

Kentico CMS Hands on Lab



Hands on Lab:
Custom Table: Create and Display

July, 2012

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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 6(SP1) with the Sample Corporate Site

Intended Lab Audience:

- CMS Designers
- CMS Developers

Lab introduction

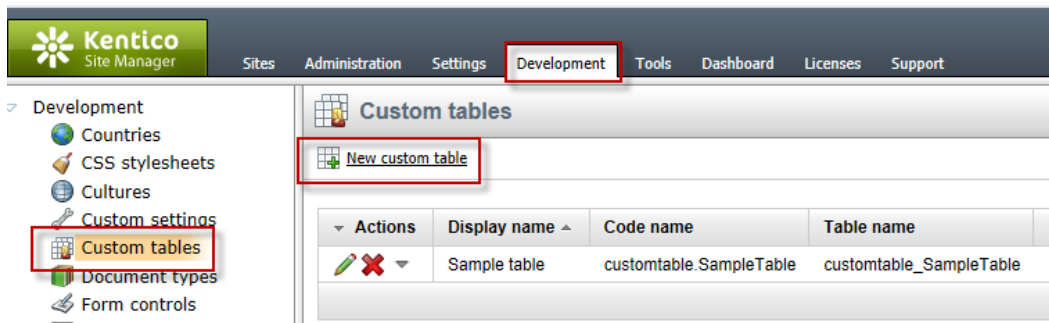
Kentico CMS provides custom tables as a way to store and manage custom data. Technically, they are SQL tables and coupled stored procedures. Once a custom table is created and contains data, the next step is to provide a display for site visitors. In this lab we will add a custom table and then use the 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 **CMS 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.

Database table name:

Primary key name:

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 field**.

| Section | Field | Value |
|------------------|----------------|---------|
| Database | Attribute 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 field**.

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

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

| Section | Field | Value |
|------------------|----------------|-------|
| Database | Attribute name | Email |
| Database | Attribute size | 100 |
| Field appearance | Field caption | Email |

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| | | |
|-------------------------|------------------|---------------|
| Field appearance | Form type | E-mail |
|-------------------------|------------------|---------------|

- 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 field

The changes were saved.

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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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:

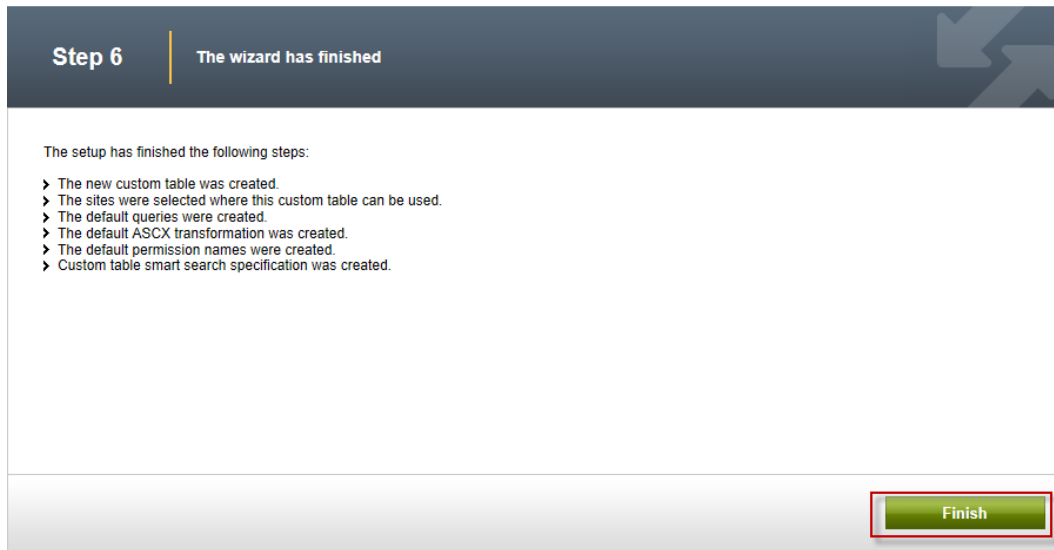
Set automatically

| 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"/> |

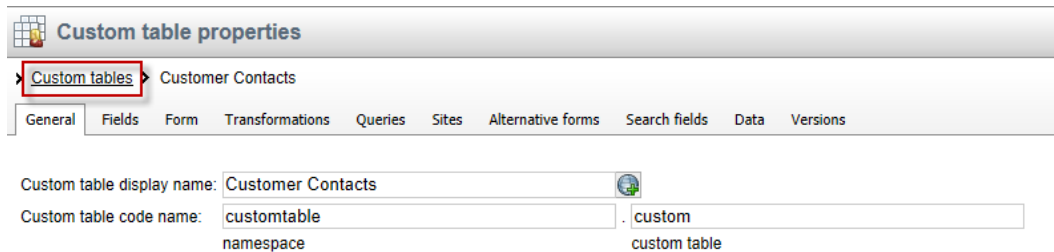
Next >

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

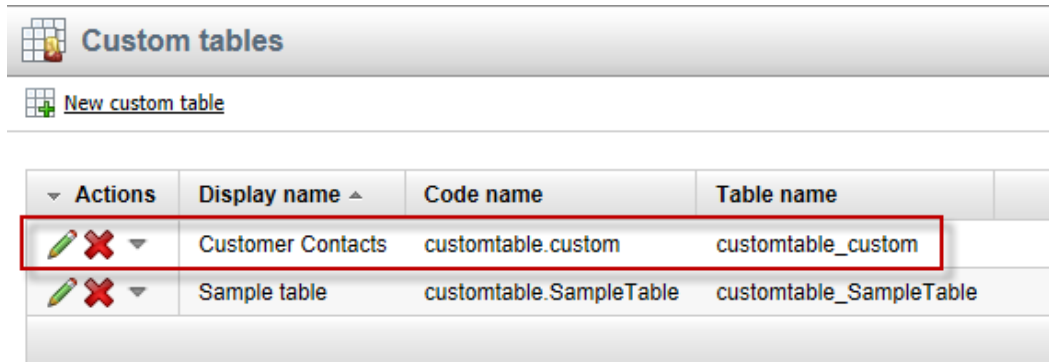


12. In the **Custom table** properties screen click the **Custom tables** menu item as shown in the following screenshot.







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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.



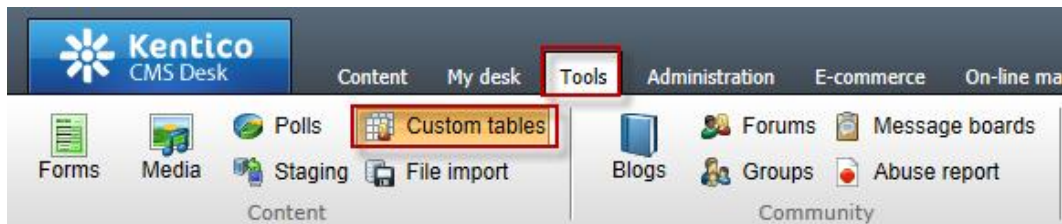
Custom tables

[New custom table](#)

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

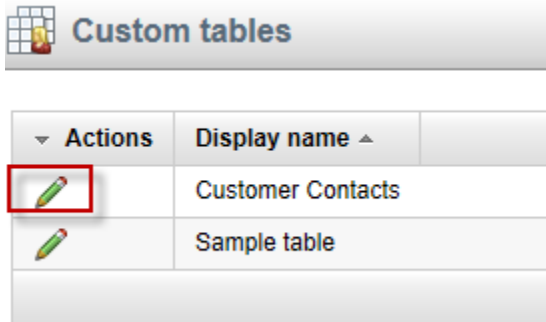
Lab 2: Adding custom table data

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

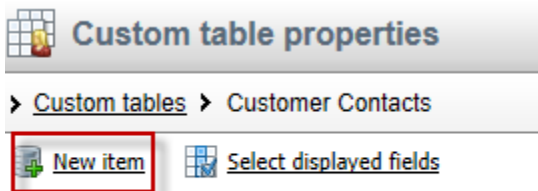


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- In the Custom tables screen select the **Edit (Pencil)** icon for **Customer Contacts** as shown in the following screenshot.



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



No data found.

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

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

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- Click the **Create another** button, update the following fields, and then click **Ok**.

| 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.



The changes were saved.

ItemID: 2

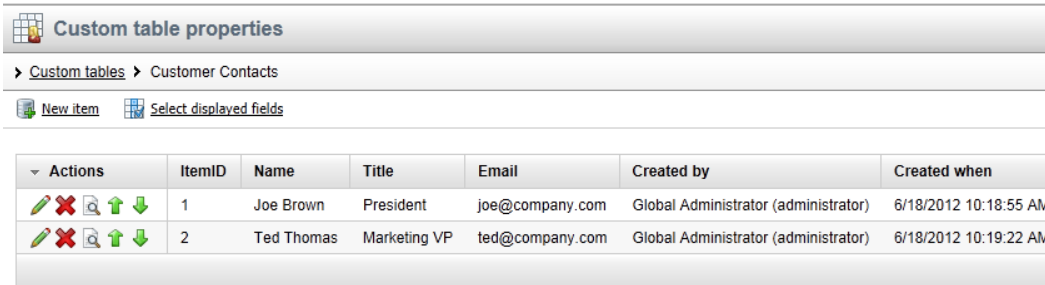
Name:

Title:

Email:

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

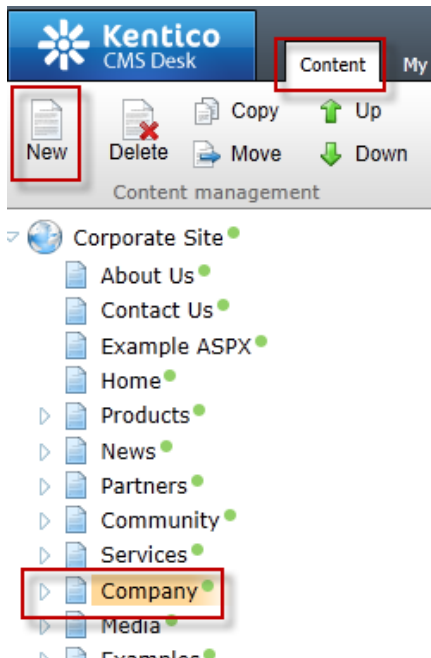


The screenshot shows the 'Custom table properties' interface for 'Customer Contacts'. It includes a table with columns for Actions, ItemID, Name, Title, Email, Created by, and Created when. Two items are listed: Joe Brown (President) and Ted Thomas (Marketing VP).

| Actions | ItemID | Name | Title | Email | Created by | Created when |
|---------|--------|------------|--------------|-----------------|--------------------------------------|-----------------------|
| | 1 | Joe Brown | President | joe@company.com | Global Administrator (administrator) | 6/18/2012 10:18:55 AM |
| | 2 | Ted Thomas | Marketing VP | ted@company.com | Global Administrator (administrator) | 6/18/2012 10:19:22 AM |

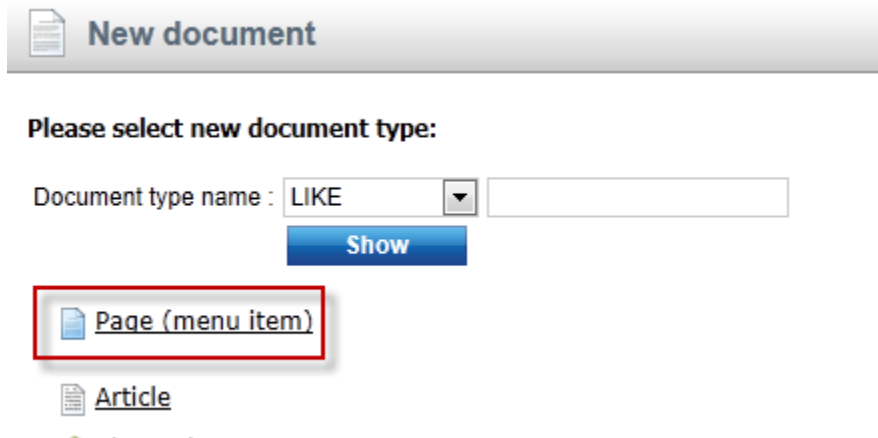
Lab 3: Creating the display page

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.



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



New document

Please select new document type:

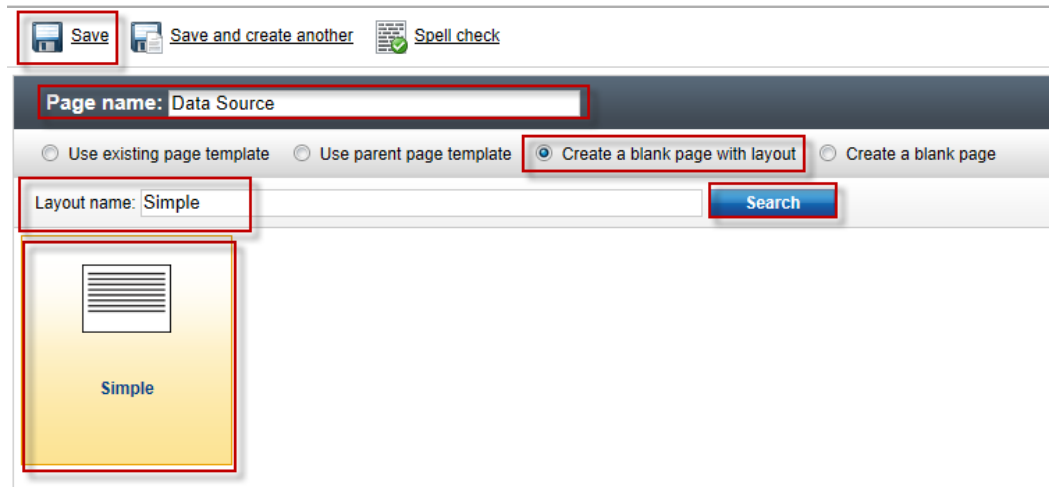
Document type name : LIKE

Show

Page (menu item)

Article

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

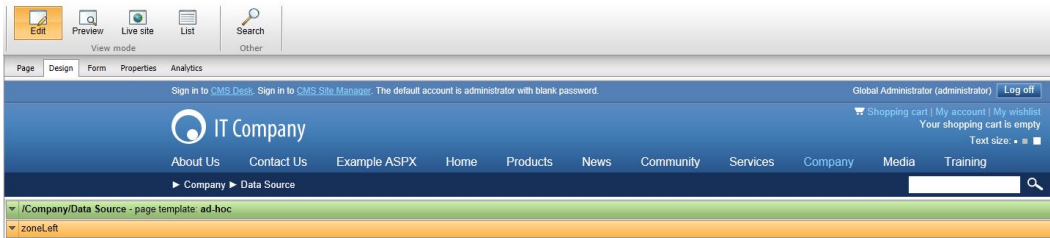
Use existing page template Use parent page template Create a blank page with layout Create a blank page

Layout name: Simple Search

Simple

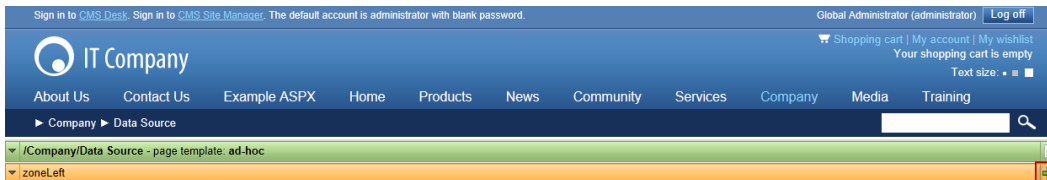
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4. Validate that you see the new Data Source page as shown in the following screenshot.

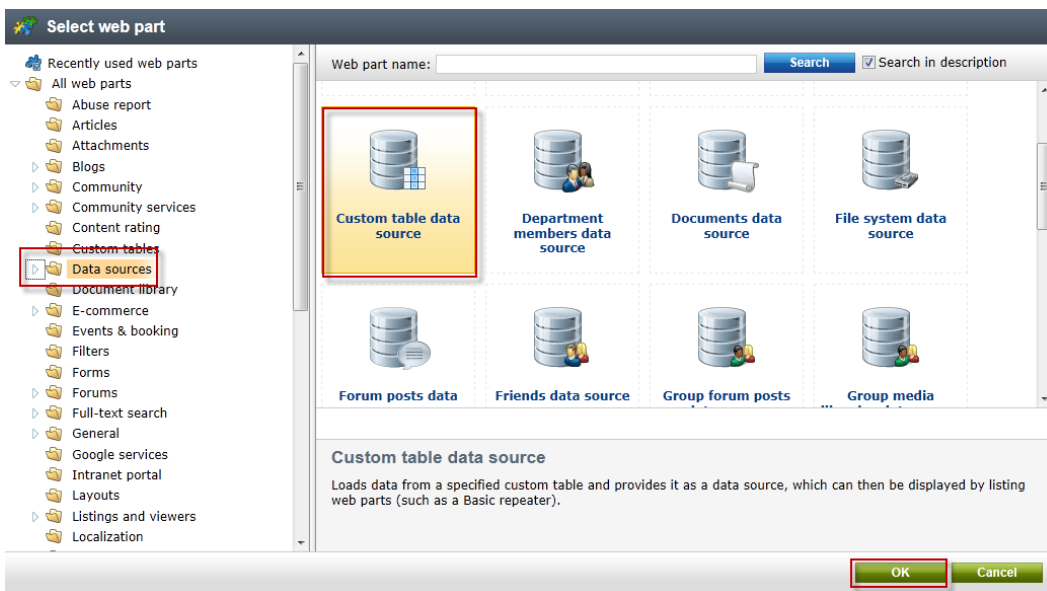


Lab 4: Displaying custom table data

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

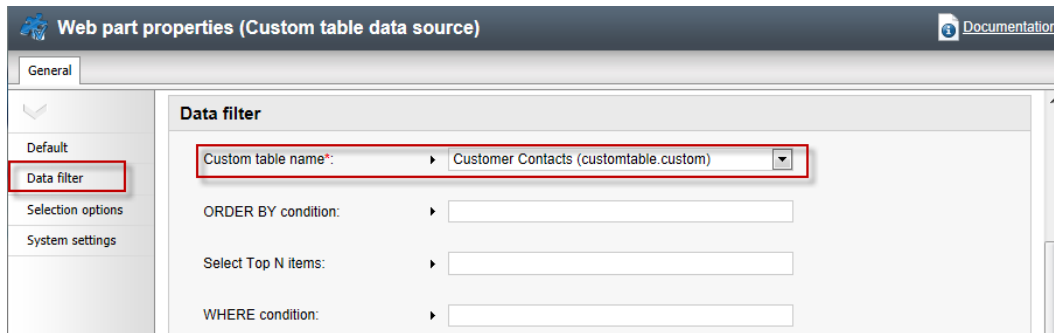


2. In the **Select web part** screen select **Data sources**, then select the **Custom table data source** web part, and then click **OK** as shown in the following screenshot.



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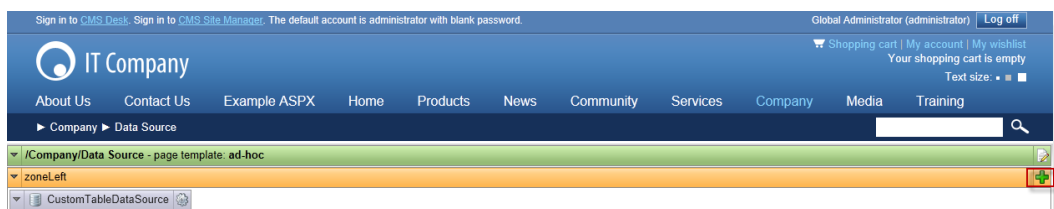
3. In the **Web part properties (Custom table data source)** screen select the **Data filter** tab, in the **Custom table name** field select the **Customer Contacts (customtable.custom)** and click **Ok** as shown in the following screenshot.



What is a data sources web part?

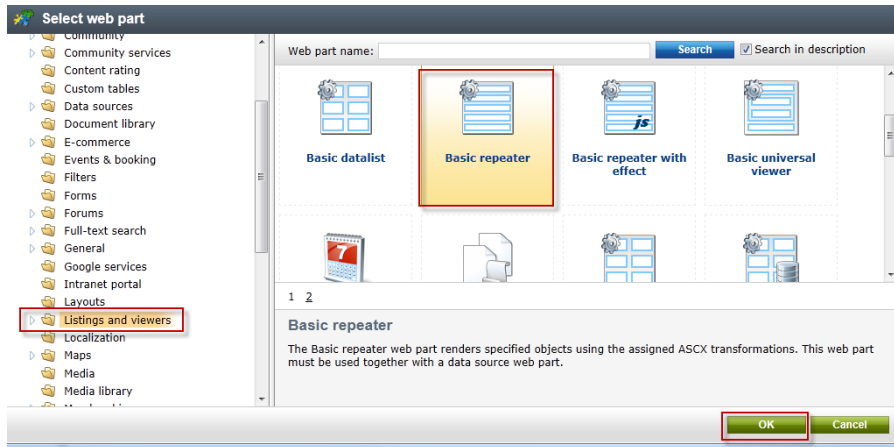
Data source web parts are used to connect and retrieve data from back end data sources like custom tables. They retrieve data and pass them to display web parts. This separation is designed to provide page based flexibility in data retrieval and display. Data sources provide reusable sources of data. 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.

4. In the **zoneleft** web part zone select the **Add web part icon (+)** as shown in the following screenshot.



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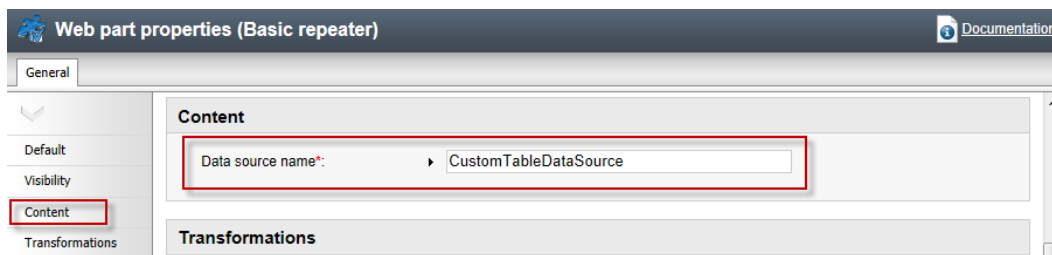
5. In the **Select web part** screen select the **Listings and viewers** node, click the **Basic repeater** web part and click **OK** as shown in the following screenshot.



Listings and Viewers

The listings and viewers node contains web parts that can be used to provide display for the data source web parts.

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.

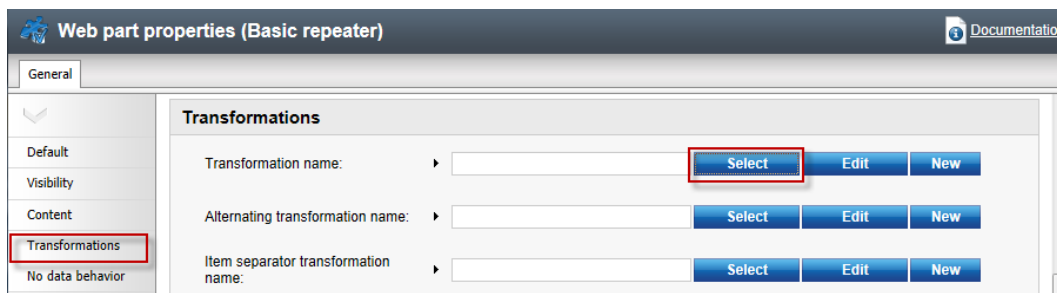




Connecting to Data Sources

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.

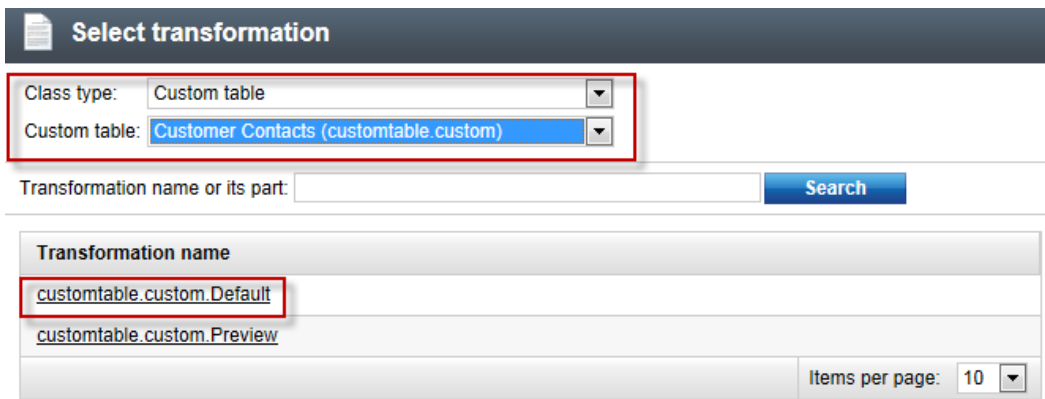


What is a transformation?

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.

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- 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:

Transformation name

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

Items per page: 10

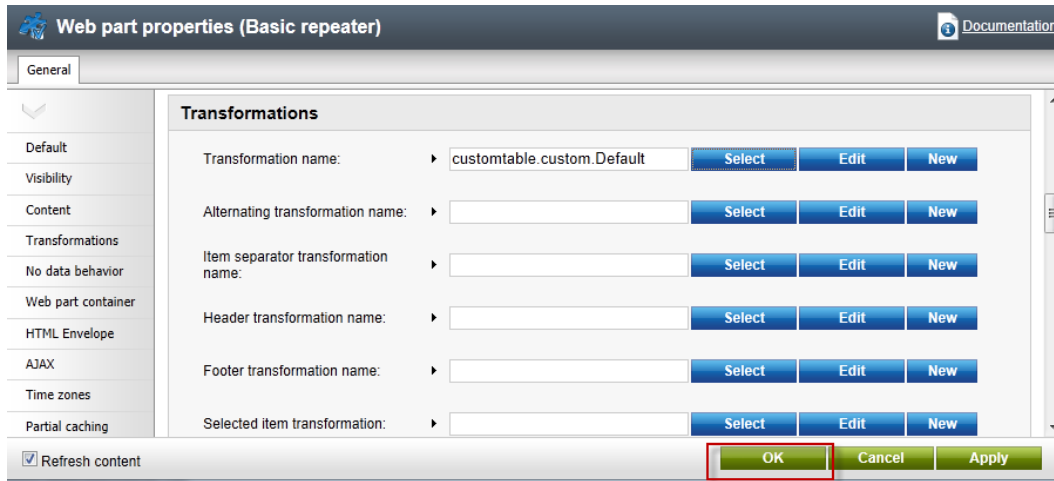


Where did these come from?

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.

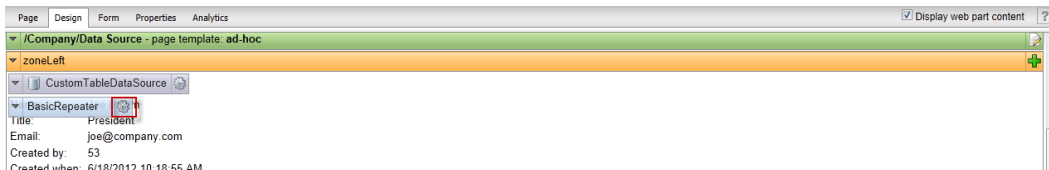


10. Validate that the data is displayed as shown in the following screenshot.

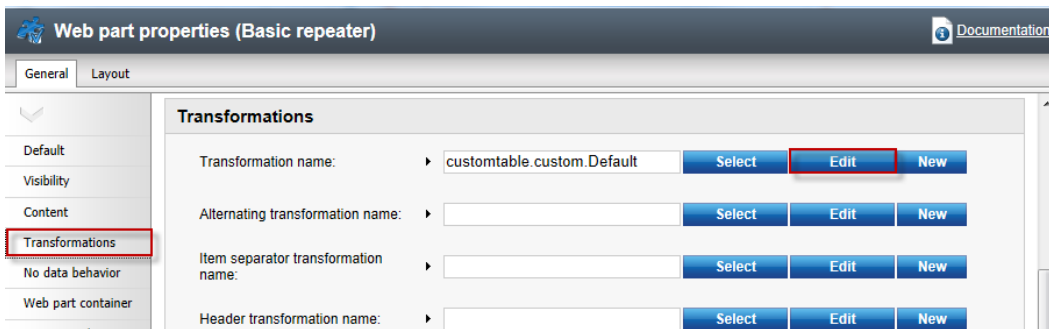


Lab 5: Editing the default Transformation

1. In the Design tab for 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** select the **Edit** button as shown in the following screenshot.

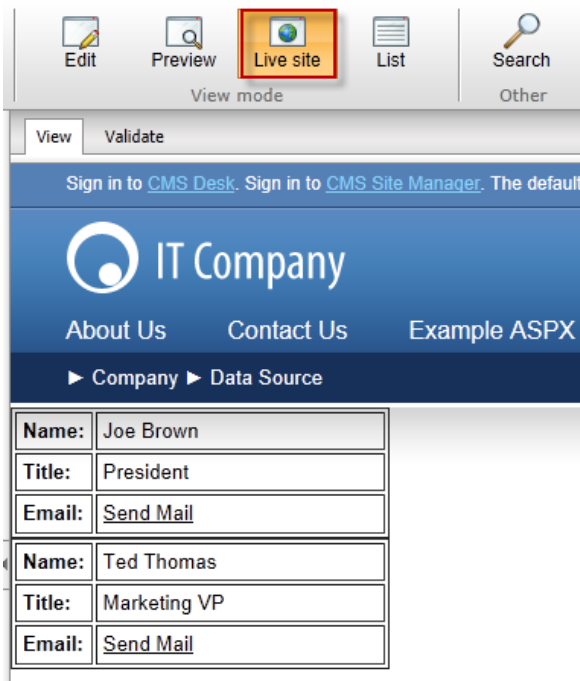


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3. In the **Edit transformation** dialog within the **Code** window replace the existing code with the following, then select **Save & close**, and in the **Web part properties (basic repeater)** window click **OK**.

```
<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.

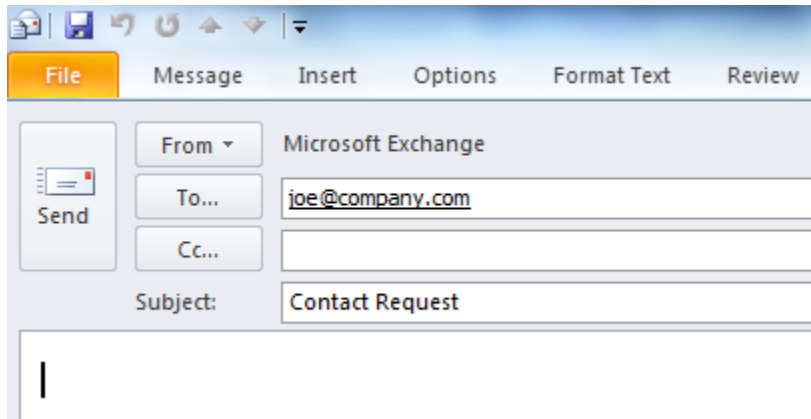


The screenshot shows the Kentico CMS interface. In the 'View mode' toolbar, the 'Live site' button is highlighted with a red box. Below the toolbar, the 'View' tab is active, displaying a website preview for 'IT Company'. The preview includes a navigation menu with 'About Us', 'Contact Us', and 'Example ASPX'. A 'Data Source' section is visible, containing a table with contact information for Joe Brown and Ted Thomas.

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

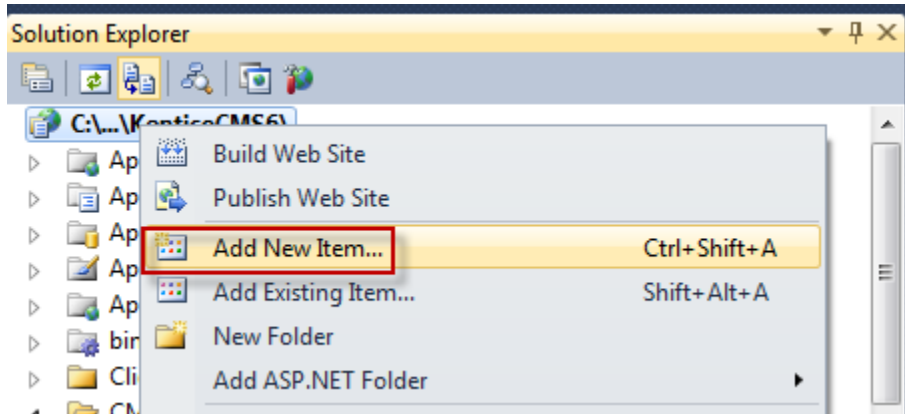
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5. On the Live site click the **Send Mail** link for **Joe Brown** and validate that you see the email as shown below.

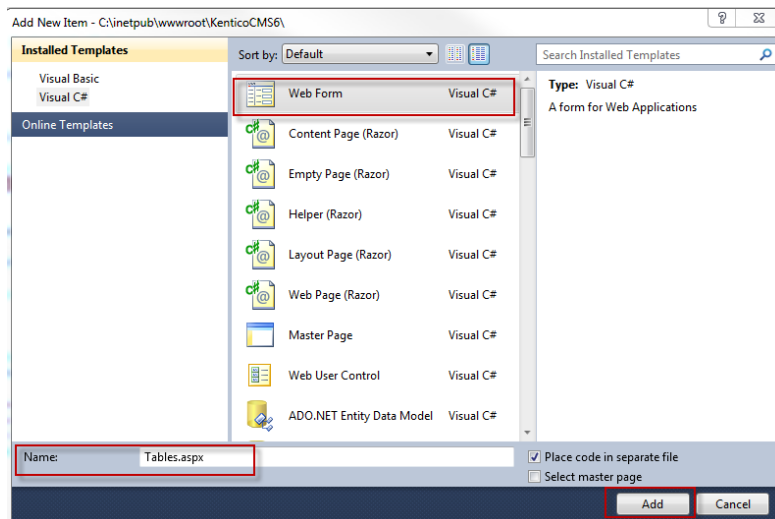


Lab 6: Adding custom table data with the API

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.

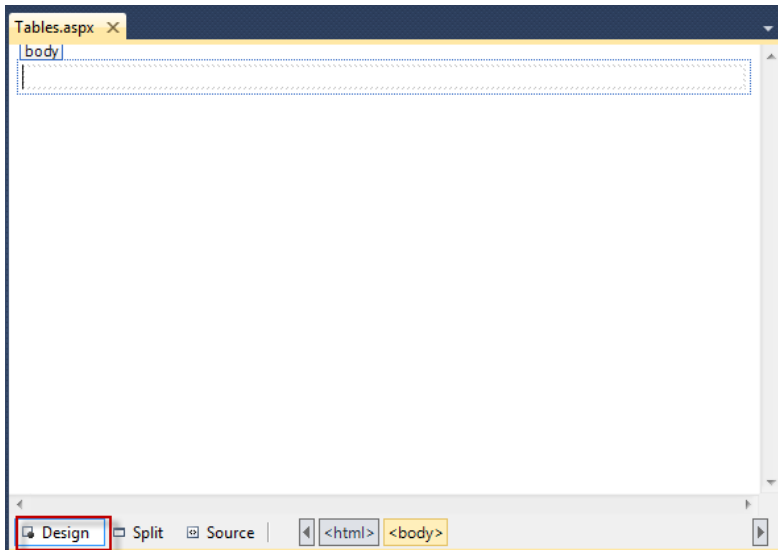


2. In the **Add new item** dialog select **Web form**, in the **Name** field enter **Tables.aspx**, and then click the **Add** button as shown in the following screenshot.

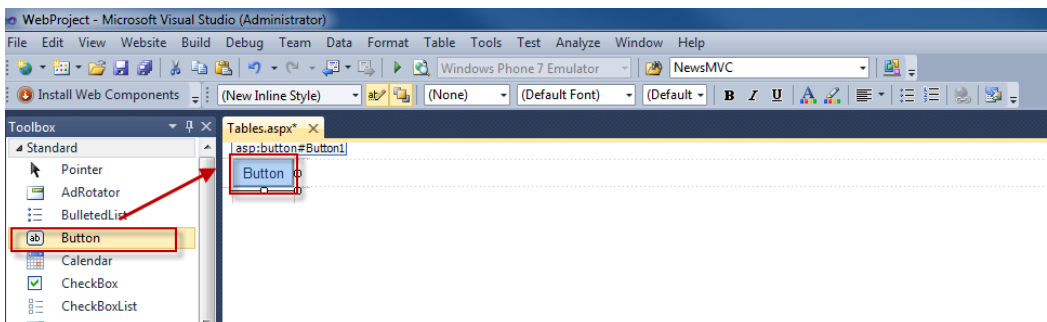


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3. In the Tables.aspx form click the **Design** button as shown in the following screenshot.



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

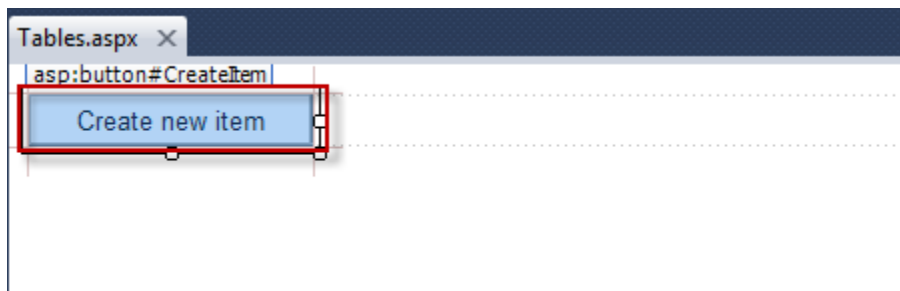


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5. In the **Button1 Properties** window update the following fields

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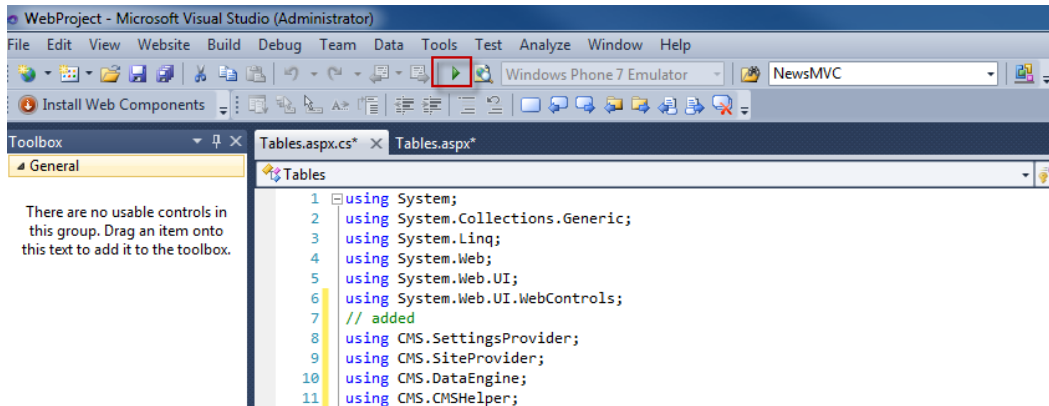
8. In the **Createitem_click** event replace any existing code with the following and then select **Save (CTRL+S)**.

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

        DataClassInfo customTableClassInfo =
DataClassInfoProvider.GetDataClass(customtablename);

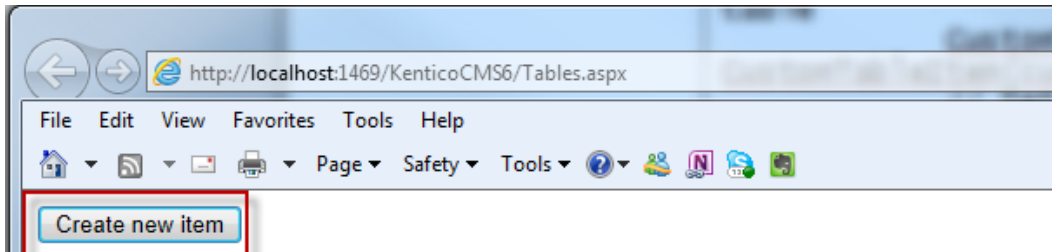
        if (customTableClassInfo == null)
        {
            throw new Exception("table does not exist.");
        }
        else
        {
            // Create item
            CustomTableItem item = new
CustomTableItem(customTableClassInfo.ClassName, ctiProvider);
            // Set values
           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

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

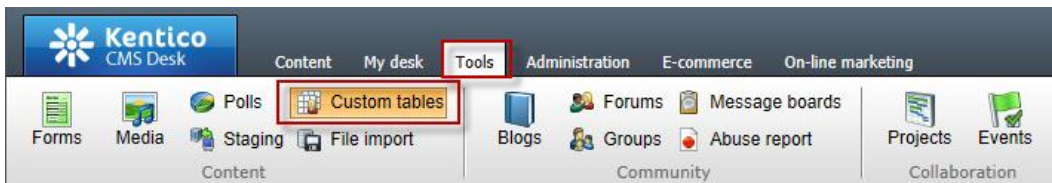


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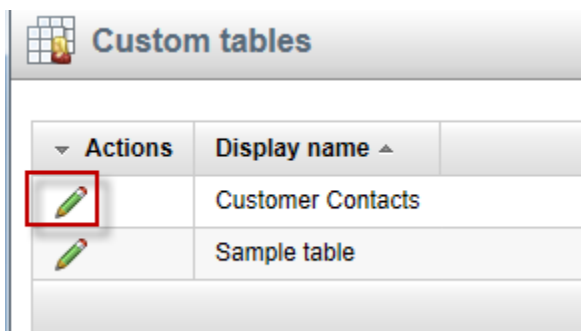
10. In the running application click the **Create new item** button as shown in the following screenshot.



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

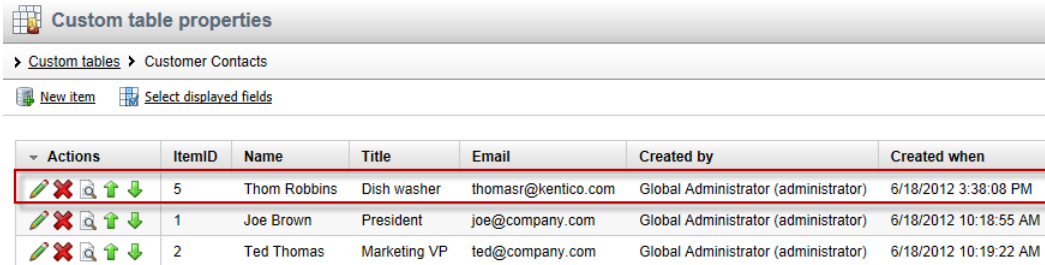


12. In the Custom tables menu select the **Edit (Pencil)** icon for the **Customer Contacts** table as shown in the following screenshot.



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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.



Custom table properties

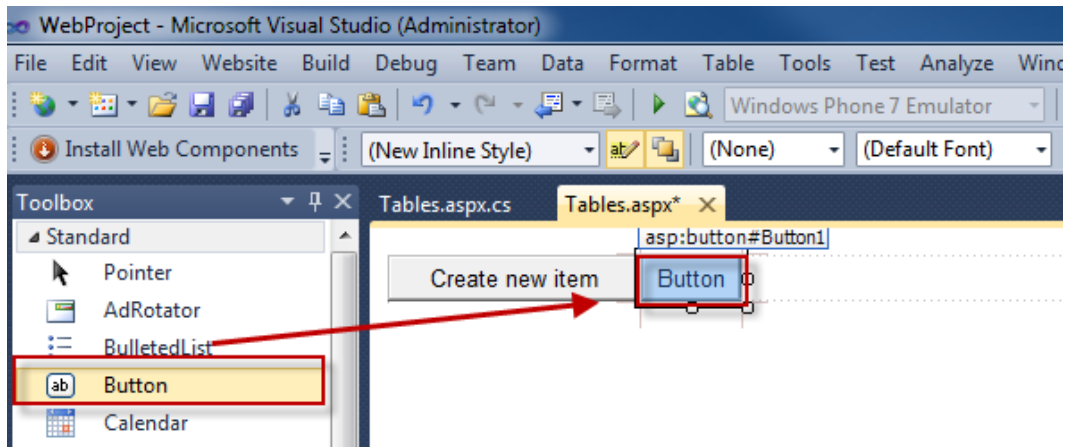
> Custom tables > Customer Contacts

[New item](#) [Select displayed fields](#)

| Actions | ItemID | Name | Title | Email | Created by | Created when |
|---|--------|--------------|--------------|---------------------|--------------------------------------|-----------------------|
|      | 5 | Thom Robbins | Dish washer | thomasr@kentico.com | Global Administrator (administrator) | 6/18/2012 3:38:08 PM |
|      | 1 | Joe Brown | President | joe@company.com | Global Administrator (administrator) | 6/18/2012 10:18:55 AM |
|      | 2 | Ted Thomas | Marketing VP | ted@company.com | Global Administrator (administrator) | 6/18/2012 10:19:22 AM |

Lab 7: Editing custom table data using the API

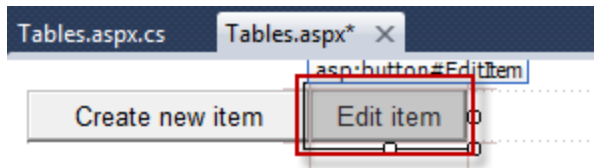
1. On the Tables.aspx form on the Design tab from the **Toolbox** drag a **Button** control onto the form as shown in the following screenshot.



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.



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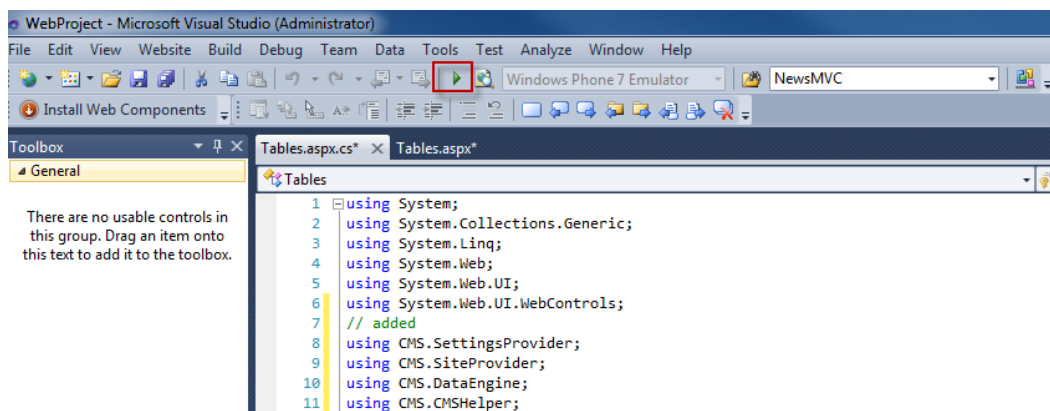
4. In the **EditItem_Click** event replace any code with the following and then select **Save (CTRL+S)**.

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

    DataClassInfo customTableClassInfo =
DataClassInfoProvider.GetDataClass(customtablename);

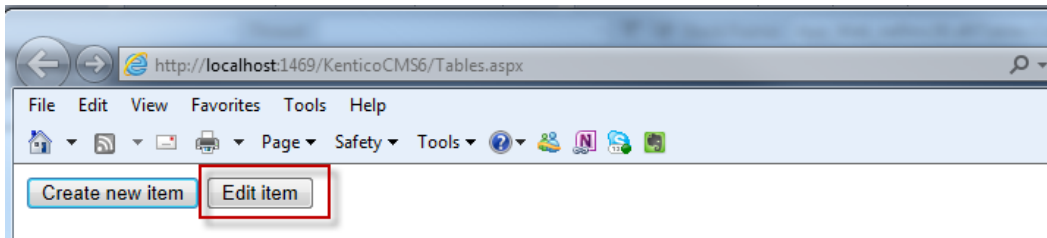
    if (customTableClassInfo == null)
    {
        throw new Exception("table does not exist.");
    }
    else
    {
        // Provide ID of item you want to edit
        int itemId = 5;
        // Get custom table item with given ID
        CustomTableItem item = ctiProvider.GetItem(itemId,
customTableClassInfo.ClassName);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

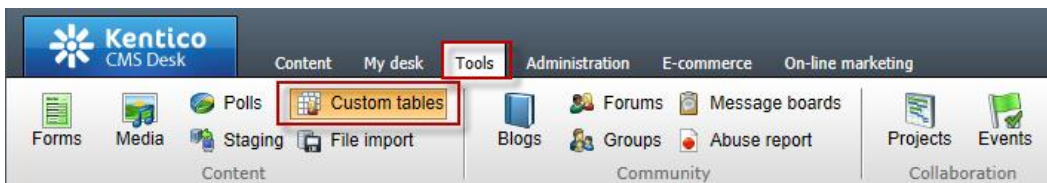


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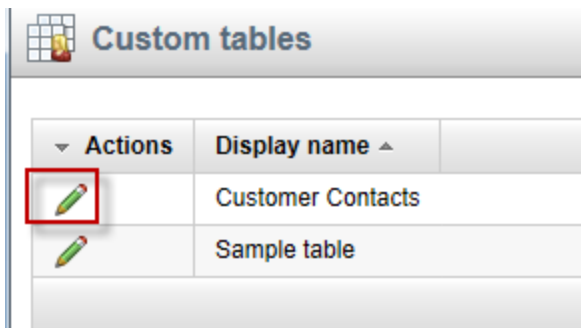
6. In the running application click the **Edit item** button as shown in the following screenshot.



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

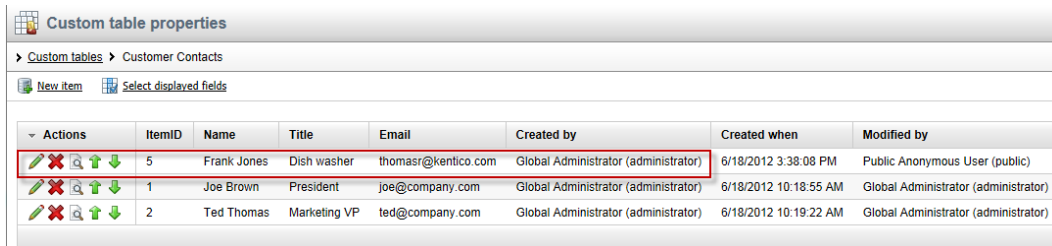


8. In the Custom tables menu select the **Edit (Pencil)** icon for the **Customer Contacts** table as shown in the following screenshot.



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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 | Created when | Modified by |
|---|--------|-------------|--------------|---------------------|--------------------------------------|-----------------------|--------------------------------------|
|      | 5 | Frank Jones | Dish washer | thomasr@kentico.com | Global Administrator (administrator) | 6/18/2012 3:38:08 PM | Public Anonymous User (public) |
|      | 1 | Joe Brown | President | joe@company.com | Global Administrator (administrator) | 6/18/2012 10:18:55 AM | Global Administrator (administrator) |
|      | 2 | Ted Thomas | Marketing VP | ted@company.com | Global Administrator (administrator) | 6/18/2012 10:19:22 AM | 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>