2011

CODE ONTIME

USER GUIDE

Building a Contact Management System

Table of Contents

Contact Management Sample Database 2

Creating the Database in Windows Azure 2

Installing the Contact Management Database 3

Baseline Web App 7

Customizing the Baseline Application 8

Changing the Menu Structure 8

Customizing Addresses Controller 10

Fields 10

Views 10

Customizing Customers Controller 13

Fields 13

Views 14

Customizing Contacts Controller 17

Fields 17

Views 18

Customizing Contact Activities Controller 21

Fields 22

Views 22

Creating References Page 24

Customizing Home Page 25

Creating the Chart Views 25

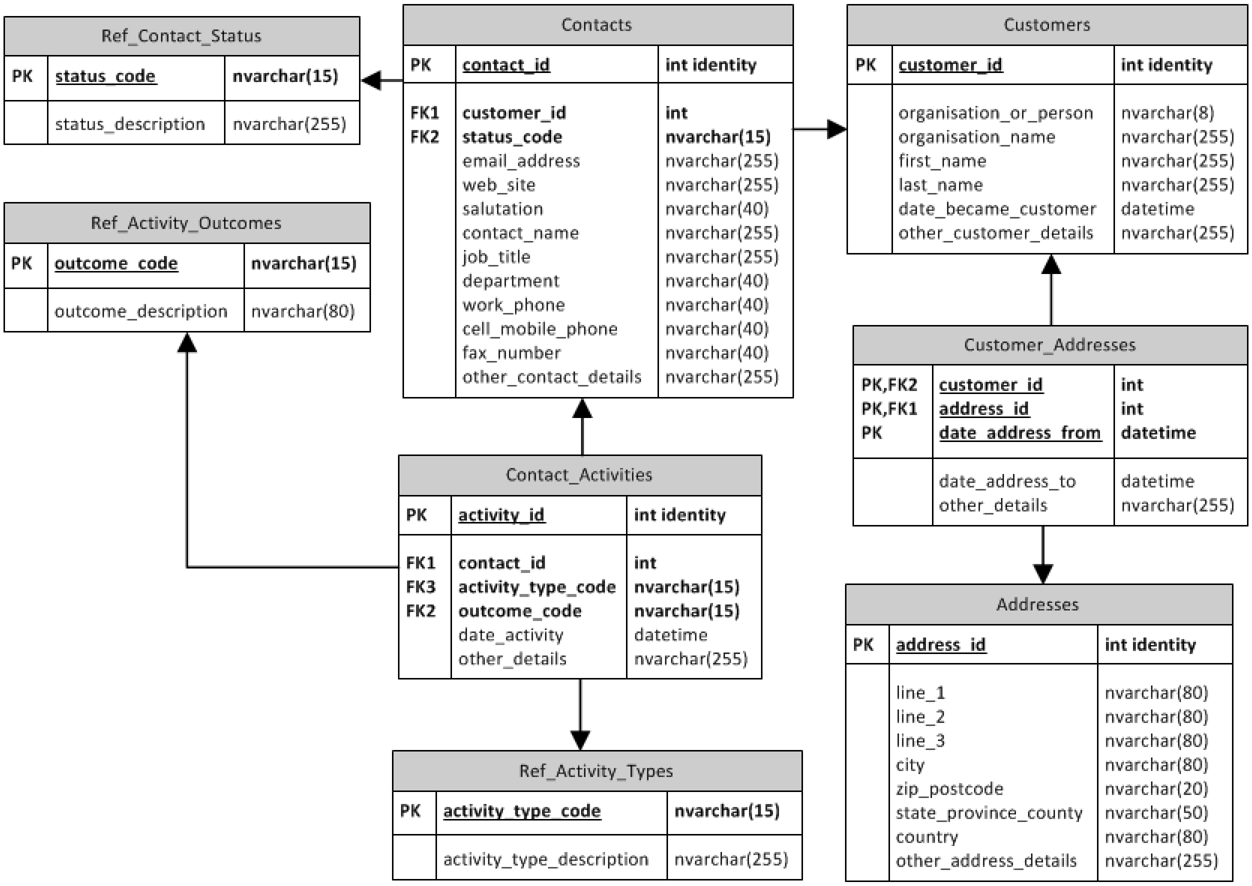
Adding Chart Views to the Home Page 26

Finished Web App 27

Contact management systems allow users to easily store and find contact information, such as names, addresses, and phone numbers. This tutorial will teach you how to create a new database in *Windows Azure*, deploy *Contact Management* to this database, add membership and roles support, and customize the application to fit your needs.

Contact Management Sample Database

The *Contact Management* sample database has been kindly offered for free by *Microsoft* at http://msdn.microsoft.com/en-us/express/bb403186. We have made a few modifications to the sample to make it play better with *Code On Time Generator*. The database schema can be seen below.



Ref_Contact_Status		
PK	**status_code**	**nvarchar(15)**
	status_description	nvarchar(255)

Contacts		
PK	**contact_id**	**int identity**
FK1	**customer_id**	**int**
FK2	**status_code**	**nvarchar(15)**
	email_address	nvarchar(255)
	web_site	nvarchar(255)
	salutation	nvarchar(40)
	contact_name	nvarchar(255)
	job_title	nvarchar(255)
	department	nvarchar(40)
	work_phone	nvarchar(40)
	cell_mobile_phone	nvarchar(40)
	fax_number	nvarchar(40)
	other_contact_details	nvarchar(255)

Customers		
PK	**customer_id**	**int identity**
	organisation_or_person	nvarchar(8)
	organisation_name	nvarchar(255)
	first_name	nvarchar(255)
	last_name	nvarchar(255)
	date_became_customer	datetime
	other_customer_details	nvarchar(255)

Ref_Activity_Outcomes		
PK	**outcome_code**	**nvarchar(15)**
	outcome_description	nvarchar(80)

Customer_Addresses		
PK,FK2	**customer_id**	**int**
PK,FK1	**address_id**	**int**
PK	**date_address_from**	**datetime**
	date_address_to	datetime
	other_details	nvarchar(255)

Contact_Activities		
PK	**activity_id**	**int identity**
FK1	**contact_id**	**int**
FK3	**activity_type_code**	**nvarchar(15)**
FK2	**outcome_code**	**nvarchar(15)**
	date_activity	datetime
	other_details	nvarchar(255)

Addresses		
PK	**address_id**	**int identity**
	line_1	nvarchar(80)
	line_2	nvarchar(80)
	line_3	nvarchar(80)
	city	nvarchar(80)
	zip_postcode	nvarchar(20)
	state_province_county	nvarchar(50)
	country	nvarchar(80)
	other_address_details	nvarchar(255)

Ref_Activity_Types		
PK	**activity_type_code**	**nvarchar(15)**
	activity_type_description	nvarchar(255)

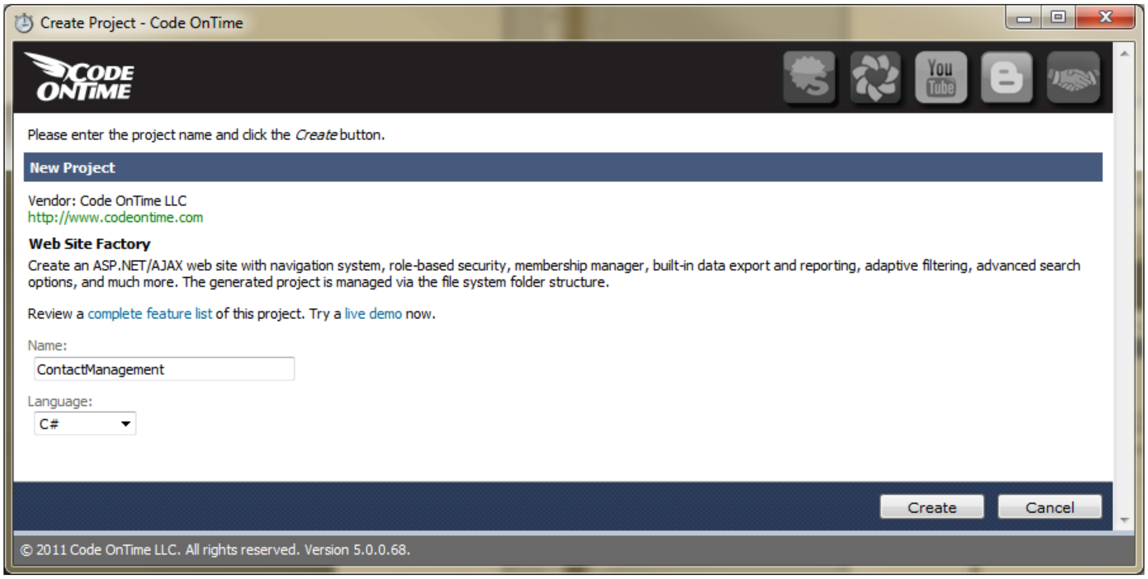
The primary table in this database is *Contacts*. *Contacts* belong to specific customers, and have various activities attached to them. The primary pages we will want to display in our application will be *Activities*, *Contacts*, *Customers*, *Addresses*, and list all the reference tables on the last page of *References*.

Creating the Database in Windows Azure

This tutorial uses *SQL Azure* to host the database. Any other database hosting service can be used, including your own computer. For sake of the tutorial, we will assume that you are using *SQL Azure*. You can create a free account and create a database server by following the instructions in this tutorial.

Installing the Contact Management Database

At this point, you should have a database server with an empty database. Run *Code On Time Generator*, and create a new *Web Site Factory* project. Give this project the name of “ContactManagement”, in the language of your choice.



Please enter the project name and click the *Create* button.

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.

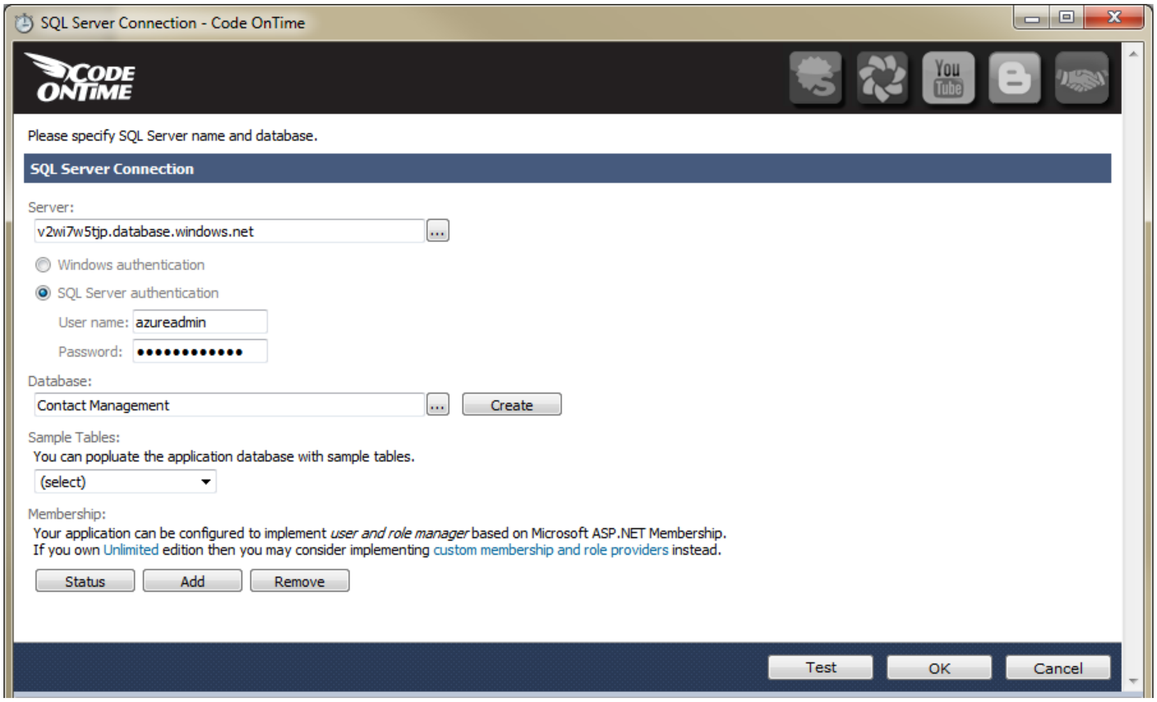
Review a complete feature list of this project. Try a live demo now.

Name: ContactManagement

Language: C#

© 2011 Code OnTime LLC. All rights reserved. Version 5.0.0.68.

Press *Create* to create the project. Leave the namespace default and press *Next*. You should be on the *Database Connection* page. Click on the “…” button next to *Connection String* field. Enter your server name and authentication information (If you need help finding the server name, view page 11 of the Azure Factory tutorial). Enter the name of the database you created under *Database*. In our server, we used the name “Contact Management”.



Please specify SQL Server name and database.

SQL Server Connection

Server: v2wi7w5tjp.database.windows.net

○ Windows authentication

● SQL Server authentication

User name: azureadmin

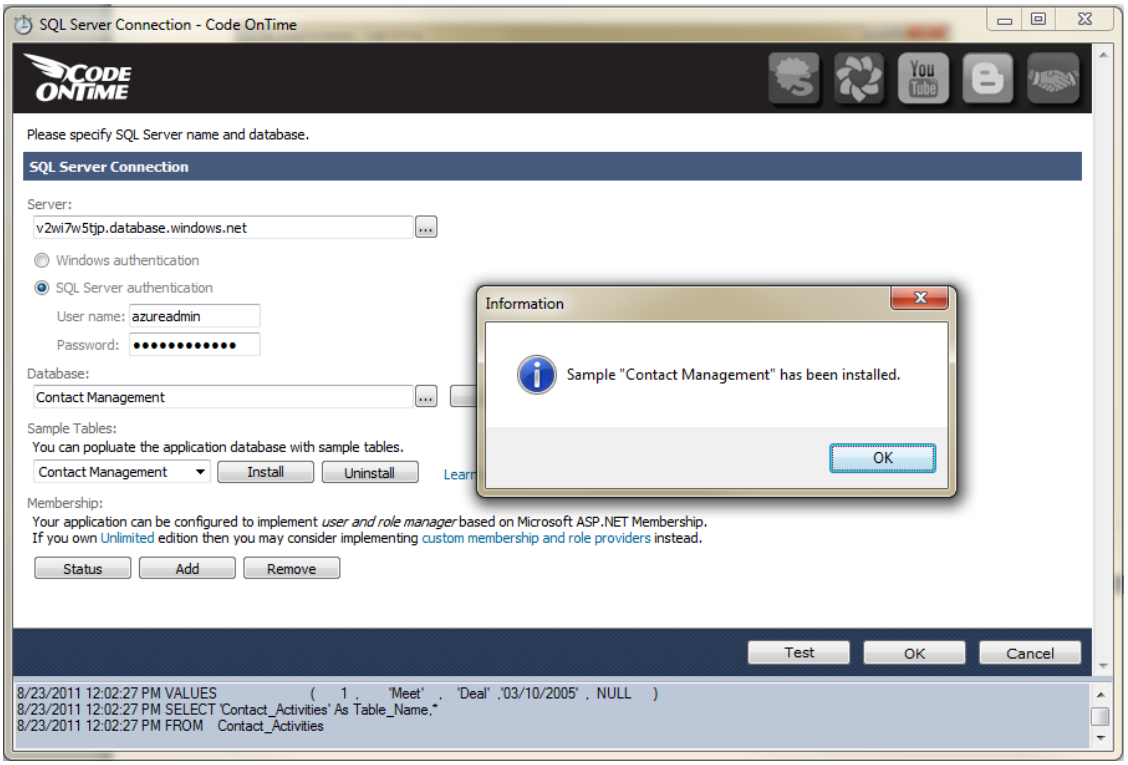
Password: •••••••••••••

Database: Contact Management

Sample Tables:
You can popluate the application database with sample tables.
(select)

Membership:
Your application can be configured to implement *user and role manager* based on Microsoft ASP.NET Membership.
If you own Unlimited edition then you may consider implementing custom membership and role providers instead.

Under *Sample Tables* dropdown, select “Contact Management”, and press *Install*.



Please specify SQL Server name and database.

SQL Server Connection

Server: v2wi7w5tjp.database.windows.net

○ Windows authentication

● SQL Server authentication

User name: azureadmin

Password: ●●●●●●●●●●●●

Database: Contact Management

Sample Tables:
You can popluate the application database with sample tables.

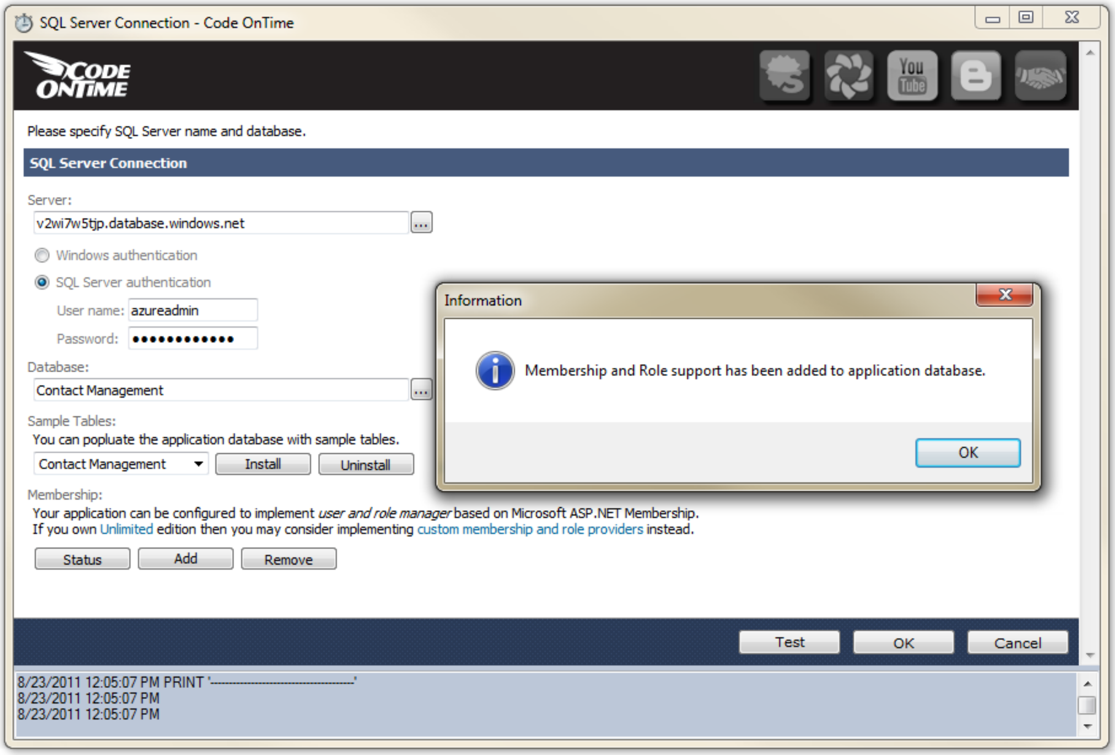
Contact Management

Membership:
Your application can be configured to implement *user and role manager* based on Microsoft ASP.NET Membership.
If you own Unlimited edition then you may consider implementing custom membership and role providers instead.

Sample "Contact Management" has been installed.

```
8/23/2011 12:02:27 PM VALUES          (   1 ,    'Meet'  ,  'Deal' ,'03/10/2005' , NULL   )
8/23/2011 12:02:27 PM SELECT 'Contact_Activities' As Table_Name,*
8/23/2011 12:02:27 PM FROM   Contact_Activities
```

This will create all the necessary tables and sample data for the application to be generated successfully. You will also need to add membership to this application. Under *Membership*, press *Add*.



Please specify SQL Server name and database.

SQL Server Connection

Server: v2wi7w5tjp.database.windows.net

○ Windows authentication

● SQL Server authentication

User name: azureadmin

Password: ●●●●●●●●●●●●

Database: Contact Management

Sample Tables:
You can popluate the application database with sample tables.

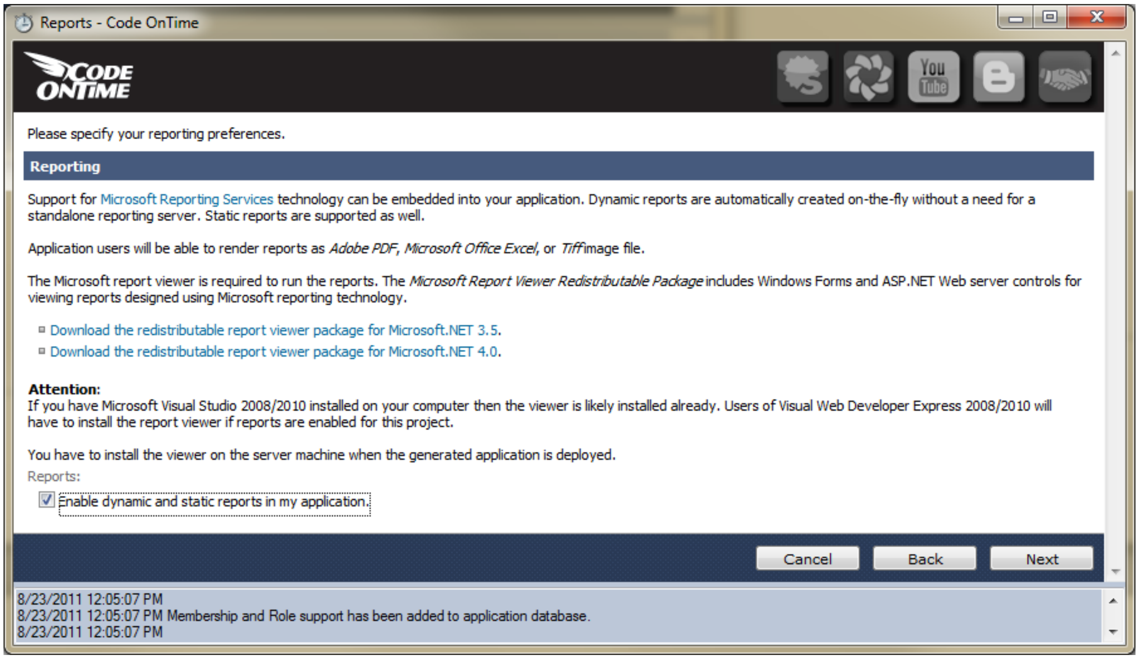
Contact Management

Membership:
Your application can be configured to implement *user and role manager* based on Microsoft ASP.NET Membership.
If you own Unlimited edition then you may consider implementing custom membership and role providers instead.

Membership and Role support has been added to application database.

```
8/23/2011 12:05:07 PM PRINT '--------------------------------'
8/23/2011 12:05:07 PM
8/23/2011 12:05:07 PM
```

Press *OK*, and press *Next* until you reach the *Reporting* page. Enable reporting by checking the checkbox.



Reports - Code OnTime

Please specify your reporting preferences.

Reporting

Support for Microsoft Reporting Services technology can be embedded into your application. Dynamic reports are automatically created on-the-fly without a need for a standalone reporting server. Static reports are supported as well.

Application users will be able to render reports as *Adobe PDF*, *Microsoft Office Excel*, or *Tiff* image file.

The Microsoft report viewer is required to run the reports. The *Microsoft Report Viewer Redistributable Package* includes Windows Forms and ASP.NET Web server controls for viewing reports designed using Microsoft reporting technology.

- Download the redistributable report viewer package for Microsoft.NET 3.5.
- Download the redistributable report viewer package for Microsoft.NET 4.0.

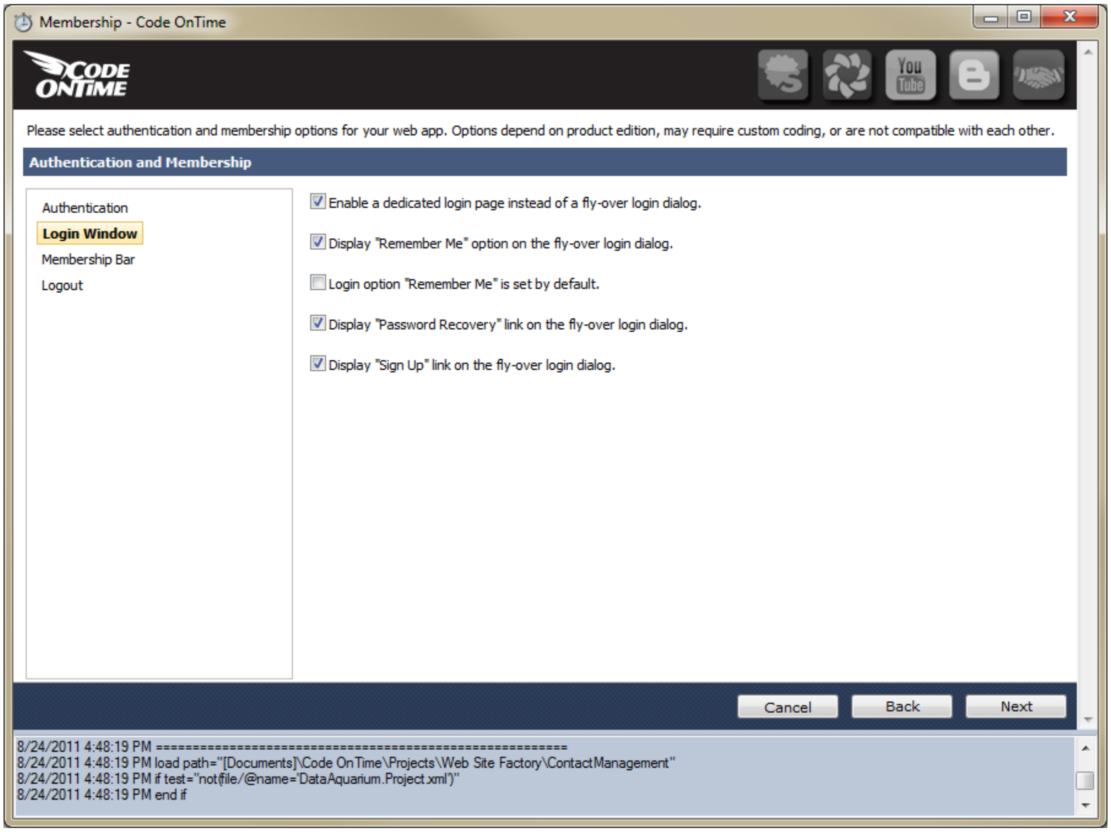
Attention:
If you have Microsoft Visual Studio 2008/2010 installed on your computer then the viewer is likely installed already. Users of Visual Web Developer Express 2008/2010 will have to install the report viewer if reports are enabled for this project.

You have to install the viewer on the server machine when the generated application is deployed.

Reports:
☑ Enable dynamic and static reports in my application.

```
8/23/2011 12:05:07 PM
8/23/2011 12:05:07 PM Membership and Role support has been added to application database.
8/23/2011 12:05:07 PM
```

Proceed to the *Authentication and Membership* page. Click on the *Login Window* item in the list box, and check the box next to “Enable a dedicated login page”. This will force users to navigate to a dedicated login page to get to the home page.



Membership - Code OnTime

Please select authentication and membership options for your web app. Options depend on product edition, may require custom coding, or are not compatible with each other.

Authentication and Membership

☑ Enable a dedicated login page instead of a fly-over login dialog.

☑ Display "Remember Me" option on the fly-over login dialog.

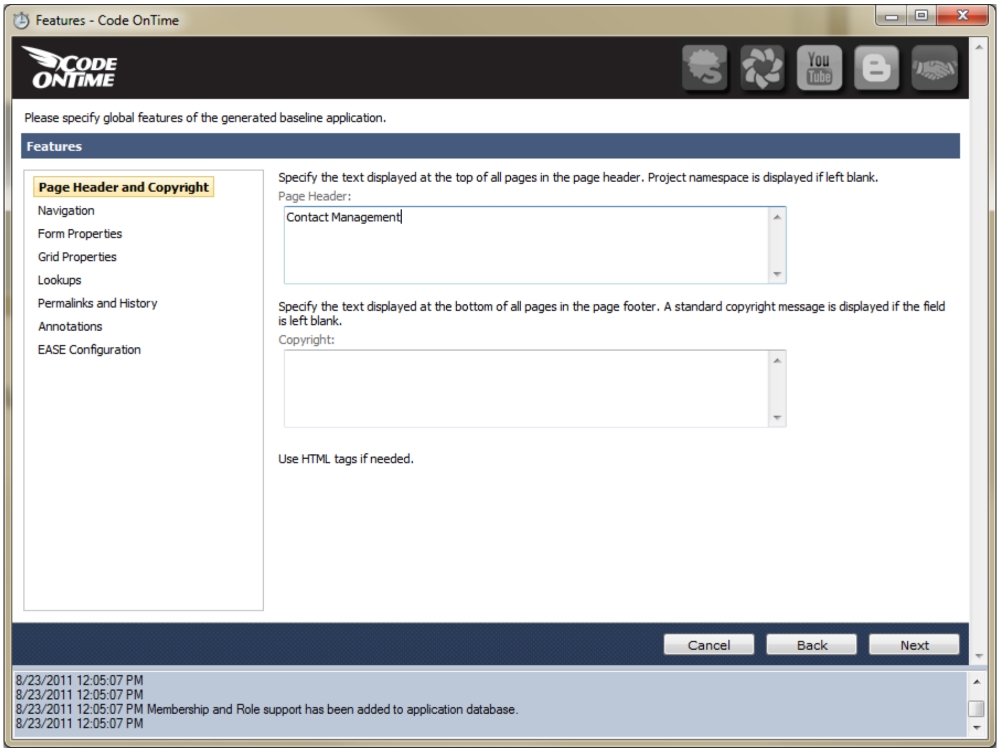
□ Login option "Remember Me" is set by default.

☑ Display "Password Recovery" link on the fly-over login dialog.

☑ Display "Sign Up" link on the fly-over login dialog.

```
8/24/2011 4:48:19 PM ========================================================
8/24/2011 4:48:19 PM load path="[Documents]\Code OnTime\Projects\Web Site Factory\ContactManagement"
8/24/2011 4:48:19 PM if test="not(file/@name='DataAquarium.Project.xml')"
8/24/2011 4:48:19 PM end if
```

Navigate to the *Features* page. In the *Page Header* textbox, write “Contact Management”.



Please specify global features of the generated baseline application.

Features

Specify the text displayed at the top of all pages in the page header. Project namespace is displayed if left blank.

Page Header: Contact Management

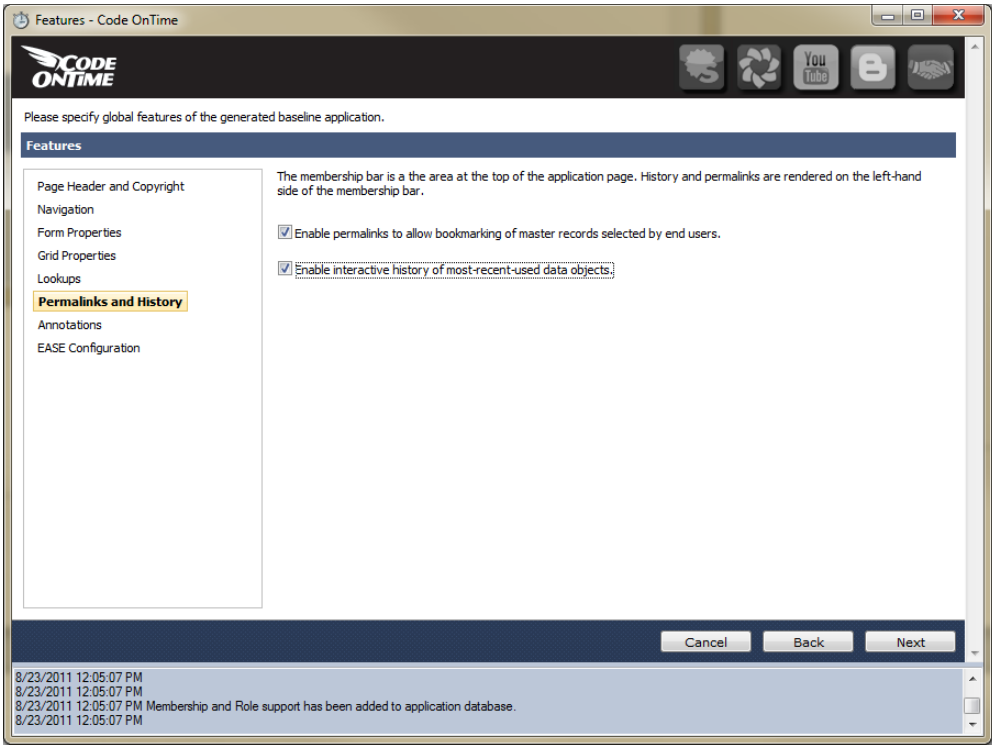
Specify the text displayed at the bottom of all pages in the page footer. A standard copyright message is displayed if the field is left blank.

Copyright:

Use HTML tags if needed.

```
8/23/2011 12:05:07 PM
8/23/2011 12:05:07 PM
8/23/2011 12:05:07 PM Membership and Role support has been added to application database.
8/23/2011 12:05:07 PM
```

In the list box on the left side, select *Permalinks and History*. Enable both checkboxes on that page.



Please specify global features of the generated baseline application.

Features

The membership bar is a the area at the top of the application page. History and permalinks are rendered on the left-hand side of the membership bar.

☑ Enable permalinks to allow bookmarking of master records selected by end users.

☑ Enable interactive history of most-recent-used data objects.

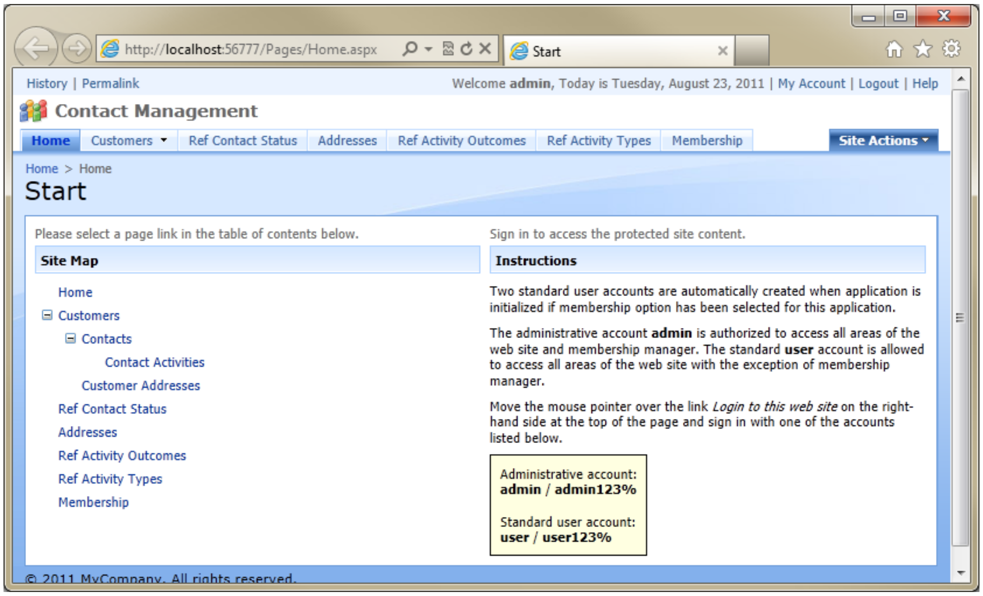
```
8/23/2011 12:05:07 PM
8/23/2011 12:05:07 PM
8/23/2011 12:05:07 PM Membership and Role support has been added to application database.
8/23/2011 12:05:07 PM
```

Continue pressing *Next*, then press *Generate*. Wait until the web page loads with the baseline web app.

Baseline Web App

The baseline web app provides a feature-rich basis for your application to start at. While this application is ready to use, it will take some more work to perfect and optimize.

First of all, the home page will need to be rearranged to display the most relevant information to the end user. You will put several charts of data and a list of activities, viewable at first glance. Next, the menu structure will have to be changed. The structure will first have *Contacts* page, then *Activities*, *Customers*, *Addresses*, and then all reference fields moved under a new *Reference* page.



Please select a page link in the table of contents below.

Site Map

- Home
- Customers
  - Contacts
    - Contact Activities
  - Customer Addresses
- Ref Contact Status
- Addresses
- Ref Activity Outcomes
- Ref Activity Types
- Membership

Sign in to access the protected site content.

Instructions

Two standard user accounts are automatically created when application is initialized if membership option has been selected for this application.

The administrative account **admin** is authorized to access all areas of the web site and membership manager. The standard **user** account is allowed to access all areas of the web site with the exception of membership manager.

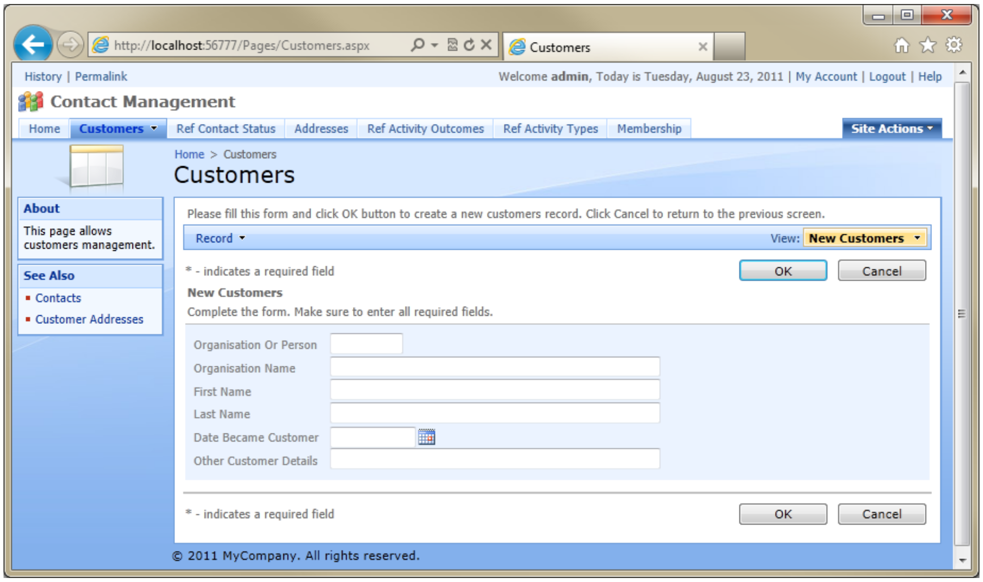
Move the mouse pointer over the link *Login to this web site* on the right-hand side at the top of the page and sign in with one of the accounts listed below.

Administrative account:
admin / admin123%

Standard user account:
user / user123%

© 2011 MyCompany. All rights reserved.

If you navigate through the rest of the pages, you will see that various grid views, create forms, and edit forms would benefit from some customization. Let's use the create form for *Customers* as an example, shown below. The first field, "Organisation or Person", appears as just a text box, when it should only display two options – Organisation or Person. You can assume that organisations don't have first and last names, and people don't have organization names – we will add conditional visibility rules to this page to make these fields exclusive. It would also be convenient if the *Date Became Customer* field showed today's date by default, and *Other Customer Details* was a larger text box.



This page allows customers management.

Please fill this form and click OK button to create a new customers record. Click Cancel to return to the previous screen.

* - indicates a required field

New Customers

Complete the form. Make sure to enter all required fields.

Organisation Or Person	
Organisation Name	
First Name	
Last Name	
Date Became Customer	
Other Customer Details	

* - indicates a required field

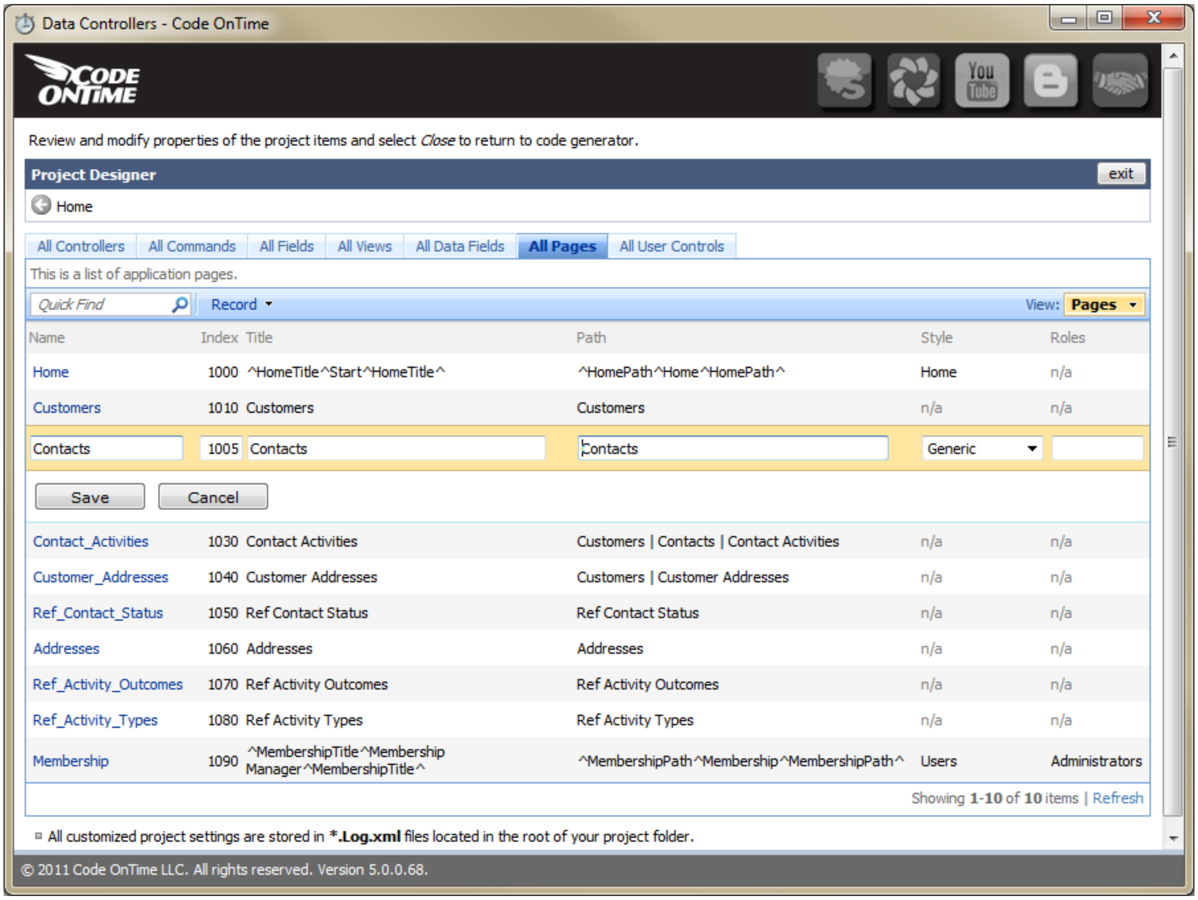
© 2011 MyCompany. All rights reserved.

Customizing the Baseline Application

The following chapter will give you instructions on how to customize the generated application.

Changing the Menu Structure

First things first – let's rearrange the pages in a more logical format. Select the project name in *Code On Time Generator*, and press *Design*. Switch to the *All Pages* tab. Mouse over *Contacts*, activate the dropdown menu, and press *Edit*. Change the *Index* to "1005" and *Path* to "Contacts". *Index* determines the order of the pages, while *Path* determines the menu location. Press *Save*.



Review and modify properties of the project items and select *Close* to return to code generator.

This is a list of application pages.

Name	Index	Title	Path	Style	Roles
Home	1000	^HomeTitle^Start^HomeTitle^	^HomePath^Home^HomePath^	Home	n/a
Customers	1010	Customers	Customers	n/a	n/a
Contacts	1005	Contacts	Contacts	Generic	
Contact_Activities	1030	Contact Activities	Customers | Contacts | Contact Activities	n/a	n/a
Customer_Addresses	1040	Customer Addresses	Customers | Customer Addresses	n/a	n/a
Ref_Contact_Status	1050	Ref Contact Status	Ref Contact Status	n/a	n/a
Addresses	1060	Addresses	Addresses	n/a	n/a
Ref_Activity_Outcomes	1070	Ref Activity Outcomes	Ref Activity Outcomes	n/a	n/a
Ref_Activity_Types	1080	Ref Activity Types	Ref Activity Types	n/a	n/a
Membership	1090	^MembershipTitle^Membership Manager^MembershipTitle^	^MembershipPath^Membership^MembershipPath^	Users	Administrators

Showing **1**-**10** of **10** items | Refresh

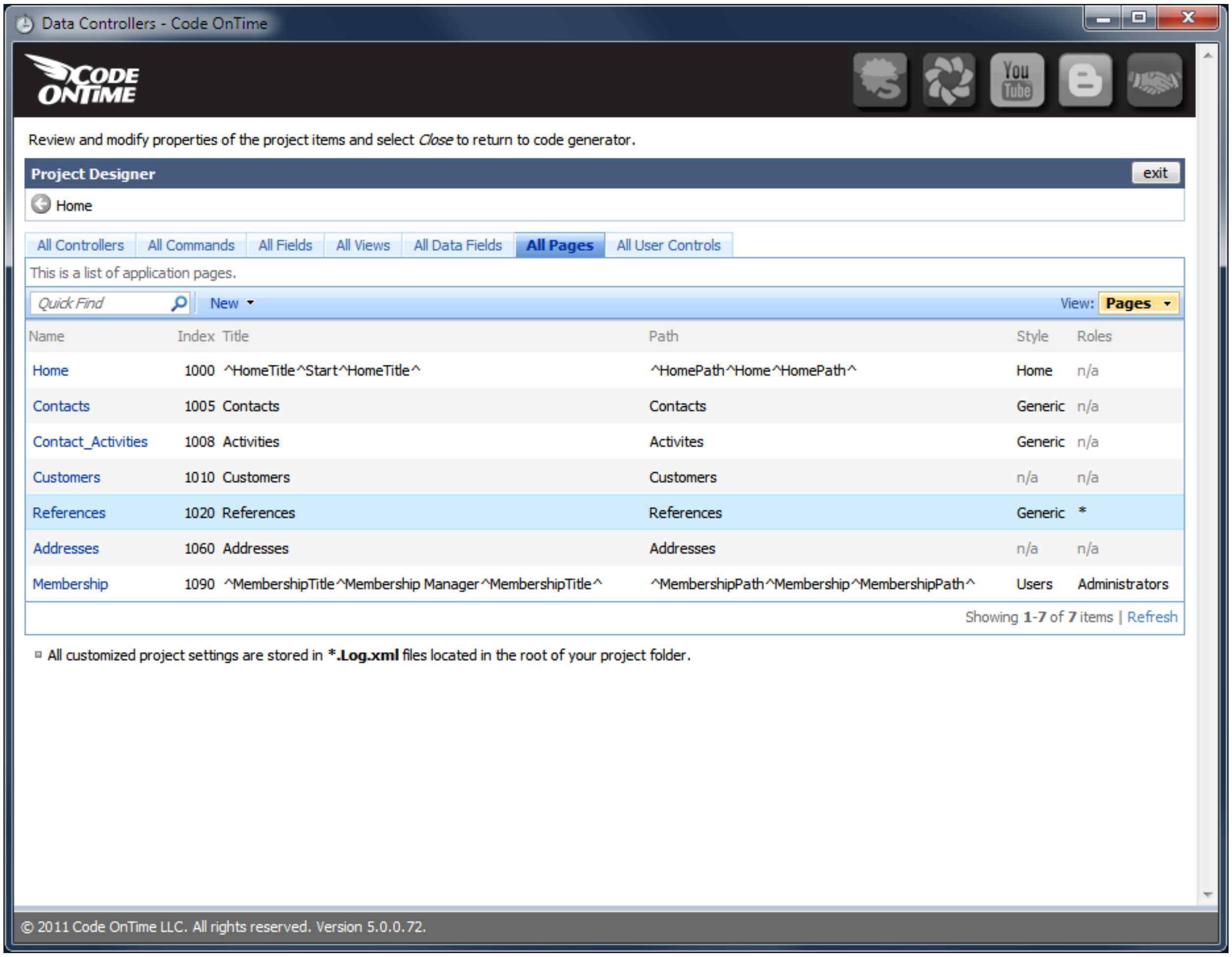
All customized project settings are stored in ***.Log.xml** files located in the root of your project folder.

© 2011 Code OnTime LLC. All rights reserved. Version 5.0.0.68.

Also make the following changes as in the table below. *References* will be a new page. Delete all pages starting with *Ref_* and *Customer_Addresses*.

Page	Index	Title	Path	Roles
Contact_Activities	1008	Activities	Activities	
Addresses	1015	Addresses	Addresses	
References	1020	References	References	
Ref_Contact_Status	DELETE			
Ref_Activity_Outcomes	DELETE			
Ref_Activity_Types	DELETE			
Customer_Addresses	DELETE			

Your *All Pages* tab should look like the picture below.


Data Controllers - Code OnTime
CODE ONTIME

Review and modify properties of the project items and select *Close* to return to code generator.

Project Designer
exit
Home
All Controllers | All Commands | All Fields | All Views | All Data Fields | All Pages | All User Controls

This is a list of application pages.

Quick Find
New
View: Pages

Name	Index	Title	Path	Style	Roles
Home	1000	^HomeTitle^Start^HomeTitle^	^HomePath^Home^HomePath^	Home	n/a
Contacts	1005	Contacts	Contacts	Generic	n/a
Contact_Activities	1008	Activities	Activites	Generic	n/a
Customers	1010	Customers	Customers	n/a	n/a
References	1020	References	References	Generic	*
Addresses	1060	Addresses	Addresses	n/a	n/a
Membership	1090	^MembershipTitle^Membership Manager^MembershipTitle^	^MembershipPath^Membership^MembershipPath^	Users	Administrators

Showing **1-7** of **7** items | Refresh

- All customized project settings are stored in ***.Log.xml** files located in the root of your project folder.

© 2011 Code OnTime LLC. All rights reserved. Version 5.0.0.72.

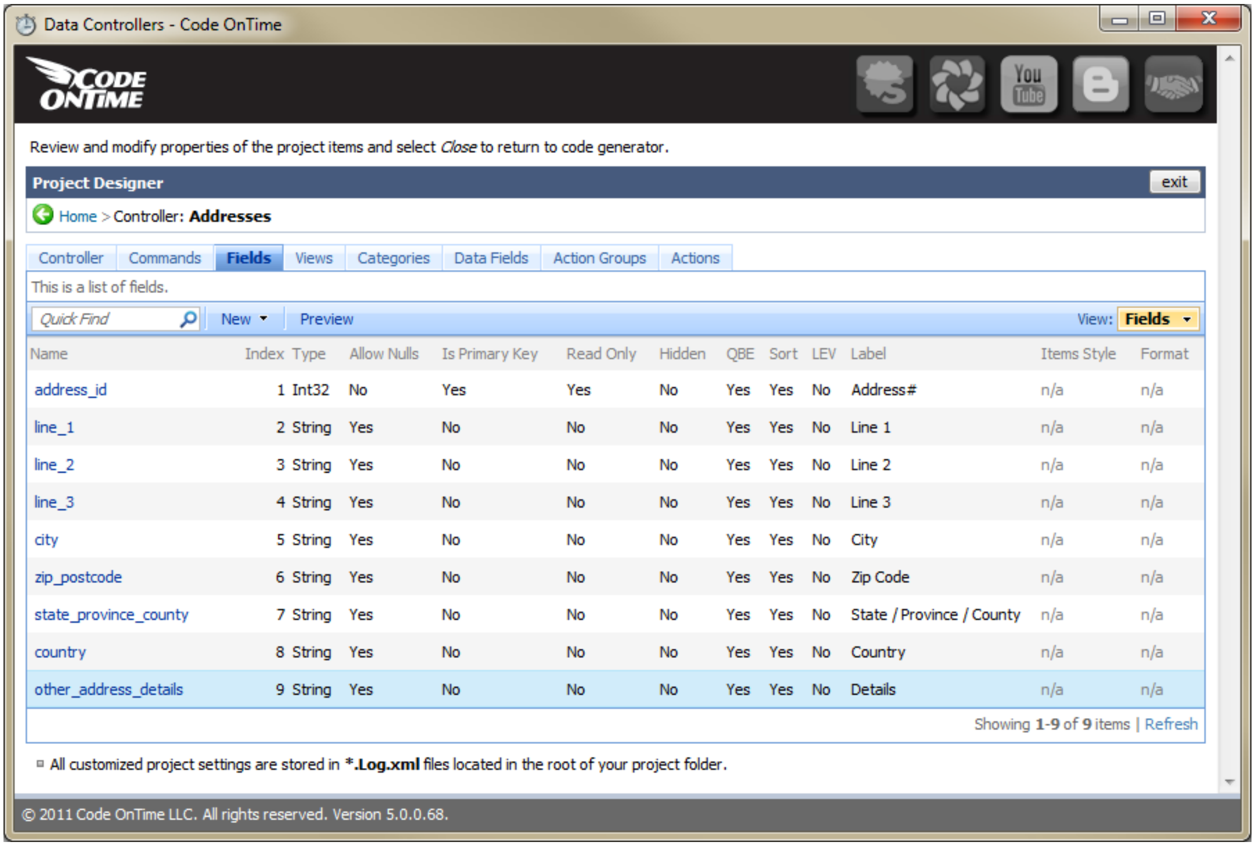
Customizing Addresses Controller

Fields

Switch to the *All Controllers* tab. Let's start with the *Addresses* controller. Click on its name and switch to the *Fields* tab. Change the labels of the following fields to make the page easier to understand.

Field	Label
state_providence_county	State / Providence / County
other_address_details	Details

Your field list should appear as shown below.



Review and modify properties of the project items and select *Close* to return to code generator.

This is a list of fields.

Name	Index	Type	Allow Nulls	Is Primary Key	Read Only	Hidden	QBE	Sort	LEV	Label	Items Style	Format
address_id	1	Int32	No	Yes	Yes	No	Yes	Yes	No	Address#	n/a	n/a
line_1	2	String	Yes	No	No	No	Yes	Yes	No	Line 1	n/a	n/a
line_2	3	String	Yes	No	No	No	Yes	Yes	No	Line 2	n/a	n/a
line_3	4	String	Yes	No	No	No	Yes	Yes	No	Line 3	n/a	n/a
city	5	String	Yes	No	No	No	Yes	Yes	No	City	n/a	n/a
zip_postcode	6	String	Yes	No	No	No	Yes	Yes	No	Zip Code	n/a	n/a
state_province_county	7	String	Yes	No	No	No	Yes	Yes	No	State / Province / County	n/a	n/a
country	8	String	Yes	No	No	No	Yes	Yes	No	Country	n/a	n/a
other_address_details	9	String	Yes	No	No	No	Yes	Yes	No	Details	n/a	n/a

Showing **1-9** of **9** items | Refresh

All customized project settings are stored in ***.Log.xml** files located in the root of your project folder.

© 2011 Code OnTime LLC. All rights reserved. Version 5.0.0.68.

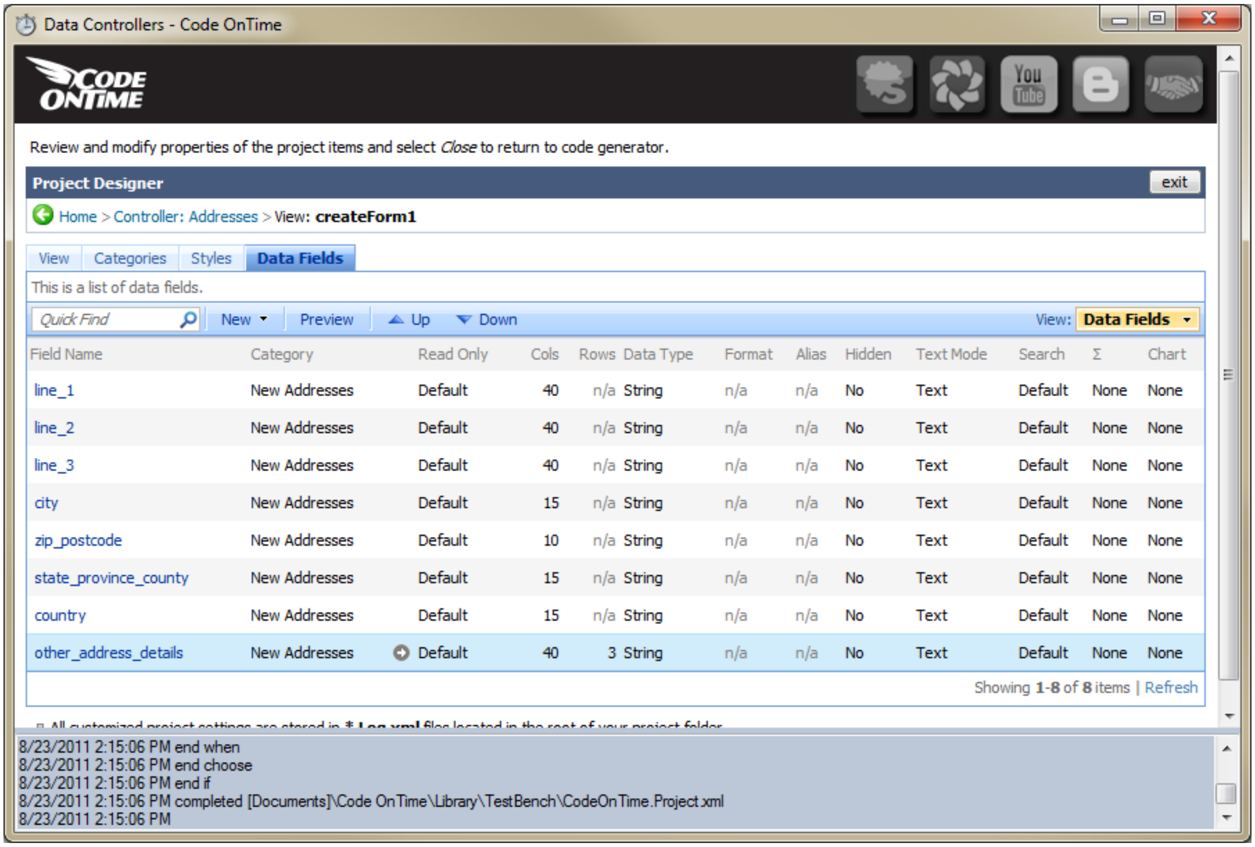
Views

Switch to the *Views* tab. Select *createform1*, and switch to the *Data Fields* tab. Change the number of columns and rows to improve field legibility.

Data Field	Cols	Rows
line_1	40	
line_2	40	
line_3	40	
city	15	
zip_postcode	10	

state_providence_county	15	
country	15	
other_address_details	40	3

Your page should look as below.



Data Controllers - Code OnTime

Review and modify properties of the project items and select *Close* to return to code generator.

Project Designer

Home > Controller: Addresses > View: **createForm1**

This is a list of data fields.

View: **Data Fields**

Field Name	Category	Read Only	Cols	Rows	Data Type	Format	Alias	Hidden	Text Mode	Search	Σ	Chart
line_1	New Addresses	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
line_2	New Addresses	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
line_3	New Addresses	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
city	New Addresses	Default	15	n/a	String	n/a	n/a	No	Text	Default	None	None
zip_postcode	New Addresses	Default	10	n/a	String	n/a	n/a	No	Text	Default	None	None
state_province_county	New Addresses	Default	15	n/a	String	n/a	n/a	No	Text	Default	None	None
country	New Addresses	Default	15	n/a	String	n/a	n/a	No	Text	Default	None	None
other_address_details	New Addresses	Default	40	3	String	n/a	n/a	No	Text	Default	None	None

Showing **1-8** of **8** items | Refresh

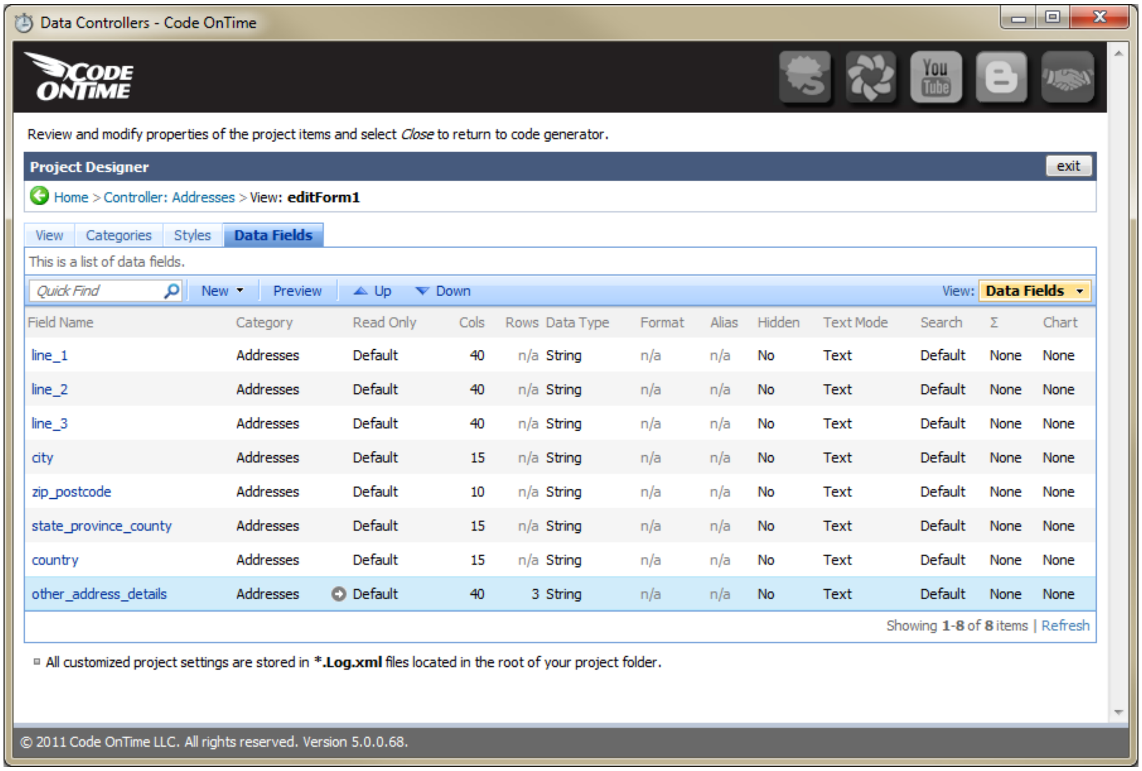
All customized project settings are stored in ***.Log.xml** files located in the root of your project folder.

```
8/23/2011 2:15:06 PM end when
8/23/2011 2:15:06 PM end choose
8/23/2011 2:15:06 PM end if
8/23/2011 2:15:06 PM completed [Documents]\Code OnTime\Library\TestBench\CodeOnTime.Project.xml
8/23/2011 2:15:06 PM
```

Under the words *Project Designer*, press the *Back* icon. Select *editForm1* from the list of *Views*, and switch to *Data Fields* tab. Perform the edits listed in the table below.

Data Field	Cols	Rows
line_1	40	
line_2	40	
line_3	40	
city	15	
zip_postcode	10	
state_providence_county	15	
country	15	
other_address_details	40	3

Your page should look as follows.



Review and modify properties of the project items and select *Close* to return to code generator.

Project Designer exit

Home > Controller: Addresses > View: **editForm1**

View | Categories | Styles | **Data Fields**

This is a list of data fields.

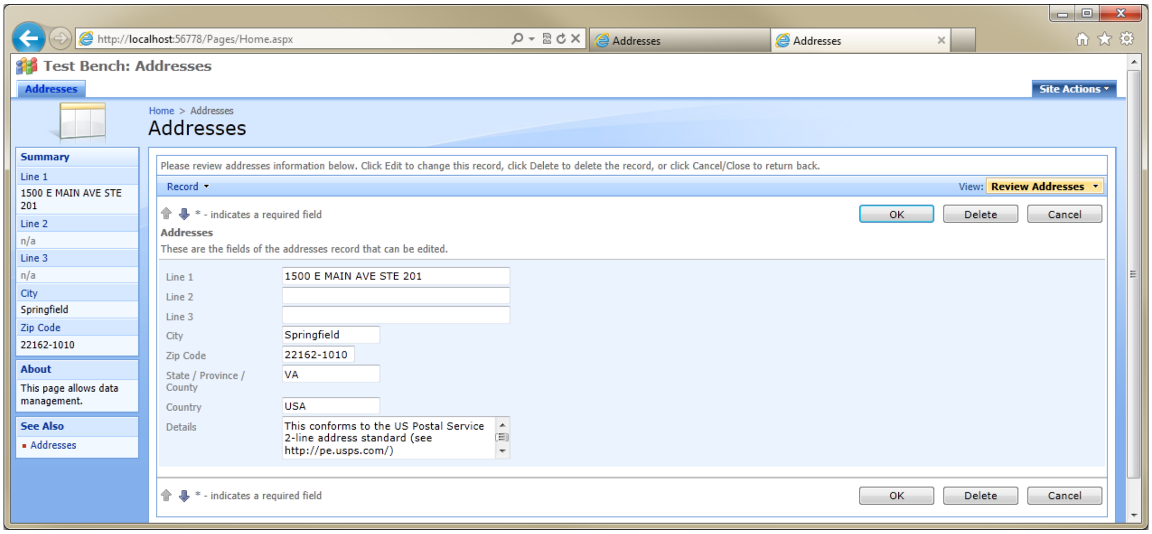
Field Name	Category	Read Only	Cols	Rows	Data Type	Format	Alias	Hidden	Text Mode	Search	Σ	Chart
line_1	Addresses	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
line_2	Addresses	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
line_3	Addresses	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
city	Addresses	Default	15	n/a	String	n/a	n/a	No	Text	Default	None	None
zip_postcode	Addresses	Default	10	n/a	String	n/a	n/a	No	Text	Default	None	None
state_province_county	Addresses	Default	15	n/a	String	n/a	n/a	No	Text	Default	None	None
country	Addresses	Default	15	n/a	String	n/a	n/a	No	Text	Default	None	None
other_address_details	Addresses	Default	40	3	String	n/a	n/a	No	Text	Default	None	None

Showing **1-8** of **8** items | Refresh

▫ All customized project settings are stored in ***.Log.xml** files located in the root of your project folder.

© 2011 Code OnTime LLC. All rights reserved. Version 5.0.0.68.

If you press *Quick View* on the action bar, you will see the changes in action when creating or editing an address.



Addresses

Summary	
Line 1	1500 E MAIN AVE STE 201
Line 2	n/a
Line 3	n/a
City	Springfield
Zip Code	22162-1010

About

This page allows data management.

See Also

- Addresses

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

* - indicates a required field

Addresses

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

Line 1	1500 E MAIN AVE STE 201
Line 2	
Line 3	
City	Springfield
Zip Code	22162-1010
State / Province / County	VA
Country	USA
Details	This conforms to the US Postal Service 2-line address standard (see http://pe.usps.com/)

* - indicates a required field

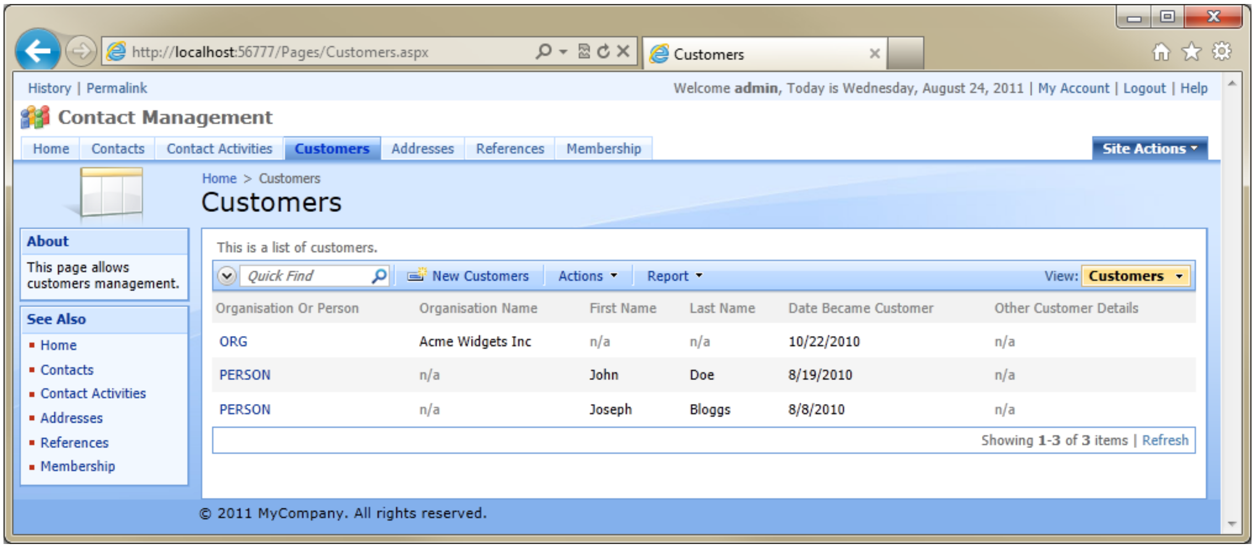
Customizing Customers Controller

Fields

Go back to the list of *All Controllers*, select *Customers*, and switch to the *Fields* tab. Select *date_became_customer*. In the *Code Default* field, write "DateTime.Now", so that the field will display the current date and time by default.

Creating a Calculated Field

Currently, the web app uses the "organisation_or_person" field as the primary field in grid view. It would make much more sense to use a unique name as the selectable link, but the table uses separate fields for organisation name and first/last name.



This page allows customers management.

This is a list of customers.

Organisation Or Person	Organisation Name	First Name	Last Name	Date Became Customer	Other Customer Details
ORG	Acme Widgets Inc	n/a	n/a	10/22/2010	n/a
PERSON	n/a	John	Doe	8/19/2010	n/a
PERSON	n/a	Joseph	Bloggs	8/8/2010	n/a

© 2011 MyCompany. All rights reserved.

In this situation, we will have to create a calculated field that is computed at run-time using an SQL expression. This expression will display either the organization name or first and last name, depending on the customer type. In the *Designer*, press *New | New Field*. Use the following properties:

Property	**Definition**
Name	CustomerName
Type	String
The value of this field is computed at run-time	☑

SQL Formula	`case`
	`when customers.organisation_or_person = 'ORG' then`
	`organisation_name`
	`else`
	`first_name + ' ' + last_name`
	`end`

Label	Customer Name
Values of this field cannot be edited	☑

Press *OK* to save the field.

Specifying a List of Field Options

Next, let’s make the *organisation_or_person* field display two options in a radio button list. Select the *organisation_or_person* field. Uncheck “Allow null values” and change *Items Style* to “Radio Button List”.

Press *OK*, and click on the *organisation_or_person* field again. Switch to the *Items* tab. Create the following items.

Value	Text
ORG	Organisation
PERSON	Person

Views

Next, we will need to modify the presentation of the fields and bind a *Customer Name* data field for each view. Switch to the *Views* tab. Select *grid1*, and switch to *Data Fields*. Create a new data field with the following settings:

Property	**Definition**
Field Name	CustomerName
Values of this field cannot be edited	☑

Save the data field, and move the data field to the top of the list by clicking on the dropdown next to its field name, and pressing *Make First*.

Exclusive Categories with Conditional Visibility

Go back to the list of views. Select *createForm1*. It would be nice if *organisation name* and *first/last name* fields were exclusive – this can be done with separate categories and conditional visibility. Switch to the *Categories* tab. Create two new categories, with the settings below.

Header Text	**Description**	**Floating**
Organisation Name	Insert the organization name below.	N/A
Customer Name	Insert the first and last name below.	Yes

Click on *Organisation Name* category and switch to *Data Fields* tab. Add a data field with the following settings.

Property	**Definition**
Field Name	organisation_name
Columns	20

Save the data field, and switch to the *Visibility* tab. Create a new visibility expression, which will make organisation_name appear when the organisation_or_person field is set to “Organisation”:

Property	**Definition**
Expression	[organisation_or_person]=="ORG"

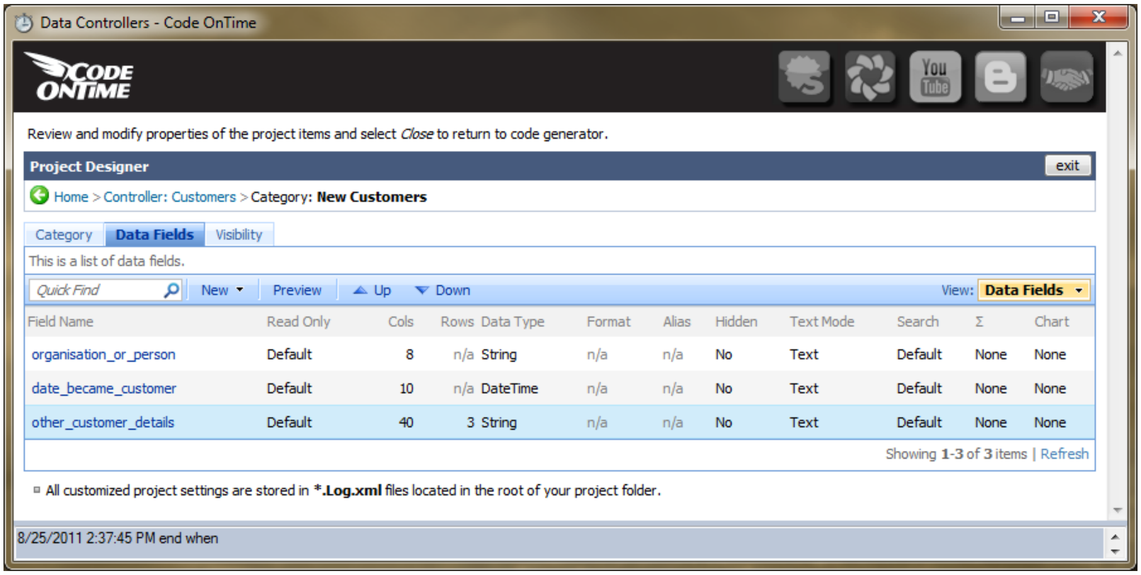
Go back to the list of categories. Select *Customer Name* category, and switch to the *Data Fields* tab. Create two new data fields, with the following settings.

Field Name	Columns
first_name	15
last_name	15

Switch to the *Visiblity* tab, and create a new expression.

Property	Definition
Expression	[organisation_or_person]=="PERSON"

This way, the relevant fields will only appear when the correct item is select in the *Organisation or Person* field. As you cannot have a single field displayed multiple times, Code On Time Generator will automatically remove the data field from other categories.



Review and modify properties of the project items and select *Close* to return to code generator.

Home > Controller: Customers > Category: **New Customers**

This is a list of data fields.

Field Name	Read Only	Cols	Rows	Data Type	Format	Alias	Hidden	Text Mode	Search	Σ	Chart
organisation_or_person	Default	8	n/a	String	n/a	n/a	No	Text	Default	None	None
date_became_customer	Default	10	n/a	DateTime	n/a	n/a	No	Text	Default	None	None
other_customer_details	Default	40	3	String	n/a	n/a	No	Text	Default	None	None

Showing **1-3** of **3** items | Refresh

All customized project settings are stored in ***.Log.xml** files located in the root of your project folder.

8/25/2011 2:37:45 PM end when

You will need to perform the same changes to *editForm1* view. Go back to the list of views and select *editForm1*. Switch to *Categories* and create two new categories.

Header Text	Description	Floating
Organisation Name	The organisation name is shown below.	N/A
Customer Name	First and last name is shown below.	Yes

Click on *Organisation Name* category and switch to *Data Fields* tab. Add a data field with the following settings.

Property	Definition
Field Name	organisation_name
Columns	20

Save the data field, and switch to the *Visibility* tab. Create a new visibility expression:

Property	**Definition**
Expression	[organisation_or_person]=="ORG"

Go back to the list of categories. Select *Customer Name* category, and switch to the *Data Fields* tab. Create two new data fields, with the following settings.

Field Name	**Columns**
First Name	15
Last Name	15

Switch to the *Visibility* tab, and create a new expression.

Property	**Definition**
Expression	[organisation_or_person]=="PERSON"

Customizing Contacts Controller

Go back to the list of *All Controllers*, and select *Contacts*. Switch to the *Fields* tab.

Fields

In the list of fields, make a few edits, detailed below.

Field Name	**Label**	**Allow Nulls**
status_status_description	Status	No
contact_name	Contact Name	No
cell_mobile_phone	Mobile Phone	Yes
other_contact_details	Details	Yes

Select the *customer_id* field, and make the following changes, which will make customer_id use CustomerName as the displayed and selected text.

Property	**Definition**
Items Style	Lookup
Items Data Controller	Customers
Data Value Field	customer_id
Data Text Field	CustomerName

Creating a Reference to a Virtual (Calculated) Field

Instead of displaying *organisation_or_person* field as a reference to *Customers* table, it would make more sense to use *CustomerName*, the calculated field you made earlier. However, the *Customers* table may be defined differently in this controller. Select the *Contacts* controller, and switch to the *Commands* tab. Select *command1*, and have a look at the command. Copying it over to notepad may make viewing easier. If you look at the joins at the end of the command, you can see a reference to *Customers* table. The command is shown below.

```
select
	"Contacts"."contact_id" "contact_id"
	,"Contacts"."customer_id" "customer_id"
	,"customer_"."organisation_or_person" "customer_organisation_or_person"
	,"Contacts"."status_code" "status_code"
	,"status_"."status_description" "status_status_description"
	,"Contacts"."email_address" "email_address"
	,"Contacts"."web_site" "web_site"
	,"Contacts"."salutation" "salutation"
	,"Contacts"."contact_name" "contact_name"
	,"Contacts"."job_title" "job_title"
	,"Contacts"."department" "department"
	,"Contacts"."work_phone" "work_phone"
	,"Contacts"."cell_mobile_phone" "cell_mobile_phone"
	,"Contacts"."fax_number" "fax_number"
	,"Contacts"."other_contact_details" "other_contact_details"

from "dbo"."Contacts" "Contacts"

	left join "dbo"."Customers" "customer_" on "Contacts"."customer_id" =
"customer_"."customer_id"
	left join "dbo"."Ref_Contact_Status" "status_" on "Contacts"."status_code" =
"status_"."status_code"
```

The *Customers* table is referred to as “customer_”, so this is the name that must be used when creating the SQL formula for the calculated field.

```
left join "dbo"."Customers" "customer_" on "Contacts"."customer_id" =
"customer_"."customer_id"
```

Cancel out of the command details, and switch to *Fields* tab. Create a new field, with the settings below.

Property	**Definition**
Name	CustomerName
The value of this field is computed at run-time	☑

SQL Formula	case
	   when customer_.organisation_or_person = 'ORG'
	then
	         customer_.organisation_name
	   else
	      customer_.first_name + ' ' +
	customer_.last_name
	end

Label	Customer Name
Values of this field cannot be edited	☑
Allow Query-by-Example	☑
Allow Sorting	☑

Save the field.

Data Validation on Phone Fields

Most real applications require you to insert a phone number properly, and convert them into a uniform format. The *Contact Management* database uses format 123-456-7890, so the regular expressions you will use will convert data fields to this format. Select the *work_phone* field, and switch to the *Validators* tab. Create two new validators with the settings below.

Regular Expression	**Error Message / Replacement Pattern**
^(\d{3}).*?(\d{3}).*?(\d{4})$	$1-$2-$3
^(\d{3})-(\d{3})-(\d{4})$	The phone number must be in the correct format 123-456-7890.

The first validator will convert any set of numbers into the proper dashed format. If the field contains letters and other characters at time of validation, then the second validator will throw an error message. All validation occurs just-in-time, and any extraneous characters will be truncated.

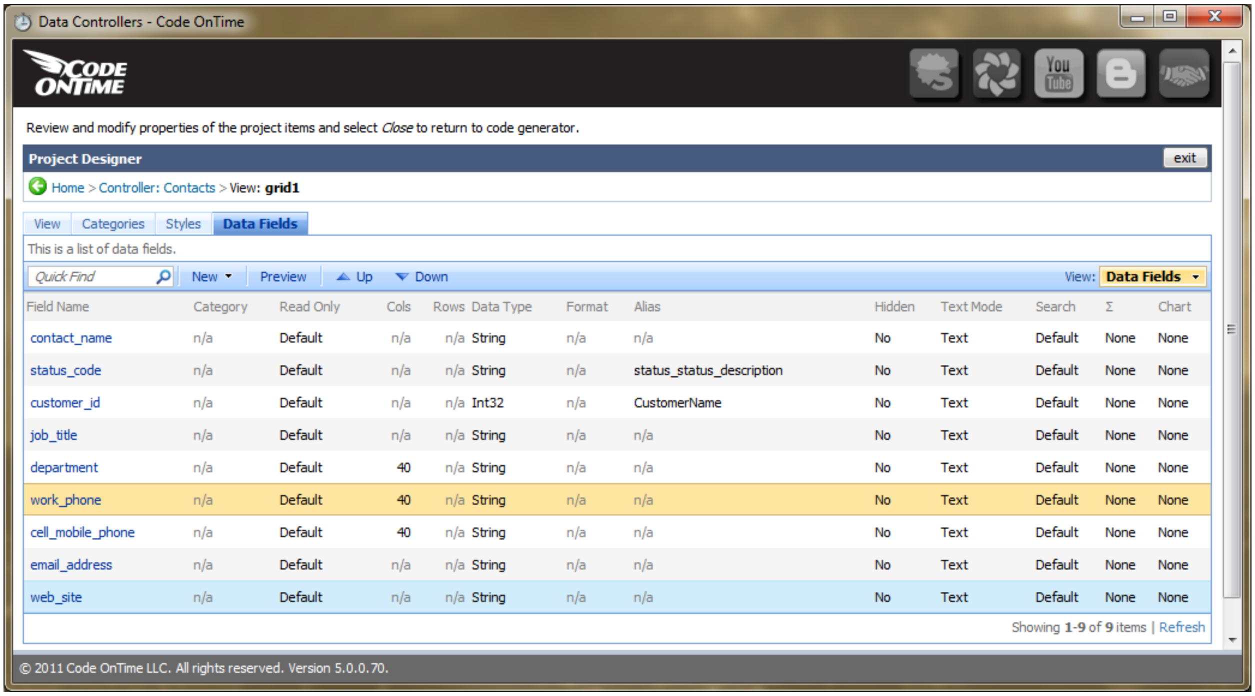
Go back to the list of fields, and perform the same operations on the *cell_mobile_phone* and *fax_number* fields.

Views

Next, let’s optimize the appearance of the various views of this controller. Switch to the *Views* tab, and select *grid1*. Switch to *Data Fields* tab. Make the following changes described below (and make the fields follow the order below). Delete *salutation*.

Field Name	Alias
contact_name	N/A
status_code	status_status_description
customer_id	CustomerName
job_title	N/A
department	N/A
work_phone	N/A
cell_mobile_phone	N/A
email_address	N/A
web_site	N/A

Your list of data fields should look like the picture below.



Review and modify properties of the project items and select *Close* to return to code generator.

Home > Controller: Contacts > View: grid1

This is a list of data fields.

Field Name	Category	Read Only	Cols	Rows	Data Type	Format	Alias	Hidden	Text Mode	Search	Σ	Chart
contact_name	n/a	Default	n/a	n/a	String	n/a	n/a	No	Text	Default	None	None
status_code	n/a	Default	n/a	n/a	String	n/a	status_status_description	No	Text	Default	None	None
customer_id	n/a	Default	n/a	n/a	Int32	n/a	CustomerName	No	Text	Default	None	None
job_title	n/a	Default	n/a	n/a	String	n/a	n/a	No	Text	Default	None	None
department	n/a	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
work_phone	n/a	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
cell_mobile_phone	n/a	Default	40	n/a	String	n/a	n/a	No	Text	Default	None	None
email_address	n/a	Default	n/a	n/a	String	n/a	n/a	No	Text	Default	None	None
web_site	n/a	Default	n/a	n/a	String	n/a	n/a	No	Text	Default	None	None

Showing 1-9 of 9 items | Refresh

© 2011 Code OnTime LLC. All rights reserved. Version 5.0.0.70.

Breaking Data Fields into Separate Categories

Go back to the list of views, and select *createForm1*. Switch to *Categories* tab. Currently, the create form lists all fields in a row. Let's break the fields into different categories: general information under *New Contacts*, *Personal Info* for information about the contact, and *Business Info* for job related info.

Create two new *Categories*.

Header Text	Description
Personal Info	Insert personal information below.
Business Info	Insert business information below.

Select the *New Contacts* category, switch to *Data Fields*, and make the following changes.

Field Name	**Cols**	**Rows**	**Alias**
customer_id			CustomerName
status_code			status_status_description
other_contact_details	40	3	

Go back to the list of categories, and select *Personal Info*. Switch to *Data Fields* and add the following fields:

Field Name	**Cols**
contact_name	25
salutation	10
email_address	30
cell_mobile_phone	15

Go back to the list of categories, and select *Business Info*. Add the following *Data Fields*:

Field Name	**Cols**
job_title	15
department	20
work_phone	15
fax_number	15
web_site	25

You will need to perform the same changes to *editForm1*. Go back to the list of views, and select *editForm1*. Switch to *Categories* tab. Create two new *Categories*.

Header Text	**Description**
Personal Info	View personal information below.
Business Info	View business information below.

Select the *Contacts* category, switch to *Data Fields*, and make the following changes.

Field Name	**Cols**	**Rows**	**Alias**
customer_id			CustomerName
status_code			status_status_description
other_contact_details	40	3	

Go back to the list of categories, and select *Personal Info*. Switch to *Data Fields* and add the following fields:

Field Name	**Cols**
contact_name	25

salutation	10
email_address	30
cell_mobile_phone	15

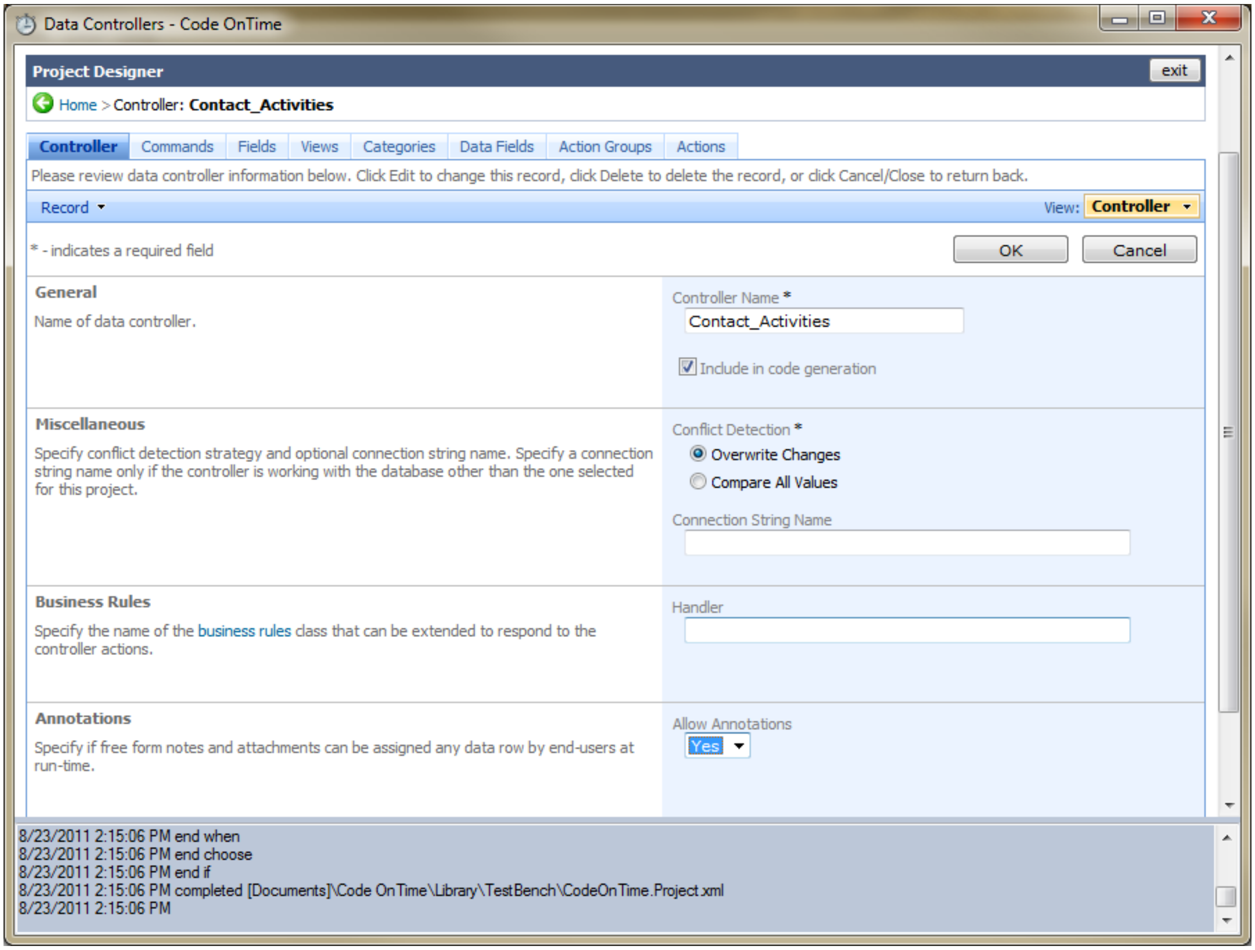
Go back to the list of categories, and select *Business Info*. Add the following *Data Fields*:

Field Name	Cols
job_title	15
department	20
work_phone	15
fax_number	15
web_site	25

Customizing Contact Activities Controller

Adding Annotations

Go back to the list of *All Controllers*, and select *Contact_Activities*. For some activities, you may want to attach relevant files and notes. On the *Controller* tab, change *Allow Annotations* to “Yes”. Press *OK* to save.



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

* - indicates a required field

General

Name of data controller.

Controller Name * Contact_Activities

☑ Include in code generation

Miscellaneous

Specify conflict detection strategy and optional connection string name. Specify a connection string name only if the controller is working with the database other than the one selected for this project.

Conflict Detection *
● Overwrite Changes
○ Compare All Values

Connection String Name

Business Rules

Specify the name of the business rules class that can be extended to respond to the controller actions.

Handler

Annotations

Specify if free form notes and attachments can be assigned any data row by end-users at run-time.

Allow Annotations: Yes

```
8/23/2011 2:15:06 PM end when
8/23/2011 2:15:06 PM end choose
8/23/2011 2:15:06 PM end if
8/23/2011 2:15:06 PM completed [Documents]\Code OnTime\Library\TestBench\CodeOnTime.Project.xml
8/23/2011 2:15:06 PM
```

Fields

Click on the *Contact_Activities* controller again. Switch to the *Fields* tab.

Currently, the primary clickable field on the *Activities* page is *Contact Status Code*. As this doesn't make much sense in this context, we would like to display the name of the contact that the activity was done with. Create a new field with the following properties. (The *SQL Formula* uses the definition of the contact table reference found in *command1*. This process is described in further detail under Customizing Contacts Controller.)

Property	Definition
Name	ContactName
The value of this field is computed at run-time	☑
SQL Formula	`"contact_"."contact_name"`
Label	Contact Name
Values of this field cannot be edited	☑
Allow Query-by-Example	☑
Allow Sorting	☑

Save, and select *date_activity*. In the *Code Default* field, write "DateTime.Now", to make sure today's date is inserted by default.

Save the field, and make the following changes to the rest of the fields. The "g" *Format String* for *date_activity* forces the field to display both date and time.

Field Name	Label	Items Style	Format
contact_customer_organisation_or_person	Customer Type		
contact_status_status_description	Contact Type		
activity_type_activity_type_description	Type		
outcome_code	Outcome Code	Drop Down List	
outcome_outcome_description	Outcome		
date_activity	Date of Activity		g
other_details	Details		

Views

Let's customize the views of this controller. Switch to the *Views* tab. Select *grid1*. It would make more sense if the activities were sorted by most recent, so write "date_activity desc" under *Sort Expression*, and press *OK*.

Select *grid1* again, and switch to *Data Fields*. Make the following changes (**and list the fields in the following order**).

Field Name	Alias
contact_id	ContactName
date_activity	

activity_type_code	activity_type_activity_type_description
outcome_code	outcome_outcome_description
other_details	
contact_customer_organisation_or_person	DELETE
contact_status_status_description	DELETE

Go back to the list of views, and select *createForm1*. Switch to *Data Fields*, and make the following changes and in this order.

Field Name	**Cols**	**Rows**	**Alias**
contact_id			ContactName
date_activity	10		
activity_type_code			activity_type_activity_type_description
outcome_code			outcome_outcome_description
other_details	40	3	

Go back to the list of views, and select *editForm1*. Make the changes described in the order below.

Field Name	**Cols**	**Rows**	**Alias**
contact_id			ContactName
date_activity	10		
activity_type_code			activity_type_activity_type_description
outcome_code			outcome_outcome_description
other_details	40	3	
contact_customer_organisation_or_person	8		
contact_status_status_description			

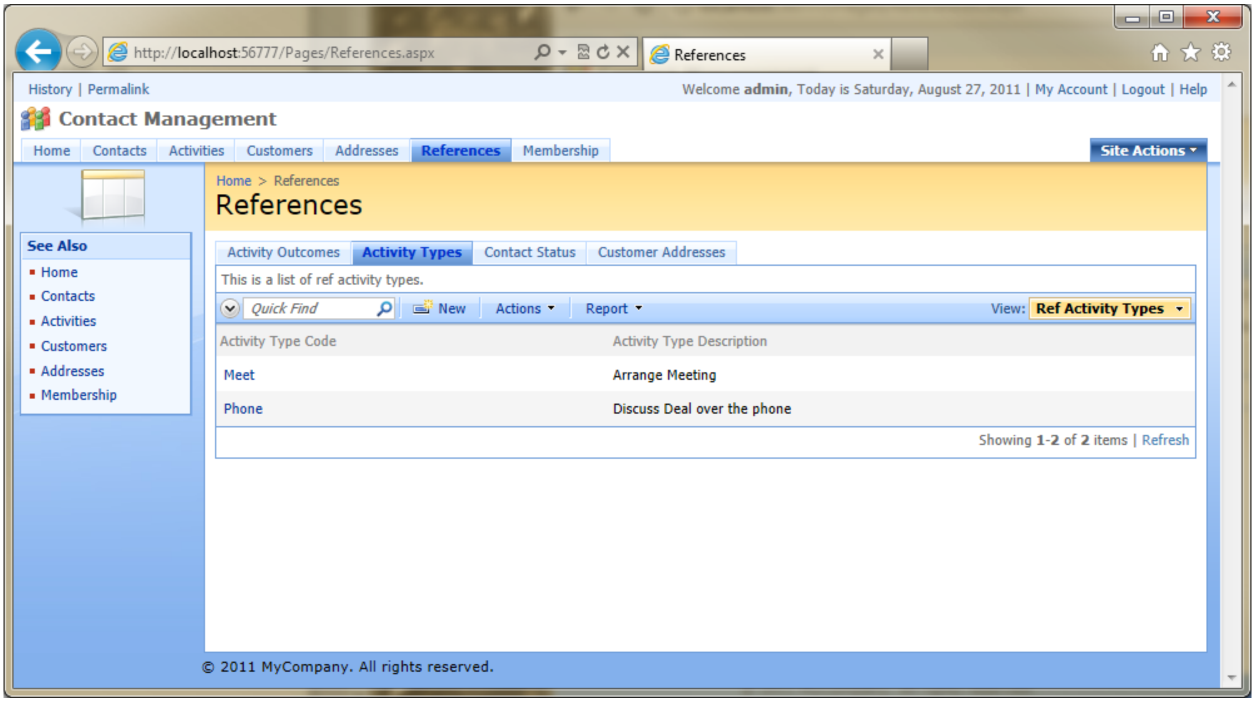
Creating References Page

The *References* page is designed to show all reference tables not integral to the application. You will need to add the data controllers to the page. Go back to the list of controllers, and switch to the *All Pages* tab. Select the *References* page, and switch to the *Containers* tab. Create a new container, leave the default settings, and press *OK*.

Switch to the *Data Views* tab. Create several data views with the settings below.

Container	Controller	View	Activator	Text
c100	Ref_Activity_Outcomes	grid1	Tab	Activity
c100	Ref_Activity_Types	grid1	Tab	Activity Types
c100	Ref_Contact_Status	grid1	Tab	Contact Status
c100	Customer_Addresses	grid1	Tab	Customer Addresses

This way, all references tables can be easily accessed using the different tabs on the *Reference* page, as shown below.



References

This is a list of ref activity types.

Activity Type Code	Activity Type Description
Meet	Arrange Meeting
Phone	Discuss Deal over the phone

© 2011 MyCompany. All rights reserved.

Customizing Home Page

On the home page, it would be nice to have various charts displaying data about recent activity going on, as well as a list of the most recent activities. This way, you can easily keep on top of what's happening in your application. First thing you will have to do is create the chart views.

Creating the Chart Views

Go back to the list of *All Pages*, and switch to the *All Controllers* list. Select *Contact_Activities* and switch to *Views* tab. Create three new views with the following settings.

Id	Type	Command	Label	Header Text	Show In View Selector	Filter Expression
chart1	Chart	command1	This Week Activity	This Week Activity	□	`$ThisWeek(date_activity)`
chart2	Chart	command1	Activity Types	Activity Types	□	`$ThisWeek(date_activity)`
chart3	Chart	command1	Activity Outcomes	Contact Status	□	`$ThisWeek(date_activity)`

Select *chart1* and switch to *Data Fields*. Add the following data fields. A Data Format String of "d" will force display of the date only. Use "X, Days" to display a date field, with a value marking every day. This chart will display a count of how many activities were occurring on each day, using a line.

Field Name	Data Format String	Aggregate Function	Chart
date_activity	d	None	X, Days
activity_id		Count	Line

Select *chart2* and add the data fields below. This chart will display a count of different activity types that occurred, using cylinders.

Field Name	Aggregate Function	Chart
activity_type_activity_type_description	None	X
activity_id	Count	Bar (Cylinder)

Select *chart3* and add the following data fields. This chart displays a count of different outcomes using cylinders.

Field Name	Aggregate Function	Chart
outcome_outcome_description	None	X
activity_id	Count	Column (Cylinder)

Adding Chart Views to the Home Page

You will have to add several containers to the home page, and place the charts inside these containers. Go back to the list of *All Controllers*, and switch to the *All Pages* tab. Select the *Home* page, and switch to *Containers*. Make the following changes.

Id	Flow	Width	CSS Style Properties
container1	DELETE		
container2	DELETE		
N/A	New Column	300px	`border:solid 1px silver;padding:4px;margin-bottom:4px;margin-right:8px`
N/A	New Column	300px	`border:solid 1px silver;padding:4px;margin-bottom:4px;margin-right:8px`
N/A	New Column	300px	`border:solid 1px silver;padding:4px;margin-bottom:4px;margin-right:8px`
N/A	New Row		

Switch to the *Data Views* tab, and create the following views.

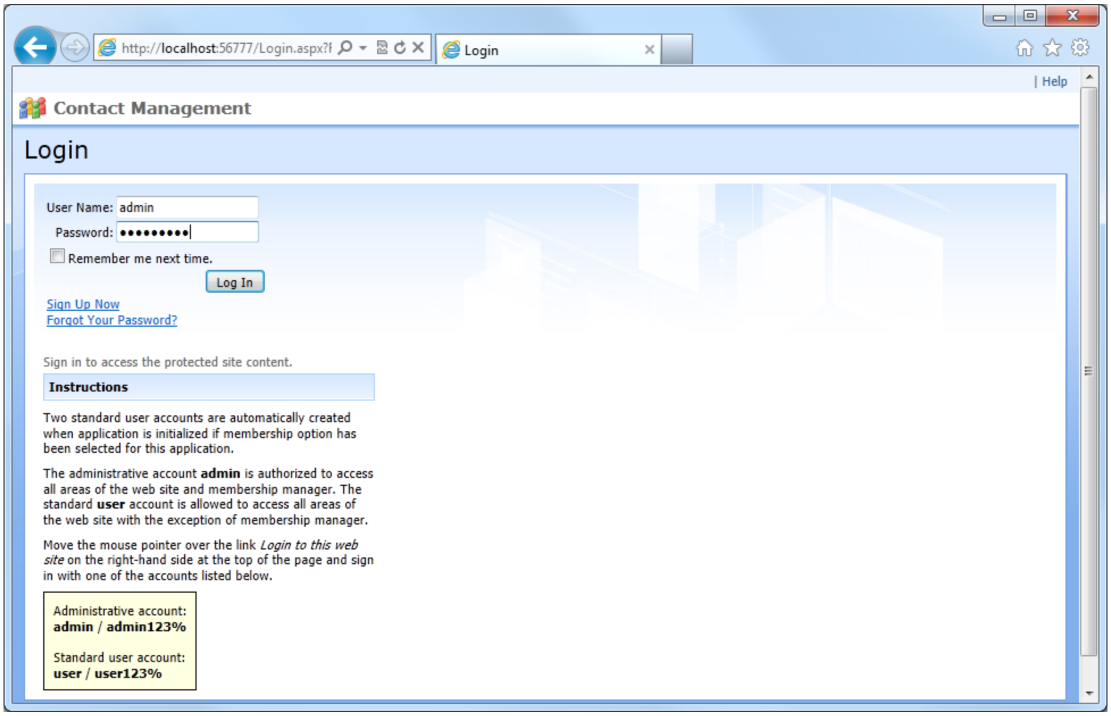
Container	Controller	View	Text
c100	Contact_Activities	chart1	Activity Outcomes
c101	Contact_Activities	chart2	Activity Types
c102	Contact_Activities	chart3	Contact Status
c103	Contact_Activities	grid1	

For all four views, make sure to uncheck *Show Action Bar*, *Show View Description*, *Show View Selector*, *Show Search Bar*, *Show Quick Find*, and *Show Pager*. Check *Show Modal Forms*.

Now that customizations have been finished, you can view your optimized application. Press *Exit*, and press *Generate*.

Finished Web App

When the web app opens, the first thing you see is the dedicated login page. Enter the administrative credentials (by default, *admin|admin123%*) to access the application.



Login

User Name: admin

Password: •••••••••

□ Remember me next time.

Log In

Sign Up Now

Forgot Your Password?

Sign in to access the protected site content.

Instructions

Two standard user accounts are automatically created when application is initialized if membership option has been selected for this application.

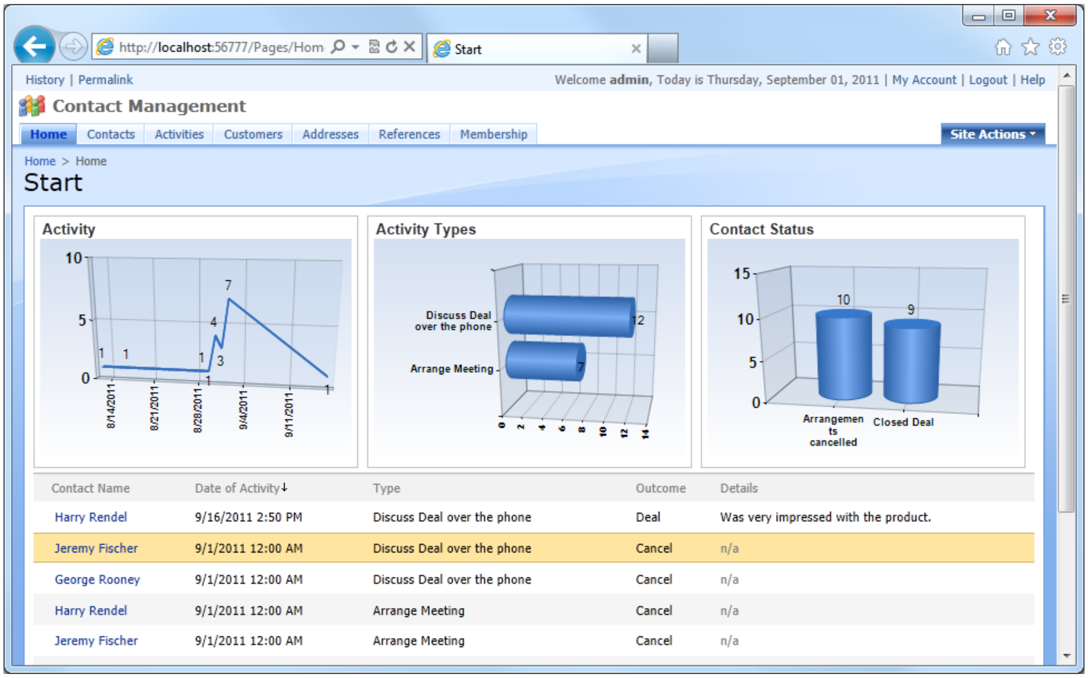
The administrative account **admin** is authorized to access all areas of the web site and membership manager. The standard **user** account is allowed to access all areas of the web site with the exception of membership manager.

Move the mouse pointer over the link *Login to this web site* on the right-hand side at the top of the page and sign in with one of the accounts listed below.

Administrative account:
admin / admin123%

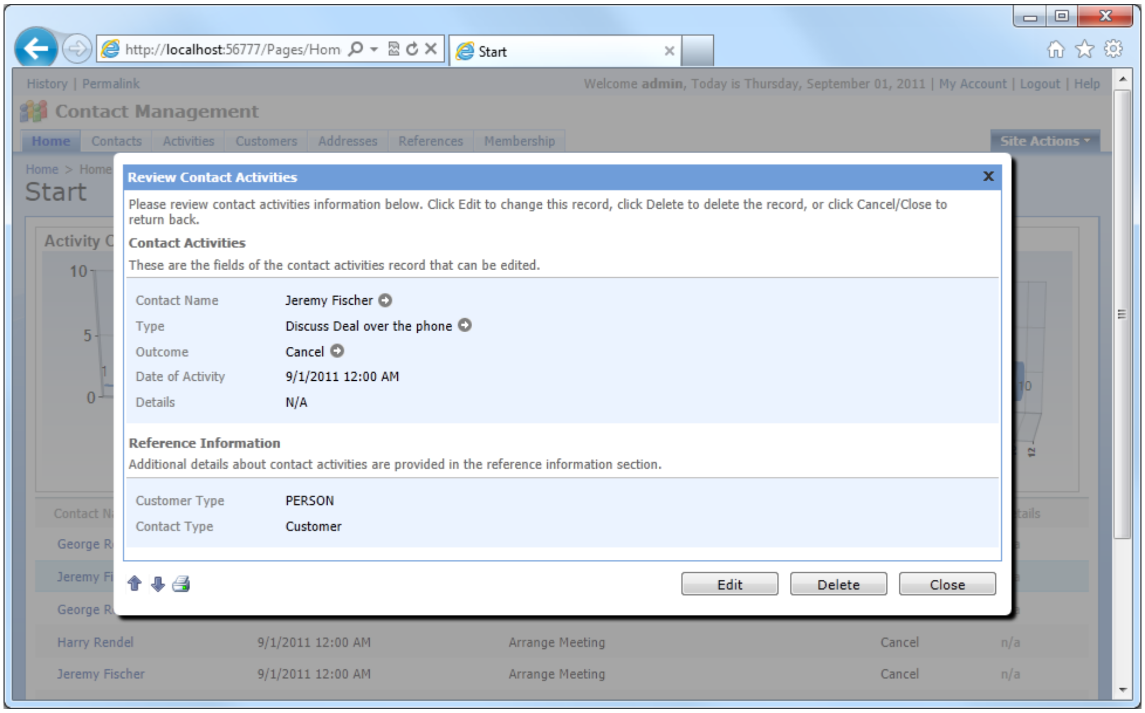
Standard user account:
user / user123%

Pressing *Log In* will lead you to the home page. You can see that the home page hosts an impressive array of charts and a list of the most recent activity. This was done by placing several containers on the page and data views within these containers. At first glance, you can immediately see what's going on in your database.



Contact Name	Date of Activity↓	Type	Outcome	Details
Harry Rendel	9/16/2011 2:50 PM	Discuss Deal over the phone	Deal	Was very impressed with the product.
Jeremy Fischer	9/1/2011 12:00 AM	Discuss Deal over the phone	Cancel	n/a
George Rooney	9/1/2011 12:00 AM	Discuss Deal over the phone	Cancel	n/a
Harry Rendel	9/1/2011 12:00 AM	Arrange Meeting	Cancel	n/a
Jeremy Fischer	9/1/2011 12:00 AM	Arrange Meeting	Cancel	n/a

You can also open activity records and view the details by clicking on the contact names. The details will be presented in a modal form. Use the arrows next to lookup fields to access the relevant data. You can also edit or delete activities.



Review Contact Activities

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

Contact Activities

These are the fields of the contact activities record that can be edited.

Contact Name	Jeremy Fischer
Type	Discuss Deal over the phone
Outcome	Cancel
Date of Activity	9/1/2011 12:00 AM
Details	N/A

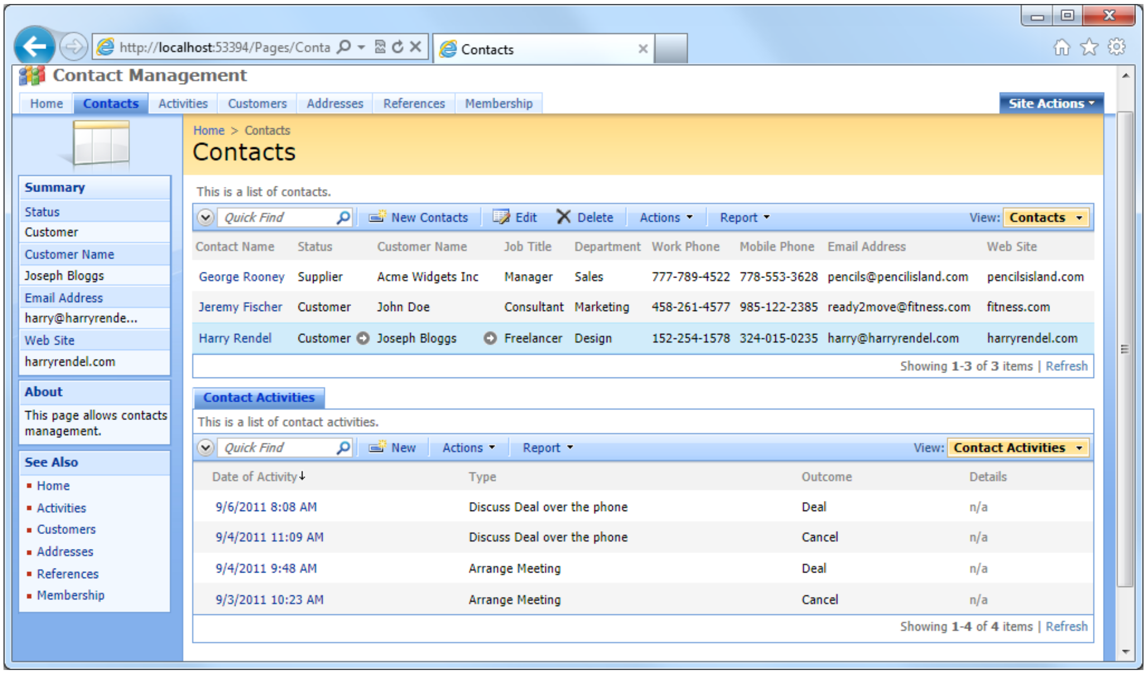
Reference Information

Additional details about contact activities are provided in the reference information section.

Customer Type	PERSON
Contact Type	Customer

Harry Rendel	9/1/2011 12:00 AM	Arrange Meeting	Cancel	n/a
Jeremy Fischer	9/1/2011 12:00 AM	Arrange Meeting	Cancel	n/a

Press *Close* to go back to the home page. Using the menu system at the top of the page, navigate to *Contacts*. The field order in grid view now makes much more sense, with the contact name as the clickable field, and relevant information listed as well. This was accomplished by rearranging data fields in *grid1* view. Clicking on the row of a contact will display related contact activities below.



Summary

Status
Customer
Customer Name
Joseph Bloggs
Email Address
harry@harryrende...
Web Site
harryrendel.com

About

This page allows contacts management.

Contacts

This is a list of contacts.

Contact Name	Status	Customer Name	Job Title	Department	Work Phone	Mobile Phone	Email Address	Web Site
George Rooney	Supplier	Acme Widgets Inc	Manager	Sales	777-789-4522	778-553-3628	pencils@pencilisland.com	pencilsisland.com
Jeremy Fischer	Customer	John Doe	Consultant	Marketing	458-261-4577	985-122-2385	ready2move@fitness.com	fitness.com
Harry Rendel	Customer	Joseph Bloggs	Freelancer	Design	152-254-1578	324-015-0235	harry@harryrendel.com	harryrendel.com

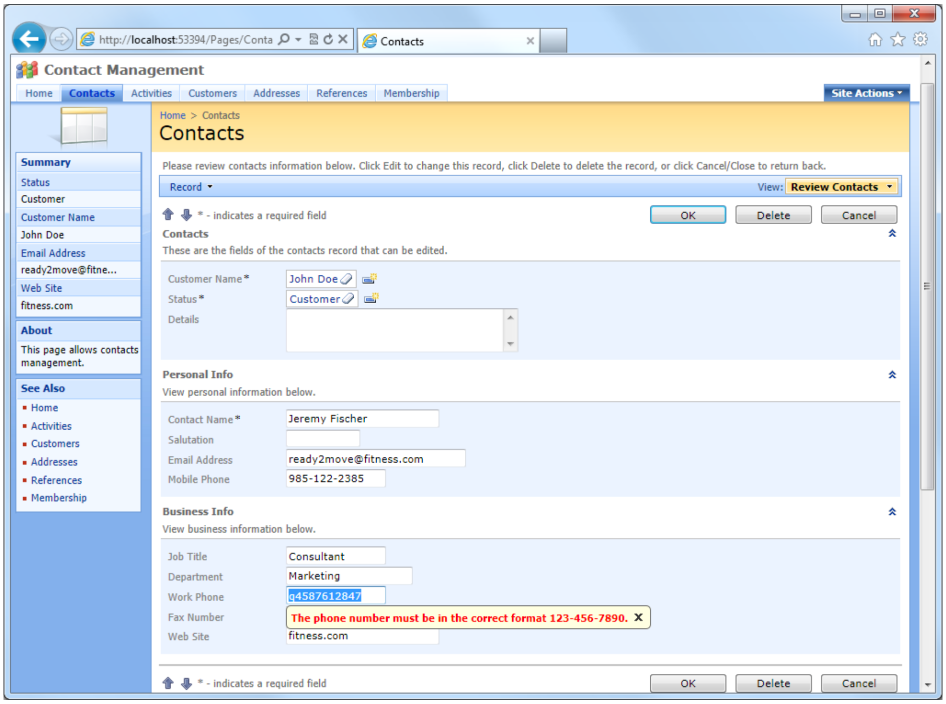
Showing 1-3 of 3 items | Refresh

This is a list of contact activities.

Date of Activity↓	Type	Outcome	Details
9/6/2011 8:08 AM	Discuss Deal over the phone	Deal	n/a
9/4/2011 11:09 AM	Discuss Deal over the phone	Cancel	n/a
9/4/2011 9:48 AM	Arrange Meeting	Deal	n/a
9/3/2011 10:23 AM	Arrange Meeting	Cancel	n/a

Showing 1-4 of 4 items | Refresh

If you edit or create a new contact, you can see that the fields in the form are now segregated according to data type. General info is displayed at the top, while personal info and business info are separated into two categories below. This was done with the help of placing the correct data fields into separate categories. The phone fields all have validation conditions – when you tab out of any of the phone fields, the number will convert to ###-###-####. If there is an incorrect character, an error message will appear.



Contacts

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

Summary	
Status	Customer
Customer Name	John Doe
Email Address	ready2move@fitne...
Web Site	fitness.com

About

This page allows contacts management.

See Also

- Home
- Activities
- Customers
- Addresses
- References
- Membership

* - indicates a required field

Contacts

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

Customer Name*	John Doe
Status*	Customer
Details	

Personal Info

View personal information below.

Contact Name*	Jeremy Fischer
Salutation	
Email Address	ready2move@fitness.com
Mobile Phone	985-122-2385

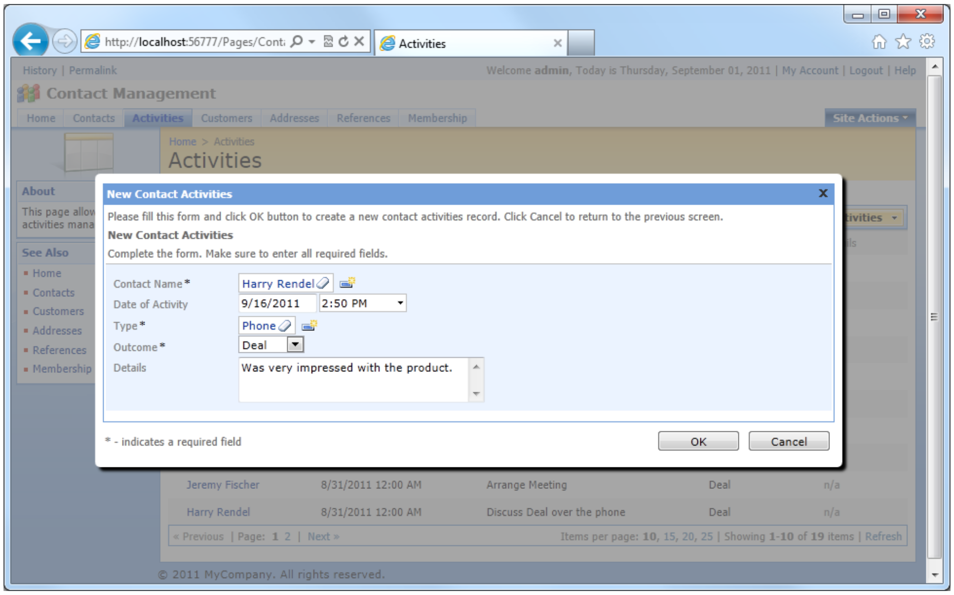
Business Info

View business information below.

Job Title	Consultant
Department	Marketing
Work Phone	q4587612847
Fax Number	The phone number must be in the correct format 123-456-7890.
Web Site	fitness.com

* - indicates a required field

Let's navigate to the *Activities* page. Create a new activity by pressing *New* on the action bar. Select a contact name and activity type. The date, by default, is today (by using *DateTime.Now* in the *Code Default* property). Select an outcome using the dropdown, and enter details. Press *OK*. The combination of various item styles increases ease of using the application for end users.



Welcome **admin**, Today is Thursday, September 01, 2011 | My Account | Logout | Help

Activities

About

This page allov activities mana

See Also

- Home
- Contacts
- Customers
- Addresses
- References
- Membership

New Contact Activities

Please fill this form and click OK button to create a new contact activities record. Click Cancel to return to the previous screen.

New Contact Activities

Complete the form. Make sure to enter all required fields.

Contact Name*	Harry Rendel
Date of Activity	9/16/2011 2:50 PM
Type*	Phone
Outcome*	Deal
Details	Was very impressed with the product.

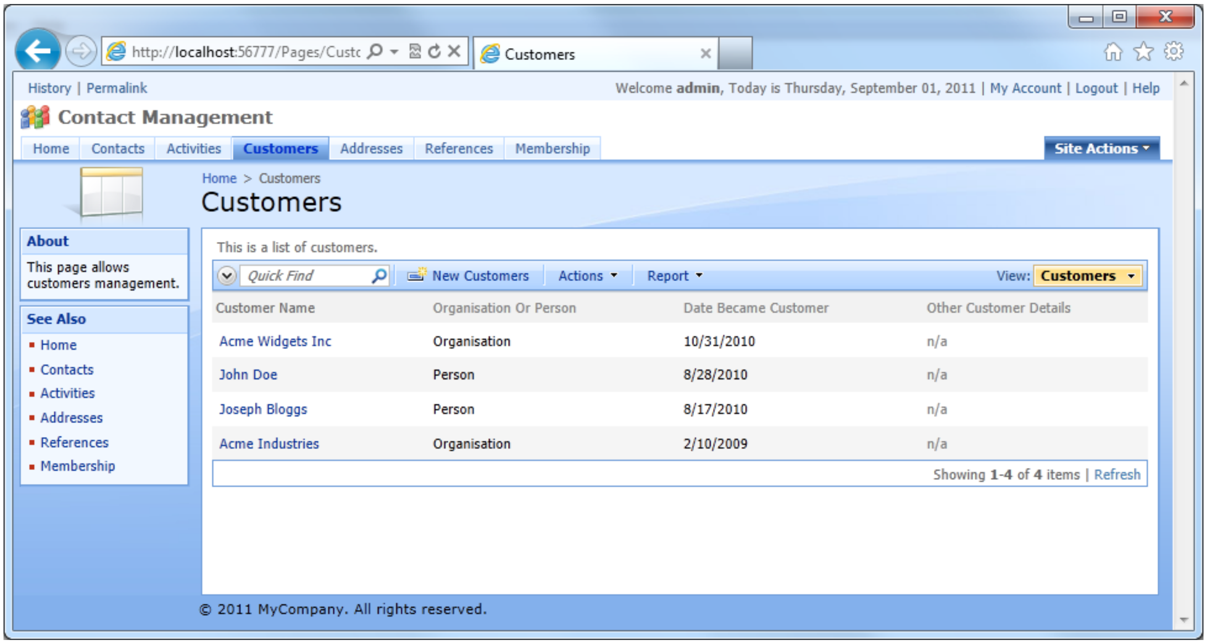
* - indicates a required field

Jeremy Fischer	8/31/2011 12:00 AM	Arrange Meeting	Deal	n/a
Harry Rendel	8/31/2011 12:00 AM	Discuss Deal over the phone	Deal	n/a

« Previous | Page: 1 2 | Next » Items per page: 10, 15, 20, 25 | Showing 1-10 of 19 items | Refresh

© 2011 MyCompany. All rights reserved.

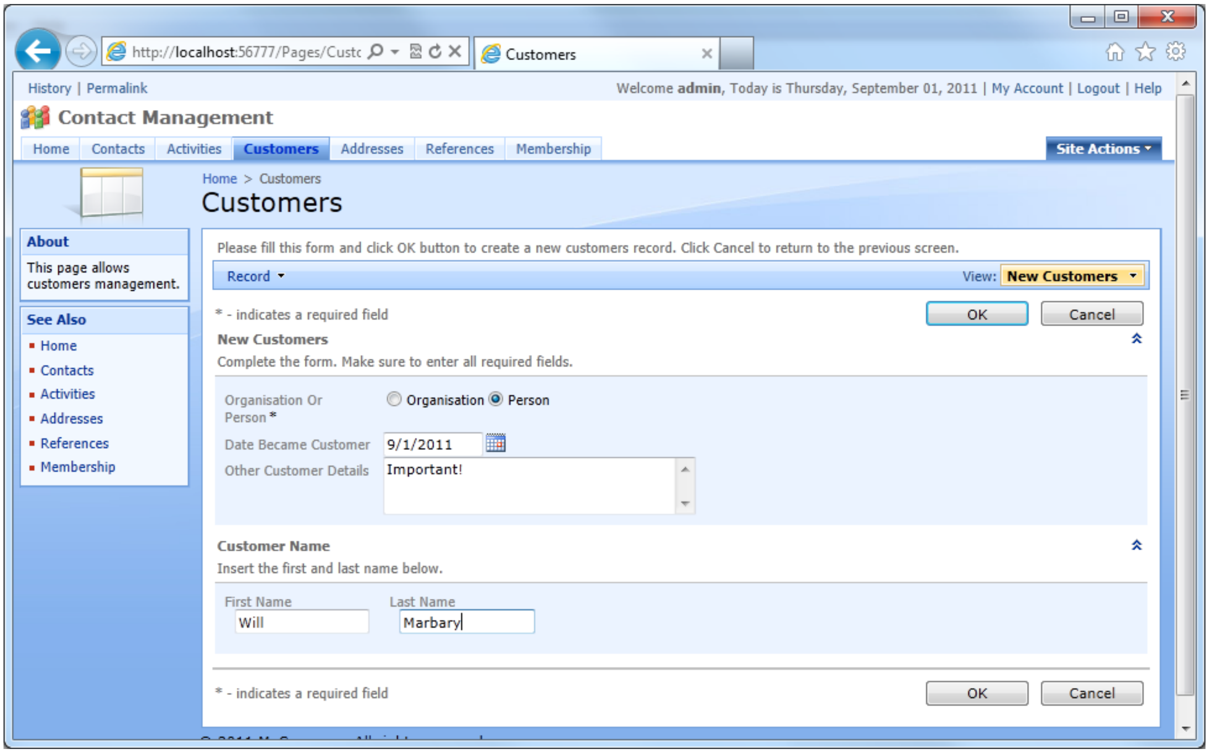
Let's move on to the *Customers* page. You can see the *Customer Name* calculated field, displaying either organization name or first+last name, depending on the customer type, done using an *SQL Formula*.



This is a list of customers.

Customer Name	Organisation Or Person	Date Became Customer	Other Customer Details
Acme Widgets Inc	Organisation	10/31/2010	n/a
John Doe	Person	8/28/2010	n/a
Joseph Bloggs	Person	8/17/2010	n/a
Acme Industries	Organisation	2/10/2009	n/a

Create a new customer. You will see two radio buttons, allowing you to choose *Organisation or Person*. If *Organisation* is selected, organisation name field will appear. If *Person* is selected, *First* and *Last Name* will appear. This way, the fields will be exclusive to the customer type and make much more logical sense.



Please fill this form and click OK button to create a new customers record. Click Cancel to return to the previous screen.

* - indicates a required field

New Customers

Complete the form. Make sure to enter all required fields.

Organisation Or Person * ○ Organisation ● Person

Date Became Customer: 9/1/2011

Other Customer Details: Important!

Customer Name

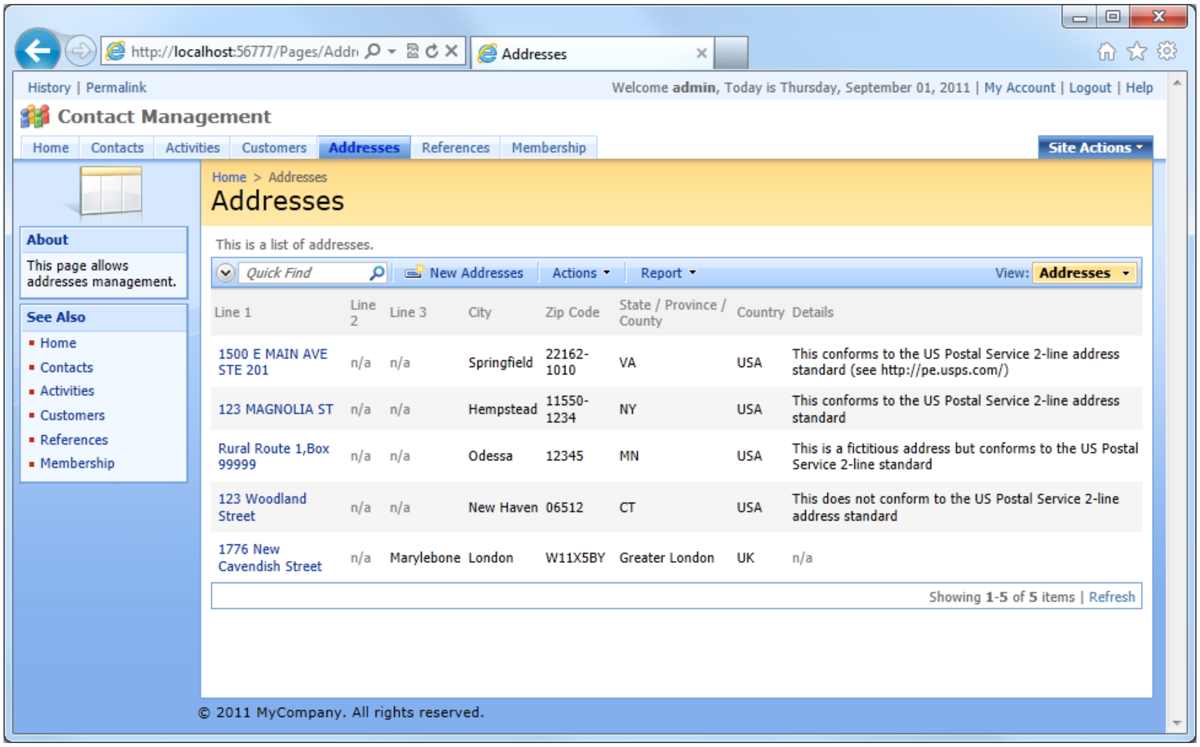
Insert the first and last name below.

First Name: Will

Last Name: Marbary

* - indicates a required field

Navigate to the *Addresses* page. This page allows you to find, enter, edit, and delete addresses.



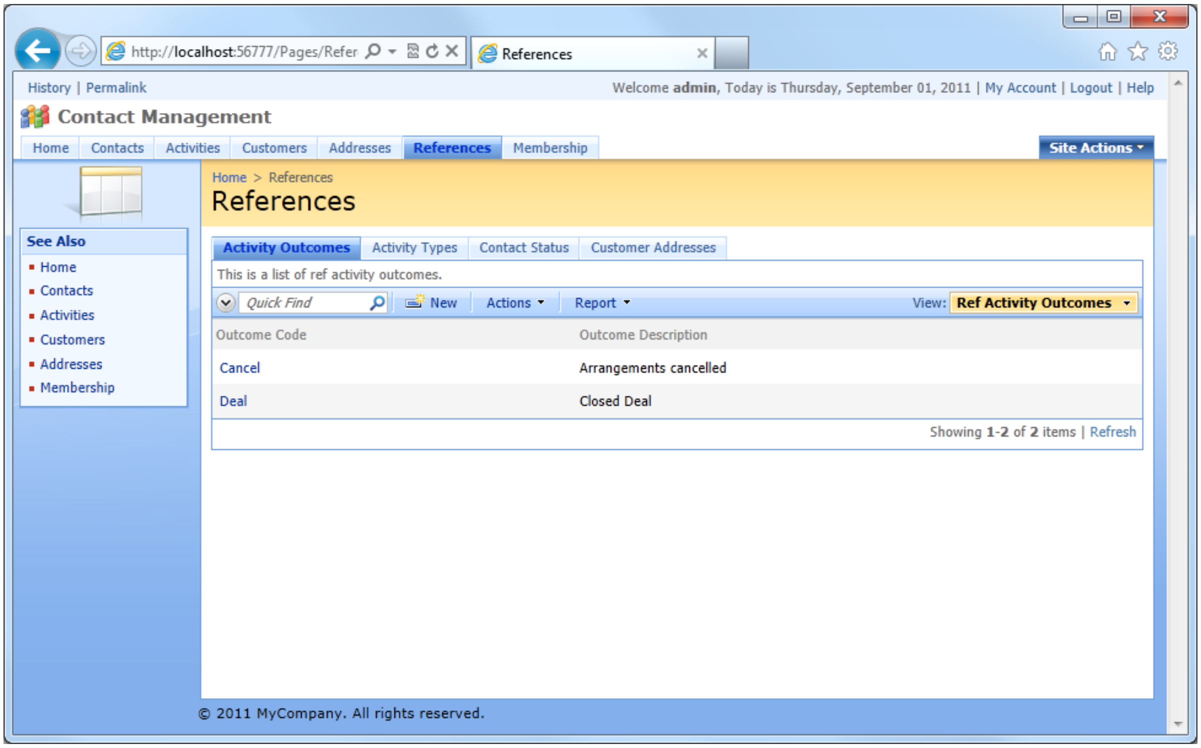
Addresses

This page allows addresses management.

This is a list of addresses.

Line 1	Line 2	Line 3	City	Zip Code	State / Province / County	Country	Details
1500 E MAIN AVE STE 201	n/a	n/a	Springfield	22162-1010	VA	USA	This conforms to the US Postal Service 2-line address standard (see http://pe.usps.com/)
123 MAGNOLIA ST	n/a	n/a	Hempstead	11550-1234	NY	USA	This conforms to the US Postal Service 2-line address standard
Rural Route 1,Box 99999	n/a	n/a	Odessa	12345	MN	USA	This is a fictitious address but conforms to the US Postal Service 2-line standard
123 Woodland Street	n/a	n/a	New Haven	06512	CT	USA	This does not conform to the US Postal Service 2-line address standard
1776 New Cavendish Street	n/a	Marylebone	London	W11X5BY	Greater London	UK	n/a

References displays all the reference tables, and allows you to edit the necessary fields. The tables are displayed on different tabs.



References

This is a list of ref activity outcomes.

Outcome Code	Outcome Description
Cancel	Arrangements cancelled
Deal	Closed Deal