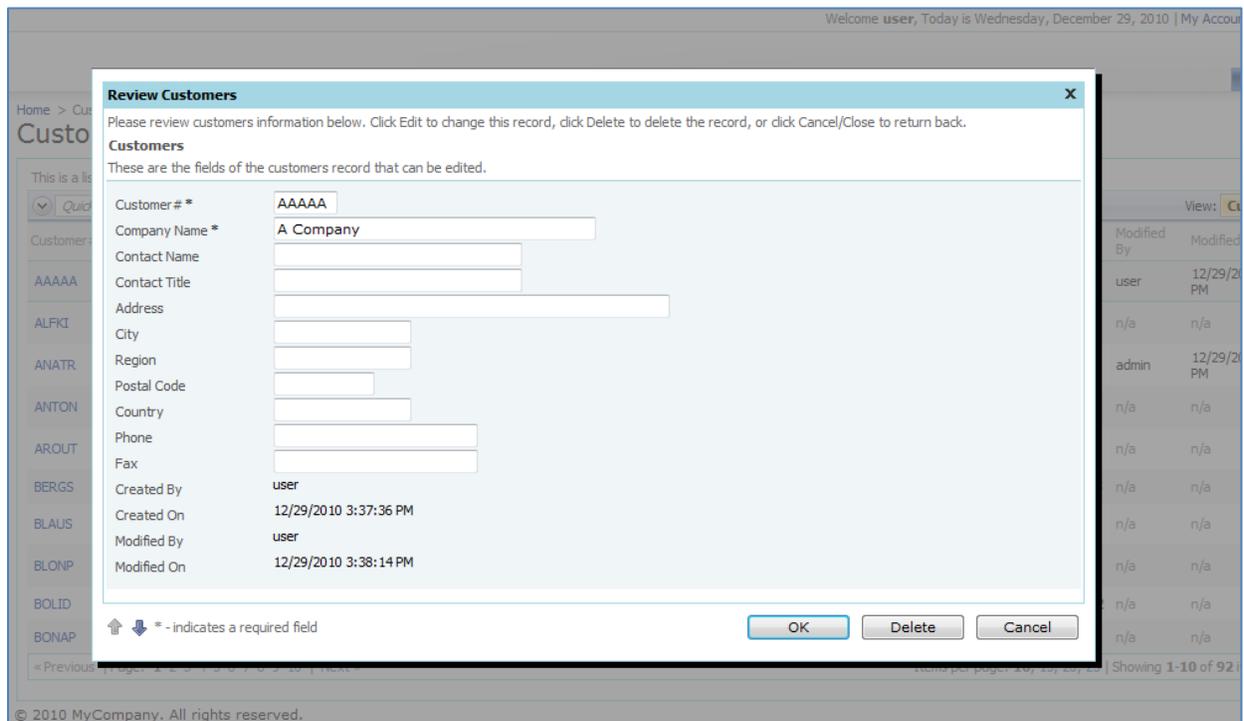
The screenshot shows the 'MyCompany' web application interface with the 'Customers' page. The breadcrumb path is 'Home > Customers'. The main content area displays a table of customers. The 'ANATR' record is highlighted, and its 'Modified By' field is now 'admin' and 'Modified On' is '12/29/2010 3:36:52 PM'.

Customer #	Company Name	Contact Name	Contact Title	Address	City	Region	Postal Code	Country	Phone	Modified By	Modified On
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	n/a	12209	Germany	030-0074321	n/a	n/a
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo*	Owner	Avda. de la Constitución 2222	México D.F.	n/a	05021	Mexico	(5) 555-4729	admin	12/29/2010 3:36:52 PM
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	n/a	05023	Mexico	(5) 555-3932	n/a	n/a
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	n/a	WA1 1DP	UK	(171) 555-7788	n/a	n/a
BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	n/a	S-958 22	Sweden	0921-12 34 65	n/a	n/a
BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	n/a	68306	Germany	0621-08460	n/a	n/a
BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	n/a	67000	France	88.60.15.31	n/a	n/a
BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid	n/a	28023	Spain	(91) 555 22 82	n/a	n/a
BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers	Marseille	n/a	13008	France	91.24.45.40	n/a	n/a

Now, log out of the application and log in as user (*User Name: user, Password: user123%*). Click on *New Customers* button on the action bar. The new fields are not visible in this view.



Fill in the required fields, and save the record. It will appear in the *Customers* list, with correct *ModifiedBy* and *ModifiedOn* information. If you select the record, you can view the *CreatedBy* and *CreatedOn* fields in detail view. When you edit the record, the Created and Modified fields will remain in read-only state.



Log out of the application. Log in again as admin. Modify the record you just created, and the *ModifiedBy* and *ModifiedOn* fields will change accordingly. The *CreatedBy* and *CreatedOn* fields will stay the same, however.

History | Permalink Welcome admin, Today is Wednesday, December 29, 2010 | My Account | Logout | Help

MyCompany

Home Customers Membership Site Actions

Home > Customers

**Review Customers** [X]

Please review customers information below. Click Edit to change this record, click Delete to delete the record, or click Cancel/Close to return back.

**Customers**

These are the fields of the customers record that can be edited.

Customer # *	AAAAA
Company Name *	A Company
Contact Name	Code On Time
Contact Title	
Address	
City	
Region	
Postal Code	
Country	
Phone	
Fax	
Created By	user
Created On	12/29/2010 3:37:36 PM
Modified By	admin
Modified On	12/29/2010 3:39:46 PM

↑ ↓ \* - indicates a required field

OK Delete Cancel

Summary

Customer #

AAAAA

Company Name

A Company

Contact Name

Code On Time

Contact Title

n/a

Address

n/a

About

This page allows customers management.

See Also

- Home
- Membership

Customer #

AAAAA

ALFKI

ANATR

ANTON

AROUT

BERGS

BLAUS

BONAP

BOLID

Showing 1-10 of 92 items | Refresh

Modified By	Modified On
admin	12/29/2010 3:39:46 PM
n/a	n/a
admin	12/29/2010 3:36:52 PM
n/a	n/a

© 2010 MyCompany. All rights reserved.