

Kentico CMS Hands on Lab



Kentico CMS Version 7

Hands on Lab:
Custom Table: Create and Display

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Kentico CMS Hands on Lab

For more information <http://www.kentico.com>

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Hands on Lab: Custom Table: Create and Display

Lab overview

System Requirements:

- Kentico CMS 7 with the Sample Corporate Site

Intended Lab Audience:

- CMS Designers
- CMS Developers

Lab introduction

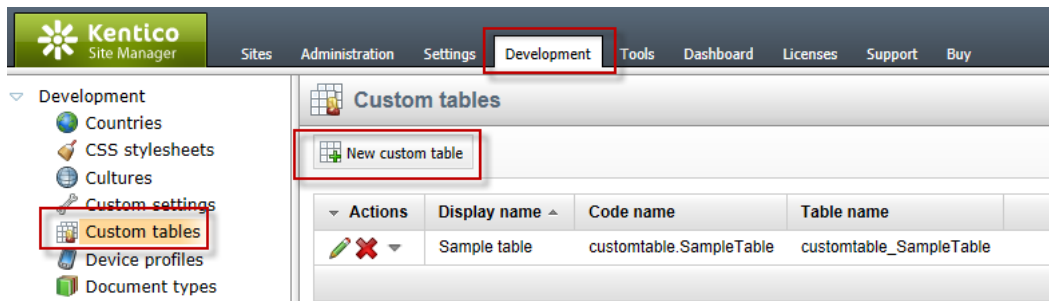
Kentico CMS provides custom tables as a way to store and manage custom data. Technically, they are SQL tables and coupled stored procedures. Once a custom table is created and contains data, the next step is to provide a display for site visitors. In this lab we will add a custom table and then use the Basic Repeater web part to display it on a page. We will also look at how to use the Kentico CMS API to add and edit an existing item. In completing this set of labs you will perform the following tasks:

- Create a custom table
- Explore the Data Source web part
- Explore the Basic Repeater web part
- Edit a transformation for better visual display
- Add a new item to the custom table using the Kentico CMS API
- Edit an existing item using the Kentico CMS API

Lab: Custom Table: Create and Display

Lab 1: Creating a custom table

1. As **Administrator** log into **Kentico Site Manager**, select the **Development** tab, then select **Custom tables**, and click **New custom table** as shown in the following screenshot.



2. In **Step 1- General** update the following fields and then click **Next**.

Field	Value
Custom table display name	Customer Contacts
Custom table code name (custom table)	custom

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- In **Step 2 – Data type** click **Next** as shown in the following screenshot.

Step 2 | **Data type**
Please supply name of the new database table and included fields.

Create a new database table
 Use an existing database table

Database table name:
Primary key name:

Include ItemGUID field:
Include ItemCreatedBy field:
Include ItemCreatedWhen field:
Include ItemModifiedBy field:
Include ItemModifiedWhen field:
Include ItemOrder field:

Next >

- In **Step 3 – Fields** click the **New attribute (+)** button as shown in the following screenshot.

Step 3 | **Fields**
Please define custom fields of the custom table and their appearance in the editing form.

ItemID*
ItemCreatedBy
ItemCreatedWhen
ItemModifiedBy
ItemModifiedWhen
ItemOrder
ItemGUID*

Save field

Database

Column name:
Attribute type:
Attribute size:
Allow empty value:
Default value:

Display attribute in the editing form

Field appearance

Field caption:
Form control type:
Form control:
Field description:

Quick links:
[Database](#)
[Field appearance](#)
[Validation](#)
[CSS styles](#)

Next >

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5. In the **New attribute (+)** dialog update the following fields and then click **Save**.

Section	Field	Value
Database	Column name	Name
Database	Attribute size	100
Field appearance	Field caption	Name
Field appearance	Form control	Textbox

6. Select the **New attribute (+)** button, update the following fields and then click **Save**.

Section	Field	Value
Database	Column name	Title
Database	Attribute size	100
Field appearance	Field caption	Title
Field appearance	Form control	Textbox

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7. Select the **New attribute (+)** button, update the following fields, and then click **Save**.

Section	Field	Value
Database	Column name	Email
Database	Attribute size	100
Field appearance	Field caption	Email
Field appearance	Form control	E-mail

8. In **Step 2 – Fields** validate that you see the new fields and then click the **Next** button as shown in the following screenshot.

Step 3 | **Fields**
Please define custom fields of the custom table and their appearance in the editing form.

Save

Database

Column name: Email
Attribute type: Text
Attribute size: 100
Allow empty value:
Default value:
Translate field:

Display attribute in the editing form

Field appearance

Field caption: Email
Form control: E-mail
Field description:

Quick links:
[Database](#)
[Field appearance](#)
[Editing control settings](#)
[Validation](#)
[CSS styles](#)
[Field advanced settings](#)

Next >

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9. In **Step 4 – Sites** click the **Next** button as shown in the following screenshot.

Step 4 | **Sites**
Please select sites where this custom table can be used.

<input type="checkbox"/>	Site name
<input checked="" type="checkbox"/>	Corporate Site

Remove selected | Add sites

Next >

10. In **Step 5 – Search options** click the **Next** button as shown in the following screenshot.

Step 5 | **Search options**
Please set search fields for Smart search module.

Title field:
Content field:
Image field:
Date field:

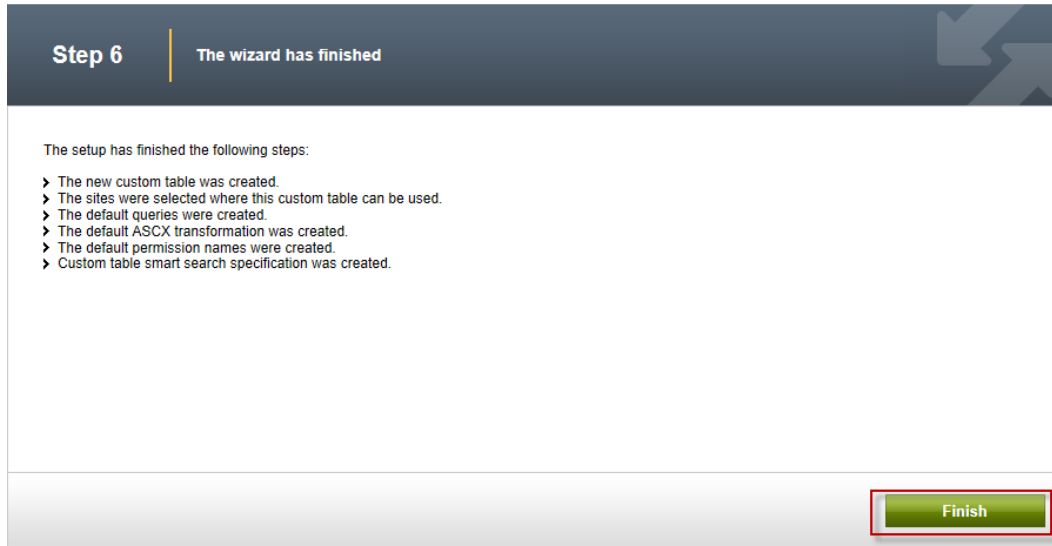
Set automatically

Field name	Content	Searchable	Tokenized	Custom search name
ItemID	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Title	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Email	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
ItemCreatedBy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

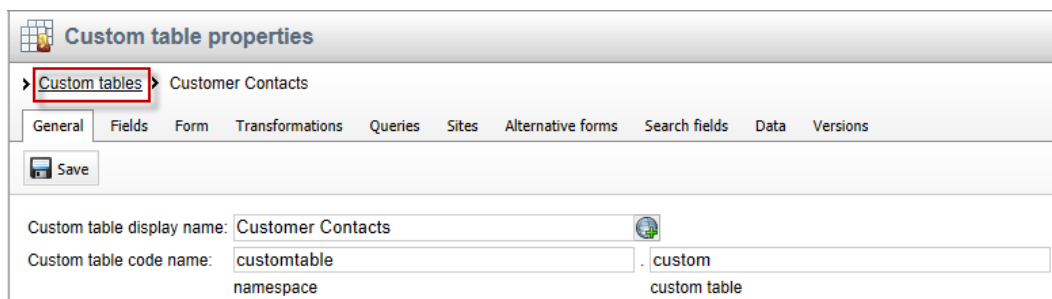
Next >

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11. In **Step 6 – The wizard has finished** click the **Finish** button as shown in the following screenshot.

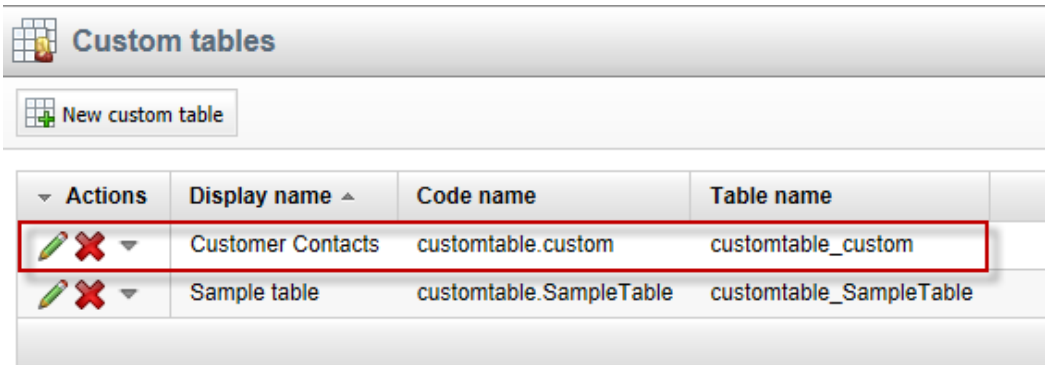






12. In the **Custom table** properties screen click the **Custom tables** link as shown in the following screenshot.



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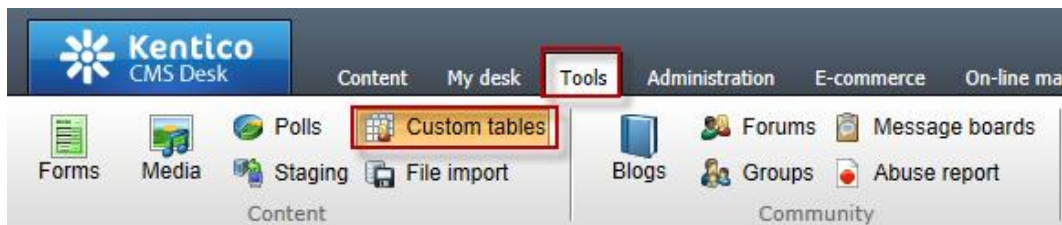
13. In the **Custom tables** screen validate that the **Customer Contacts** custom table is displayed as shown in the following screenshot.



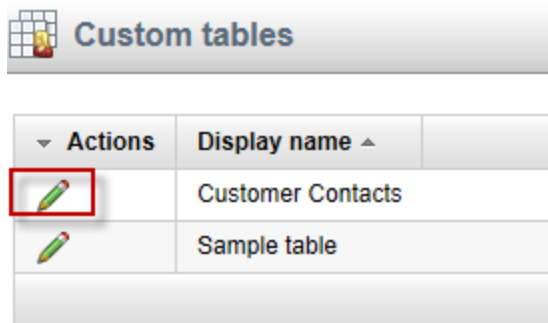
Actions	Display name	Code name	Table name
 	Customer Contacts	customtable.custom	customtable_custom
 	Sample table	customtable.SampleTable	customtable_SampleTable

Lab 2: Adding custom table data

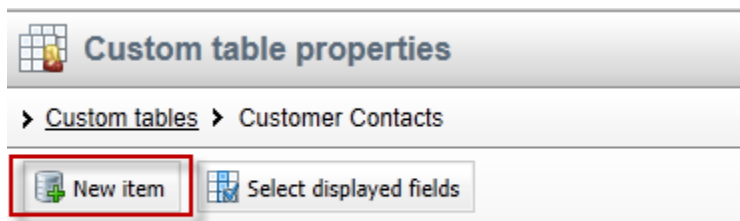
1. As **Administrator** log into **CMS Desk**, select the **Tools** tab, then select the **Custom tables** button as shown in the following screenshot.



2. In the Custom tables screen select the **Edit (Pencil)** icon for **Customer Contacts** as shown in the following screenshot.



3. In the Custom table properties screen select the **New item** button as shown in the following screenshot.



No data found.

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- In the **New item** screen update the following fields and then select the **Save** button.

Field	Value
Name	Joe Brown
Title	President
Email	joe@company.com

- In the Edit item screen click the **Create another** button, update the following fields, and then click the **Save** button.

Field	Value
Name	Ted Thomas
Title	Marketing VP
Email	ted@company.com

- On the Edit item screen click the **Data** link as shown in the following screenshot.

Edit item

Data Edit item

Save Create another

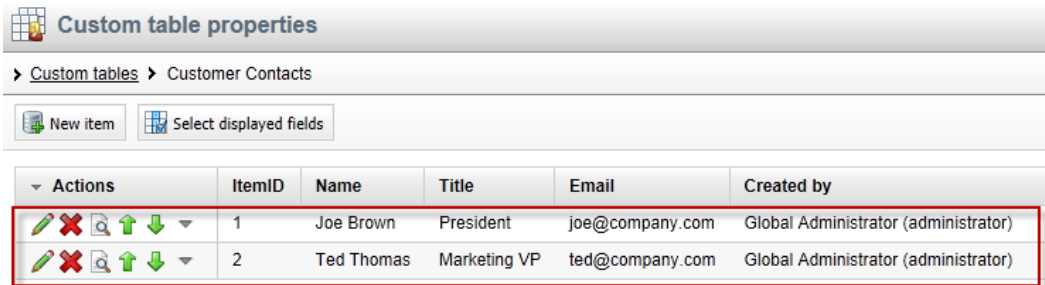
Name:

Title:

Email:











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7. In the Custom table properties screen validate that the two items just entered are visible as shown in the following screenshot.



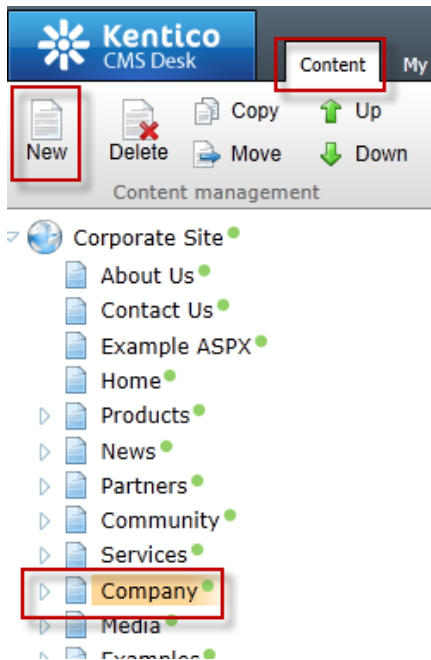
Custom table properties

› [Custom tables](#) › Customer Contacts

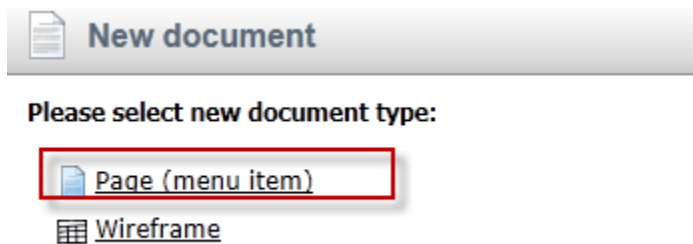
Actions	ItemID	Name	Title	Email	Created by
    	1	Joe Brown	President	joe@company.com	Global Administrator (administrator)
    	2	Ted Thomas	Marketing VP	ted@company.com	Global Administrator (administrator)

Lab 3: Creating the display page

1. In CMS Desk select the **Content** tab, in the Content tree select **Company** and then click the **New (Paper)** icon, as shown in the following screenshot.



2. In the New document screen click the **Page (menu item)** as shown in the following screenshot.



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3. In the **New Page (menu item)** screen in the **Page name** enter **Data Source**, click **Create a blank page with layout**, in the **Layout name** enter **Simple**, then click the **Search** button, select the **Simple** page template, and finally click the **Save** button as shown in the following screenshot.

Save Save and create another Spell check

Page name: Data Source

Use existing page template Use parent page template Create a blank page with layout Create a blank page

Layout name: Simple Search

Simple

4. Validate that you see the new Data Source page as shown in the following screenshot.

Kentico CMS Desk

Content My desk Tools Administration E-commerce On-line marketing Live Site Site Manager Corporate Site Global Administrator v7.0 RC Sign Out

New Delete Move Down Edit Preview Live site List Search Other

Corporate Site

- Home
- Products
- News
- Partners
- Community
- Services
- Company
 - Careers
 - Data Source
 - Offices
 - Donate with Us

Page Design Form Properties Analytics

Sign in to CMS Desk. Sign in to CMS Site Manager. The default account is administrator with blank password.

IT Company

Home Products News Community Services Company Media

Company Data Source

/Company/Data Source - page template: ad.hoc

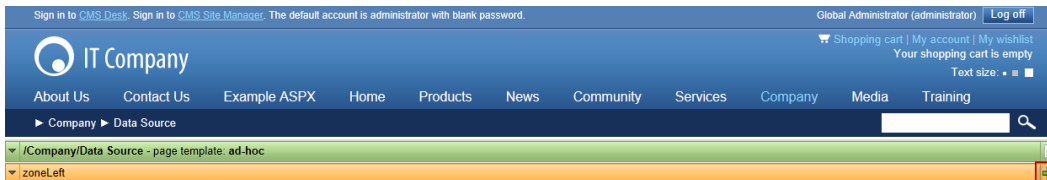
zoneLeft

All web parts

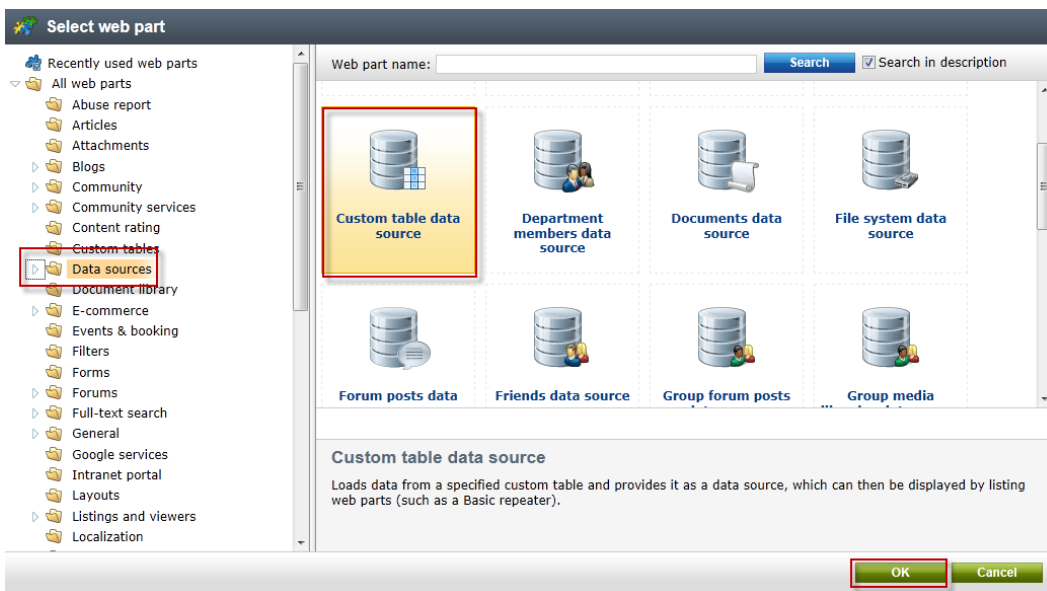
- Abuse report
- Accordion layout
- Admin actions
- Analytics browser capabilities

Lab 4: Displaying custom table data

1. In the **zoneLeft** web part zone, click the **Add web part icon (+)** as shown in the following screenshot.

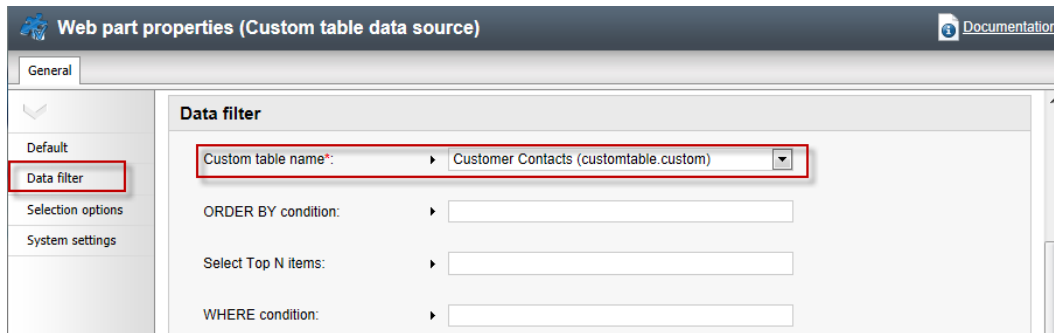


2. In the **Select web part** screen select **Data sources**, then select the **Custom table data source** web part, and then click **OK** as shown in the following screenshot.



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3. In the **Web part properties (Custom table data source)** screen select the **Data filter** tab, in the **Custom table name** field select the **Customer Contacts (customtable.custom)** and then click **Ok** as shown in the following screenshot.

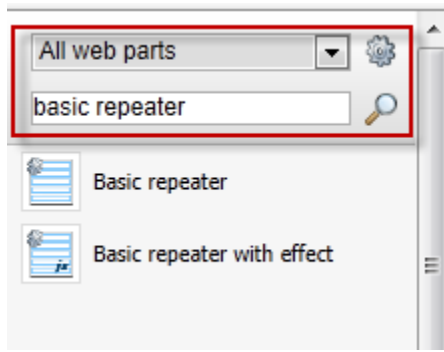


What is a data sources web part?

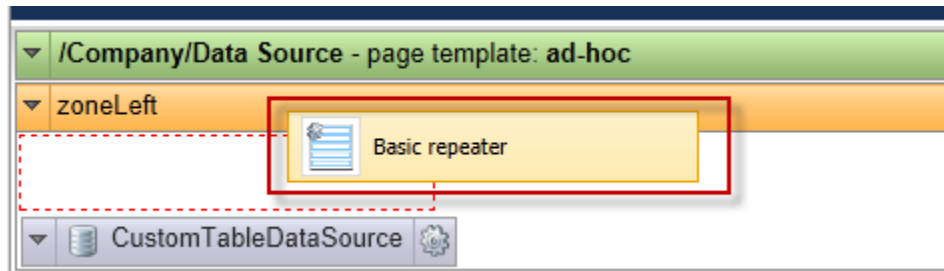
Data source web parts are used to connect and retrieve data from back end data sources like custom tables. They retrieve data and pass them to display web parts. This separation is designed to provide page based flexibility in data retrieval and display. Data sources provide reusable sources of data. They reduce page resources as data is retrieved just once and then can be used by different web parts on the same template to display content.

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4. In the All web parts list enter **Basic repeater** and then click **Search (magnifying glass)** as shown in the following screenshot.

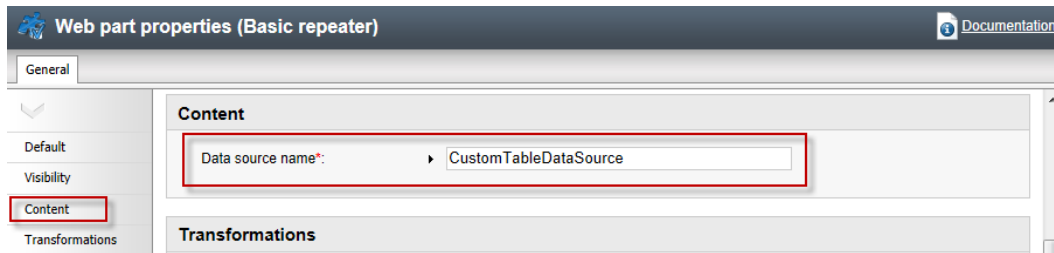


5. From the all web parts list drag the **Basic repeater** web part into the **ZoneLeft** web part zone as shown in the following screenshot.



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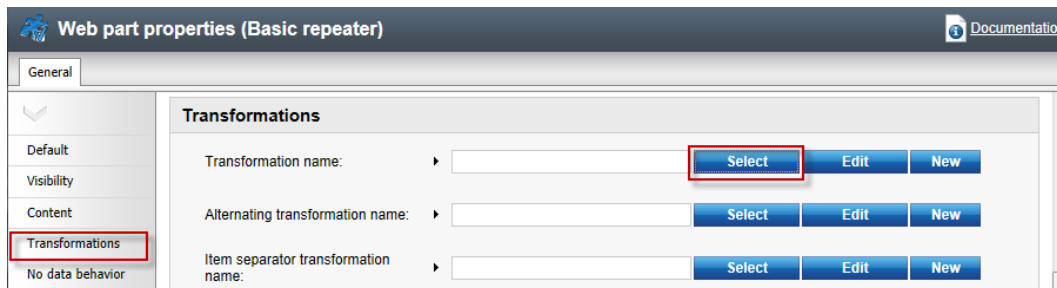
6. In the **Web part properties (Basic repeater)** select the **Content** tab, and in the **Data source name** field enter **CustomTableDataSource** as shown in the following screenshot.



Connecting to Data Sources

The Data source name field is the connection between this web part and the data source web part we added in Step 2 and must be an exact match.

7. In the **Web part properties (Basic repeater)** screen select the **Transformation** tab, and in the **Transformation name** field click the **Select** button as shown in the following screenshot.





What is a transformation?

When data is passed from the data source web part to the Basic repeater a set of formatting code (transformation) is applied to define the output that is displayed.

8. In the **Select transformation** dialog in the **Class type** drop down select **Custom table**, in the **Custom table** drop down select **Customer Contacts (customtable.custom)**, then click the **customtable.custom Default** transformation as shown in the following screenshot.

Select transformation

Class type: Custom table

Custom table: Customer Contacts (customtable.custom)

Transformation name or its part: Search

Transformation name

- customtable.custom.Default
- customtable.custom.Preview

Items per page: 10

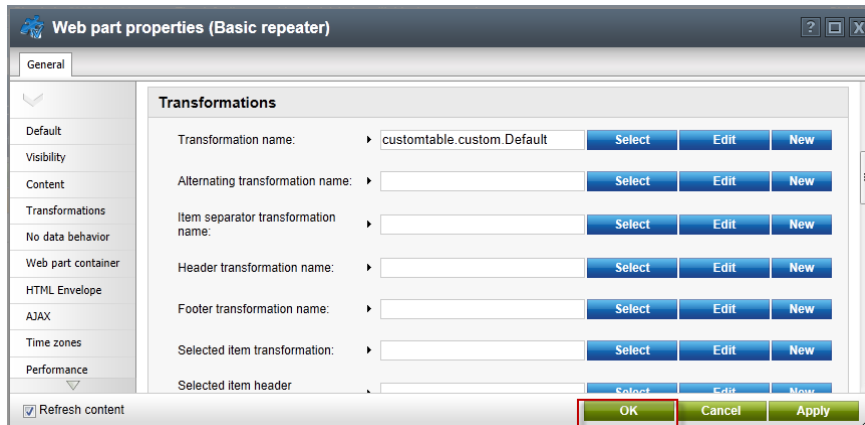


Where did these come from?

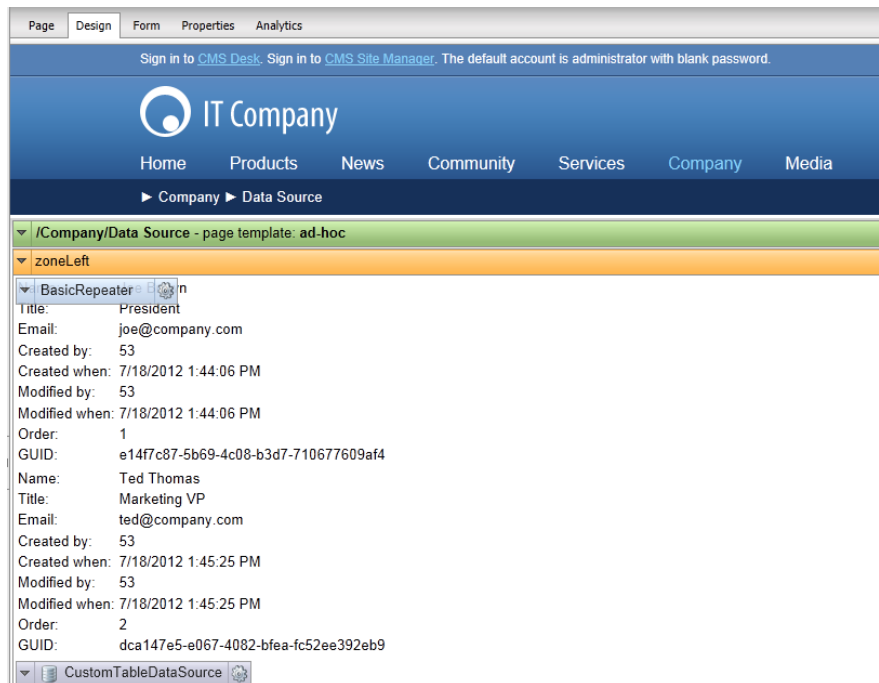
When we created the custom table the system automatically creates a Default and Preview transformation

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9. In the **Web part properties (Basic repeater)** screen select **Ok** as shown in the following screenshot.

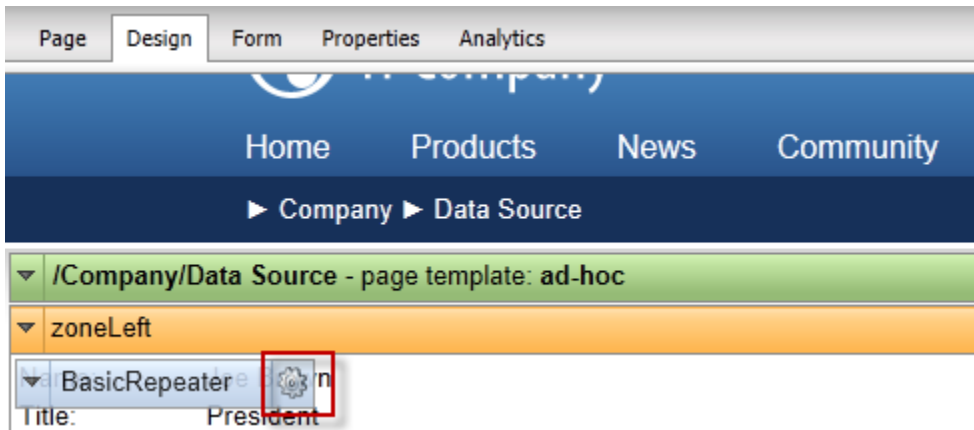


10. Validate that the data is displayed as shown in the following screenshot.

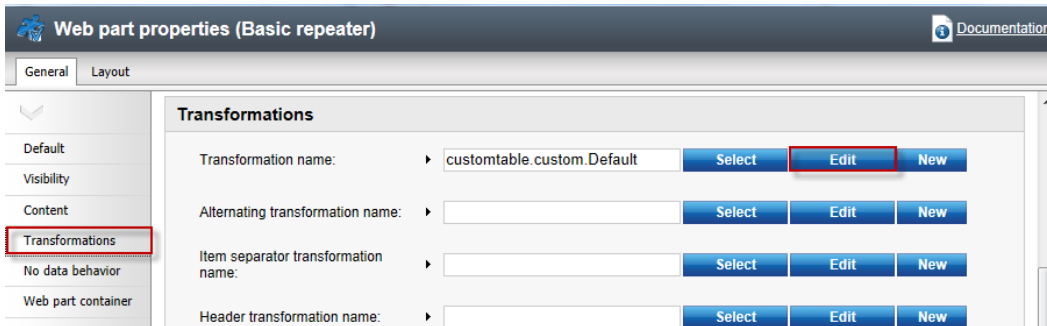


Lab 5: Editing the default Transformation

1. In the Design tab on the **BasicRepeater** web part select the **Configure** button as shown in the following screenshot.



2. In the **Web part properties (Basic repeater)** screen select the **Transformation** tab, in the **Transformation name** field select the **Edit** button as shown in the following screenshot.

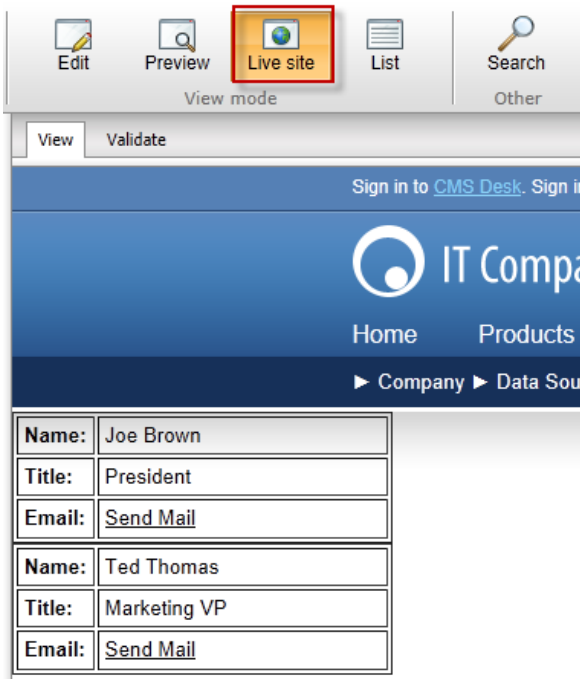


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3. In the **Edit transformation** dialog within the **Code** window replace the existing code with the following, then select **Save & close**, and in the **Web part properties (basic repeater)** window click **OK**.

```
<table border = "1" cellpadding="4">
  <tr>
    <td><b>Name:</b></td>
    <td width="180"><# Eval("Name") %></td>
  </tr>
  <tr>
    <td><b>Title:</b></td>
    <td><# Eval("Title") %></td>
  </tr>
  <tr>
    <td><b>Email:</b></td>
    <td><a href="mailto:<# Eval("Email")%?Subject=Contact%20Request">Send Mail</a></td>
  </tr>
</table>
```

4. Select the **Live Site** button to view the edited transformation as shown in the following screenshot.

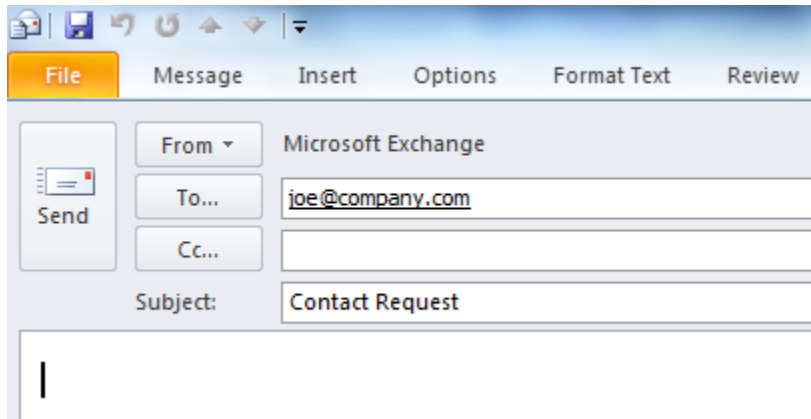


The screenshot shows the Kentico CMS interface. At the top, there is a 'View mode' toolbar with buttons for 'Edit', 'Preview', 'Live site' (highlighted with a red box), 'List', and 'Search'. Below the toolbar, there is a 'View' button and a 'Validate' button. The main content area displays a blue header with the text 'Sign in to CMS Desk. Sign in' and the logo for 'IT Comp'. Below the header, there are navigation links for 'Home' and 'Products', and a breadcrumb trail 'Company > Data Sou'. The main content area displays a table with contact information for two individuals:

Name:	Joe Brown
Title:	President
Email:	Send Mail
Name:	Ted Thomas
Title:	Marketing VP
Email:	Send Mail

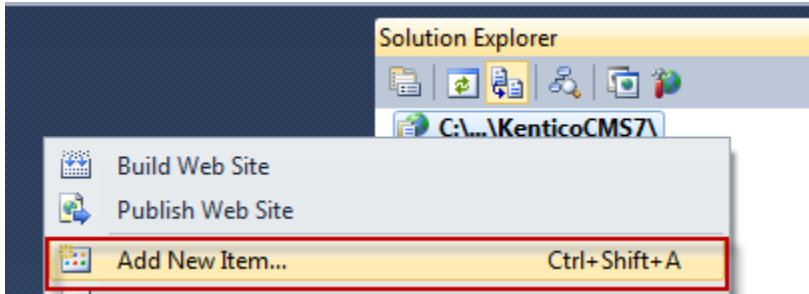
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5. On the Live site click the **Send Mail** link for **Joe Brown** and validate that you see the email as shown below.

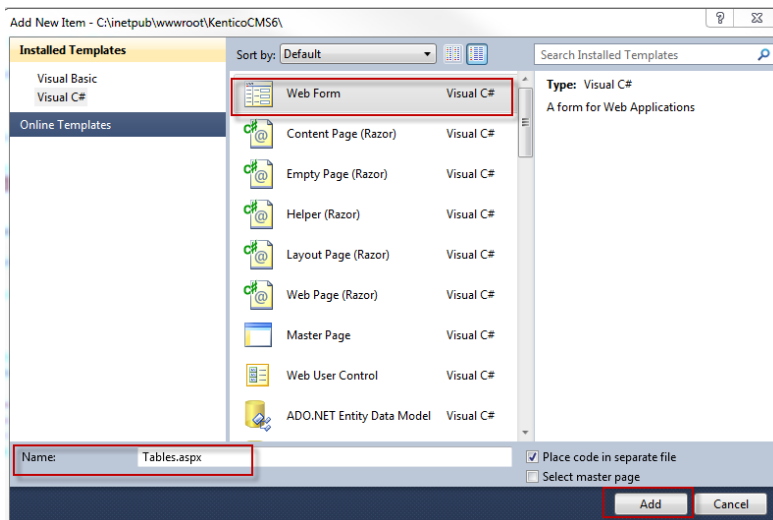


Lab 6: Adding custom table data with the API

1. In Visual Studio open the Kentico CMS Web project in the **Solution Explorer** right click on the project root and select **Add new item** as shown in the following screenshot.

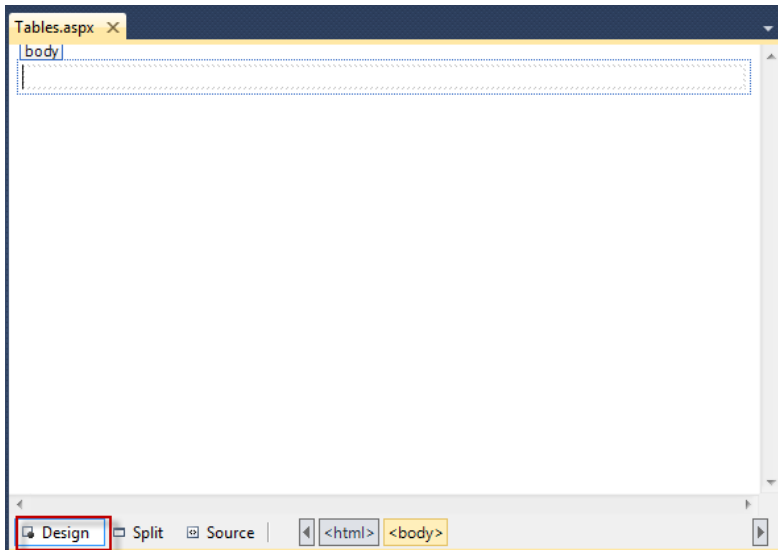


2. In the **Add new item** dialog select **Web form**, in the **Name** field enter **Tables.aspx**, and then click the **Add** button as shown in the following screenshot.

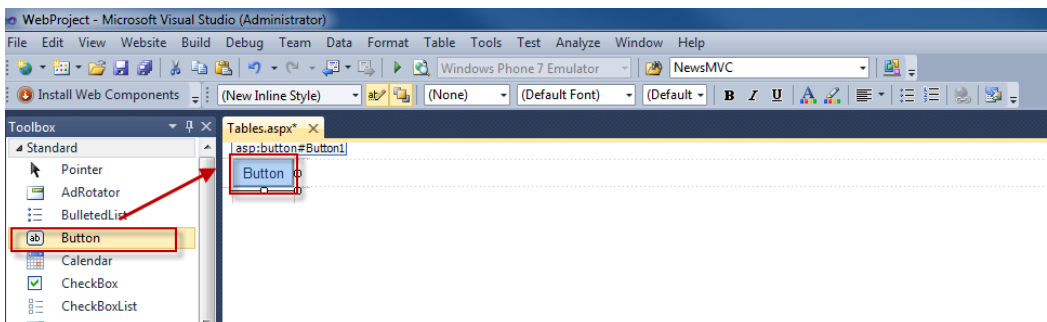


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3. In the Tables.aspx form click the **Design** button as shown in the following screenshot.



4. From the Toolbox drag the **Button** control onto **Tables.aspx** as shown in the following screenshot.

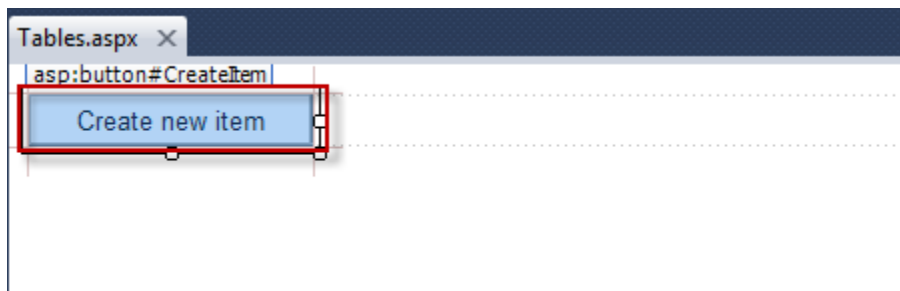


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5. In the **Button1 Properties** window update the following fields

Field	Value
ID	CreateItem
Text	Create new item

6. On the Design tab double click the **Create new item** button as shown in the following screenshot.



7. At the top of the Tables.aspx web form add the following **Using** statements.

```
using CMS.SettingsProvider;  
using CMS.SiteProvider;  
using CMS.DataEngine;  
using CMS.CMSHelper;
```

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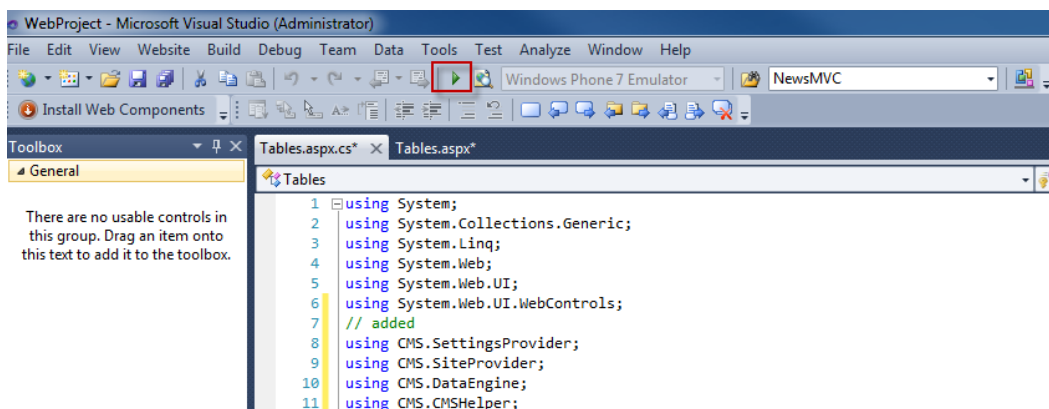
- In the **Createitem_click** event replace any existing code with the following and then select **Save (CTRL+S)**.

```
        CustomTableItemProvider ctiProvider = new
CustomTableItemProvider(CMSContext.CurrentUser);
        string customtablename = "customtable.custom";

        DataClassInfo customTableClassInfo =
DataClassInfoProvider.GetDataClass(customtablename);

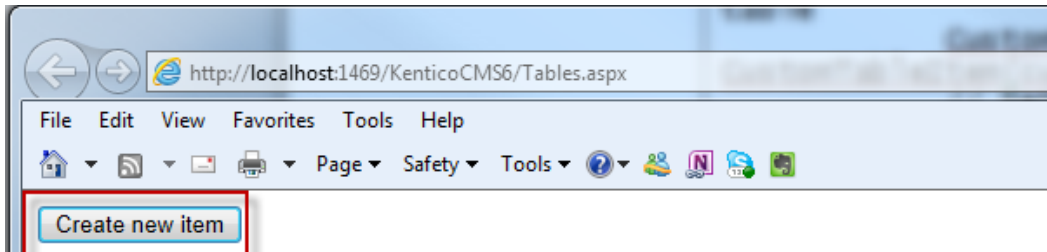
        if (customTableClassInfo == null)
        {
            throw new Exception("table does not exist.");
        }
        else
        {
            // Create item
            CustomTableItem item =
CustomTableItem.New(customTableClassInfo.ClassName, ctiProvider);
            // Set values
            item.SetValue("Name", "Thom Robbins");
            item.SetValue("Email", "thomasr@kentico.com");
            item.SetValue("Title", "Dish washer");
            // Insert the item
            item.Insert();
        }
    }
```

- With Tables.aspx selected in the **Solution Explorer** press the **Start (Play)** button as shown in the following screenshot.

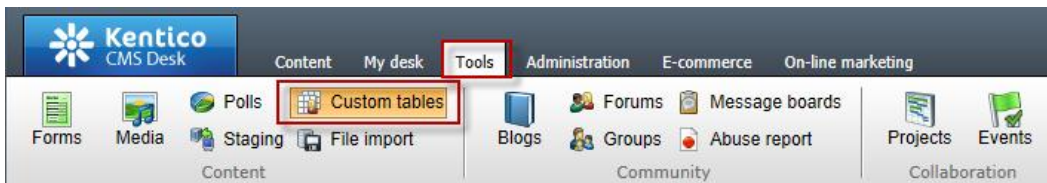


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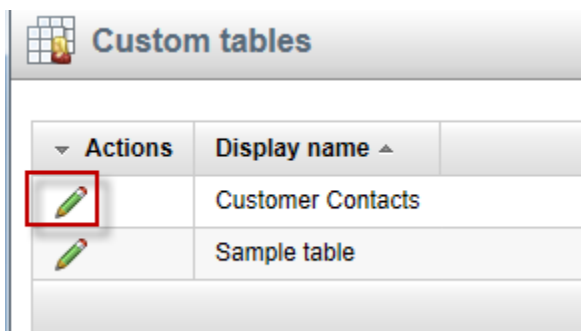
10. In the running application click the **Create new item** button as shown in the following screenshot.



11. Log into CMS Desk then select the **Tools** tab and then select **Custom tables** as shown in the following screenshot.

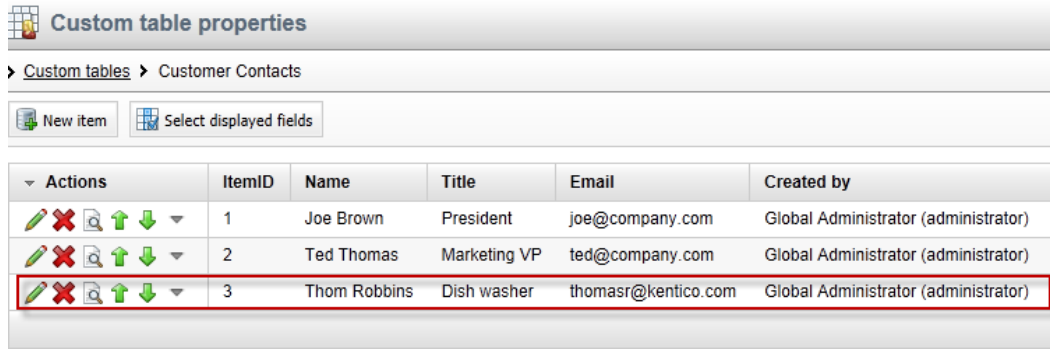


12. In the Custom tables menu select the **Edit (Pencil)** icon for the **Customer Contacts** table as shown in the following screenshot.


















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13. In the Custom table properties validate that the new custom table item is available as shown in the following screenshot.

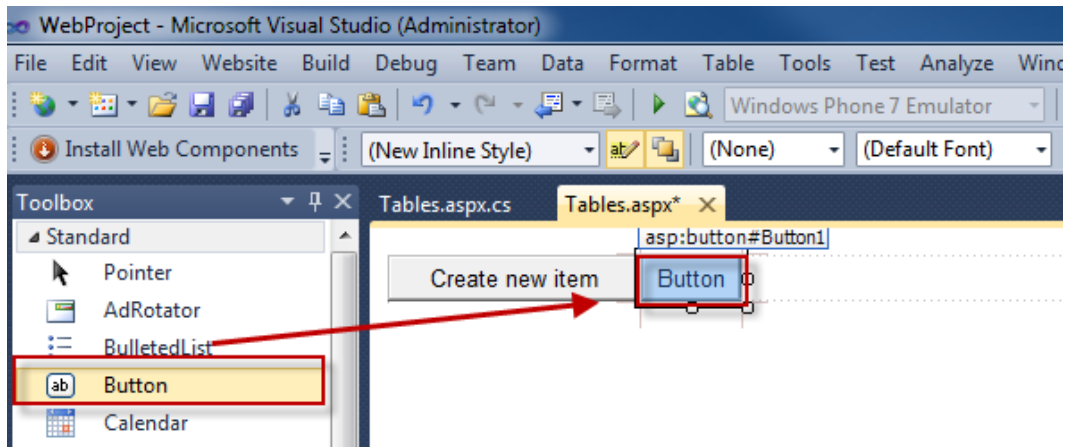


The screenshot displays the 'Custom table properties' interface for 'Customer Contacts'. It includes a breadcrumb trail, buttons for 'New item' and 'Select displayed fields', and a table with the following data:

Actions	ItemID	Name	Title	Email	Created by
    	1	Joe Brown	President	joe@company.com	Global Administrator (administrator)
    	2	Ted Thomas	Marketing VP	ted@company.com	Global Administrator (administrator)
    	3	Thom Robbins	Dish washer	thomasr@kentico.com	Global Administrator (administrator)

Lab 7: Editing custom table data using the API

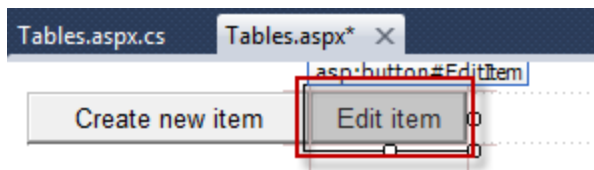
1. On the Tables.aspx form on the Design tab from the **Toolbox** drag a **Button** control onto the form as shown in the following screenshot.



2. In the **Button 1 Properties** update the following fields

Field	Value
ID	EditItem
Text	Edit item

3. Double click the **Edit item** button as shown in the following screenshot.



Kentico CMS Hands on Lab

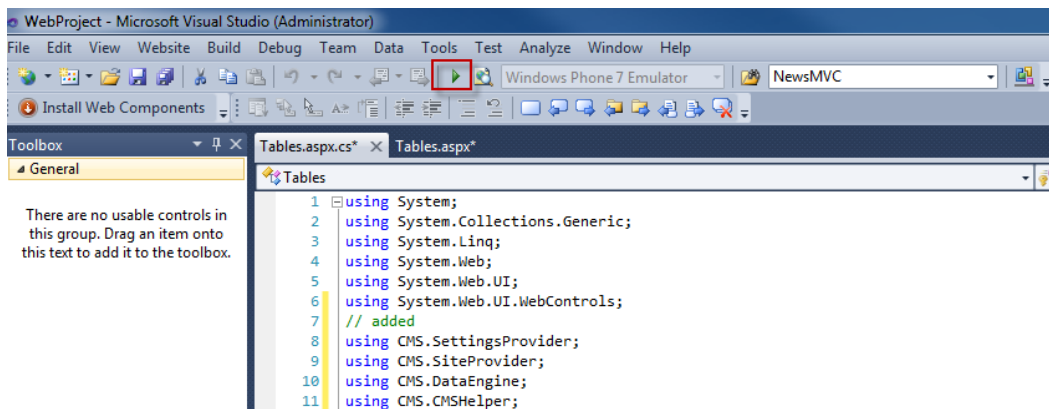
4. In the **EditItem_Click** event replace any code with the following and then select **Save (CTRL+S)**.

```
CustomTableItemProvider ctiProvider = new
CustomTableItemProvider(CMSContext.CurrentUser);
    string customtablename = "customtable.custom";

    DataClassInfo customTableClassInfo =
DataClassInfoProvider.GetDataClass(customtablename);

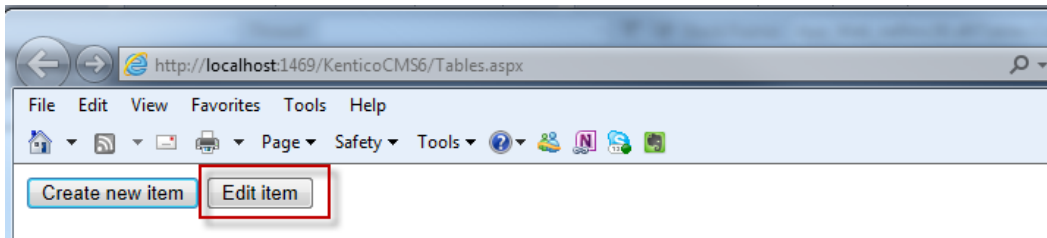
    if (customTableClassInfo == null)
    {
        throw new Exception("table does not exist.");
    }
    else
    {
        // Provide ID of item you want to edit
        int itemId = 5;
        // Get custom table item with given ID
        CustomTableItem item = ctiProvider.GetItem(itemId,
customTableClassInfo.ClassName);
        // Set value of the custom table item field
        item.SetValue("Name", "Frank Jones");
        // Update item
        item.Update();
    }
}
```

5. With Tables.aspx selected in the **Solution Explorer** press **Start (Play)** as shown in the following screenshot.

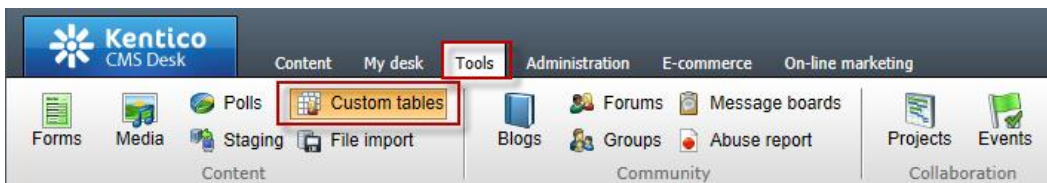


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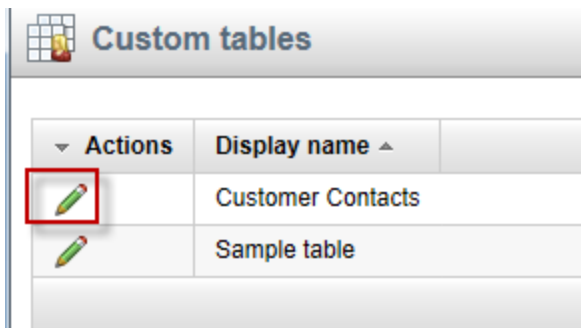
6. In the running application click the **Edit item** button as shown in the following screenshot.



7. Log into CMS Desk then select the **Tools** tab and then select **Custom tables** as shown in the following screenshot.

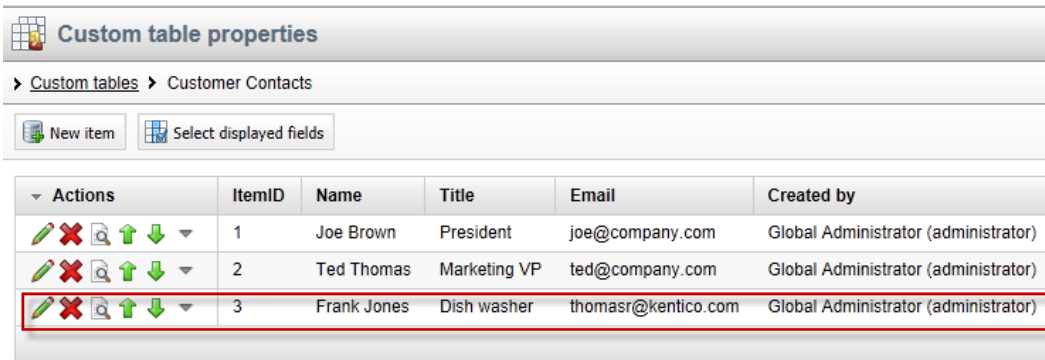


8. In the Custom tables menu select the **Edit (Pencil)** icon for the **Customer Contacts** table as shown in the following screenshot.



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9. In the Custom table properties validate that the **Name** field contains **Frank Jones** as shown in the following screenshot.



Custom table properties

Custom tables > Customer Contacts

New item Select displayed fields

Actions	ItemID	Name	Title	Email	Created by
    	1	Joe Brown	President	joe@company.com	Global Administrator (administrator)
    	2	Ted Thomas	Marketing VP	ted@company.com	Global Administrator (administrator)
    	3	Frank Jones	Dish washer	thomasr@kentico.com	Global Administrator (administrator)

Summary

In this set of Hands on Labs we looked at how to create a custom table and then display the data using the Basic Repeater web part. We also looked at how we can edit the default transformation and use the Kentico CMS API. Specifically, we covered the following.

- Creating a custom table
- Adding data to a custom data using CMS Site manager
- Creating a new CMS page
- Using Data source web parts
- Displaying data with the Basic repeater web part
- Editing the default transformation
- Adding items using the API
- Editing items using the API

Key Resources:

- <http://devnet.kentico.com/Documentation.aspx>
- <http://devnet.kentico.com/Videos/Content-Management/How-To--Using-Data-Source-Web-Parts.aspx>