Kentico CMS 5.5 R2 Controls

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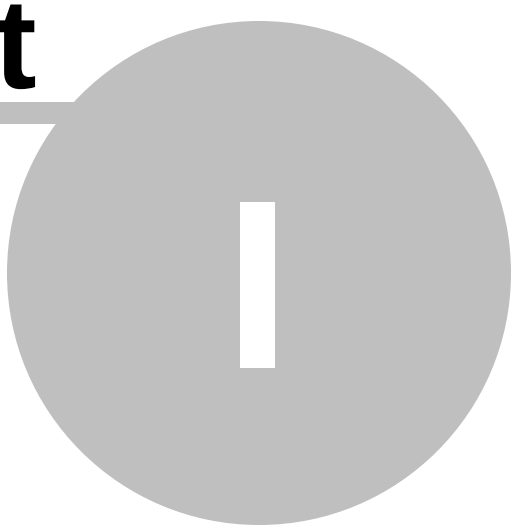


Kentico CMS Controls

1 Kentico CMS Controls

1.1 Overview

Kentico CMS Controls are standard ASP.NET **server controls** that can be used in Visual Studio 2005, 2008 or 2010. You can place them in your user control *.ascx* files that implement custom web parts, on ASPX page templates and pages that do not use the portal engine. Some of them can also be used outside of Kentico CMS.

Kentico CMS Controls work on the .NET 2.0, 3.5 and 4.0 Frameworks.

Before you start using them, please make sure your project is configured as described in Configuring your project for Kentico CMS Controls.

As mentioned, ASPX page templates are a common place to use controls. The Using ASPX page templates topic contains a guide describing how a new page template can be created and prepared to fully utilize CMS controls.

Many controls use transformations to customize the way they display data. More information about this can be found in the Transformations topic.

To learn more about the various types and inheritance hierarchy of Kentico CMS controls, please see the Controls hierarchy topic.

Examples

Live examples of some of these controls can be seen at *http://<domain>/<virtual directory>/CMSControlsExamples*.

Source Code

You can find the source code of these examples in the **CMSTemplates\CorporateSiteASPX\ControlsExamples** subfolder under your website project.

Corporate Site sample website required

The examples found in topics describing individual controls further in this guide assume that your Kentico CMS database contains data for the sample Corporate Site website.

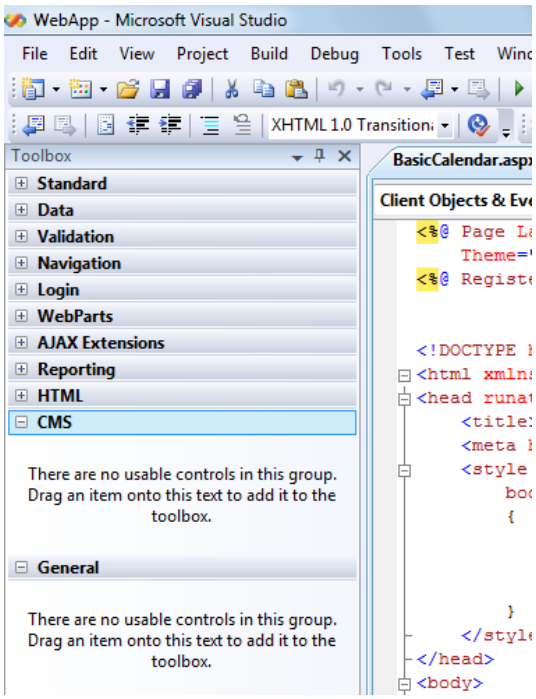
1.2 Configuring your project for Kentico CMS Controls

Before you start using Kentico CMS Controls in your ASP.NET project, you need to add the controls to the **Toolbox**:

1. Open the website project in Visual Studio and open an ASPX page.

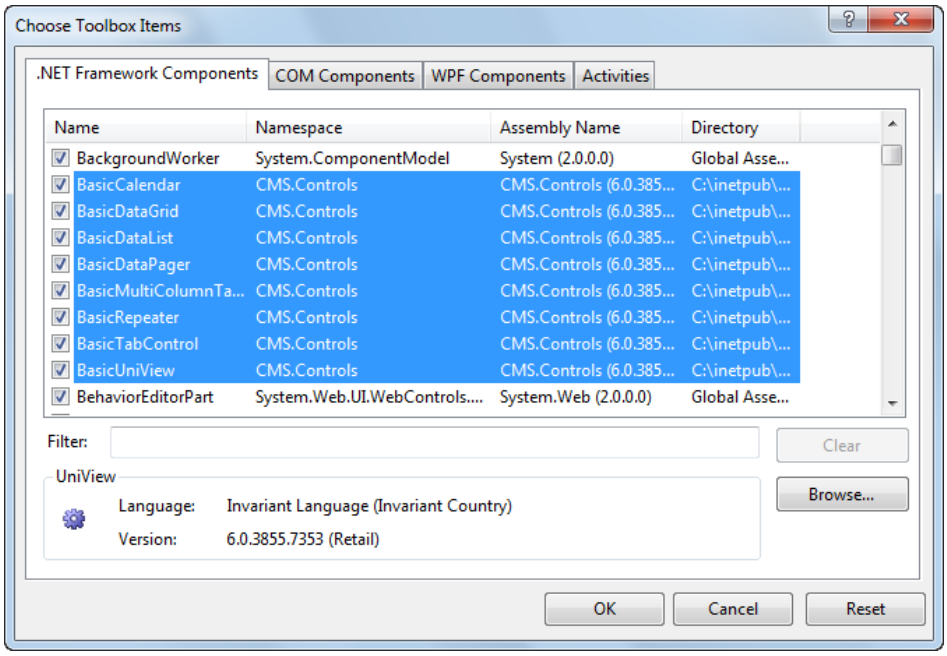
2. Right-click the **Toolbox** and choose **Add tab** from the context menu.

3. Type the name of the new tab (e.g. *CMS*) and press Enter:

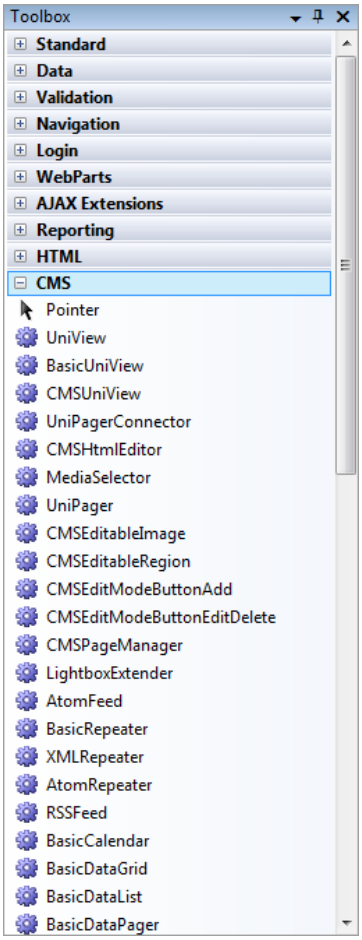


4. Right-click the new tab and choose **Choose Items...** from the context menu.

5. In the **Choose Toolbox Items** dialog, click **Browse** and locate the **CMS.Controls.dll** library in the **Bin** folder under your website. Click **Open** and then click **OK**.



6. The controls are now added to the **Toolbox**:



7. Now you can easily drag and drop the controls onto your Web forms.

1.3 Using ASPX page templates

Placing controls on ASPX page templates is one of their most common uses. For additional information about page templates, please refer to Developer's Guide -> Development -> Web development overview -> ASPX page template development.

The following is a step-by-step tutorial showing how a new ASPX page template can be created and registered in the system.

1. Open your Kentico CMS web project in **Visual Studio** using **File -> Open -> Web Site...** in the menu.

2. Now right-click the **CMSTemplates/CorporateSiteASPX** folder in the Solution Explorer and select **Add New Item.**

3. Choose to create a new **Web Form** (.aspx page) and check the **Select master page** box. Click **Add** .

4. The **Select a Master Page** dialog appears. Choose a master page file and click **OK**.. The default master page used by the sample Corporate Site ASPX is in the **CMSTemplates/CorporateSiteASPX** folder named **root.master**.

5. Switch to the **Source** view of the newly created web form. Add the following line under the **<%@ Page %>** directive:

```
<%@ Register Assembly="CMS.Controls" Namespace="CMS.Controls" TagPrefix="cms" %>
```

You can now add any HTML code inside the **<asp:Content>** element, including any **CMS controls** and their definitions.

6. Switch to the code behind. You need to add a reference to the **CMS.UIControls** namespace:

[C#]

```
using CMS.UIControls;
```

7. The last step is to modify the class from which the page is inherited. Change the following code:

[C#]

```
public partial class CMSTemplates_CorporateSiteAspx_Example : System.Web.UI.Page
```

to this:

[C#]

```
public partial class CMSTemplates_CorporateSiteAspx_Example : TemplatePage
```

Now the page can be correctly used as a page template in Kentico CMS.

Please keep in mind that the name of the class must be identical to the value of the **Inherits** attribute of the **<%@ Page %>** directive on the ASPX page. This is case sensitive.

Registering the ASPX page as a page template

Now that we have created a new ASPX page, we need to register it in Kentico CMS as a page template so that it can be used.

8. Sign in to **Site Manager** (we recommend doing this on the sample Corporate Site ASPX when following this tutorial for the controls in this guide) and go to **Development -> Page templates**. Select the **Corporate Site ASPX** folder, click **New template** and enter some display and code name.

Click **OK**. Now use the **Select** button to choose the .aspx file created in the previous steps located in the **CMSTemplates/CorporateSiteASPX** folder.

Click **Save**.

9. Now switch to the **Sites** tab, assign the page template to the websites where you wish it to be available using the **Add sites** button and click **OK**.

Creating a page based on the new page template

10. Go to **Kentico CMS Desk -> Content**. Create a **New** document of type **Page (menu item)**. Enter some **Page name** and select the **Use page template** option. Select the page template created in the previous steps and click **Save** to create the page.

Now you have a page using an ASPX page template. Any changes made to the source .aspx file will now be automatically reflected by this page.

1.4 Transformations

Transformations are pieces of code that determine how Kentico CMS documents, or certain parts of them, are rendered by listing web parts and controls. They take raw data from the Kentico CMS database and *transform* it into the form you wish it to appear in. This makes them a crucial tool when displaying documents and document related data on the pages of your website.

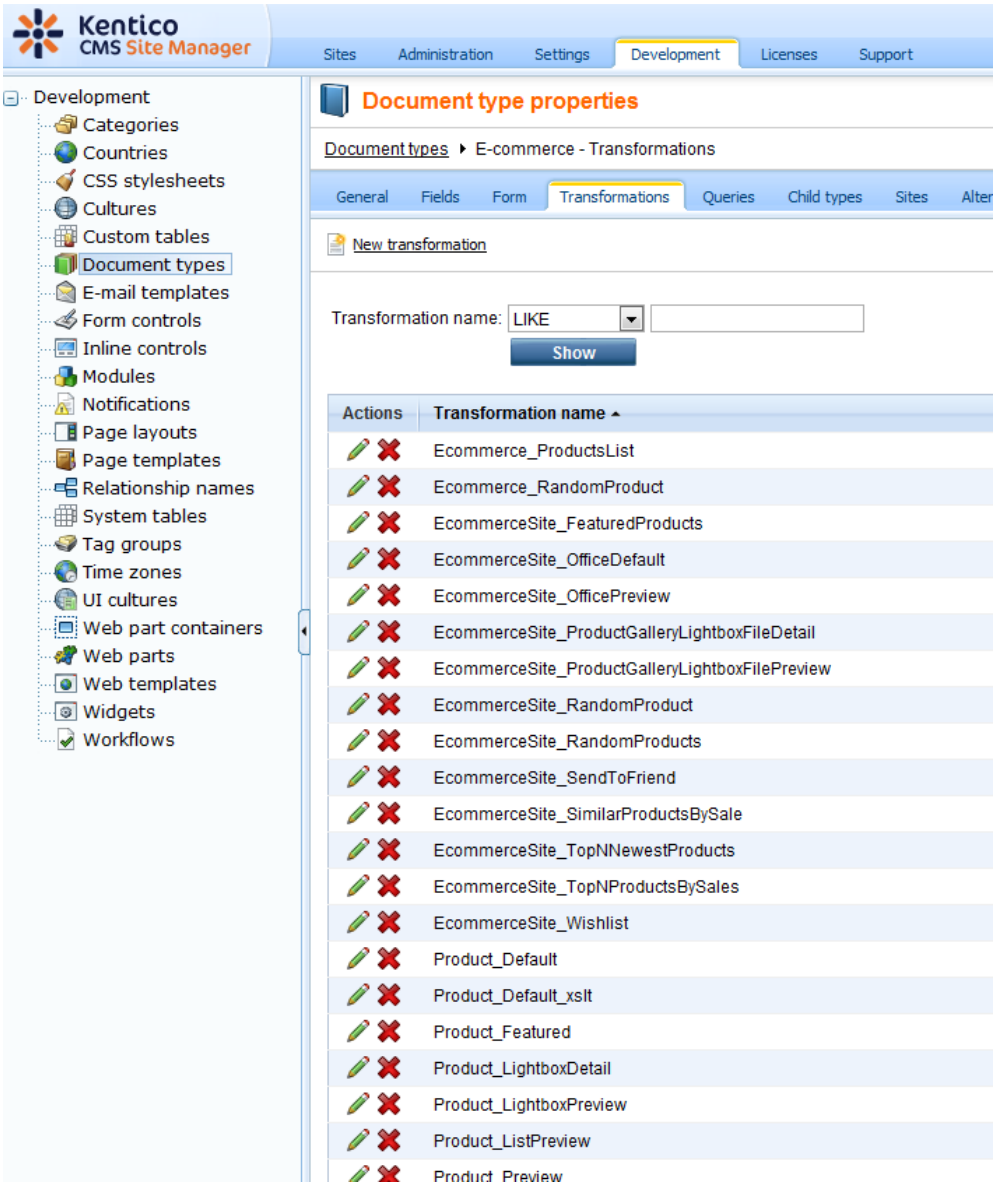
Their functionality is very similar to that of templates used by standard ASP.NET list controls such as the Repeater, which can be defined within the tags of a control through various **ItemTemplate** properties. The main difference is that our transformations are stored separately in the database and can easily be used repeatedly. They are assigned to web parts or controls through the appropriate **TransformationName** properties.

The code of transformations depends on their type. ASCX transformations are the most common, they can contain a mix of HTML elements, embedded controls, standard ASP.NET data binding expressions and methods, such as *Eval()*, and special methods designed to be used in transformations. XSLT type

transformations need to be in valid XML format and can contain standard XSL elements.

The use of transformations is supported by all web parts that display document data, as well as by those listing controls that are designed to work directly with Kentico CMS documents, such as those in the CMS Controls -> Listings and viewers section of this guide.

Transformations are categorized under the document types or custom tables that they are supposed to display. They can be managed in the Kentico CMS administration interface at **Site Manager -> Development -> Document types** or **Custom tables -> ... Edit (✎) document type** or **custom table ... -> Transformations**. Some document types do not represent an object but serve only as a container for transformations and queries.



The sample sites include many transformations for all document types and you can modify them or write new transformations to suit any of your requirements.

For more information about transformations and document types, please refer to Developer's Guide -> Development -> Document types and transformations.

Example

The code of the **Ecommerce.Transformations.Product_SimplePreview** ASCX transformation, which is used to display key information about products, looks like this:

```
<div class="ProductPreview">
  <div class="ProductBox">
    <div class="ProductImage">
        <%# EcommerceFunctions.GetProductImage(Eval("SKUImagePath"), 140, Eval(
"SKUName")) %>
    </div>
    <div class="ProductTitle">
        <%# HTMLEncode(ResHelper.LocalizeString(Convert.ToString(Eval("SKUName"
)))) %>
    </div>
    <table class="ProductPrice" cellpadding="0" cellspacing="0">
    <tr>
        <td class="left">Our price: </td>
        <td class="right"><%# EcommerceFunctions.GetFormatedPrice(Eval("SKUPrice"
), Eval("SKUDepartmentID")) %></td>
    </tr>
    </table>
  </div>
</div>
```

When this transformation is assigned to a listing control or web part that has products (SKUs) in its data source, the output code of individual products will contain the values returned by the methods and data binding expressions, like the following example:

```
<div class="ProductPreview">
  <div class="ProductBox">
    <div class="ProductImage">
        <img alt="Samsung SGH E250" src="/KenticoCMS_FilterTest/getmetafile/
da2495b2-ff5f-47cb-b463-4b99d308eadd/CELL_SAMSUNG_SGH_E250.aspx?maxSideSize=140"
border="0" />
    </div>
    <div class="ProductTitle">
        Samsung SGH E250
    </div>
    <table class="ProductPrice" cellpadding="0" cellspacing="0">
      <tr>
        <td class="left">Our price: </td>
        <td class="right">$249.00</td>
      </tr>
    </table>
  </div>
</div>
```

The final output of this product on the website will then look like this:

Please note

The CSS stylesheet used by the page or site is applied to the output of the transformation. This example uses the default **Corporate Site** stylesheet.

1.5 Controls hierarchy

Kentico CMS Controls make use of the object-oriented nature of the .NET Framework and many of them are derived either from standard ASP.NET controls or from each other. This means that controls with similar functionality have many common properties and learning to use them is made easier due to this fact.

The following categories and controls are available:

- **Paging controls** - these controls provide paging functionality for other controls
  - DataPager
  - TemplateDataPager
  - UniPager

- **Basic Controls** - these controls do not use the Kentico CMS database or API and can be used with any type of bindable data; most of them are derived from intrinsic ASP.NET control
  - **Navigation**
    - BasicTabControl
  - **Listings and viewers**
    - BasicCalendar
    - BasicDataGrid
    - BasicDataList
    - BasicRepeater

- **CMS Controls** - these controls are designed to work exclusively with Kentico CMS documents and data; many of them are derived from Basic Controls with similar fundamental functionality
  - **Navigation**
    - CMSBreadCrumbs
    - CMSListMenu
    - CMSMenu
    - CMSSiteMap
    - CMSTabControl

- CMSTreeMenu
- CMSTreeView

- **Listings and viewers**
  - **Standard listings and viewers**
    - CMSCalendar
    - CMSDataGrid
    - CMSDataList
    - CMSDocumentValue
    - CMSRepeater
    - CMSViewer
  - **Listings and viewers with a custom query**
    - QueryDataGrid
    - QueryDataList
    - QueryRepeater
- **Edit mode buttons**
  - CMSEditModeButtonAdd
  - CMSEditModeButtonEditDelete
- **Editable regions for ASPX page templates**
  - CMSEditableImage
  - CMSEditableRegion
  - CMSPageManager
- **Search controls**
  - CMSSearchDialog
  - CMSSearchResults

- **UI Controls** - these controls are different from the others; they are **user** controls that are utilized in the interface of Kentico CMS, but can also be used for custom purposes
  - UniGrid
  - UniSelector

1.6 Paging controls

1.6.1 Overview

The controls in this section provide paging support to other controls that display data. This means they divide the displayed items into groups (pages) and provide an easy way to navigate between them.

The newest, most flexible and easiest to use is the UniPager control. It provides most of the functionality of the other two and more, so we recommend using it whenever possible.

Available controls:

- DataPager
- TemplateDataPager
- UniPager

1.6.2 Paging controls - common properties

All of the pager controls have the following properties in common:

Property Name	Description	Sample Value
CurrentPage	The current page number.	
MaxPages	Maximum number of pages that can be viewed.	
PageCount	The current number of pages (read only).	
PageSize	The number of displayed items per page.	

1.6.3 DataPager

1.6.3.1 Overview

The DataPager control can ensure paging for the following CMSControls:

- CMSDataList
- CMSRepeater
- CMSSearchResults
- QueryDataList
- QueryRepeater

This control doesn't need to be used separately, it is built into the above controls and can be enabled or disabled by using their **EnablePaging** property.

See also: TemplateDataPager - this is a paging control that can be used to customize the data paging format

Please note

If possible, we recommend that you use the newer UniPager control instead.

The following topics are available to help you familiarize yourself with the DataPager control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes and explains additional properties that can be used to customize the appearance of the control

1.6.3.2 Getting started

The following is a step-by-step tutorial that will show you how use the DataPager control with a CMSRepeater control that displays all pages (menu items) in the system:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSRepeater** control from the toolbox onto the form and set its following properties:

- **ClassNames**: cms.menuitem
- **EnablePaging**: True

This tells the control which document types to read and enables the DataPager.

3. Switch to the **Source** tab and add the code marked by the **CMSRepeater templates** comments between the <*cms:CMSRepeater*> tags. The overall code of the CMSRepeater control should look like this:

```
<cms:CMSRepeater ID="CMSRepeater1" runat="server" ClassNames="cms.menuitem"
EnablePaging="true" >

          <%-- CMSRepeater templates
          ------------------------------------------------------------ --%>

          <ItemTemplate>
             <%# HTMLHelper.HTMLEncode( Convert.ToString(Eval("NodeAliasPath"))) %
          >
          </ItemTemplate>
          <AlternatingItemTemplate>
             <font color="#999999"><%# HTMLHelper.HTMLEncode( Convert.ToString
          (Eval("NodeAliasPath"))) %>
             </font>
          </AlternatingItemTemplate>
          <SeparatorTemplate>
             </li>
             <li>
          </SeparatorTemplate>

          <%-- CMSRepeater templates
          ------------------------------------------------------------ --%>

</cms:CMSRepeater>
```

This sets the templates used by the CMSRepeater to display the pages (menu items). The control dynamically replaces the <*%# ... %*> tags with values of the currently displayed record. This is then repeated for every record in the data source.

6. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like this:

/Home
/Services
/News
/Partners
/Company
/Forums
/Wiki
/Examples
/Blogs
/Events

Displaying results 1-10 (of 252)

|< < 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 > >|

1.6.3.3 Configuration

The properties of the DataPager control can be accessed through the **PagerControl** property of the paged controls, like for example:

[C#]

```
CMSRepeater1.PagerControl.BackText = "<-";
```

In addition to the properties from Paging controls - common properties, the following properties can be set in your code behind files:

Property Name	Description	Sample Value
DataSource	Can be used to access the object of the pager's data source.	
BackNextDisplay	Back/Next display mode.	"Buttons" "Hyperlinks"
BackNextLocation	Back/Next location.	"Right" "Left" "Split" "None"
BackText	Back button/hyperlink text.	
FirstText	First button/hyperlink text.	
HideOnSinglePage	If true, the pager is hidden if only one page is displayed.	
IgnoreQueryString	Indicates whether querystring parameters should be ignored.	
InsertKeys	Adds keys to the querystring.	
InsertToUrl	Indicates whether inserting querystring keys is enabled.	
LabelText	Label text.	
LastText	Last text.	
NextText	Next button/hyperlink text.	
PagedData	Gets the data to be paged.	
PageNumbersDisplay	Page numbers display mode.	"Numbers" "Results"
PagerPosition	The position of the pager relative to the paged data.	"Bottom" "Top" "TopAndBottom"
PagingMode	Determines the type of the used paging parameter. It can either be passed through	PostBack QueryString

	the URL (QueryString) or through postback (PostBack).	
QueryStringKey	Query parameter name for the page index.	"pagenumber"
RecordEnd	Index of the last record on the current page.	
RecordStart	Index of the first record on the current page.	
RemoveFromUrl	Indicates whether removing querystring keys is enabled.	
RemoveKeys	Removes keys from the querystring.	
ResultsFormat	Results text format.	"Displaying results {0}-{1} (of {2})"
ResultsLocation	Results location.	"Top" "Bottom" "None"
ShowFirstLast	Indicates whether first/last buttons should be displayed.	
ShowLabel	Indicates whether labels should be displayed.	
ShowPageNumbers	Indicates whether page numbers should be displayed.	
SliderSize	Slider size.	
TotalRecords	Total amount of data source records.	
UseSlider	Indicates whether the slider should be used.	

1.6.3.4 Appearance and styling

The appearance of the DataPager control can additionally be modified by its following properties and the CSS classes that they specify:

Property Name	Description	Sample Value
BackNextButtonStyle	Back/Next button style.	
BackNextLinkSeparator	Back/Next link separator.	
BackNextStyle	Back/Next style.	
ControlCssClass	CSS class of the pager control.	
LabelStyle	Label style.	
PageNumbersStyle	Page numbers style.	
PageNumbersSeparator	Page numbers separator.	","
PagerControlStyle	Pager control style.	

PagerHTMLAfter	HTML code to be rendered after the pager.	
PagerHTMLBefore	HTML code to be rendered before the pager.	
PagerNumberAreaClass	CSS class of the number area.	
ResultsStyle	Results style.	
SectionPadding	Section padding.	
SelectedClass	CSS class of the selected page.	
UnselectedClass	CSS class of unselected pages.	

1.6.4 TemplateDataPager

1.6.4.1 Overview

The TemplateDataPager control can be used to set a custom format for data paging. It can work with the same controls as the DataPager. It automatically renders the list of numbers, but some code needs to be written to bind it to a control that ensures the displaying of content (e.g. CMSRepeater, CMSDataList or other).

Please note

We recommend that you use the newer UniPager control, which can also be customized and is much easier to use, instead.

The following topics are available to help you familiarize yourself with the TemplateDataPager control:

- Getting started - contains a step-by-step tutorial that allows you to learn how to use the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.6.4.2 Getting started

The following is a step-by-step tutorial that will show you how to add a custom pager to a CMSRepeater control that displays PDAs (CMS.Pda documents) using the TemplateDataPager control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Now add the following code to the page, inside the <*form*> element:

```
<table style="border: solid 1px #CCCCCC; margin-left: auto; margin-right: auto;">
  <tr>
    <td style="border-bottom: solid 1px #CCCCCC; padding: 10px; text-align: center
;">
      <cms:CMSRepeater ID="CMSRepeater1" runat="server" Path="/%" ClassNames
="CMS.Pda"
      TransformationName="CMS.Pda.Simple">
      </cms:CMSRepeater>
```

```
    </td>
  </tr>
  <tr>
     <td style="padding: 10px; background-color: #D9D9D9;">
        <cms:TemplateDataPager ID="TemplateDataPager1" runat="server">
            <NumberTemplate>
                <a href="?Page=<%# Eval("PageNumber")  %>">
                     <%# Eval("PageNumber")  %>
                </a>
            </NumberTemplate>
            <SelectedNumberTemplate>
                <b>
                  <%# Eval("PageNumber")  %>
                </b>
            </SelectedNumberTemplate>
            <SeparatorTemplate>
                -
            </SeparatorTemplate>
            <FirstItemTemplate>
                <a href="?Page=1">First</a> | 
            </FirstItemTemplate>
            <LastItemTemplate>
                 | <a href="?Page=<%# pageCount %>">Last</a>
            </LastItemTemplate>
            <PreviousItemTemplate>
                <a href="?Page=<%# previousPage %>">Previous</a>  | 
            </PreviousItemTemplate>
            <NextItemTemplate>
                 |  <a href="?Page=<%# nextPage %>">Next</a>
            </NextItemTemplate>
        </cms:TemplateDataPager>
     </td>
  </tr>
</table>
```

As you can see, the control uses a standard CMSRepeater control to display data. The pager format is specified using the templates defined between the tags of the *<cms: TemplateDataPager>* element.

3. Modify the code-behind so that it looks like this (the class name and type may be different):

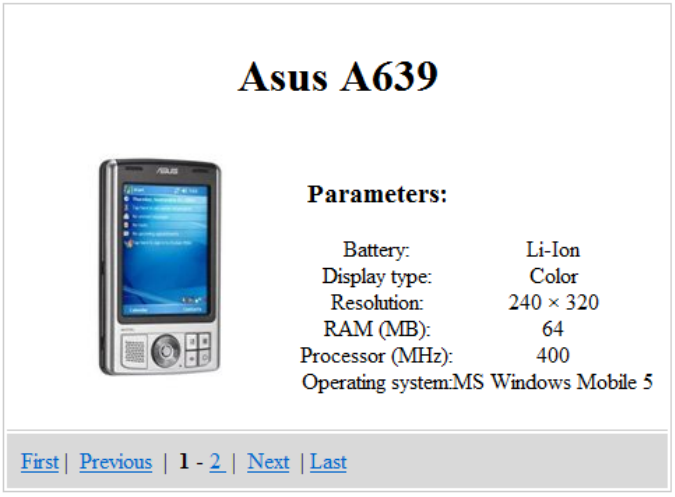
[C#]

```
using CMS.GlobalHelper;

public partial class CMSControlsExamples_TemplatedDataPager : ControlsExamplesPage
{
    public string pageCount = "1";
    public string previousPage = "1";
    public string nextPage = "";


    /// <summary>
    /// OnInit override
    /// </summary>
    /// <param name="e"></param>
```

```
    protected override void OnInit(EventArgs e)
    {
        // Disable repeater pager and databindbydefault
        CMSRepeater1.EnablePaging = false;
        CMSRepeater1.DataBindByDefault = false;

        base.OnInit(e);
    }


    protected void Page_Load(object sender, EventArgs e)
    {
        // Get repeater datasource
        TemplateDataPager1.DataSource = CMSRepeater1.DataSource;

        // Set page size
        TemplateDataPager1.PageSize = 1;

        // Set current page from query string
        TemplateDataPager1.CurrentPage = ValidationHelper.GetInteger(Request.
QueryString["Page"], 1);

        // Get page number for last link
        pageCount = ((int)(TemplateDataPager1.PageCount - 1)).ToString();

        // Set default next page link
        nextPage = pageCount;

        // Set previous link
        if ((TemplateDataPager1.CurrentPage - 1) >= 1)
        {
            previousPage = ((int)(TemplateDataPager1.CurrentPage - 1)).ToString();
        }

        // Set next link
        if ((TemplateDataPager1.CurrentPage + 1) <= (TemplateDataPager1.PageCount
- 1))
        {
            nextPage = ((int)(TemplateDataPager1.CurrentPage + 1)).ToString();
        }

        // Set paged datasource to the repeater and databind it
        CMSRepeater1.DataSource = TemplateDataPager1.PagedData;
        if (!DataHelper.DataSourceIsEmpty(CMSRepeater1.DataSource))
        {
            CMSRepeater1.DataBind();
        }
    }
}
```

This code binds the TemplateDataPager to the CMSRepeater.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like this:



1.6.4.3 Configuration

In addition to the properties from Paging controls - common properties, the following properties of the TemplateDataPager control can be set or used in the API:

Property Name	Description	Sample Value
DataSource	Can be used to access the object of the pager's data source.	
NumberRepeater	Gets the repeater control used to display page numbers.	
PagedData	Gets the data to be paged.	
PagerPosition	The position of the pager relative to the paged data.	"Bottom" "Top" "TopAndBottom"
PagingMode	Determines the type of the used paging parameter. It can either be passed through the URL (QueryString) or through postback (PostBack).	"PostBack" "QueryString"
RecordEnd	Index of the last record on the current page.	
RecordStart	Index of the first record on the current page.	
TotalRecords	Total amount of data source records.	

1.6.4.4 Appearance and styling

The appearance of the TemplateDataPager control is determined by the code in its templates. The following are available:

Template Name	Description	Sample Value

FirstItemTemplate	Code of the template used for the link to the first page in the pager.	`<a href="?Page=1">First</a> | `
LastItemTemplate	Code of the template used for the link to the last page in the pager.	` | <a href="?Page=<%# pageCount %>">Last</a>`
NextItemTemplate	Code of the template used for the link to the next page.	` |  <a href="?Page=<%# nextPage %>">Next</a>`
NumberTemplate	Code of the template used for page links in the pager. Use *<%# Eval("PageNumber") %>* to get the current page number.	`<a href="?Page=<%# Eval("PageNumber") %>"><%# Eval("PageNumber") %></a>`
PreviousitemTemplate	Code of the template used for the link to the previous page.	`<a href="?Page=<%# previousPage %>">Previous</a>  | `
SelectedNumberTemplate	Code of the template used for the number of the currently selected page.	`<b><%# Eval("PageNumber") %></b>`
SeparatorTemplate	Code of the template used for the separator between page links in the pager.	`-`

1.6.5 UniPager

1.6.5.1 Overview

The UniPager is a universal paging control that can ensure paging for any control that implements the *IUniPageable* interface. This includes the following Basic controls:

- BasicDataList
- BasicRepeater

As well as the following CMS controls:

- CMSDataList
- CMSRepeater
- QueryDataList
- QueryRepeater

In cases where the UniPager control is placed after the attached listing control, that control must bind its data later in the page life cycle than during the **Init** event, otherwise paging will not be applied. For the CMSDataList and CMSRepeater controls, this can easily be solved by setting their **DelayedLoading** property to *true*.

The QueryDataList and QueryRepeater controls do not have this property, however, you can ensure that paging is applied correctly by setting their **DataBindByDefault** property to *false* and manually calling their **Databind()** method during the **Load** event:

[C#]

```
protected void Page_Load(object sender, EventArgs e)
{
    QueryRepeater1.DataBind();
}
```

The portal engine equivalent of the UniPager control is the **Listings and viewers -> Universal Pager** web part.

The following topics are available to help you familiarize yourself with the UniPager control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Structure - contains a more advanced example of how the control can be configured and demonstrates what individual template properties affect
- Appearance and styling - describes how the design of the control can be modified
- Implementing the IUniPageable interface - contains a tutorial describing how a custom control that is pageable by the UniPager control can be created

1.6.5.2 Getting started

The following is a step-by-step tutorial that will show you how to add a simple pager to a CMSRepeater control that displays all pages (menu items) in the system:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSRepeater** control from the toolbox onto the form and set its following properties:

- **ClassNames**: cms.menuitem
- **DelayedLoading**: True

3. Switch to the **Source** tab and add the code marked by the **CMSRepeater templates** comments between the *<cms:CMSRepeater>* tags. The overall code of the CMSRepeater control should look like this:

```
<cms:CMSRepeater ID="CMSRepeater1" runat="server" ClassNames="cms.menuitem"
DelayedLoading="true">

          <%-- CMSRepeater templates
          ------------------------------------------------------------ --%>

          <ItemTemplate>
             <%# HTMLHelper.HTMLEncode( Convert.ToString(Eval("NodeAliasPath"))) %
          >
          </ItemTemplate>
          <AlternatingItemTemplate>
             <font color="#999999"><%# HTMLHelper.HTMLEncode( Convert.ToString
```

```
            (Eval("NodeAliasPath"))) %>
               </font>
            </AlternatingItemTemplate>
            <SeparatorTemplate>
               </li>
               <li>
            </SeparatorTemplate>

            <%-- CMSRepeater templates
            ------------------------------------------------------------ --%>

</cms:CMSRepeater>
```

This sets the templates used by the CMSRepeater to display the pages (menu items). The control dynamically replaces the *<%# … %>* tags with values of the currently displayed record. This is then repeated for every record in the data source.

4. Switch back to the **Design** tab, drag and drop a **UniPager** control from the toolbox onto the form one line below the CMSRepeater and set its **PageControl** property to *CMSRepeater1*.

5. Switch to the **Source** tab and add the code marked by the **UniPager templates** comments between the *<cms:UniPager>* tags. The overall code of the UniPager control should look like this:

```
<cms:UniPager ID="UniPager1" runat="server" PageControl="CMSRepeater1">

            <%-- UniPager templates
            ------------------------------------------------------------ --%>

            <PageNumbersTemplate>
                <a href="<%# Eval("PageURL") %>"><%# Eval("Page") %></a>
            </PageNumbersTemplate>

            <%-- UniPager templates
            ------------------------------------------------------------ --%>
</cms:UniPager>
```

This sets the minimum required template that enables the UniPager with a very simple design. Please see the Structure topic to learn about the more advanced templates.

6. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like this:

/Home
/Services
/News
/Partners
/Company
/Forums
/Wiki
/Examples
/Blogs
/Events
1 2 3 4 5 6 7 8 9 10

1.6.5.3 Configuration

In addition to the properties from Paging controls - common properties, the following properties of the UniPager control can be set or used in the API:

Property Name	Description	Sample Value
DataSourceItemsCount	The amount of items in the data source.	
DirectPageControlID	The ID of the control used for direct page changing.	
DisplayFirstLastAutomatically	If enabled, the first and last buttons of the pager will be displayed only when there is no other way of accessing the first or last page through the pager.	
DisplayPreviousNextAutomatically	If enabled, the previous and next buttons of the pager will be displayed only when there is no other way of accessing the previous or next page through the pager.	
EnvelopeTag	The current envelope tag.	
GroupSize	The amount of page links displayed in one group.	
HidePagerForSinglePage	If true, the pager is hidden if only one page is displayed.	
HTMLEnvelopeRenderingMode	The HTML envelope rendering mode for the current page.	"Always" "Never" "OnlyForUpdatePanel"
PageControl	The ID of the control to be paged.	
PagedControl	The object of the control to be paged.	
PagerMode	Determines the type of the used paging parameter. It can either be passed through the URL (QueryString) or through postback (PostBack).	"PostBack" "QueryString"
QueryStringKey	Name of the query string parameter that contains the current page number.	"pagenumber"
RelatedData	Custom data connected to the object.	

1.6.5.4 Structure

This topic shows an example of how the UniPager control looks when all of its template properties are defined. If you wish to create this example for yourself, please follow the tutorial in the Getting started topic up to and including step **4**, then continue with the following steps:

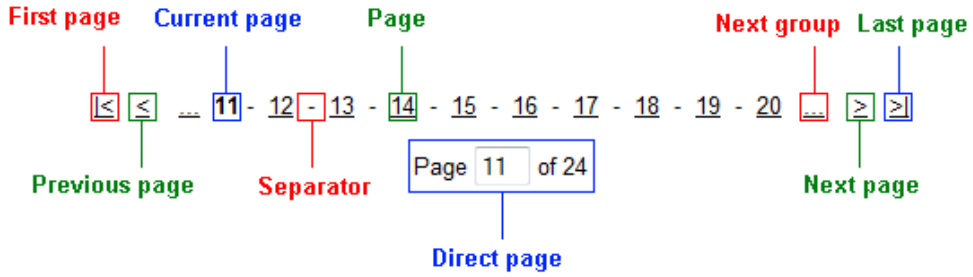
1. Add the code marked by the **UniPager templates** comments between the *<cms:UniPager>* tags. The overall code of the UniPager control should look like this:

```
<cms:UniPager ID="UniPager1" runat="server" PageControl="CMSRepeater1">

          <%-- UniPager templates
          ------------------------------------------------------- --%>

          <PageNumbersTemplate>
              <a href="<%# Eval("PageURL") %>"><%# Eval("Page") %></a>
          </PageNumbersTemplate>
          <CurrentPageTemplate>
              <strong><%# Eval("Page") %></strong>
          </CurrentPageTemplate>
          <PageNumbersSeparatorTemplate>
               - 
          </PageNumbersSeparatorTemplate>
          <FirstPageTemplate>
              <a href="<%# Eval("FirstURL") %>">|&lt;</a>
          </FirstPageTemplate>
          <LastPageTemplate>
              <a href="<%# Eval("LastURL") %>">&gt;|</a>
          </LastPageTemplate>
          <PreviousPageTemplate>
              <a href="<%# Eval("PreviousURL") %>">&lt;</a>
          </PreviousPageTemplate>
          <NextPageTemplate>
              <a href="<%# Eval("NextURL") %>">&gt;</a>
          </NextPageTemplate>
          <PreviousGroupTemplate>
              <a href="<%# Eval("PreviousGroupURL") %>">...</a>
          </PreviousGroupTemplate>
          <NextGroupTemplate>
              <a href="<%# Eval("NextGroupURL") %>">...</a>
          </NextGroupTemplate>
          <DirectPageTemplate>
              Page
              <asp:TextBox ID="DirectPageControl" runat="server" Style="width:
          25px;" />
              of
              <%# Eval("Pages") %>
          </DirectPageTemplate>
          <LayoutTemplate>
              <asp:PlaceHolder runat="server" ID="plcFirstPage"></asp:PlaceHolder>
              <asp:PlaceHolder runat="server" ID="plcPreviousPage"></asp:
          PlaceHolder> 
              <asp:PlaceHolder runat="server" ID="plcPreviousGroup"></asp:
          PlaceHolder>
              <asp:PlaceHolder runat="server" ID="plcPageNumbers"></asp:
          PlaceHolder>
              <asp:PlaceHolder runat="server" ID="plcNextGroup"></asp:PlaceHolder>
           
              <asp:PlaceHolder runat="server" ID="plcNextPage"></asp:PlaceHolder>
              <asp:PlaceHolder runat="server" ID="plcLastPage"></asp:PlaceHolder>
              <br />
              <asp:PlaceHolder runat="server" ID="plcDirectPage"></asp:PlaceHolder
          >
          </LayoutTemplate>
```

```
            <%-- UniPager templates
            ------------------------------------------------------ --%>
</cms:UniPager>
```

This sets all the templates of the UniPager control.

2. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should contain a pager like in the following diagram (without the descriptions), which shows the structure of the UniPager control. Individual areas are described below.



- **Layout Template** - determines the overall design of the displayed pager. To place the locations of individual templates into the layout, use PlaceHolder controls with their *ID* properties set exactly like in the example, e.g. *plcFirstPage* for the *FirstPageTemplate* etc. The content of individual pages is dependant on the control that the UniPager is ensuring paging for. The maximum amount of displayed items can be set through the UniPager control's *PageSize* property.
- **Page** - this area is defined by the code of the *PageNumbersTemplate*. It is usually used to display the general page links of the pager. The amount of displayed page links can be set by the UniPager control's *GroupSize* property.
- **Current page** - this area is defined by the code of the *CurrentPageTemplate*. It is usually used to display the number of the currently selected page.
- **Direct page** - this area is defined by the code of the *DirectPageTemplate*. It is usually used to display a control that allows direct switching between pages. The *ID* property of the used control must be set to *DirectPageControl* as in the example.
- **Separator** - this area is defined by the code of the *PageNumbersSeparatorTemplate*. It is placed between every page number in the pager.
- **First/Last page** - these areas are defined by the code of the *FirstPageTemplate* and *LastPageTemplate*. They are usually used to display links to the first and last page of the pager. If the UniPager control's *DisplayFirstLastAutomatically* property is set to *true*, this area is only shown when there is no other way of accessing the first or last page through the pager.
- **Next/Previous page** - these areas are defined by the code of the *NextPageTemplate* and *PreviousPageTemplate*. They are usually used to display links to the next and previous page of the pager. If the UniPager control's *DisplayPreviousNextAutomatically* property is set to *true*, this area is only shown when there is no other way of accessing the previous or next page through the pager.
- **Next/Previous group** - these areas are defined by the code of the *NextGroupTemplate* and *PreviousGroupTemplate*. They are usually used to display links to the next and previous group of pages.

1.6.5.5 Appearance and styling

The appearance of the UniPager control is determined by the code of its templates and by certain other properties.

The following templates can be defined within the tags of the UniPager control. Please refer to the Structure topic to see what individual templates represent.

Template Name	Description	Sample Value
CurrentPageTemplate	Code of the template used for the current page in the pager. Use *<%# Eval("Page") %>* to get the current page number, *<%# Eval ("PageURL") %>* to get page the URL or *<% # Eval("PageLink") %>* to get the page link.	`<strong><%# Eval("Page") %></strong>`
DirectPageTemplate	Code of the template used for direct page changing. Use a **TextBox** or **DropDownList** control with ID *DirectPageControl* to register the page change event.	`Page <asp:TextBox ID ="DirectPageControl" runat="server" Style=" width: 25px;" /> of <%# Eval("Pages") %>`
FirstPageTemplate	Code of the template used for the link to the first page in the pager. Use *<%# Eval ("FirstURL") %>* to get the link to the first page.	`<a href="<%# Eval ("FirstURL") %>">|<</ a>`
LastPageTemplate	Code of thetemplate used for the link to the last page in the pager. Use *<%# Eval ("LastURL") %>* to get the link to the last page.	`<a href="<%# Eval ("LastURL") %>">>|</a >`
LayoutTemplate	Code of the template used for the overall pager layout.	
NextGroupTemplate	Code of the template used for the link to the next group of pages. Use *<%# Eval ("NextGroupURL") %>* to get the link to the next group.	`<a href="<%# Eval ("NextGroupURL") %>">... </a>`
NextPageTemplate	Code of the template used for the link to the next page. Use *<%# Eval("NextURL") %>* to get the link to the next page.	`<a href="<%# Eval ("NextURL") %>">></a>`
PageNumbersSeparator Template	Code of the template used for the separator between page links in the pager.	` `
PageNumbersTemplate	Code of the template used for page links in the pager. Use *<%# Eval("Page") %>* to get the current page number, *<%# Eval ("PageURL") %>* to get the URL of the current page or *<%# Eval("PageLink") %>* to get the page link.	`<a href="<%# Eval ("PageURL") %>"><%# Eval ("Page") %></a>`

PreviousGroupTemplate	Code of the template used for the link to the previous group of pages. Use *<%# Eval ("PreviousGroupURL") %>* to get the link to the next group.	`<a href="<%# Eval ("PreviousGroupURL") %> ">...</a>`
PreviousPageTemplate	Code of the template used for the link to the previous page. Use *<%# Eval ("PreviousURL") %>* to get the link to the next page.	`<a href="<%# Eval ("PreviousURL") %>">< </a>`

1.6.5.6 Implementing the IUniPageable interface

The following is a step-by-step tutorial that will show you how to create a custom control that displays users, and have it implement the IUniPageable interface to allow it to be paged by the UniPager control:

1. Create a new **Web User Control** called *UniPageable_Repeater.ascx* inside a folder called *IUniPageableExample* in your website installation directory.

2. Now add the following code to the user control:

```
<asp:Repeater ID="Repeater1" runat="server">

    <ItemTemplate>

    <div>
    <%# Eval("UserName") %>
    </div>

    </ItemTemplate>

</asp:Repeater>
```

This adds a standard .NET Repeater control that will be used to display user names.

3. Switch to the code behind of the control and add the following code into it. Please keep in mind that the name of the class will be different according to the location of your web user control.

[C#]

```
using CMS.SiteProvider;
using CMS.Controls;

public partial class IUniPageableExample_UniPageable_Repeater : System.Web.UI.
UserControl, IUniPageable
{
    // Private variable containing the value of the PagerForceNumberOfResults
property
    private int mPagerForceNumberOfResults = -1;

    // Private variable used to contain the data source of the control
    private object dataSource = null;
```

```
    protected void Page_Load(object sender, EventArgs e)
    {
        // Loads all users from the database into the data source
        dataSource = UserInfoProvider.GetAllUsers();

        // Call page binding event
        if (OnPageBinding != null)
        {
            OnPageBinding(this, null);
        }

        // Assigns the data source to the encapsulated Repeater control
        Repeater1.DataSource = dataSource;
        Repeater1.DataBind();
    }

    /// <summary>
    /// Occurs when the control binds page data
    /// </summary>
    public event EventHandler<EventArgs> OnPageBinding;

    /// <summary>
    /// Occurs when the pager changes the page and the current PagerMode is set to
postback
    /// </summary>
    public event EventHandler<EventArgs> OnPageChanged;

    /// <summary>
    /// Exposes the data object for the pager
    /// </summary>
    public object PagerDataItem
    {
        get
        {
            return dataSource;
        }
        set
        {
            dataSource = value;
            Repeater1.DataSource = value;
        }
    }

    /// <summary>
    /// If set, the DataSet containing paged items is not modified by the pager,
    /// but the pager itself behaves as if the amount of paged items were
identical to this value.
    /// By default this property is disabled (set to -1)
    /// </summary>
    public int PagerForceNumberOfResults
    {
        get
        {
            return mPagerForceNumberOfResults;
        }
        set
        {
```

```
            mPagerForceNumberOfResults = value;
        }
    }

    /// <summary>
    /// Evokes databinding for the control
    /// </summary>
    public void ReBind()
    {
        if (OnPageChanged != null)
        {
            OnPageChanged(this, null);
        }

        Repeater1.DataBind();
    }
}
```

This code causes the control to implement the IUniPageable interface and adds the implementation for all its required members.

4. Save the changes to both files. Now the newly created control is pageable by the UniPager control. Create a new **Web form** somewhere in your website installation directory, where this functionality will be demonstrated.

5. Add the following directive to the beginning of the code of the new web form to register the custom UniPageable_Repeater control:

```
<%@ Register src="~/IUniPageableExample/UniPageable_Repeater.ascx" tagname
="UniPageableRepeater"
tagprefix="asp1" %>
```

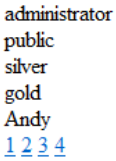
6. Now add the following code into the content area of the page (by default between the ** ** tags inside the **<form>** element):

```
<asp1:UniPageableRepeater ID="UPRepeater1" runat="server" />

<cms:UniPager ID="UniPager1" runat="server" PageControl="UPRepeater1" PageSize
="5">

<PageNumbersTemplate>
    <a href="<%# Eval("PageURL") %>"><%# Eval("Page") %></a>
</PageNumbersTemplate>

</cms:UniPager>
```

This adds the custom control you created in the previous steps and a UniPager that is assigned to page it.

7. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list of user names with a simple pager like in the following

image:



1.7 Basic Controls

1.7.1 Overview

Basic Controls are a set of controls that provide the same functionality as many standard ASP.NET controls, but extend them with some additional configuration options. Their main purpose is to provide a way to display external data that doesn't use Kentico CMS architecture.

The following control categories are available:

- Navigation
- Listings and viewers

1.7.2 Navigation

1.7.2.1 Overview

This section contains controls that provide basic navigation functionality.

Available controls:

- BasicTabControl

1.7.2.2 BasicTabControl

1.7.2.2.1 Overview

The BasicTabControl control displays a tab menu according to data provided by a two dimensional array. BasicTabControl doesn't use Kentico CMS database or API and can be used to navigate to pages outside of Kentico CMS websites.

	Please note If you want to display a tab menu based on data from Kentico CMS, please use the CMSTabControl control.

The following topics are available to help you familiarize yourself with the BasicTabControl control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control

- Appearance and styling - lists which CSS classes can be used with the control and how its appearance can be modified

1.7.2.2.2 Getting started

The following is a step-by-step tutorial that will show you how to display a simple tab menu using the BasicTabControl control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **BasicTabControl** control from the toolbox onto the form.

3. Switch to the **Source** tab. The code of the BasicTabControl control should look like this:

```
<cms:BasicTabControl ID="BasicTabControl1" runat="server" />
```

Now add the following code between the tags of the <*head*> element:

```
<style type="text/css">

/* Tab menu class definitions */
.TabControlTable { FONT-SIZE: 14px; FONT-FAMILY: Arial,Verdana }
.TabControlRow { }
.TabControl { BORDER-RIGHT: black 1px solid; BORDER-TOP: black 1px solid; FONT-
WEIGHT: bold; BACKGROUND: #e7e7ff; BORDER-LEFT: black 1px solid; CURSOR: hand;
COLOR: black }
.TabControlSelected { BORDER-RIGHT: black 1px solid; BORDER-TOP: black 1px solid;
FONT-WEIGHT: bold; BACKGROUND: #4a3c8c; BORDER-LEFT: black 1px solid; CURSOR:
default; COLOR: white }
.TabControlLinkSelected { COLOR: white; TEXT-DECORATION: none }
.TabControlLink { COLOR: black; TEXT-DECORATION: none }
.TabControlLeft { WIDTH: 1px }
.TabControlRight { WIDTH: 0px }
.TabControlSelectedLeft { WIDTH: 1px }
.TabControlSelectedRight { WIDTH: 0px }

</style>
```

This sets the CSS styles that will modify the appearance of the tab menu. The BasicTabControl control renders tabs even without any CSS classes specified, but they are extremely basic and not very user friendly. You can find out what individual CSS classes affect in the Appearance and styling topic.

The classes are defined in the <head> element only for this quick example, if you wish to use the control on a Kentico CMS website, it is recommended to define these classes in the used stylesheet in the administration interface at **Site Manager -> Development -> CSS stylesheets**.

4. Add the following code just after the <*cms:BasicTabControl*> element. It will display a stripe under the tabs.

```
<hr style="width:100%; height:2px; margin-top:0px;" />
```

5. Switch to the code behind of the page and add the following code to the **Page_Load** method:

[C#]

```
string[,] tabs = new string[3, 7];

tabs[0, 0] = " Home ";
tabs[0, 1] = "alert('It is very simple!');";
tabs[0, 2] = "http://www.kentico.com";
tabs[1, 0] = " Features ";
tabs[1, 2] = "http://www.kentico.com/free-cms-asp-net.aspx";
tabs[2, 0] = " Download ";
tabs[2, 2] = "http://www.kentico.com/download/trial-version.aspx";
tabs[2, 3] = "Some tooltip";

BasicTabControl1.Tabs = tabs;
BasicTabControl1.SelectedTab = 0;
BasicTabControl1.UrlTarget = "_blank";
BasicTabControl1.UseClientScript = true;
```

[VB.NET]

```
Dim tabs(2, 6) As String

tabs(0, 0) = " Home "
tabs(0, 1) = "alert('It\'s very simple!');"
tabs(0, 2) = "http://www.kentico.com"
tabs(1, 0) = " Features "
tabs(1, 2) = "http://www.kentico.com/free-cms-asp-net.aspx"
tabs(2, 0) = " Download "
tabs(2, 2) = "http://www.kentico.com/download/trial-version.aspx"
tabs(2, 3) = "Some tooltip"

BasicTabControl1.Tabs = tabs
BasicTabControl1.SelectedTab = 0
BasicTabControl1.UrlTarget = "_blank"
BasicTabControl1.UseClientScript = True
```

This creates an array of tab items and assigns it to the BasicTabControl control. It also selects the first tab, sets the target frame to "_blank" and enables client script.

6. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a tab menu like this:

1.7.2.2.3 Configuration

The following properties of the BasicTabControl control can be set or used in the API:

Property Name	Description	Sample Value
HideControlForZeroRows	Hides the control when no data is loaded. Default value is False.	
RenderedHTML	Allows you to get or set the HTML code rendered by the control. You need to set this property before the Render event - e.g. in the OnLoad event.	
RenderLinkTitle	Specifies if the TITLE tag of links should be rendered.	
SelectedTab	Index of the selected tab.	
SelectFirstItemByDefault	Indicates whether the first tab should be selected by default.	
TabControlIDPrefix	Prefix that will be used for all IDs in the HTML code rendered by the BasicTabControl. It's useful if you need to place multiple tab controls on the same page.	"FirstTab"
TabControlLayout	Specifies the layout of the tab control.	"Horizontal" "Vertical"
Tabs	A 2 dimensional array where each row represents a tab and the columns represent the following: tabs[0, 0] = title tabs[0, 1] = OnClick JavaScript tabs[0, 2] = URL tabs[0, 3] = tooltip tabs[0, 4] = left image URL tabs[0, 5] = center image URL tabs[0, 6] = right image URL **Please note:** 1. The image URLs in columns 4, 5 and 6 are optional. 2. If you specify the center image URL, the image is displayed instead of the title.	tabs[0, 0] = " Home "; tabs[0, 1] = "alert('It is very simple!');"; tabs[0, 2] = "http://www.kentico.com"; tabs[0, 3] = "Some tooltip"; tabs[0, 4] = "leftimage.gif"; tabs[0, 5] = "centerimage.gif"; tabs[0, 6] = "rightimage.gif";
UrlTarget	If a URL is set for tab items, this property specifies the target frame for all URLs.	"_blank"
UseClientScript	Indicates if client script should be generated	

	for each tab.	
UsePostback	Indicates if postback should be fired when a tab is clicked.	
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	"No records found."

1.7.2.2.4 Appearance and styling

The appearance of the BasicTabControl control is determined by the CSS classes it uses and by some of its properties.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
TabControlTable	Table that contains the tabs (<TABLE> tag).
TabControlRow	Table row (<TR> tag).
TabControl	Tab item (<TD> tag).
TabControlSelected	Selected tab item (<TD> tag).
TabControlLink	Tab item link - if a URL is specified (<A> tag).
TabControlLinkSelected	Selected tab item link - if a URL is specified (<A> tag).
TabControlLeft	Left side of the tab item (<TD> tag).
TabControlRight	Right side of the tab item (<TD> tag).
TabControlSelectedLeft	Left side of the selected tab item (<TD> tag).
TabControlSelectedRight	Right side of the selected tab item (<TD> tag).

1.7.3 Listings and viewers

1.7.3.1 Overview

The controls in this section provide various ways to display data from a specified data source. Options include different types of lists, tables and calendars. They are derived from standard ASP.NET list controls.

These controls can work with any bindable data source, not just Kentico CMS documents. They are also the best option for plain displaying of data from Kentico CMS data sources, because their performance is better than that of the more complex CMS controls.

Available controls:

- BasicCalendar
- BasicDataGrid
- BasicDataList
- BasicRepeater

1.7.3.2 BasicCalendar

1.7.3.2.1 Overview

The BasicCalendar control allows you to display a calendar with events, news and other date-based documents specified by a data source. It is derived from the intrinsic ASP.NET Calendar control, which means it provides advanced formatting capabilities and it allows you to display additional information for appropriate days.

The BasicCalendar can be used with any bindable data source - it doesn't use Kentico CMS database or API.

Please note

The CMSCalendar control provides a more convenient way to display data from the Kentico CMS Database in a calendar.

The following topics are available to help you familiarize yourself with the BasicCalendar control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.7.3.2.2 Getting started

The following is a step-by-step tutorial that will show you how to display a calendar that contains links to news items (CMS.News documents) on days when news items were released using the BasicCalendar control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **BasicCalendar** control from the toolbox onto the form.

3. Switch to the **Source** tab and add the code marked by the **BasicCalendar templates** comments between the *<cms:BasicCalendar>* tags. The overall code of the BasicCalendar control should look like this:

```
<cms:BasicCalendar ID="BasicCalendar1" runat="server">

          <%-- BasicCalendar templates
          ------------------------------------------------------------ --%>

          <ItemTemplate>
              <br/>
              <a href='<%# ResolveUrl(CMS.CMSHelper.CMSContext.GetUrl(Convert.
          ToString(Eval("NodeAliasPath")), Convert.ToString(Eval
          ("DocumentUrlPath")))) %>'>
              <%# Eval("NewsTitle") %>
```

```
            </a>
        </ItemTemplate>

        <NoEventsTemplate>
            <br>
            No Event
        </NoEventsTemplate>

        <%-- BasicCalendar templates
        ------------------------------------------------------------ --%>

</cms:BasicCalendar>
```

This sets the template used to specify the layout of days with and without news releases. For days with news releases, the control dynamically replaces the <%# ... %> tags with values of the current news document from the data source.

4. Switch to the code behind of the page and add the following reference to the beginning of the code:

[C#]

```
using CMS.CMSHelper;
```

[VB.NET]

```
Imports CMS.CMSHelper
```

5. Now add the following code to the **Page_Load** method:

[C#]

```
BasicCalendar1.DataSource = TreeHelper.SelectNodes("/%", false, "cms.news", null,
"NewsReleaseDate", -1, true);

BasicCalendar1.DayField = "NewsReleaseDate";
BasicCalendar1.DataBind();
```

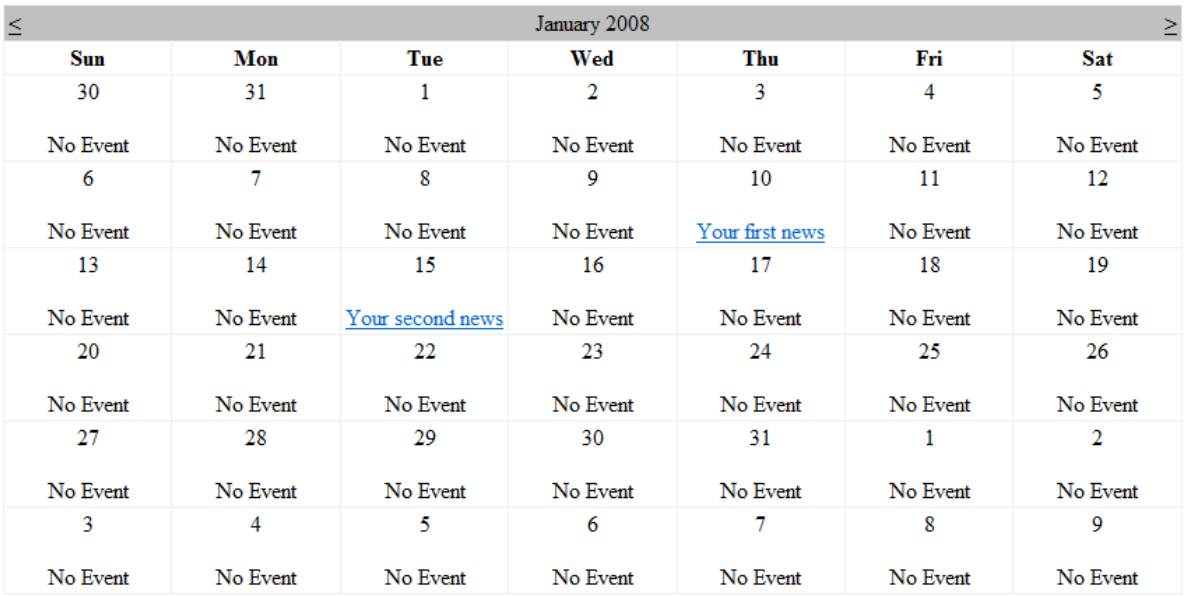
[VB.NET]

```
BasicCalendar1.DataSource = TreeHelper.SelectNodes("/%", False, "cms.news",
Nothing, "NewsReleaseDate", -1, True)

BasicCalendar1.DayField = "NewsReleaseDate"
BasicCalendar1.DataBind()
```

This retrieves all news items from the Kentico CMS database as a DataSet and assigns it as the data source of the BasicCalendar control. It also fills the **DayField** property, which tells the control which field

it should get date/time values from.

6. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a calendar like this:



≤	January 2008					≥
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
30	31	1	2	3	4	5
No Event	No Event	No Event	No Event	No Event	No Event	No Event
6	7	8	9	10	11	12
No Event	No Event	No Event	No Event	Your first news	No Event	No Event
13	14	15	16	17	18	19
No Event	No Event	Your second news	No Event	No Event	No Event	No Event
20	21	22	23	24	25	26
No Event	No Event	No Event	No Event	No Event	No Event	No Event
27	28	29	30	31	1	2
No Event	No Event	No Event	No Event	No Event	No Event	No Event
3	4	5	6	7	8	9
No Event	No Event	No Event	No Event	No Event	No Event	No Event

1.7.3.2.3 Configuration

The following properties of the BasicCalendar control can be set or used in the API:

Property Name	Description	Sample Value
CustomTimeZone	A custom time zone to be used represented by a TimeZoneInfo object.	
DataMember	Name of the table when a DataSet is used as a DataSource.	
DataSource	Data source with calendar events - either a DataSet or DataTable object.	
DayField	Name of the field in the data source that contains the date/time value.	"NewsReleaseDate"
DayWithEventsStyle	Style of days that have an event.	
DisplayOnlySingleDayItem	Indicates whether only one item is displayed in a single day item.	
HideDefaultDayNumber	Indicates whether the day number should be displayed or if the day cell should be fully filled by the used template.	
RelatedData	Custom data connected to the object.	
TimeZone	Specifies the time zone type.	"Custom"

		"Inherit" "Server" "User" "WebSite"

As this control is inherited from the ASP.NET Calendar control, it also has all of its standard properties.

1.7.3.2.4 Appearance and styling

You can modify the appearance of the BasicCalendar control by setting the standard properties inherited from the ASP.NET Calendar control. You can find more details on particular properties in the .NET Framework documentation for the Calendar class.

A common way to set the appearance of this control is to assign a skin through the **SkinID** property. Skins can be defined in .skin files under individual themes in the **App_Themes** folder. More information can be found in the .NET Skins and Themes documentation.

The design of day cells is determined by the code of the templates defined within the tags of the BasicCalendar control. The following are available:

Template Name	Description	Sample Value
ItemTemplate	Template for displaying a day with an event.	
NoEventsTemplate	Template for displaying a day without any event.	

1.7.3.3 BasicDataGrid

1.7.3.3.1 Overview

The BasicDataGrid control allows you to display items from a data source in a customizable table. It is derived from the intrinsic ASP.NET DataGrid control, so it automatically provides paging and sorting support. You can use the standard DataGrid designer to set up BasicDataGrid style and behavior.

The BasicDataGrid can be used with any bindable data source - it doesn't use Kentico CMS database or API.

Please note

The CMSDataGrid control provides a more convenient way to display data from the Kentico CMS Database in a table.

The following topics are available to help you familiarize yourself with the BasicDataGrid control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.7.3.3.2 Getting started

The following is a step-by-step tutorial that will show you how to display a table that contains laptops (CMS.Laptop documents) from the sample Corporate Site using the BasicDataGrid control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **BasicDataGrid** control from the toolbox onto the form.

3. Right-click the BasicDataGrid on the form, select **AutoFormat...** and choose a scheme.

4. Right-click the BasicDataGrid on the form, select **Show Smart Tag** and then **Property Builder...**; the **BasicDataGrid1 Properties** dialog will be displayed.

On the **General** tab, check the **Allow sorting** box.

Now switch to the **Columns** tab, where you can specify the columns that will be displayed, and uncheck the **Create columns automatically at run time** box.

Add a new **Bound Column** from the **Available columns** list to the **Selected columns** list. Enter the following values into the appropriate fields:

- **Header text:** Name
- **Data Field**: LaptopName
- **Sort expression**: LaptopName

Add another **Bound column**. Enter the following values in the appropriate fields:

- **Header text:** Price
- **Data Field**: SKUPrice
- **Sort expression**: SKUPrice

Click **OK**.

5. Switch to the code behind of the page and add the following references to the beginning of the code:

[C#]

```
using System.Data;

using CMS.CMSHelper;
```

[VB.NET]

```
Imports System.Data

Imports CMS.CMSHelper
```

6. Now add the following code to the **Page_Load** method:

[C#]

```
DataSet ds = TreeHelper.SelectNodes("/%", false, "CMS.Laptop", "", "LaptopName", -
1, true);

BasicDataGrid1.DataSource = ds;
BasicDataGrid1.DataBind();
```

[VB.NET]

```
Dim ds As DataSet = TreeHelper.SelectNodes("/%", False, "CMS.Laptop", "",
"LaptopName", -1, True)

BasicDataGrid1.DataSource = ds
BasicDataGrid1.DataBind()
```

This retrieves all CMS.Laptop documents from the Kentico CMS database as a DataSet and assigns it as the data source of the BasicDataGrid control.

7. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a table similar to the following (depending on the chosen scheme):

Name ▲	Price
Acer Aspire 3105WLMi	490
Asus F3U AP059C	999

1.7.3.3.3 Configuration

The following properties of the BasicDataGrid control can be set or used in the API:

Property Name	Description	Sample Value
DataBindByDefault	Indicates whether data binding should be performed by default during the **init** event.	
HideControlForZeroRows	Indicates whether the control should be hidden when no data is loaded. The default value is False.	
ProcessSorting	Indicates whether sorting should be processed in the DataView instead of sorting on the SQL level.	
RelatedData	Custom data connected to the object.	
SetFirstPageAfterSortChange	Indicates if the page index should be set to the first page when sorting is changed.	
SortAscending	Indicates whether sorting should be	

	ascending. Default value is True.	
SortField	Gets or sets the sort field. It can be used for setting the default sort field.	"NewsReleaseDate"
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	"No records found"

As this control is inherited from the ASP.NET DataGrid control, it also has all of its standard properties.

1.7.3.3.4 Appearance and styling

You can modify the appearance of the BasicDataGrid control by setting the standard properties inherited from the ASP.NET DataGrid control. You can find more details on particular properties in the .NET Framework documentation for the DataGrid class.

A common way to set the appearance of this control is to assign a skin through the **SkinID** property. Skins can be defined in .skin files under individual themes in the **App_Themes** folder. More information can be found in the .NET Skins and Themes documentation.

1.7.3.4 BasicDataList

1.7.3.4.1 Overview

The BasicDataList control allows you to display items from a data source in a list based on specified templates. It is is derived from the intrinsic ASP.NET DataList control, so standard ASP.NET configuration techniques can be used to set up BasicDataList style and behaviour.

The BasicDataList can be used with any bindable data source - it doesn't use Kentico CMS database or API.

Unlike the BasicRepeater control, the BasicDataList allows you to display data in several columns.

The portal engine equivalent of the BasicDataList control is the **Listings and viewers -> Basic datalist** web part.

Please note

The CMSDataList control provides a more convenient way to display data from Kentico CMS.

The following topics are available to help you familiarize yourself with the BasicDataList control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.7.3.4.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list of cell phones (CMS.Cellphone documents) from the sample Corporate Site using the BasicDataList control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **BasicDataList** control from the toolbox onto the form and set its **RepeatColumns** property value to *2*. This determines the number of columns that should be displayed.

3. Switch to the **Source** tab and add the code marked by the **BasicDataList template** comments between the *<cms:BasicDataList>* tags. The overall code of the BasicDataList control should look like this:

```
<cms:BasicDataList ID="BasicDataList1" runat="server" RepeatColumns="2">

          <%-- BasicDataList template
          ------------------------------------------------------------ --%>

          <itemtemplate>
             <div style="width: 100%">
              <h3>
                 <%# Eval("CellName") %>
              </h3>
              <%# EcommerceFunctions.GetProductImage(Eval("SKUImagePath"), 200,
          Eval("CellName")) %>
             </div>
          </itemtemplate>

          <%-- BasicDataList template
          ------------------------------------------------------------ --%>

</cms:BasicDataList>
```

This defines the template used by the BasicDataList to display items. The control dynamically replaces the *<%# … %>* tags with values of the currently displayed record. This is then repeated for every record in the data source.

4. Switch to the code behind of the page and add the following references to the beginning of the code:

[C#]

```
using System.Data;

using CMS.CMSHelper;
```

[VB.NET]

```
Imports System.Data
```

```
Imports CMS.CMSHelper
```

5. Now add the following code to the **Page_Load** method:

[C#]

```
DataSet ds = TreeHelper.SelectNodes("/%", false, "CMS.Cellphone", "", "CellName",
-1, true);

BasicDataList1.DataSource = ds;
BasicDataList1.DataBind();
```

[VB.NET]

```
Dim ds As DataSet = TreeHelper.SelectNodes("/%", False, "CMS.CellPhone", "",
"CellName", -1, True)

BasicDataList1.DataSource = ds
BasicDataList1.DataBind()
```

This retrieves all CMS.CellPhone documents from the Kentico CMS database as a DataSet and assigns it as the data source of the BasicDataList control.

6. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list similar to the following:

Nokia N73 **Samsung SGH E250**

1.7.3.4.3 Configuration

The following properties of the BasicDataList control can be set or used in the API:

Property Name	Description	Sample Value
DataBindByDefault	Indicates whether data binding should be performed by default during the **init** event.	
HideControlForZeroRows	Indicates whether the control should be hidden when no data is loaded. The default	

	value is False.	
PagerDataItem	Gets or sets the pager data item object.	
PagerForceNumberOfResults	If set, the DataSet containing paged items is not modified by the pager, but the pager itself behaves as if the amount of paged items were identical to this value. The value must be set to *-1* for the property to be disabled.	
RelatedData	Custom data connected to the object.	
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	"No records found."

As this control is inherited from the ASP.NET DataList control, it also has all of its standard properties.

1.7.3.4.4 Appearance and styling

You can modify the appearance of the BasicDataList control by setting the standard properties and templates inherited from the ASP.NET DataList control. You can find more details on particular properties in the .NET Framework documentation for the DataList class.

The following templates can be defined:

Template Name	Description	Sample Value
AlternatingItemTemplate	Code of the template applied to alternating items.	
EditItemTemplate	Code of the template applied to the item selected for editing.	
FooterTemplate	Code of the template used for the footer of the list.	
HeaderTemplate	Code of the template used for the header of the list.	
ItemTemplate	Code of the template applied to standard items.	`<div style="width: 100%"> <h3> <%# Eval("CellName") %> </h3> <%# EcommerceFunctions. GetProductImage(Eval( "SKUImagePath"), 200) %> </div>`
SelectedItemTemplate	Code of the template applied to the selected item.	
SeparatorTemplate	Code of the template used for separating items.	

1.7.3.5 BasicRepeater

1.7.3.5.1 Overview

The BasicRepeater control allows you to display items from a data source in a list based on specified templates. It is derived from the intrinsic ASP.NET Repeater control, so standard ASP.NET configuration techniques can be used to set up BasicRepeater style and behaviour.

BasicRepeater can be used with any bindable data source - it doesn't use Kentico CMS database or API.

The portal engine equivalent of the BasicRepeater control is the **Listings and viewers -> Basic repeater** web part.

Please note

The CMSRepeater control provides a more convenient way to display data from Kentico CMS.

The following topics are available to help you familiarize yourself with the BasicRepeater control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.7.3.5.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list of PDAs (CMS.PDA documents) from the sample Corporate Site using the BasicRepeater control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **BasicRepeater** control from the toolbox onto the form.

3. Switch to the **Source** tab and add the code marked by the **BasicRepeater template** comments between the *<cms:BasicRepeater>* tags. The overall code of the BasicRepeater control should look like this:

```
<cms:BasicRepeater ID="BasicRepeater1" runat="server">

          <%-- BasicRepeater template
          ------------------------------------------------------------ --%>

          <itemtemplate>
              <h3>
                 <%# Eval("PDAName") %>
              </h3>
              <%# EcommerceFunctions.GetProductImage(Eval("SKUImagePath"), 200,
```

```
            Eval("PDAName")) %>
            </itemtemplate>

            <%-- BasicRepeater template
            ------------------------------------------------------------ --%>

</cms:BasicRepeater>
```

This defines the template used by the BasicRepeater to display items. The control dynamically replaces the *<%# ... %>* tags with values of the currently displayed record. This is then repeated for every record in the data source.

4. Switch to the code behind of the page and add the following references to the beginning of the code:

[C#]

```
using System.Data;

using CMS.CMSHelper;
```

[VB.NET]

```
Imports System.Data

Imports CMS.CMSHelper
```

5. Now add the following code to the **Page_Load** method:

[C#]

```
DataSet ds = TreeHelper.SelectNodes("/%", false, "CMS.PDA", "", "PDAName", -1,
true);

BasicRepeater1.DataSource = ds;
BasicRepeater1.DataBind();
```

[VB.NET]

```
Dim ds As DataSet = TreeHelper.SelectNodes("/%", False, "CMS.PDA", "", "PDAName",
-1, True)

BasicRepeater1.DataSource = ds
BasicRepeater1.DataBind()
```

This retrieves all CMS.PDA documents from the Kentico CMS database as a DataSet and assigns it as the data source of the BasicRepeater control.

6. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list similar to the following:

Asus A639

HP iPAQ 114

1.7.3.5.3 Configuration

The following properties of the BasicRepeater control can be set or used in the API:

Property Name	Description	Sample Value
DataBindByDefault	Indicates whether data binding should be performed by default during the **init** event.	
HideControlForZeroRows	Indicates whether the control should be hidden when no data is loaded. The default value is False.	
PagerDataItem	Gets or sets the pager data item object.	
PagerForceNumberOfResults	If set, the DataSet containing paged items is not modified by the pager, but the pager itself behaves as if the amount of paged items were identical to this value. The value must be set to *-1* for the property to be disabled.	
RelatedData	Custom data connected to the object.	
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	"No records found."

As this control is inherited from the ASP.NET Repeater control, it also has all of its standard properties.

1.7.3.5.4 Appearance and styling

You can modify the appearance of the BasicRepeater control by setting the standard properties and templates inherited from the ASP.NET Repeater control. You can find more details on particular properties in the .NET Framework documentation for the Repeater class.

The following templates can be defined:

Template Name	Description	Sample Value
AlternatingItemTemplate	Code of the template applied to alternating items.	
FooterTemplate	Code of the template used for the footer of the list.	
HeaderTemplate	Code of the template used for the header of the list.	
ItemTemplate	Code of the template applied to standard items.	`<div style="width: 100%"> <h3> <%# Eval("CellName") %> </h3> <%# EcommerceFunctions. GetProductImage(Eval( "SKUImagePath"), 200) %> </div>`
SeparatorTemplate	Code of the template used for separating items.	

1.8 CMS Controls

1.8.1 Overview

CMS Controls are a set of controls that were designed to work within the Kentico CMS system. This means they are meant to be used only with data from Kentico CMS database and documents. They automatically perform many routine tasks, which makes them easier to work with, as common use does not require the writing of any additional code.

As they work with CMS documents, most of the controls in this section have a **Path** property that allows the selection of the documents that should be affected. The Path specification in controls and web parts topic explains the way this property should be filled.

To optimize the performance of the websites they are used on, CMS controls provide caching support. To learn more about this subject and how related configuration can be done, please see the Caching topic.

The following control categories are available:

- Navigation
- Listings and viewers
- Edit mode buttons
- Editable regions for ASPX templates
- Search Controls

1.8.2 Path specification in controls and web parts

Many web parts and controls use a **Path** property that allows you to specify which documents should be displayed. This is the **AliasPath** property of the document. You can use either an exact path or utilize special characters for specifying multiple selection or relative paths:

Using wildcard characters % and _

You can use *%* as a wildcard character for any number of characters, which allows you to select all documents under the specified site section.

Examples:

/ - only root
/% - all documents

/Products - only the *Products* document.
/Products/% - all documents under the *Products* document.

You can also use the _ character (underscore) as a wildcard character for a single character.

Examples:

/Product_ - selects documents */ProductA*, */Product1*, etc.

Leaving the Path value empty

In many cases, **the Path value can be left empty**.

For navigation controls/web parts, such as CMSMenu/Drop-down menu, this causes the path to be set to all documents - */%*.

In the case of listing controls/web parts, such as CMSRepeater/Repeater or CMSDataGrid/Grid, the path is set to display all child documents of the page containing the control or web part - <*current alias path*>*/%.*

Using a formatting string to get parts of the path

You can also use special expressions that **extract parts of the current path**, such as this.

Examples:

/{0}/{1}/% - all documents under the second document level of the current path
/{0}/{1}/Details - document *Details* under the second document level of the current path

Using relative paths

You can use relative path expressions to specify **sub-documents or parent documents**:

Examples:

./Product - document *Product* under the current path
../Product - document *Product* under the parent document of the current path
. - current path
.. - parent document of the current path
./% - all documents under the current path
../% - all documents under the parent document of the current path

1.8.3 Caching

What is Caching

Caching allows you to minimize the number of performed database queries. The server can store the data in memory and next time a user requests the content, the server returns content from memory instead of performing a resource-intensive database query. Caching can improve the performance of your website significantly, depending on the specifics of your application.

The content **expires** after the specified time span and must be retrieved from the database again. Each cached item has its name and the cache memory is common for all pages in your Web application.

Caching Support in Kentico CMS

You can manage the caching either by yourself in your code (please see the .NET Framework SDK documentation for more details) or you can leverage caching features of the following Kentico CMS Controls that are also used in CMS web parts:

- Controls in the CMS Controls -> Navigation section
- Controls in the CMS Controls -> Listings and viewers section
- CMSPageManager
- CMSSearchResults

All of these controls offer the following properties, that allow you to set up caching:

Property Name	Description	Sample Value
CacheDependencies	List of the cache keys on which the cached data depends.	cms.user|all
CacheItemName	Name of the cache item the control will use.	"products_" & request.querystring("categoryid")
CacheMinutes	Number of minutes the retrieved content is cached for.	"10"

Cache Expiration Time

By setting the **CacheMinutes** property to a value higher than zero, the control starts to cache its source data. You can configure caching for all Kentico CMS content using the **Cache content** parameter in

Site Manager -> Settings -> website section. If you set any particular value to the CacheMinutes property of a control/web part, it overrides the global settings. If you leave the value empty or set it to -1 (minus one), the global settings apply.

The caching mechanism of Kentico CMS Controls uses absolute expiration time instead of sliding expiration. It means that the cache item expires after a specified period of time regardless of if it was requested or not. It ensures that content is updated from the database at a regular interval.

Overriding the site-level caching settings

If you need to cache most of the content on your website, but still want to have a single control/web part that doesn't use cache, you can configure caching as described in the previous paragraph and set the value 0 (zero) to the **CacheMinutes** property of the particular control. It will override the site-level settings and disable caching for the single control/web part.

Cache Item Name

It's important to understand the **CacheItemName** property: Since the cache is common for all pages in your application, the cache item name should be unique not only for all pages, but also inside one page (in case you use several Kentico CMS Controls with caching on one page).

When you leave the **CacheItemName** property empty, the control automatically generates a name in this form: *URL including parameters*|*control ID*

If the content displayed on the page depends on some parameter, such as a URL parameter or the role of the current user, you need to adjust the **CacheItemName** value accordingly.

Example:

Your page products.aspx displays products according to the category that is passed through the URL parameter **category**. You will need to use code like this to ensure that the content will be cached "per category":

[C#]

```
CMSDataGrid.CacheItemName = "products_grid1_" + Request.QueryString["category"];
```

[VB.NET]

```
CMSDataGrid.CacheItemName = "products_grid1_" & Request.QueryString("category")
```

Cache dependencies

Using the **CacheDependencies** property, you can specify which object changes cause the control/web part's cache to get cleared. Below, you can find a table showing which dummy cache keys get touched when some object gets changed, including some examples. By entering the appropriate dummy keys, one per line, you can specify that when the object gets changed, the cache gets cleared.

If you leave the property empty, default settings will be used. The default settings are configured for each

control and include all possible object changes that the content of the web part could depend on.

Object	Touched keys	Sample values
Document (TreeNode)	node|<sitename>|<aliaspath>|<culture> node|<sitename>|<aliaspath> nodeid|<nodeid> nodeid|<linkednodeid> nodes|<sitename>|<classname>|all **+ for every parent node**: node|<sitename>|<aliaspath>|childnodes	node|corporatesite|/home|en-us node|corporatesite|/home nodeid|12 nodeid|34 nodes|corporatesite|cms.menuitem|all node|sitename|/|childnodes
Any object (except documents)	<classname>|all <classname>|byid|<id> <classname>|byname|<codename> <classname>|byguid|<guid>	cms.user|all cms.user|byid|53 cms.user|byname|administrator cms.user|byguid|1ced44f3-f2fc- …
Metafile	metafile|<guid>	metafile|1ced44f3-f2fc- …
Document attachment	attachment|<guid>	attachment|1ced44f3-f2fc- …
Forum attachment	forumattachment|<guid>	forumattachment|1ced44f3-f2fc- …
Avatar	avatarfile|<guid>	avatarfile|1ced44f3-f2fc- …
Media file	mediafile|<guid> mediafile|preview|<guid>	mediafile|1ced44f3-f2fc- … mediafile|preview|1ced44f3-f2fc- …
Page template	template|<id>	template|12
CacheHelper .ClearFullPageCache	fullpage	fullpage

Example:

1. Let's presume that you have a control/web part displaying some information about users. Therefore, whenever some user gets their details modified, the control/web part's cache should be cleared. To ensure this, you need to enter **cms.user|all** into the property, which is the dummy key that would get touched whenever some user's details get changed.

2. Now let's presume that your control/web part is displaying information about one particular user - the administrator. Her user name is *administrator*, her ID is *53* and her GUID is something beginning with *1ced44f3-f2fc*. So if you want to have the cache cleared whenever this user's details are changed, you can use any of the following three keys that specify the user by the previously named properties:

- **cms.user|byid|53**
- **cms.user|byname|administrator**
- **cms.user|byguid|1ced44f3-f2fc-...**

1.8.4 CMS controls - common properties

The following properties provide configuration options for selecting Kentico CMS documents to most of the CMS Navigation and Standard listings and viewers controls. Please be aware that certain controls only use some of these properties:

Property Name	Description	Sample Value
CheckPermissions	Allows you to specify whether to check permissions of the current user. If the value is 'false' (default value) no permissions are checked. Otherwise, only nodes for which the user has read permission are selected.	
ClassNames	Specifies which document types should be selected. Several values separated by a semicolon can be entered.	"cms.news" or "cms.news;cms.article"
CombineWithDefaultCulture	Indicates whether documents from the default culture version should be used if they are not available in the selected culture. This property is applied only if you do not set the **TreeProvider** property manually.	
CultureCode	Culture code of documents to be selected, such as en-us. If not specified, it's read from the user's session or the default value is used.	"en-us"
DataSource	Gets or sets a DataSet containing values used to fill the items of the control.	
FilterOutDuplicates	Indicates if duplicated (linked) documents should be filtered out from the data.	
MaxRelativeLevel	Maximum relative level of child documents that should be selected. -1 selects all child documents.	
Path	Path of the documents to be selected. See Path specification for details.	See Path specification for examples.
SelectOnlyPublished	Indicates whether only published documents should be selected.	
TreeProvider	Tree provider instance used to access data. If no TreeProvider is assigned, a new TreeProvider instance is created automatically.	

CMS base - common properties:

The following properties provide basic configuration options to most of the CMS Navigation and Listings and viewers controls. Please be aware that certain controls only use some of these properties:

Property Name	Description	Sample Value
CacheDependencies	List of the cache keys on which the cached data depends. When the cache item changes, the cache of the control is cleared. Each item (dependency) must be on one line. If you leave this property empty, default dependencies will be used. Please refer to the Caching topic to learn more.	cms.user|all
CacheItemName	Name of the cache item the control will use. By setting this name dynamically, you can achieve caching based on a URL parameter or some other variable - simply enter the value of the parameter. If no value is set, the control stores its content in the item named "URL|ControlID". Please refer to the Caching topic to learn more.	"mycachename" + Request.QueryString["id"]. ToString()
CacheMinutes	Number of minutes the retrieved content is cached for. Zero indicates that the content will not be cached. -1 indicates that the site-level settings should be used. This parameter allows you to set up caching of content so that it doesn't have to be retrieved from the database each time a user requests the page. Please refer to the Caching topic to learn more.	
ControlTagKey	Overrides the generation of the SPAN tag with a custom tag.	
FilterControl	Gets or sets the appropriate filter control used to limit the data read by this control.	
FilterName	Gets or sets the code name of the appropriate filter control used to limit the data read by this control.	

OrderBy	Gets or sets the ORDER BY clause of the SQL statement.	"NewsReleaseDate DESC"
SelectedColumns	Database table columns that should be loaded with documents, separated by commas (,). Null or empty indicates that all columns should be selected.	
SiteName	Specifies the code name of the site to be used by the control.	
StopProcessing	Indicates if processing of the control should be stopped and the control should not retrieve or display any data.	
TopN	Specifies the maximum amount of rows that should be selected.	
WhereCondition	Gets or sets the WHERE clause of the SQL statement.	"ProductPrice > 100"

1.8.5 Navigation

1.8.5.1 Overview

The controls in this section provide functionality that helps users find their way around Kentico CMS websites. This includes various types of menus, site maps and other basic navigation tools.

These controls are used by the web parts in the **Navigation** category.

All Kentico CMS documents have settings that influence how they are displayed in menus, which affects the navigation controls in this section as well. Learn more about these settings in the Document menu settings topic.

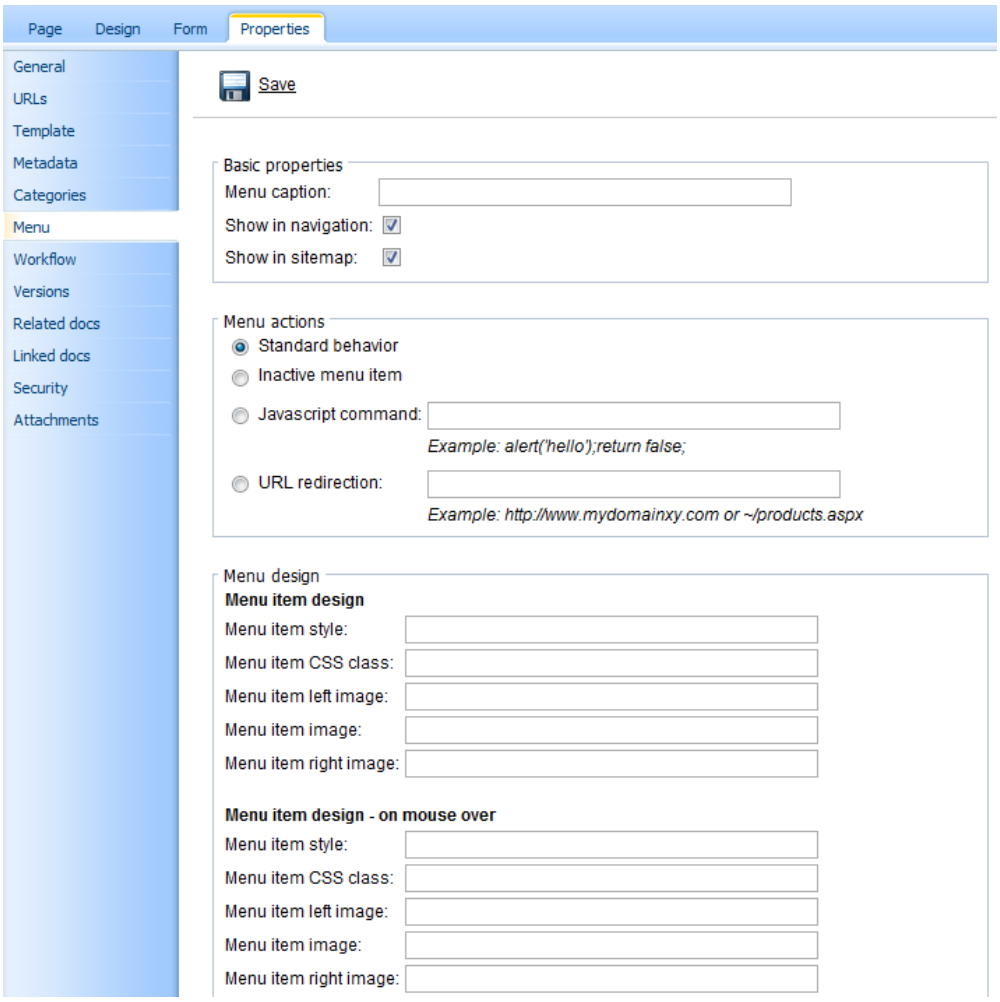
Most of the controls in this section use CSS classes to modify their design and several of them contain the **CSSPrefix** property, which can be used to specify the class names. The Using the CSSPrefix property topic clarifies how this property works.

Available controls:

- CMSBreadCrumbs
- CMSListMenu
- CMSMenu
- CMSSiteMap
- CMSTabControl
- CMSTreeMenu
- CMSTreeView

1.8.5.2 Document menu settings

Various navigation related settings can be configured for individual Kentico CMS documents. This can be done in the **CMS Desk** interface at **Content -> ... select document ... -> Properties -> Menu**.



These settings apply to CMS Navigation controls (and web parts) displaying the given document and they override any conflicting property settings of the controls unless a property is set to ignore them.

The following settings are available:

Basic properties

Menu caption	The name of the document as it's displayed in navigation. It may be different compared to the document name. If no value is entered, the document name is used.
Show in navigation	Indicates if the document should be displayed in the navigation (in the menus). **Please note**: the document is displayed in the navigation if all of the following conditions are met: 1. The **Show in navigation** box is checked. 2. The document is published. 3. The type of the document matches the document types configured in

	the appropriate navigation control (web part) - by default, only **Page (menu item)** documents are displayed in navigation. 4. If you turn on the **Check permissions** property of the menu control, the user must be allowed to read the given document so that it appears in the navigation controls.
Show in site map	Indicates if the document should be displayed by the Site map web part (in the dynamic site map). **Please note**: the document is displayed in the site map if all of the following conditions are met: 1. The **Show in site map** box is checked. 2. The document is published. 3. The type of the document matches the document types configured in the Site map control (web part) - by default, only **Page (menu item)** documents are displayed in navigation. 4. If you turn on the **Check permissions** property of the menu control, the user must be allowed to read the given document so that it appears in the navigation controls.

Menu actions

Standard behavior	The menu item redirects the user to the page as expected.
Inactive menu item	Clicking the menu item doesn't cause any action - the item is disabled. You can enter the alias path of the page which should be redirected to in the **Redirect to URL** field.
Javascript command	If you enter a JavaScript command, it will be run when this menu item is clicked. Example: *alert('hello')*;*return false*;
URL redirection	The user is redirected to the target location when they try to access the given page. Example: *http://www.domain.com* or *~/products.aspx*

Macro expressions can be used in the **URL redirection** and **JavaScript command** fields. These macros allow you to dynamically replace the given expression with specified values of the current menu item, such as alias path, id path, node name.

You only need to place macros in format *{%ColumnName%}* into the property field. For example, entering:

- *~/products.aspx?show=brand&aliaspath={%NodeAliasPath%}*

Into the **Redirect to URL** field of e.g. the */MobileStore/Products/Nokia* document will cause users to be redirected to:

- *http://<domain>/products.aspx?show=brand&aliaspath=/MobileStore/Products/Nokia*

Please note: All apostrophes (') in the source data are escaped to \' so that they do not break JavaScript.

Menu design

The menu item design properties are available in three alternatives:

- standard design
- mouse-over design - style used when you mouse-over the menu item
- highlighted design - style of the selected document

These values override the settings of individual navigation controls (web parts) unless their **ApplyMenuDesign** property is set to *false.* The CSS styles defined in the CSS stylesheet are overridden as well.

Please note: some of the following properties may not be applied to the menu control depending on the menu control you are using.

Menu item style	Style definition of the menu item. Values can be entered the same way as when defining a CSS class in a stylesheet. Sample value: *color: orange; font-size: 140%*
Menu item CSS class	CSS class defined in the website's stylesheet. Sample value: *h1*
Menu item left image	Image that will be displayed next to the menu caption on the left side. Sample values as below.
Menu item image	Image that will be displayed in the menu instead of the menu caption. You can enter either an absolute URL or a relative path in the content tree. Sample values: *http://www.domain.com/image.gif* *~/Images-(1)/icon.aspx*
Menu item right image	Image that will be displayed next to the menu caption on the right side. Sample values as above.

1.8.5.3 Using the CSSPrefix property

The **CSSPrefix** property allows you to place multiple controls of the same type on the same page and differentiate the CSS classes that they use by adding a prefix to the class names. Additionally, it can also be used to **specify the style of menu sub-items at any chosen level**.

This property can be set for the following controls:

- CMSListMenu
- CMSMenu
- CMSTreeMenu

Example

Here's an example of how to specify various styles for particular menu levels:

1. First, you need to specify the list of prefixes for particular levels using the **CSSPrefix** property:

CSSPrefix = "MainMenu;MainMenuSubMenu;MainMenuOtherLevels"

As you can see, the prefixes used for individual levels are separated by semicolons and every prefix represents a lower level starting from the main one (level 0). The last defined prefix represents all sub-levels below it as well. If you only wish to differentiate the CSS classes used by multiple controls on the same page, one prefix is sufficient.

2. Now define the following styles with the specified prefixes:

```
.MainMenuCMSMenu
```
... for menu control

```
.MainMenuCMSMenuItem
.MainMenuCMSMenuItemMouseUp
```
... etc. for the first level of the menu (level 0)

```
.MainMenuSubMenuCMSMenuItem
.MainMenuSubMenuCMSMenuItemMouseUp
```
... etc. for the second level of the menu (level 1)

```
.MainMenuOtherLevelsCMSMenuItem
.MainMenuOtherLevelsCMSMenuItemMouseUp
```
... etc. for all underlying levels of the menu (level 2 and all remaining sub-levels)

1.8.5.4 CMS navigation - common properties

The following properties provide general configuration options to many of the CMS Navigation controls. Please be aware that certain controls only use some of these properties:

Property Name	Description	Sample Value
ApplyMenuDesign	Indicates whether the Menu design document menu settings should be applied to this control. True by default.	
Columns	Contains the names of columns which should be loaded with the documents (menu items). Only the columns contained in the **DefaultColumns** property are loaded by default. If you need some other column to be loaded as well, please add its name into this property.	"DocumentPageTitle, DocumentPageKeywords"
CSSPrefix	Specifies the prefix of standard navigation control CSS classes. You can also use several values separated by a semicolon (;) for particular levels. Learn more at Using the CSSPrefix property.	"main;submenu1; submenu2"
HideControlForZeroRows	Indicates whether the control should be hidden when no data is loaded. Default value	

	is False.	
HighlightAllItemsInPath	Indicates whether all items in the unfolded path should be displayed as highlighted.	
SubmenuIndicator	Contains the path to an image that will be displayed on the right of every item that contains sub-items.	
UseAlternatingStyles	Indicates whether alternating styles should be used for even and odd items on the same menu level.	
UseItemImagesForHighlightedItem	Indicates whether the item image should be used if the highlighted image is not specified.	
WordWrap	Indicates whether text displayed by the control should use word wrapping or be replaced by 'nbsp' entities.	
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	"No records found."

1.8.5.5 CMSBreadCrumbs

1.8.5.5.1 Overview

The CMSBreadCrumbs control allows you to display the current user's position within a website in format:

Item 1 > Item 2 > Item 3

where **Item X** is the name of the document in the path.

The portal engine equivalent of the CMSBreadCrumbs control is the **Navigation -> Breadcrumbs** web part.

The following topics are available to help you familiarize yourself with the CMSBreadCrumbs control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - lists which CSS classes can be used with the control and how its appearance can be modified

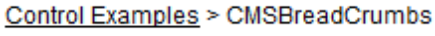
1.8.5.5.2 Getting started

The following is a step-by-step tutorial that will show you how to display a user's current location within the structure of a website using the CMSBreadCrumbs control:

1. Create a new **Web form** and use it as a page template according to the guide in the Using ASPX page templates topic.

2. Switch to its **Design** tab and drag and drop a **CMSBreadCrumbs** control from the toolbox onto the form.

3. Save the changes to the web form. Now if you look at the page using the created template on some website, the user's position within the website will be displayed as is shown in the following image:



1.8.5.5.3 Configuration

The following properties of the CMSBreadCrumbs control can be set or used in the API:

All of the common properties from:

- CMS controls - common properties
- CMS navigation - common properties

In addition, the following properties are available:

Property Name	Description	Sample Value
BreadCrumbSeparator	Character(s) that separate the bread crumbs. You can use HTML code here.	">>"
BreadCrumbSeparatorRTL	Character(s) that separate the bread crumbs in RTL mode. You can use HTML code here.	"<<"
DefaultPath	Path to the node whose path should be displayed by default. This value is used in case no Path value is provided and no alias path is provided through a URL.	"/home"
EncodeName	Indicates whether the name should be HTML encoded.	
IgnoreShowInNavigation	The **ShowInNavigation** document property is ignored if this property is true.	
LoadDataAutomaticaly	Indicates whether data for the control should be loaded automatically. By default, the data is loaded automatically. If you set this property to false, you can enter a custom DataSet into the **DataSource** property and then call the *ReloadData(false)* method.	
RenderedHTML	Allows you to get or set the HTML code rendered by the control. You need to set this property before the Render event - e.g. in the OnLoad event.	

RenderLinkTitle	Specifies if the document name should be rendered as a TITLE tag of links (for better accessibility).	
ShowCurrentItem	Indicates if the current (last) item should be displayed. True by default.	
ShowCurrentItemAsLink	Indicates if the current (last) item should be displayed as a link. False by default.	
StartingPath	Starting part of the path.	"/products"
UrlTarget	Specifies the target frame for all URLs.	"_blank"
UseRtlBehaviour	Indicates whether the bread crumbs should be rendered in the RTL direction for specific languages.	

Mentioned method:

Method Name	Description
ReloadData(bool forceLoad)	Reloads the data. If the **forceLoad** parameter is set to false and a value is assigned to the **DataSource** property, the properties of the CMSBreadCrumbs control are not used and only the data from the DataSource is loaded.

1.8.5.5.4 Appearance and styling

The appearance of the CMSBreadCrumbs control is determined by the CSS classes it uses and by some of its properties.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSBreadCrumbsLink	Link (A element) in the bread crumbs path.
CMSBreadCrumbsCurrentItem	Style of the last item representing the current location.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.5.6 CMSListMenu

1.8.5.6.1 Overview

The CMSListMenu control allows you to create a large variety of menus. It renders <UL> and <LI> tags and the design depends only on your CSS style sheet. This menu control provides several advantages:

- It's based only on CSS styles which makes it highly configurable.
- It renders shorter HTML code than the CMSMenu control.
- It's fully XHTML compliant.
- The list-based menu is better accessible.
- You can create the drop-down menu using the list-based menu and CSS without almost any JavaScript.
- It automatically displays standard UL/LI listing with links if the browser does not support CSS styles so that the user can still navigate on the website.

However, **it requires advanced knowledge of CSS** as it doesn't render any specific layout by itself.

It allows you to display part of the CMS menu structure specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode** and **WhereCondition** properties.

The portal engine equivalent of the CMSListMenu control is the **Navigation -> CSS list menu** web part.

The following topics are available to help you familiarize yourself with the CMSListMenu control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes and shows examples of how CSS styles can be used with the control

1.8.5.6.2 Getting started

The following is a step-by-step tutorial that will show you how to display a simple menu without any styles containing CMS content using the CMSListMenu control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSListMenu** control from the toolbox onto the form.

3. Switch to the **Source** tab. The code of the CMSListMenu control should look like this:

```
<cms:CMSListMenu ID="CMSListMenu1" runat="server" />
```

Now replace the DOCTYPE above the <*HTML*> element with the following one:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1 Strict//EN" "http://www.w3.org/TR/
xhtml1/DTD/xhtml1-strict.dtd">
```

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a UL/LI based menu like this:

- Home
- Services
  - Web Design
  - Web Development
  - Network Administration
- Products
  - Cell phones
  - PDAs
  - Laptops
- News
- Partners
  - Silver partners
  - Gold partners
- Company
  - Careers
  - Offices
- Blogs
- Forums
- Events
- Images

To see how more advanced menus can be rendered using different CSS styles, continue this tutorial in one of the following topics:

- Creating a horizontal drop-down menu using CSS styles
- Creating a vertical drop-down menu using CSS styles

1.8.5.6.3 Configuration

The following properties of the CMSListMenu control can be set or used in the API:

All of the common properties from:

- CMS controls - common properties
- CMS navigation - common properties

In addition, the following properties are available:

Property Name	Description	Sample Value
DisplayHighlightedItemAsLink	Indicates whether the highlighted item should be displayed as a link.	
DisplayOnlySelectedPath	Indicates whether all sub-menus should be displayed or just the sub-menu under the highlighted (selected) item.	
EncodeMenuCaption	Indicates whether the menu caption should be HTML encoded.	
FirstItemCssClass	Specifies the CSS class for the first item on every menu level.	"ListMenuFirstItem"
HighlightedNodePath	Path of the item that should be highlighted as if it were selected. If you omit this value, the control automatically uses the current alias path from the **aliaspath** querystring	"/products/PDAs"

	parameter.	
HoverCSSClassName	Name of the surrounding CSS class that is used to define styles for the hover effect if you want to render a drop-down menu.	"Horizontal"
ItemIdPrefix	Prefix placed before each item ID. You can use it to keep IDs unique if you have several CMSListMenu controls on the same page.	"submenu"
LastItemCssClass	Specifies CSS class for the last item on every menu level.	"ListMenuLastItem"
LoadDataAutomatically	Indicates whether data for the control should be loaded automatically. By default, the data is loaded automatically. If you set this property to false, you can enter a custom DataSet into the **DataSource** property and then call the *ReloadData(false)* method.	
OnMouseOutScript	OnMouseOut script for menu items. You can use macro expressions here.	
OnMouseOverScript	OnMouseOver script for menu items. You can use macro expressions here.	
OrderBy	Gets or sets the ORDER BY clause of the SQL statement. Please be aware that it is necessary for the root of the displayed tree (or sub-tree) to be **first** in the resulting order, otherwise all documents may not be displayed correctly. This can be ensured by having the value of this property start with the **NodeLevel** column, such as in the sample value.	"NodeLevel, NodeOrder"
RenderCssClasses	Indicates whether CSS classes should be rendered for every element. If set to false, only the first and last item of a menu level will use a CSS class.	
RenderedHTML	Allows you to get or set the HTML code rendered by the control. You need to set this property before the Render event - e.g. in the OnLoad event.	
RenderImageAlt	Indicates whether the ALT attribute should be rendered for images used in the menu (for XHTML compatibility).	
RenderItemID	Indicates whether a unique ID should be rendered for every menu item.	

RenderLinkTitle	Specifies if the document name should be rendered as a TITLE tag of links (for better accessibility).	
UrlTarget	Specifies the target frame for all URLs.	"_blank"

Mentioned method:

Method Name	Description
ReloadData(bool forceLoad)	Reloads the data. If the **forceLoad** parameter is set to false and a value is assigned to the **DataSource** property, the properties of the CMSListMenu control are not used and only the data from the DataSource is loaded.

1.8.5.6.4 Appearance and styling

1.8.5.6.4.1 General

The appearance of the CMSListMenu control is determined by the CSS classes it uses and by some of its properties.

The following properties can be used to specify used CSS classes:

Property Name	Description
FirstItemCssClass	Specifies the CSS class for the first item on every menu level.
HoverCSSClassName	Name of the surrounding CSS class that is used to define styles for the hover effect if you want to render a drop-down menu.
LastItemCssClass	Specifies CSS class for the last item on every menu level.

You can also modify the design using the following CSS classes if the **RenderCssClasses** property is set to true:

Class Name	Description
CMSListMenuUL	UL element style
CMSListMenuLI	LI element style
CMSListMenuLink	A element style
CMSListMenuHighlightedLI	LI element style of a highlighted item

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

Please refer to Using the CSSPrefix property to learn how to add prefixes to these classes to customize items at any menu level.

The name of the CSS class used to render a drop-down menu must be identical to the value entered into the **HoverCSSClassName** property. Please be aware that this is case sensitive.

For examples of CSS styles that render a drop-down menu, please see the following topics:

- Creating a horizontal drop-down menu using CSS styles
- Creating a vertical drop-down menu using CSS styles

1.8.5.6.4.2 Creating a horizontal drop-down menu using CSS styles

This topic shows an example of how the CMSListMenu control can render a horizontal drop-down menu. If you wish to create this example for yourself, please follow the tutorial in the Getting started topic, then continue with the following steps:

1. Set the **HoverCSSClassName** property value to: *Horizontal*

The code of the CMSListMenu control should look like this:

```
<cms:CMSListMenu ID="CMSListMenu1" runat="server" HoverCSSClassName="Horizontal" /
>
```

2. Add the following style definitions inside the <*head*> element:

```
<style type="text/css" media="screen">

/* Horizontal menu class definitions*/
.Horizontal { BORDER-RIGHT: #c2c2c2 1px solid; BORDER-TOP: #c2c2c2 1px solid;
FONT-SIZE: 12px; FLOAT: left; BORDER-LEFT: #c2c2c2 1px solid; WIDTH: 100%; BORDER-
BOTTOM: #c2c2c2 1px solid; FONT-FAMILY: Arial; BACKGROUND-COLOR: #e2e2e2 }
.Horizontal UL { PADDING-RIGHT: 0px; PADDING-LEFT: 0px; PADDING-BOTTOM: 0px;
MARGIN: 0px; WIDTH: 100%; PADDING-TOP: 0px; LIST-STYLE-TYPE: none }
.Horizontal LI { BORDER-RIGHT: #e2e2e2 1px solid; PADDING-RIGHT: 0px; BORDER-TOP:
#e2e2e2 1px solid; DISPLAY: inline; PADDING-LEFT: 0px; FLOAT: left; PADDING-BOTTOM
: 0px; BORDER-LEFT: #e2e2e2 1px solid; PADDING-TOP: 0px; BORDER-BOTTOM: #e2e2e2
1px solid }
.Horizontal A { PADDING-RIGHT: 3px; DISPLAY: block; PADDING-LEFT: 3px; PADDING-
BOTTOM: 2px; MARGIN: 0px; WIDTH: 112px; COLOR: black; PADDING-TOP: 2px;
BACKGROUND-COLOR: #e2e2e2; TEXT-DECORATION: none }
.Horizontal A:hover { BACKGROUND: #808080 no-repeat right bottom; COLOR: white }
.Horizontal UL UL { Z-INDEX: 500; WIDTH: 120px; BORDER-BOTTOM: #c2c2c2 2px solid;
POSITION: absolute }
.Horizontal UL UL LI { CLEAR: left; DISPLAY: block; POSITION: relative }
.Horizontal UL UL UL { BORDER-RIGHT: #c2c2c2 2px solid; LEFT: 100%; BORDER-BOTTOM:
white 0px solid; TOP: -1px }
.Horizontal UL UL { DISPLAY: none }
.Horizontal UL LI:hover UL UL { DISPLAY: none }
.Horizontal UL UL LI:hover UL UL { DISPLAY: none }
.Horizontal UL LI:hover UL { DISPLAY: block }
.Horizontal UL UL LI:hover UL { DISPLAY: block }
.Horizontal UL UL UL LI:hover UL { DISPLAY: block }
```

```
</style>
```

This modifies the CSS style of the menu so that it displays a horizontal drop-down menu.

The classes are defined in the <head> element only for this quick example, if you wish to use the control on a Kentico CMS website, it is recommended to define these classes in the used stylesheet in the administration interface at **Site Manager -> Development -> CSS stylesheets**.

3. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a menu like this:

1.8.5.6.4.3 Creating a vertical drop-down menu using CSS styles

This topic shows an example of how the CMSListMenu control can render a vertical drop-down menu. If you wish to create this example for yourself, please follow the tutorial in the Getting started topic, then continue with the following steps:

1. Set the **HoverCSSClassName** property value to: *Vertical*

The code of the CMSListMenu control should look like this:

```
<cms:CMSListMenu ID="CMSListMenu1" runat="server" HoverCSSClassName="Vertical" />
```

2. Add the following style definitions inside the <*head*> element:

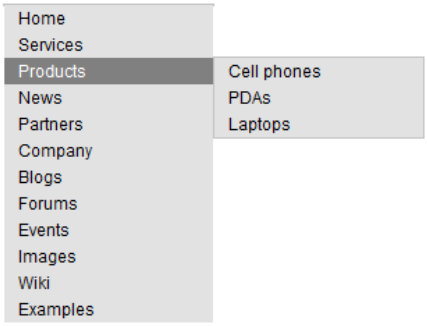
```
<style type="text/css" media="screen">

/* Vertical menu class definitions*/
.Vertical { BORDER-RIGHT: #c2c2c2 1px solid; BORDER-TOP: #c2c2c2 1px solid; FONT-
SIZE: 12px; BORDER-LEFT: #c2c2c2 1px solid; WIDTH: 150px; BORDER-BOTTOM: #c2c2c2
1px solid; FONT-FAMILY: Arial; BACKGROUND-COLOR: #e2e2e2 }
.Vertical UL { PADDING-RIGHT: 0px; PADDING-LEFT: 0px; PADDING-BOTTOM: 0px; MARGIN:
0px; PADDING-TOP: 0px; LIST-STYLE-TYPE: none }
.Vertical LI { POSITION: relative; FLOAT: left; WIDTH: 100% }
.Vertical A { PADDING-RIGHT: 0px; BACKGROUND-POSITION: 0px 50%; DISPLAY: block;
PADDING-LEFT: 10px; PADDING-BOTTOM: 2px; MARGIN: 0px; WIDTH: 140px; COLOR: black;
PADDING-TOP: 2px; BACKGROUND-REPEAT: no-repeat; BACKGROUND-COLOR: #e2e2e2; TEXT-
DECORATION: none }
.Vertical A:hover { BACKGROUND: #808080 no-repeat 0px 50%; COLOR: white }
.Vertical UL UL { BORDER-RIGHT: #c2c2c2 1px solid; BORDER-TOP: #c2c2c2 1px solid;
Z-INDEX: 100; LEFT: 100%; BORDER-LEFT: #c2c2c2 1px solid; WIDTH: 100%; BORDER-
BOTTOM: #c2c2c2 1px solid; POSITION: absolute; TOP: -1px }
#Vertical1 UL { DISPLAY: none }
#Vertical1 LI:hover UL UL { DISPLAY: none }
```

```
#Vertical1 UL LI:hover UL UL { DISPLAY: none }
#Vertical1 LI:hover UL { DISPLAY: block }
#Vertical1 UL LI:hover UL { DISPLAY: block }
#Vertical1 UL UL LI:hover UL { DISPLAY: block }

</style>
```

This modifies the CSS style of the menu so that it displays a vertical drop-down menu.

The classes are defined in the <head> element only for this quick example, if you wish to use the control on a Kentico CMS website, it is recommended to define these classes in the used stylesheet in the administration interface at **Site Manager -> Development -> CSS stylesheets**.

3. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a menu like this:



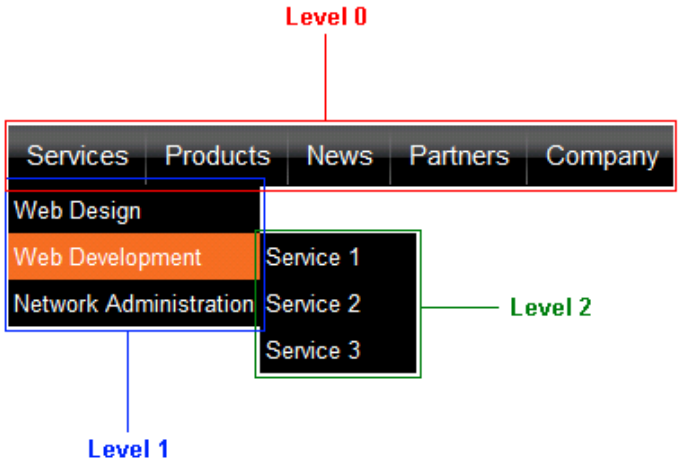
1.8.5.7 CMSMenu

1.8.5.7.1 Overview

The CMSMenu control allows you to display a multi-level DHTML menu based on data from Kentico CMS.

It allows you to display part of the CMS menu structure specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode** and **WhereCondition** properties.

The following image is an example of how the CMSMenu control looks with the Horizontal **Layout**, including how menu item levels are rendered:



The portal engine equivalent of the CMSMenu control is the **Navigation -> Drop-down menu** web part.

The following topics are available to help you familiarize yourself with the CMSMenu control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - lists which CSS classes can be used with the control and how its appearance can be modified

1.8.5.7.2 Getting started

The following is a step-by-step tutorial that will show you how to display a simple DHTML menu containing CMS content using the CMSMenu control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSMenu** control from the toolbox onto the form and set its following properties:

- **Layout**: Horizontal
- **CSSPrefix**: Main;Sub

This tells the control to use a horizontal layout and which CSS classes it should use for its main menu and sub-menus. These classes will be defined in the next step. Please refer to Using the CSSPrefix property for more information.

3. Switch to the **Source** tab. The code of the CMSMenu control should look like this:

```
<cms:CMSMenu ID="CMSMenu1" runat="server" Layout="Horizontal" CSSPrefix="Main;Sub"
 />
```

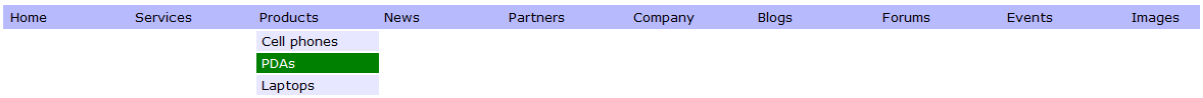
Now add the following code between the tags of the <*head*> element:

```
<style type="text/css">

/* horizontal menu - main menu */
.MainCMSMenu { BORDER-RIGHT: 0px; TABLE-LAYOUT: fixed; BORDER-TOP: 0px; BORDER-
LEFT: 0px; WIDTH: 100px; BORDER-BOTTOM: 0px; BACKGROUND-COLOR: #b8bafe }
.MainCMSMenuItem { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE: 10pt;
PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px; FONT-FAMILY:
verdana }
.MainCMSMenuItemMouseUp { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE: 10pt;
PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px; FONT-FAMILY:
verdana }
.MainCMSMenuItemMouseOver { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE:
10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: white; PADDING-TOP:
2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #4a3c8c }
.MainCMSMenuItemMouseDown { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE:
10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px; FONT-
FAMILY: verdana }
.MainCMSMenuHighlightedMenuItem { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-
SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px;
FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }
.MainCMSMenuHighlightedMenuItemMouseUp { PADDING-RIGHT: 15px; PADDING-LEFT: 5px;
FONT-SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: black;
PADDING-TOP: 2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }
.MainCMSMenuHighlightedMenuItemMouseOver { PADDING-RIGHT: 15px; PADDING-LEFT: 5px;
FONT-SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: black;
PADDING-TOP: 2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }
.MainCMSMenuHighlightedMenuItemMouseDown { PADDING-RIGHT: 15px; PADDING-LEFT: 5px;
FONT-SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: black;
PADDING-TOP: 2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }

/* horizontal menu - sub-menus */
.SubCMSMenuItem { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE: 10pt;
BACKGROUND: #e7e7ff; PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP:
2px; FONT-FAMILY: verdana }
.SubCMSMenuItemMouseUp { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE: 10pt;
PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px; FONT-FAMILY:
verdana }
.SubCMSMenuItemMouseOver { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE: 10pt
; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: white; PADDING-TOP: 2px;
FONT-FAMILY: verdana; BACKGROUND-COLOR: green }
.SubCMSMenuItemMouseDown { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE: 10pt
; PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px; FONT-FAMILY:
verdana }
.SubCMSMenuHighlightedMenuItem { PADDING-RIGHT: 15px; PADDING-LEFT: 5px; FONT-SIZE
: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; COLOR: black; PADDING-TOP: 2px; FONT-
FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }
.SubCMSMenuHighlightedMenuItemMouseUp { PADDING-RIGHT: 15px; PADDING-LEFT: 5px;
FONT-SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: black;
PADDING-TOP: 2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }
.SubCMSMenuHighlightedMenuItemMouseOver { PADDING-RIGHT: 15px; PADDING-LEFT: 5px;
FONT-SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: black;
PADDING-TOP: 2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }
.SubCMSMenuHighlightedMenuItemMouseDown { PADDING-RIGHT: 15px; PADDING-LEFT: 5px;
FONT-SIZE: 10pt; PADDING-BOTTOM: 2px; WIDTH: 100px; CURSOR: hand; COLOR: black;
PADDING-TOP: 2px; FONT-FAMILY: verdana; BACKGROUND-COLOR: #ff7315 }

</style>
```

This sets the CSS styles that will modify the appearance of the menu. The CMSMenu control renders a menu even without any CSS classes specified, but it is extremely basic and not very user friendly. You can find out what individual CSS classes affect in the Appearance and styling topic.

The classes are defined in the <head> element only for this quick example, if you wish to use the control on a Kentico CMS website, it is recommended to define these classes in the used stylesheet in the administration interface at **Site Manager -> Development -> CSS stylesheets**.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like this:



1.8.5.7.3 Configuration

The following properties of the CMSMenu control can be set or used in the API:

All of the common properties from:

- CMS controls - common properties
- CMS navigation - common properties

In addition, the following properties are available:

Property Name	Description	Sample Value
Cursor	Determines the mouse cursor used when controlling the menu.	"Default" "Pointer"
EnableMouseUpDownClass	Indicates whether the menu should render different CSS classes for mouse-up and mouse-down events.	
EnableRTLBehaviour	Indicates whether RTL should be enabled.	
EncodeMenuCaption	Indicates whether the menu caption should be HTML encoded.	
ExternalScriptPath	Path of the external .js file with skmMenu scripts. The default path is ~/cmsscripts/skmmenu.js.	"~/myscripts/skmmenu.js"
HighlightedMenuItem	This property can be used to get the currently highlighted menu item and set its CSS classes.	
HighlightedNodePath	Path of the item that should be highlighted as if it were selected. If you omit this value, the control automatically uses the current alias path from the **aliaspath** querystring parameter.	"/products/PDAs"

Layout	Determines the layout of the menu (skmMenu).	"Vertical" "Horizontal"
MenuControl	This property can be used to access the menu (skmMenu) control and its CSS classes and properties.	
Padding	Padding of the CMSMenu table.	
RenderImageAlt	Indicates whether the ALT attribute should be rendered for images used in the menu (for XHTML compatibility).	
RenderItemName	Indicates if the **ItemName** attribute should be rendered.	
SeparatorCssClass	CSS class of the separator cell (TD element) for the top menu level.	
SeparatorHeight	Height of the separator placed between menu items of the top menu level.	
SeparatorText	Text of the separator placed between menu items of the first menu level.	"|"
Spacing	Spacing of the CMSMenu table.	

Method Name	Description
ReloadData(bool forceLoad)	Reloads the data. If the **forceLoad** parameter is set to false and a value is assigned to the **DataSource** property, the properties of the CMSMenu control are not used and only the data from the DataSource is loaded.

1.8.5.7.4 Appearance and styling

The appearance of the CMSMenu control is determined by the CSS classes it uses and by some of its properties.

You can also use the following CSS classes:

Class Name	Description
CMSMenu	CSS class of the menu table.
CMSMenuItem	CSS class of menu items.
CMSMenuItemMouseDown	CSS class of menu items when the mouse button is down.
CMSMenuItemMouseOver	CSS class of a menu item when a user moves the mouse cursor over it.
CMSMenuItemMouseUp	CSS class of menu items when the mouse button is released.
CMSMenuHighlightedMenuItem	CSS class of highlighted menu items.

CMSMenuHighlightedMenuItemMouseDown	CSS class of highlighted menu items when the mouse button is down.
CMSMenuHighlightedMenuItemMouseOver	CSS class of a highlighted menu item when a user moves the mouse cursor over it.
CMSMenuHighlightedMenuItemMouseUp	CSS class of highlighted menu items when the mouse button is released.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

Please refer to Using the CSSPrefix property to learn how to add prefixes to these classes to customize items at any menu level.

1.8.5.8 CMSSiteMap

1.8.5.8.1 Overview

The CMSSiteMap control allows you to display the whole navigation structure of a website or just its specified part. It reads CMS documents and renders their structure as a site map.

It allows you to display part of the CMS menu structure specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode** and **WhereCondition** properties.

The portal engine equivalent of the CMSSiteMap control is the **Navigation -> Site map** web part.

The following topics are available to help you familiarize yourself with the CMSSiteMap control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes and shows an example of how CSS styles can be used with the control

1.8.5.8.2 Getting started

The following is a step-by-step tutorial that will show you how to display a site map based on CMS content using the CMSSiteMap control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSSiteMap** control from the toolbox onto the form.

3. Switch to the **Source** tab. The code of the CMSSiteMap control should look like this:

```
<cms:CMSSiteMap ID="CMSSiteMap1" runat="server" />
```

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in**

Browser. The resulting page should look like this:

- Home
- Services
  - Web Design
  - Web Development
  - Network Administration
- Products
  - Cell phones
  - PDAs
  - Laptops
- News
- Partners
  - Silver partners
  - Gold partners
- Company
  - Careers
  - Offices
- Blogs

Continue this tutorial in the Appearance and styling topic to see how CSS styles can be applied to the CMSSiteMap control.

1.8.5.8.3 Configuration

The following properties of the CMSSiteMap control can be set or used in the API:

All of the common properties from:

- CMS controls - common properties
- CMS navigation - common properties

In addition, the following properties are available:

Property Name	Description	Sample Value
ApplyMenuInactivation	Indicates whether the site map should apply the menu inactivation flag.	
EncodeMenuCaption	Indicates whether the menu captions should be HTML encoded.	
LoadDataAutomaticaly	Indicates whether data for the control should be loaded automatically. By default, the data is loaded automatically. If you set this property to false, you can enter a custom DataSet into the **DataSource** property and then call the *ReloadData(false)* method.	
OrderBy	Gets or sets the ORDER BY clause of the SQL statement. Please be aware that it is necessary for the root of the displayed tree (or sub-tree) to be	"NodeLevel, NodeOrder"

	first in the resulting order, otherwise all documents may not be displayed correctly. This can be ensured by having the value of this property start with the **NodeLevel** column, such as in the sample value.	
RenderedHTML	Allows you to get or set the HTML code rendered by the control. You need to set this property before the Render event - e.g. in the OnLoad event.	
RenderLinkTitle	Specifies if the document name should be rendered as a TITLE tag of links (for better accessibility).	
UrlTarget	Specifies the target frame for all URLs.	"_blank"

Mentioned method:

Method Name	Description
ReloadData(bool forceLoad)	Reloads the data. If the **forceLoad** parameter is set to false and a value is assigned to the **DataSource** property, the properties of the CMSSiteMap control are not used and only the data from the DataSource is used.

1.8.5.8.4 Appearance and styling

The appearance of the CMSSiteMap control is determined by the CSS classes it uses and by some of its properties.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSSiteMapList	The UL element in the site map.
CMSSiteMapListItem	The LI element in the site map.
CMSSiteMapLink	Link (A element) in the site map.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

Example

The following is an example of how CSS styles can be applied to a CMSSiteMap control. If you wish to create this example for yourself, please follow the tutorial in the Getting started topic, then continue with

the following steps:

1. Add the following style definitions inside the <*head*> element:

```
<style type="text/css">

/* Site map class definitions */
.CMSSiteMapList { }
.CMSSiteMapListItem { list-style-type: square; }
.CMSSiteMapLink { color: #C34C17; text-decoration:none; }

</style>
```

This will modify the appearance of the site map.

2. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like this:

- Home
- Services
  - Web Design
  - Web Development
  - Network Administration
- Products
  - Cell phones
  - PDAs
  - Laptops
- News
- Partners
  - Silver partners
  - Gold partners
- Company
  - Careers
  - Offices
- Blogs

1.8.5.9 CMSTabControl

1.8.5.9.1 Overview

The CMSTabControl control allows you to display a one-level tab menu based on data from Kentico CMS. It reads the specified documents and renders the menu according to their values.

It allows you to display part of the CMS menu structure specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode** and **WhereCondition** properties.

It is derived from the BasicTabControl control, but it doesn't require any additional code to work and is extended to contain a set of common properties for CMS navigation controls.

The portal engine equivalent of the CMSTabControl control is the **Navigation -> Tab menu** web part.

The following topics are available to help you familiarize yourself with the CMSTabControl control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control

- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes and shows an example of how CSS styles can be used with the control

1.8.5.9.2 Getting started

The following is a step-by-step tutorial that will show you how to display a tab menu based on CMS content using the CMSTabControl control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSTabControl** control from the toolbox onto the form and set its following properties:

- **MaxRelativeLevel**: 1
- **SelectFirstItemByDefault**: True

This makes sure that only documents from the first level are displayed and that the first tab is selected by default.

3. Switch to the **Source** tab. The code of the CMSTabControl control should look like this:

```
<cms:CMSTabControl ID="CMSTabControl1" runat="server" MaxRelativeLevel="1"
SelectFirstItemByDefault="True" />
```

Now add the following code between the tags of the <*head*> element:

```
<style type="text/css">

/* Tab menu class definitions */
.TabControlTable { FONT-SIZE: 14px; FONT-FAMILY: Arial,Verdana }
.TabControlRow { }
.TabControl { BORDER-RIGHT: black 1px solid; BORDER-TOP: black 1px solid; FONT-
WEIGHT: bold; BACKGROUND: #e7e7ff; BORDER-LEFT: black 1px solid; CURSOR: hand;
COLOR: black }
.TabControlSelected { BORDER-RIGHT: black 1px solid; BORDER-TOP: black 1px solid;
FONT-WEIGHT: bold; BACKGROUND: #4a3c8c; BORDER-LEFT: black 1px solid; CURSOR:
default; COLOR: white }
.TabControlLinkSelected { COLOR: white; TEXT-DECORATION: none }
.TabControlLink { COLOR: black; TEXT-DECORATION: none }
.TabControlLeft { WIDTH: 1px }
.TabControlRight { WIDTH: 0px }
.TabControlSelectedLeft { WIDTH: 1px }
.TabControlSelectedRight { WIDTH: 0px }

</style>
```

This sets the CSS styles that will modify the appearance of the tab menu. The CMSTabControl control renders tabs even without any CSS classes specified, but they are extremely basic. You can find out what individual CSS classes affect in the Appearance and styling topic.

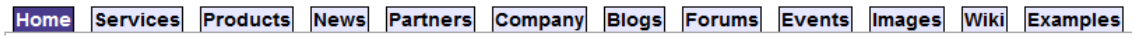
The classes are defined in the <head> element only for this quick example, if you wish to use the

control on a Kentico CMS website, it is recommended to define these classes in the used stylesheet in the administration interface at **Site Manager -> Development -> CSS stylesheets**.

4. Add the following code just after the *<cms:CMSTabControl>* element. It will display a stripe under the tabs.

```
<hr style="width:100%; height:2px; margin-top:0px;" />
```

5. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a tab menu like this:



1.8.5.9.3 Configuration

As it is inherited from the BasicTabControl control, the CMSTabControl control has all of its properties. These can be found in the BasicTabControl -> Configuration topic.

In addition, it has the following properties that can be set or used in the API:

Those of the common properties that have meaning for a single level tab menu:

- CMS controls - common properties
- CMS navigation - common properties

As well as:

Property Name	Description	Sample Value
EncodeMenuCaption	Indicates whether the menu captions should be HTML encoded.	
HighlightedNodePath	Path of the item that should be highlighted as if it were selected. If you omit this value, the control automatically uses the current alias path from the **aliaspath** querystring parameter.	"/products/notebooks"
LoadDataAutomaticaly	Indicates whether data for the control should be loaded automatically. By default, the data is loaded automatically. If you set this property to false, you can enter a custom DataSet into the **DataSource** property and then call the *ReloadData(false)* method.	
RenderImageAlt	Indicates whether the ALT attribute should be rendered for images used in the menu (for XHTML compatibility).	

Mentioned method:

Method Name	Description
ReloadData(bool forceLoad)	Reloads the data. If the **forceLoad** parameter is set to false and a value is assigned to the **DataSource** property, the properties of the CMSTabControl control are not used and only the data from the DataSource is loaded.

1.8.5.9.4 Appearance and styling

The appearance of the CMSTabControl control is determined by the CSS classes it uses and by some of its properties.

It uses the same CSS classes as the BasicTabControl, which it inherits. These can be found at BasicTabControl -> Appearance and styling.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.5.10 CMSTreeMenu

1.8.5.10.1 Overview

The CMSTreeMenu control allows you to display a multi-level tree menu based on data from Kentico CMS.

It allows you to display part of the CMS menu structure specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode** and **WhereCondition** properties.

The portal engine equivalent of the CMSTreeMenu control is the **Navigation -> Tree menu** web part.

The following topics are available to help you familiarize yourself with the CMSTreeMenu control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes and shows an example of how CSS styles can be used with the control

1.8.5.10.2 Getting started

The following is a step-by-step tutorial that will show you how to display a tree menu based on CMS content using the CMSTreeMenu control:

1. Create a new **Web form** and use it as a page template according to the guide in the Using ASPX page templates topic.

2. Switch to its **Design** tab, drag and drop a **CMSTreeMenu** control from the toolbox onto the form.

3. Switch to the **Source** tab. The code of the CMSTreeMenu control should look like this:

```
<cms:CMSTreeMenu ID="CMSTreeMenu1" runat="server" />
```

4. Save the changes to the web form. Now if you look at the page using the created template on some website, a tree menu similar to the following will be displayed (this menu uses the sample Corporate Site stylesheet):

Continue this tutorial in the Appearance and styling topic to see how CSS styles can be applied to the CMSTreeMenu control.

1.8.5.10.3 Configuration

The following properties of the CMSTreeMenu control can be set or used in the API:

All of the common properties from:

- CMS controls - common properties
- CMS navigation - common properties

In addition, the following properties are available:

Property Name	Description	Sample Value
CellPadding	Cell padding of the table representing the menu.	
CellSpacing	Cell spacing of the table representing the menu.	
CollapseSelectedNodeOnClick	Indicates whether the selected section of the menu should be collapsed when clicked.	
DisplayHighlightedItemAsLink	Indicates whether highlighted items should be displayed as a link.	

EncodeMenuCaption	Indicates whether the menu caption should be HTML encoded.	
GenerateAllSubItems	Indicates whether all sub-items should be generated	
GenerateIndentationInsideLink	Indicates whether indentation spaces should be generated inside hyperlinks (true) or outside (false). This applies only when you do not use images in the menu.	
GenerateOnlyOuterLink	Indicates whether only one outer link should be generated per each menu item.	
HighlightedNodePath	Path of the item that should be highlighted as if it were selected. If you omit this value, the control automatically uses the current alias path from the **aliaspath** querystring parameter.	"/products"
Indentation	Indentation of menu item levels. Number of spaces that will be placed before each level of menu items.	
ItemIDPrefix	Prefix placed before each item ID. You can use it to keep IDs unique if you have several CMSTreeMenu controls on the same page.	"submenu"
LoadDataAutomaticaly	Indicates whether data for the control should be loaded automatically. By default, the data is loaded automatically. If you set this property to false, you can enter a custom DataSet into the **DataSource** property and then call the *ReloadData(false)* method.	
MenuItemImageUrl	URL address of the image that is displayed next to menu items. It may start with "~/" representing the virtual path of the current application.	
MenuItemOpenImageUrl	URL address of the image that is displayed next to open menu items. It may start with "~/" representing the virtual path of the current application.	
OnMouseOutScript	OnMouseOut script for menu items. You can use macro expressions here.	
OnMouseOverScript	OnMouseOver script for menu items. You can use macro expressions here.	
OrderBy	Gets or sets the ORDER BY clause of the SQL statement. Please be aware that it is necessary for the	"NodeLevel, NodeOrder"

	root of the displayed tree (or sub-tree) to be **first** in the resulting order, otherwise all documents may not be displayed correctly. This can be ensured by having the value of this property start with the **NodeLevel** column, such as in the sample value.	
RenderedHTML	Allows you to get or set the HTML code rendered by the control. You need to set this property before the Render event - e.g. in the OnLoad event.	
RenderImageAlt	Indicates whether the ALT attribute should be rendered for images used in the menu (for XHTML compatibility).	
RenderLinkTitle	Specifies if the document name should be rendered as a TITLE tag of links (for better accessibility).	
RenderSubItems	Indicates whether sub-items should be rendered under the selected item.	
UrlTarget	Specifies the target frame for all URLs.	"_blank"

Mentioned method:

Method Name	Description
ReloadData(bool forceLoad)	Reloads the data. If the **forceLoad** parameter is set to false and a value is assigned to the **DataSource** property, the properties of the CMSTreeMenu control are not used and only the data from the DataSource is loaded.

1.8.5.10.4 Appearance and styling

The appearance of the CMSTreeMenu control is determined by the CSS classes it uses and by some of its properties.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSTreeMenuTable	The main table (TABLE element).
CMSTreeMenuItem	Tree menu item (TD element).
CMSTreeMenuItemAlt	Alternating style of the menu item (TD element). It's used only when you set the **UseAlternatingStyles** property to true.
CMSTreeMenuSelectedItem	Selected tree menu item (TD element).

CMSTreeMenuLink	Link (A element).
CMSTreeMenuLinkAlt	Alternating style of the link (A element). It's used only when you set the **UseAlternatingStyles** property to true.
CMSTreeMenuSelectedLink	Link of the selected item (A element).
CMSTreeMenuNestedTable	Nested table (TABLE element). It's used only when **CollapseSelectedNodeOnClick** is true.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

Please refer to Using the CSSPrefix property to learn how to add prefixes to these classes to customize items at any menu level.

Example

The following is an example of how CSS styles can be applied to a CMSTreeMenu control. If you wish to create this example for yourself, please follow the tutorial in the Getting started topic, then continue with the following steps:

1. Set the following properties of the CMSTreeMenu control:

- **Indentation**: *5*

This specifies the indentation used for lower menu levels.

The code of the control should now look like the following:

```
<cms:CMSTreeMenu ID="CMSTreeMenu1" runat="server" Indentation="5" />
```

Save the changes to the web form.

2. Now log in to the sample Corporate Site ASPX, go to **Site Manager -> Development -> CSS stylesheets,** edit (✎) the **Corporate Site** stylesheet and find and modify the following classes:

```
<style type="text/css">

/* Tree menu class definitions */
.CMSTreeMenuTable
{
        PADDING-RIGHT: 5px;
        PADDING-LEFT: 5px;
        PADDING-BOTTOM: 2px;
        PADDING-TOP: 2px;
}

.CMSTreeMenuItem
```

```
{
        BACKGROUND: #e7e7ff;
        PADDING: 3px 0px;
}

.CMSTreeMenuSelectedItem
{
        BACKGROUND: #4a3c8c;
        PADDING: 3px 0px;
}

</style>
```

This will modify the appearance of the tree menu. The created page uses this stylesheet by default.

3. Now if you look at the page using the created template on some website, the tree menu will now have its appearance modified:

1.8.5.11 CMSTreeView

1.8.5.11.1 Overview

The CMSTreeView control allows you to display a multi-level tree menu based on data from Kentico CMS.

It allows you to display part of the CMS menu structure specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode** and **WhereCondition** properties.

This control is derived from the intrinsic ASP.NET TreeView control and enhances it to automatically read CMS documents and adds a set of additional properties. Please see the ASP.NET documentation for more details on the properties, behavior and design of the TreeView control.

The portal engine equivalent of the CMSTreeView control is the **Navigation -> Tree view** web part.

The following topics are available to help you familiarize yourself with the CMSTreeView control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control

- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes and shows an example of how CSS styles can be used with the control

1.8.5.11.2 Getting started

The following is a step-by-step tutorial that will show you how to display a tree menu based on CMS content using the CMSTreeView control:

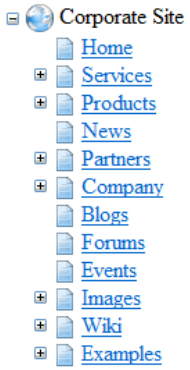
1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSTreeView** control from the toolbox onto the form.

3. Switch to the **Source** tab. The code of the CMSTreeView control should look like this:

```
<cms:CMSTreeView ID="CMSTreeView1" runat="server">
</cms:CMSTreeView>
```

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a menu like this:



1.8.5.11.3 Configuration

The following properties of the CMSTreeView control can be set or used in the API:

Most of the common properties from:

- CMS controls - common properties
- CMS navigation - common properties

In addition, the following properties are available:

Property Name	Description	Sample Value
DisplayDocumentTypeImages	Indicates whether document type images should be used for menu items.	
DynamicBehaviour	Indicates whether child nodes should be	

	loaded dynamically and if populate on demand should be enabled.	
EncodeMenuCaption	Indicates whether the menu caption should be HTML encoded.	
ExpandAllOnStartup	Indicates whether all nodes in the tree should be expanded by default.	
ExpandCurrentPath	Indicates whether all nodes along the path to the currently selected item should be expanded by default.	
ExpandSubTree	Indicates whether the sub-tree under the currently selected item should be expanded by default.	
FixBrokenLines	Indicates whether broken lines should be fixed.	
HideRootNode	Indicates whether the root node is hidden.	
HigLightSelectedItem	Indicates whether the currently selected item should be highlighted.	
IgnoreDocumentMenuAction	Indicates whether the Menu actions document menu settings should be ignored. These can be set at **CMS Desk -> Content -> ... select document ... -> Properties -> Menu -> Menu actions** section. This is necessary if you wish to use an onClick Javascript action defined by the **OnClickAction** property.	
InactivateAllItemsInPath	Indicates whether all items in the path should be inactive.	
InactivateSelectedItem	Indicates whether the currently selected item should be inactive.	
InactiveNodeImage	If enabled, node images will not act as links.	
InactiveRoot	Indicates whether the root node should be inactive.	
NodeImageUrl	Gets or sets the image URL used for all nodes.	
OnClickAction	Gets or sets the onClick Javascript action.	
OrderBy	Gets or sets the ORDER BY clause of the SQL statement. Please be aware that it is necessary for the root of the displayed tree (or sub-tree) to be **first** in the resulting order, otherwise all documents may not be displayed correctly.	"NodeLevel, NodeOrder"

	This can be ensured by having the value of this property start with the **NodeLevel** column, such as in the sample value.	
RootImageUrl	Gets or sets the URL of the image used for the root node.	
RootText	Gets or sets the text used for the root node.	

As this control is inherited from the ASP.NET TreeView control, it also has all of its standard properties.

1.8.5.11.4 Appearance and styling

You can adjust the appearance of the CMSTreeView control by setting the inherited standard properties of the ASP.NET TreeView control. You can find more details on particular properties in the .NET Framework documentation.

The design of the CMSTreeView control can additionally be modified by its following properties and the CSS classes that they specify:

Property Name	Description	Sample Value
InactiveItemClass	CSS class of inactive items.	
InactiveItemStyle	Style of inactive items.	
SelectedItemClass	CSS class of selected items.	
SelectedItemStyle	Style of selected items.	

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.6 Listings and viewers

1.8.6.1 Overview

The controls in this section provide various ways to display documents and their data from the Kentico CMS database.

Available categories:

- Standard listings and viewers
- Listings and viewers with a custom query

1.8.6.2 Standard listings and viewers

1.8.6.2.1 Overview

The controls in this section provide various ways to display document data from the Kentico CMS database. Options include several types of lists, tables, calendars and more.

Most of these controls inherit a corresponding control from the Basic Listings and viewers section and extend it to easily work with Kentico CMS documents.

These controls also support the use of Transformations.

If you wish to display more complex data structures containing multiple hierarchical levels and different document types, you can do so by nesting the controls within each other. For more information about this and an example, please refer to the Using nested controls topic.

Documents in Kentico CMS can be connected to other documents through relationships. Learn more about how the controls in this section can work with relationships in the Displaying related documents topic.

Available controls:

- CMSCalendar
- CMSDataGrid
- CMSDataList
- CMSDocumentValue
- CMSRepeater
- CMSViewer

1.8.6.2.2 Using nested controls

A nested control is one that is defined within a transformation or template used by another control. When utilized with listing controls, this can be employed to display hierarchical data. The following controls may contain other nested controls:

- CMSDataList
- CMSRepeater

These controls have the **NestedControlsID** property, which ensures that the correct content **Path** is dynamically provided to nested controls.

These controls can be combined as required. Other controls, such as the CMSDataGrid for example, may be embedded into one of the controls above, but cannot contain nested controls themselves.

If you need to dynamically set the properties of a nested control, it is necessary to set its **DelayedLoading** property to *True*.

The same approach can also be used for listing web parts when using the portal engine.

Example: Displaying a nested (hierarchical) repeater/datalist

This tutorial shows how you can use a hierarchical CMSRepeater/CMSDatalist combination to display a list of product categories and a preview of products in each category from the products section of the sample Corporate Site:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSRepeater** control from the toolbox onto the form and

set its following properties:

- **Path**: /products/%
- **ClassNames**: cms.menuitem
- **NestedControlsID**: CMSDataListNested

This specifies the **Path** to the products section, tells the control to read pages (menu item documents) and specifies the ID of the nested control that will be used in the next step.

3. Switch to the **Source** tab and add the code marked by the **CMSRepeater template** comments between the *<cms:CMSRepeater>* tags. The overall code of the CMSRepeater control should look like this:

```
<cms:CMSRepeater ID="CMSRepeater1" runat="server" Path="/products/%" ClassNames
="CMS.MenuItem"
NestedControlsID="CMSDataListNested" >

          <%-- CMSRepeater template
          ------------------------------------------------- --%>

          <ItemTemplate>
          <h1><%# Eval("DocumentName") %></h1>
          <p>

          <%-- Nested DataList
          ------------------------------------------------------ --%>
          <cms:CMSDataList ID="CMSDataListNested" runat="server"
          ClassNames="cms.pda;cms.cellphone;cms.laptop"
          TransformationName="ecommerce.transformations.Product_SimplePreview"
          RepeatColumns="2" >
          </cms:CMSDataList>

          <%-- Nested DataList
          ------------------------------------------------------ --%>

          </p>
          </ItemTemplate>

          <%-- CMSRepeater template
          ------------------------------------------------- --%>

</cms:CMSRepeater>
```

This defines the template used by the CMSRepeater to display items. As you can see, it contains a nested CMSDataList control that is configured to display all product types in two columns using the specified transformation and its **ID** is the same as the value that was entered into the **NestedControlsID** property of the main CMSRepeater. Please note that its **Path** property is not specified, as it is dynamically supplied by the main CMSRepeater control.

The same result could also be achieved by placing the CMSDataList into the code of a transformation, and assigning that transformation to the CMSRepeater through its **TransformationName** property.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a hierarchical list like this:

1.8.6.2.3 Displaying related documents

If a Kentico CMS document is related to some other documents, these can be displayed using one of the following controls:

- CMSCalendar
- CMSDataGrid
- CMSDataList
- CMSRepeater
- CMSViewer

All of them have the following three properties that can be set in order to display related documents (besides other properties, such as **Path**, **ClassNames**, etc.):

Property Name	Description	Sample Value
RelatedNodeIsOnTheLef	Indicates whether the related document is on	

tSide	the left or right side of the relationship.	
RelationshipName	Code name of the relationship.	"isrelatedto"
RelationshipWithNodeGUID	If set, only documents related to the document with the entered **NodeGUID** value will be selected. Entering the *"11111111-1111-1111-1111-111111111111"* value will select documents related to the **current** document.	"36f8c4bc-f702-4736-8a25-a82295668794"

More information about related documents can be found at Developer's Guide -> Content management -> Document properties -> Related docs.

Example

The following example shows how to create an ASPX page template that displays news items related to the current page by using the CMSRepeater control:

1. Now open the Kentico CMS web project in Visual Studio and create a new **Web form** called *RelationshipExample.aspx* in the **CMSTemplates/CorporateSiteAspx** folder.

2. Switch to the **Source** view of the newly created web form and add the following line under the **<%@ Page %>** directive:

```
<%@ Register Assembly="CMS.Controls" Namespace="CMS.Controls" TagPrefix="cms" %>
```

3. Switch to the code behind. You need to add a reference to the **CMS.UIControls** namespace:

[C#]

```
using CMS.UIControls;
```

4. Modify the class from which the page is inherited. Change the following code:

[C#]

```
public partial class CMSTemplates_CorporateSiteAspx_RelationshipExample : System.
Web.UI.Page
```

to this:

[C#]

```
public partial class CMSTemplates_CorporateSiteAspx_RelationshipExample :
TemplatePage
```

Now the page can be correctly used as a page template in Kentico CMS.

Please keep in mind that the name of the class must be identical to the value of the **Inherits** attribute of the **<%@ Page %>** directive on the ASPX page. This is case sensitive.

5. Switch to its **Design** tab, drag and drop a **CMSRepeater** control from the toolbox onto the form and set its following properties:

- **ClassNames**: CMS.News
- **Path**: /News/%
- **TransformationName**: cms.news.preview
- **RelationshipName**: isrelatedto
- **RelationShipWithNodeGUID**: 11111111-1111-1111-1111-111111111111

This tells the control to read news documents, specifies the path to the News section of the sample Corporate Site, assigns the transformation that should be used to display the news documents and tells the control to display only documents that are in the *isrelatedto* relationship with the **currently** selected document.

The overall code of the CMSRepeater control will look like this:

```
<cms:CMSRepeater ID="CMSRepeater1" runat="server" ClassNames="CMS.News" Path="/
News/%"
TransformationName="cms.news.preview" RelationshipName="isrelatedto"
RelationshipWithNodeGUID="11111111-1111-1111-1111-111111111111" >
</cms:CMSRepeater>
```

6. Save the changes to the web form.

7. Now open the sample Corporate Site ASPX, go to **Site Manager -> Development -> Page templates**, select the **Corporate Site ASPX** category and create a new template. Enter the following properties:

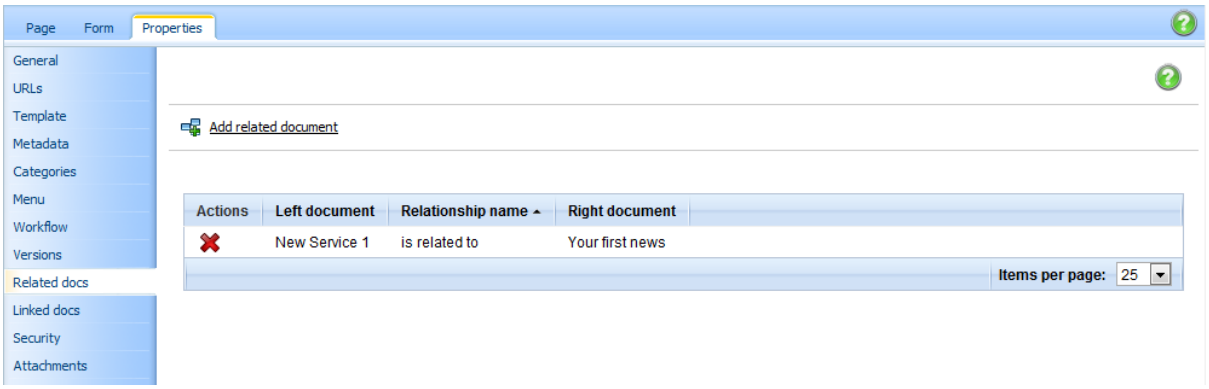
- **Template display name**: Related news
- **Template code name**: RelatedNews

Click **OK**. Press the **Select** button next to the **File name** field and choose the **RelationshipExample.aspx** web form from the **CMSTemplates/CorporateSiteASPX** folder.

Click **Save**.

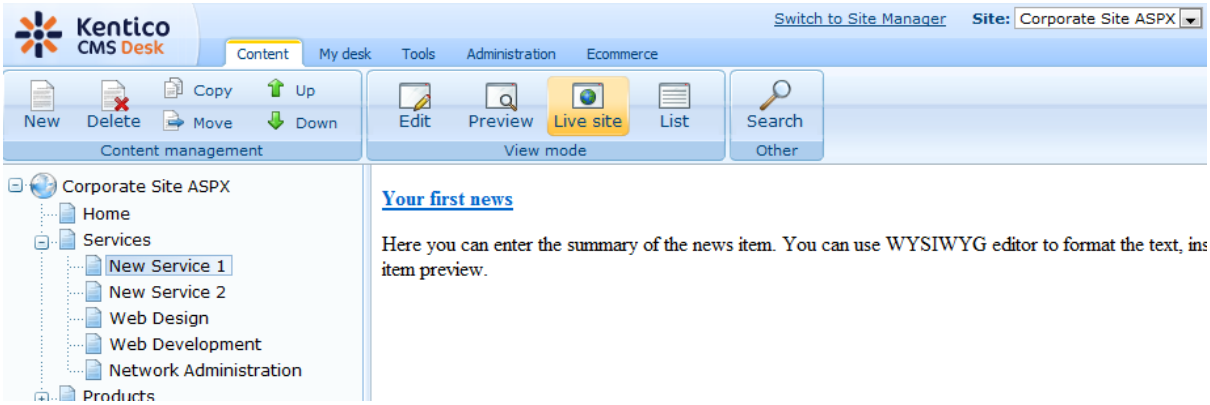
8. Switch to the **Sites** tab, press **Add sites** and select **Corporate Site ASPX.**

9. Switch to **CMS Desk**, select **Services** from the content tree and create a new **Page (menu item)** called under it, enter *New Service 1* into the **Page name** field and select the **Corporate Site ASPX -> Related news** page template. Click **Save**. Now switch to **Properties -> Related docs** tab of the new page and add a related document by using **Add related document**, choose *is related to* as the **Relationship name** and select the *News -> Your first news* document as the **Right-side document**.



10. Repeat step 9, but call the new page *New Service 2* and select the *News -> Your second news* document as the **Right-side document** of the relationship.

11. Now select the **/Services/New Service 1** page from the content tree and switch to **Live site** mode. You will see that the CMSRepeater on the page template is displaying a preview of the news item related to this page:



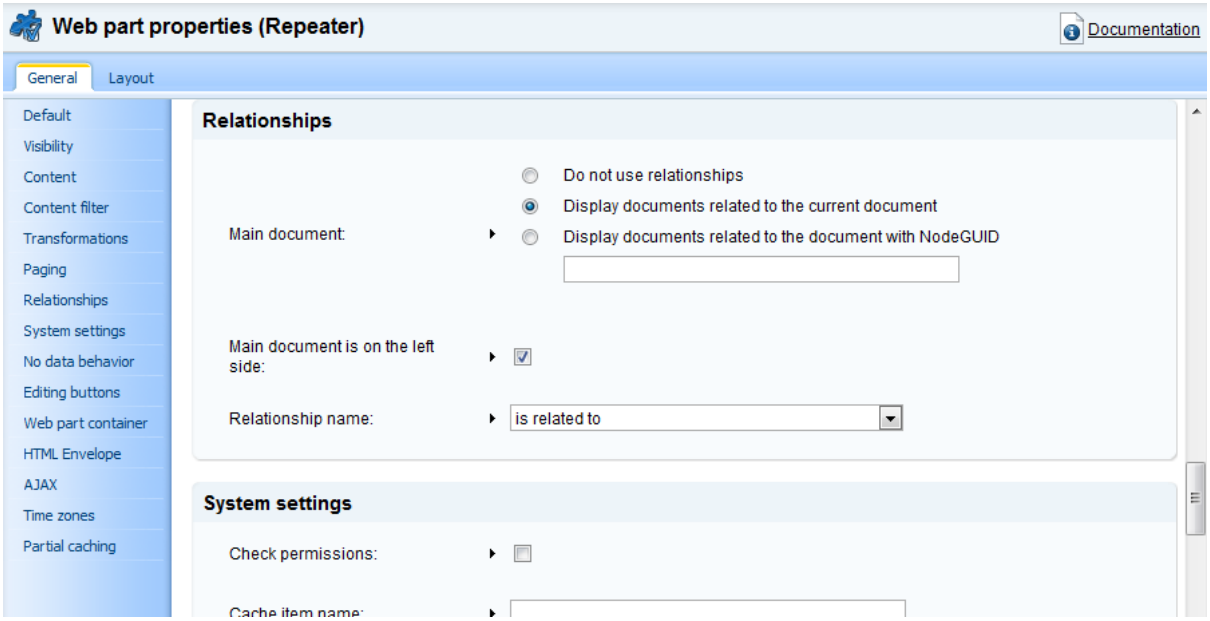
If you select **/Services/New Service 2** page, you will see the **Your second news** item displayed in the same fashion.

Using web parts to display related documents

When using the portal engine, related documents can also be displayed by the following web parts from the **Listings and viewers** category:

- **Calendar**
- **DataList**
- **Grid**
- **Related documents**
- **Repeater**
- **Universal document viewer**
- **XSLT viewer**

This can be done by setting the properties in their **Relationships** property section as seen in the following image:



Example

The following example shows how to display news items related to a product by using the Repeater web part:

1. Open the sample Corporate Site, go to **CMS Desk -> Content**, select **Products -> Laptops -> Acer Aspire 3105WLMi** and switch to the **Properties -> Related docs**. Now add a related document by using **Add related document**, choose *is related to* as the **Relationship name** and select the *News -> Your first news* document as the **Right-side document**.

2. Repeat step 1 for **Products -> Laptops -> Asus F3U AP059C**, but select the *News -> Your second news* document as the **Right-side document**.

3. Select **Products** from the content tree, switch to the **Design** tab and add (+) a **Listings and viewers -> Repeater** web part to the **zoneRight** web part zone.

4. The **Web part properties (Repeater)** dialog will appear. Set the following properties:

- **Content -> Path**: /% (we want to display related news items from the whole website)
- **Content filter -> Document types**: CMS.News
- **Transformations -> Transformation**: CMS.News.Preview
- **Relationships -> Main document**: Select **Display documents related to the current document**
- **Relationships -> Main document is on the left side**: check the checkbox
- **Relationships -> Relationship name**: is related to
- **HTML Envelope -> Content before**: <h3>Related news:</h3>

5. Now select **/Products/Laptops/Acer Aspire 3105WLMi** from the content tree and switch to **Live site** mode. You will see the news item that was added as a related document in step 1 displayed below the product using the CMS.News.Preview transformation:

Parameters:

Processor type:	AMD Sempron
Display type:	15.4 WXGA
Resolution:	1280 × 800
Graphics card:	ATI with shared memory
Memory type:	DDR2
Memory size:	1024
Optical drive:	DVD-RW DL
Hard Drive:	120 GB
Wireless LAN:	yes
Bluetooth:	no
Infraport:	no
Battery type:	Li-Ion
Operating system:	Windows Vista Home Basic
Accessories:	Optical mouse, CD with drivers

Our price: $490.00 1 Add to shopping cart Add to wishlist

Description:

Great choice for mobile professionals who like to play as hard as they work--and who have an eye on the budget. Acer's acclaimed Folio design features chic lines, smooth curves, and a cool metallic sheen, while its slim-and-light form factor facilitates excellent mobility, while front-access ports and controls make connecting to a network convenient.

Send to friend

Send

Your message (click here):

Related news:

Your first news

Here you can enter the summary of the news item. You can use WYSIWYG editor to format the text, insert links and images. The summary will be used in news item preview.

If you select **/Products/Laptops/Asus F3U AP059C**, you will see the **Your second news** item displayed in the same fashion.

1.8.6.2.4 CMSCalendar

1.8.6.2.4.1 Overview

The CMSCalendar control allows you to display a calendar with events, news and other date-based documents from the Kentico CMS database without the need to write any additional code.

The content is specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode**, **WhereCondition** and **OrderBy** properties. Data is retrieved using the **SelectDocuments** query of the specified document type. These queries can be found at **Kentico CMS Site Manager -> Development -> Document types -> ... Edit specified document type ... -> Queries**.

The CMSCalendar is derived from the BasicCalendar control.

The portal engine equivalent of the CMSCalendar control is the **Listings and viewers -> Calendar** web part.

The following topics are available to help you familiarize yourself with the CMSCalendar control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using

the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.2.4.2 Getting started

The following is a step-by-step tutorial that will show you how to display a calendar that contains links to news items (CMS.News documents) on days when news items were released using the CMSCalendar control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSCalendar** control from the toolbox onto the form and set its following properties:

- **ClassNames**: cms.news
- **DayField**: NewsReleaseDate
- **TransformationName**: cms.news.calendarevent
- **NoEventTransformationName**: cms.news.calendarnoevent

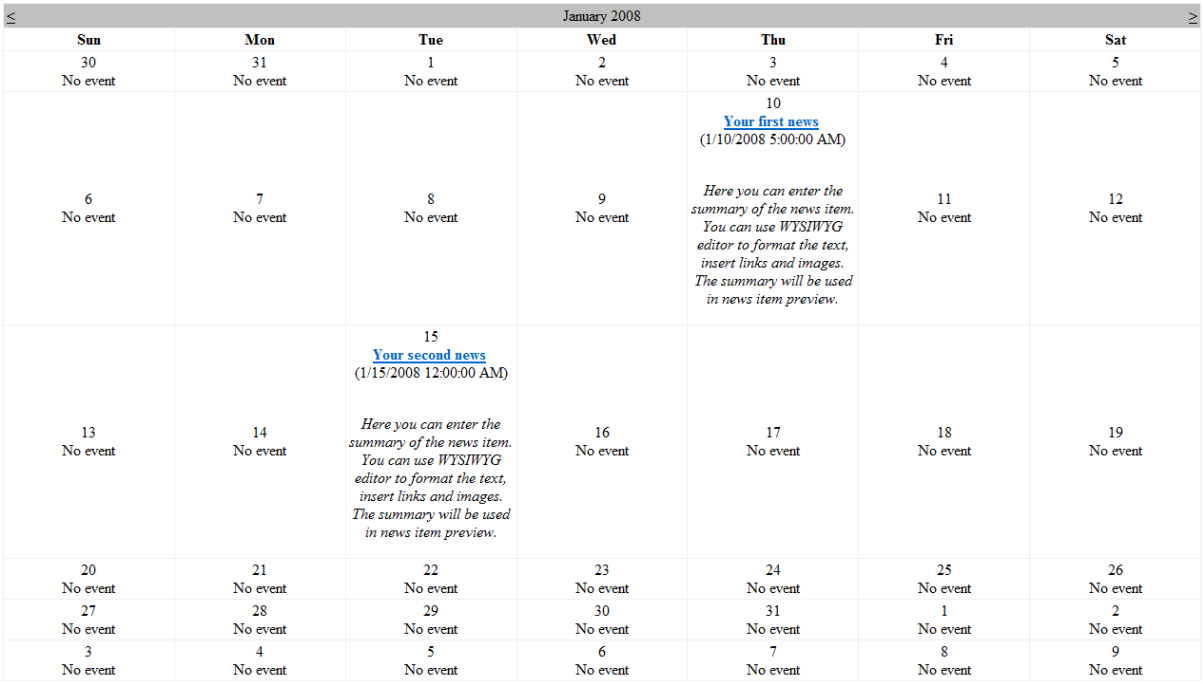
This tells the control to read news documents, assigns the column it should get date/time values from and specifies the transformations that should be used to display days with and without news releases.

3. Switch to the **Source** tab. The code of the CMSCalendar control should look like this:

```
<cms:CMSCalendar ID="CMSCalendar1" runat="server" ClassNames="cms.news" DayField
="NewsReleaseDate"
TransformationName="cms.news.calendarevent" NoEventTransformationName="cms.news.
calendarnoevent">
</cms:CMSCalendar>
```

There is no need to define templates for day items, since the transformation names have already been specified.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a calendar like this:



≤	January 2008					≥
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
30 No event	31 No event	1 No event	2 No event	3 No event	4 No event	5 No event
6 No event	7 No event	8 No event	9 No event	10 Your first news (1/10/2008 5:00:00 AM) *Here you can enter the summary of the news item. You can use WYSIWYG editor to format the text, insert links and images. The summary will be used in news item preview.*	11 No event	12 No event
13 No event	14 No event	15 Your second news (1/15/2008 12:00:00 AM) *Here you can enter the summary of the news item. You can use WYSIWYG editor to format the text, insert links and images. The summary will be used in news item preview.*	16 No event	17 No event	18 No event	19 No event
20 No event	21 No event	22 No event	23 No event	24 No event	25 No event	26 No event
27 No event	28 No event	29 No event	30 No event	31 No event	1 No event	2 No event
3 No event	4 No event	5 No event	6 No event	7 No event	8 No event	9 No event

1.8.6.2.4.3 Configuration

As it is inherited from the BasicCalendar control, the CMSCalendar control has all of its properties (including templates). These can be found in the BasicCalendar -> Configuration topic. In addition, it has the following properties that can be set or used in the API:

In addition, it has most of the following properties that can be set or used in the API:

- CMS controls - common properties
- Displaying related documents

As well as:

Property Name	Description	Sample Value
DataSource	Gets or sets a DataSet containing calendar events used to populate the items within the control. This value is not required.	
NoEventTransformationName	Name of the transformation applied to days without any event in format **<class prefix>.<document type>.<transformation name>**.	"cms.news.CalendarNoEvent"
TransformationName	Name of the transformation applied to days with an event in format **<class prefix>.<document type>.<transformation name>**.	"cms.news.CalendarEvent"

1.8.6.2.4.4 Appearance and styling

You can modify the appearance of the CMSCalendar control by setting the standard properties of the ASP.NET Calendar control (inherited through the BasicCalendar). You can find more details on particular properties in the .NET Framework documentation for the Calendar class.

A common way to set the appearance of this control is to assign a skin through the **SkinID** property. Skins can be defined in .skin files under individual themes in the **App_Themes** folder. More information can be found in the .NET Skins and Themes documentation.

The design of day cells can be determined by the transformations specified by its transformation name properties or by the code of the template properties inherited from the BasicCalendar control.

1.8.6.2.5 CMSDataGrid

1.8.6.2.5.1 Overview

The CMSDataGrid control allows you to display document data from the Kentico CMS database in a customizable table without the need to write any additional code.

The content is specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode**, **WhereCondition** and **OrderBy** properties. Data is retrieved using the **SelectDocuments** query of the specified document type. These queries can be found at **Kentico CMS Site Manager -> Development -> Document types -> ... Edit specified document type ... -> Queries**.

Please note

If you wish to display data using a **custom query**, please use the QueryDataGrid control.

The CMSDataGrid is derived from the BasicDataGrid control.

The standard DataGrid designer can be used to set up CMSDataGrid style and behaviour.

The portal engine equivalent of the CMSDataGrid control is the **Listings and viewers -> Grid** web part.

The following topics are available to help you familiarize yourself with the CMSDataGrid control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.2.5.2 Getting started

The following is a step-by-step tutorial that will show you how to display a table that contains all products (CMS.Cellphone, CMS.Laptop and CMS.PDA documents) from the products section of the sample Corporate Site using the CMSDataGrid control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSDataGrid** control from the toolbox onto the form and set its following properties:

- **ClassNames**: cms.cellphone;cms.laptop;cms.pda
- **Path**: /products/%

This tells the control which document types to read and specifies the **Path** to the products section (the default setting of /% would also display all products, but it is more effective to read only a section of the site).

3. Right-click the CMSDataGrid on the form, select **Show Smart Tag** and then **Property Builder...**; the **CMSDataGrid1 Properties** dialog will be displayed.

On the **General** tab, check the **Allow sorting** box.

Now switch to the **Columns** tab, where you can specify the columns that will be displayed, and uncheck the **Create columns automatically at run time** box.

Add a new **Bound Column** from the **Available columns** list to the **Selected columns** list. Enter the following values into the appropriate fields:

- **Header text:** Name
- **Data Field**: SKUName
- **Sort expression**: SKUName

Add another **Bound column** from the **Available columns** list to the **Selected columns** list. Enter the following values in the appropriate fields:

- **Header text:** Price
- **Data Field**: SKUPrice
- **Sort expression**: SKUPrice

Click **OK**.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a table like this:

Name ▲	Price
Acer Aspire 3105WLMi	490
Asus A639	470
Asus F3U AP059C	999
HP iPAQ 114	389
Nokia N73	399
Samsung SGH E250	249

1.8.6.2.5.3 Configuration

As it is inherited from the BasicDataGrid control, the CMSDataGrid control has all of its properties. These can be found in the BasicDataGrid -> Configuration topic.

In addition, it has all of the following properties that can be set or used in the API:

- CMS controls - common properties
- Displaying related documents

As well as:

Property Name	Description	Sample Value
PageSize	The number of displayed items per page.	
SelectedItemTransformationName	Name of the transformation applied to the selected item in format **<class prefix>.<document type>.<transformation name>**.	

1.8.6.2.5.4 Appearance and styling

You can modify the appearance of the CMSDataGrid control by setting the standard properties of the ASP.NET DataGrid control (inherited through the BasicDataGrid). You can find more details on particular properties in the .NET Framework documentation for the DataGrid class.

A common way to set the appearance of this control is to assign a skin through the **SkinID** property. Skins can be defined in .skin files under individual themes in the **App_Themes** folder. More information can be found in the .NET Skins and Themes documentation.

1.8.6.2.6 CMSDataList

1.8.6.2.6.1 Overview

The CMSDataList control allows you to display document data from the Kentico CMS database in a list based on transformations without the need to write any additional code.

The content is specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode**, **WhereCondition** and **OrderBy** properties. Data is retrieved using the **SelectDocuments** query of the specified document type. These queries can be found at **Kentico CMS Site Manager -> Development -> Document types -> ... Edit specified document type ... -> Queries**.

Please note

If you wish to display data using a **custom query**, please use the QueryDataList control.

The CMSDataList is derived from the BasicDataList control.

Unlike the CMSRepeater control, the CMSDataList allows you to display data in several columns.

It supports nested controls, read more in the Using nested controls topic.

The portal engine equivalent of the CMSDataList control is the **Listings and viewers -> Datalist** web part.

The following topics are available to help you familiarize yourself with the CMSDataList control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.2.6.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list that contains all products (CMS.Cellphone, CMS.Laptop and CMS.PDA documents) from the products section of the sample Corporate Site using the CMSDataList control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSDataList** control from the toolbox onto the form and set its following properties:

- **ClassNames**: cms.cellphone;cms.laptop;cms.pda
- **OrderBy**: SKUName
- **Path**: /products/%
- **RepeatColumns**: 3
- **TransformationName**: ecommerce.transformations.Product_SimplePreview
- **SelectedItemTransformationName**: ecommerce.transformations.Product_Default

This tells the control which document types to read, sets the **OrderBy** value, specifies the **Path** to the products section (the default setting of /% would also display all products, but it is more effective to read only a section of the site), determines the amount of displayed columns and assigns the transformations that should be used to display products.

3. Switch to the **Source** tab. The code of the CMSDataList control should look like this:

```
<cms:CMSDataList ID="CMSDataList1" runat="server" ClassNames="cms.cellphone;cms.
laptop;cms.pda"
 OrderBy="SKUName" Path="/products/%" RepeatColumns="3"
 TransformationName="ecommerce.transformations.Product_SimplePreview"
 SelectedItemTransformationName="ecommerce.transformations.Product_Default">
</cms:CMSDataList>
```

It's not necessary to define the standard **ItemTemplate** elements of the DataList control since the transformation names have already been specified.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list like this:

1.8.6.2.6.3 Configuration

As it is inherited from the BasicDataList control, the CMSDataList control has all of its properties. These can be found in the BasicDataList -> Configuration topic.

In addition, it has all of the following properties that can be set or used in the API:

- CMS controls - common properties
- Displaying related documents

As well as:

Property Name	Description	Sample Value
AlternatingTransformationName	Name of the transformation applied to alternating items in format **<class prefix>.<document type>.<transformation name>**.	
DelayedLoading	Indicates whether data should be loaded during the **load** event instead of the default **init** event.	
EnablePaging	Indicates whether the built-in DataPager control should be used to page the list. This property does not affect the UniPager control, which must be added separately if you wish to use it.	
NestedControlsID	IDs of nested controls (CMSRepeater, CMSDataList...), separated by semicolons.	"CMSRepeaterNested; CMSDataListNested"
PageSize	The number of displayed items per page.	
PagerControl	This property can be used to set or get the pager control and its properties.	

SelectedItemTransformationName	Name of the transformation applied to the selected item in format **<class prefix>.<document type>.<transformation name>**.	
ShowEditDeleteButtons	Indicates if edit and delete buttons should automatically be shown for each displayed item in the edit mode of CMS Desk.	
TransformationName	Name of the transformation applied to standard items in format **<class prefix>.<document type>.<transformation name>**.	

1.8.6.2.6.4 Appearance and styling

You can modify the appearance of the CMSDataList control by setting the standard properties of the ASP.NET DataList control (inherited through the BasicDataList). You can find more details on particular properties in the .NET Framework documentation for the DataList class.

The design of list items can be determined by the transformations specified by the **AlternatingTransformationName**, **TransformationName** and **SelectedItemTransformationName** properties or by the code of the template properties inherited from the standard ASP.NET DataList control.

1.8.6.2.7 CMSDocumentValue

1.8.6.2.7.1 Overview

This control allows you to display a specified value of the currently displayed Kentico CMS document. It can be useful if you need to display e.g. the current document name on the page.

This control can easily be placed into ASPX page templates, page layouts or transformation code.

The following topics are available to help you familiarize yourself with the CMSDocumentValue control:

- Getting started - contains a quick example of how this control can be used
- Configuration - describes and explains the properties that can be set for the control

1.8.6.2.7.2 Getting started

The following tutorial will show you how to display the document name of the currently selected document using the CMSDocumentValue control:

1. Create a new **Web form** and use it as a page template according to the guide in the Using ASPX page templates topic.

2. Switch to its **Design** tab, drag and drop a **CMSDocumentValue** control from the toolbox onto the form and set its following properties:

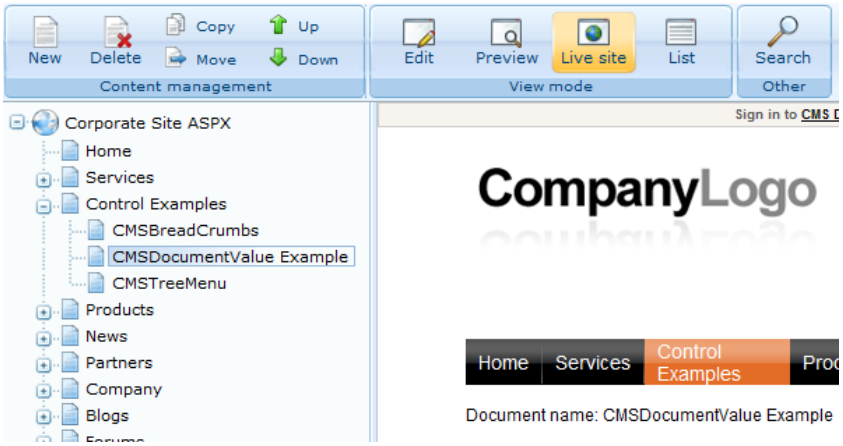
- **AttributeName**: DocumentName
- **FormattingString**: Document name: {0}

This tells the control which document value to display and sets the format that should be used.

The code of the control will look like this:

```
<cms:CMSDocumentValue ID="CMSDocumentValue1" runat="server" AttributeName
="DocumentName" FormattingString="Document name: {0}" />
```

3. Save the changes to the web form. Now if you look at the page using the created template on some website, the name of the currently selected document will be displayed as is shown in the following image:



This is only an example of how this control can be used and by itself isn't very useful. Practically, the code of the control from this example would be added to an existing ASPX page template, that has some other function, or to the code of a page layout when using the portal engine.

1.8.6.2.7.3 Configuration

The following properties of the CMSDocumentValue control can be set or used in the API:

Property Name	Description	Sample Value
AttributeName	Name of the field to be displayed.	"DocumentName"
ClassNames	List of document types for which the value should be displayed, separated by a semicolon (;).	"cms.article;cms.menuitem"
FormattingString	.NET formatting expression used for displaying the value.	"Name: {0}"
StopProcessing	Indicates if processing of the control should be stopped and the control should not retrieve or display any data.	

1.8.6.2.8 CMSRepeater

1.8.6.2.8.1 Overview

The CMSRepeater control allows you to display document data from the Kentico CMS database in a list based on transformations without the need to write any additional code.

The content is specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode**, **WhereCondition** and **OrderBy** properties. Data is retrieved using the **SelectDocuments** query of the specified document type. These queries can be found at **Kentico CMS Site Manager -> Development -> Document types -> ... Edit specified document type ... -> Queries**.

Please note

If you wish to display data using a **custom query**, please use the QueryRepeater control.

The CMSRepeater is derived from the BasicRepeater control.

It supports nested controls, read more in the Using nested controls topic.

The portal engine equivalent of the CMSRepeater control is the **Listings and viewers -> Repeater** web part.

The following topics are available to help you familiarize yourself with the CMSRepeater control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.2.8.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list of news items (CMS.News documents) using the CMSRepeater control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSRepeater** control from the toolbox onto the form and set its following properties:

- **ClassNames**: cms.news
- **OrderBy**: NewsReleaseDate DESC
- **TransformationName**: cms.news.preview
- **SelectedItemTransformationName**: cms.news.default

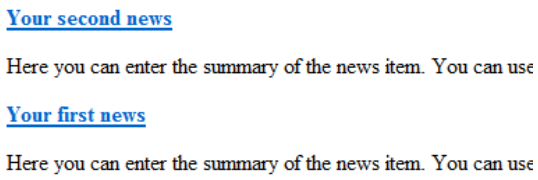
This tells the control which document types to read, sets the **OrderBy** value and assigns the transformations that should be used to display the news items.

3. Switch to the **Source** tab. The code of the CMSRepeater control should look like this:

```
<cms:CMSRepeater ID="CMSRepeater1" runat="server" ClassNames="cms.news"
OrderBy="NewsReleaseDate DESC" TransformationName="cms.news.preview"
SelectedItemTransformationName="cms.news.default">
</cms:CMSRepeater>
```

It's not necessary to define the standard **ItemTemplate** elements of the Repeater control since the transformation names have already been specified.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list like this:



1.8.6.2.8.3 Configuration

As it is inherited from the BasicRepeater control, the CMSRepeater control has all of its properties. These can be found in the BasicRepeater -> Configuration topic.

In addition, it has all of the following properties that can be set or used in the API:

- CMS controls - common properties
- Displaying related documents

As well as:

Property Name	Description	Sample Value
AlternatingTransformationName	Name of the transformation applied to alternating items in format **<class prefix>.<document type>.<transformation name>**.	
DataSourceControl	Object of the data source control.	
DataSourceName	ID of the data source control.	
DelayedLoading	Indicates whether data should be loaded during the **load** event instead of the default **init** event.	
EnablePaging	Indicates whether the built-in DataPager control should be used to page the list. This property does not affect the UniPager control, which must be added separately if you wish to use it.	

ItemSeparator	Separator between displayed items.	" "
NestedControlsID	IDs of nested controls (CMSRepeater, CMSDataList...), separated by semicolons.	"CMSRepeaterNested; CMSDataListNested"
PageSize	The number of displayed items per page.	
PagerControl	This property can be used to set or get the pager control and its properties.	
SelectedItemTransformationName	Name of the transformation applied to the selected item in format **<class prefix>.<document type>.<transformation name>**.	
ShowEditDeleteButtons	Indicates if edit and delete buttons should automatically be shown for each displayed item in the edit mode of CMS Desk.	
TransformationName	Name of the transformation applied to standard items in format **<class prefix>.<document type>.<transformation name>**.	

1.8.6.2.8.4 Appearance and styling

You can modify the appearance of the CMSRepeater control by setting the standard properties of the ASP.NET Repeater control (inherited through the BasicRepeater). You can find more details on particular properties in the .NET Framework documentation for the Repeater class.

The design of list items can be determined by the transformations specified by the **AlternatingTransformationName**, **TransformationName** and **SelectedItemTransformationName** properties or by the code of the template properties inherited from the standard ASP.NET Repeater control.

1.8.6.2.9 CMSViewer

1.8.6.2.9.1 Overview

The CMSViewer control allows you to display document data from the Kentico CMS database based on XSLT transformations without the need to write any additional code.

The content is specified using its **Path**, **MaxRelativeLevel**, **ClassNames**, **CultureCode**, **WhereCondition** and **OrderBy** properties. Data is retrieved using the **SelectDocuments** query of the specified document type. These queries can be found at **Kentico CMS Site Manager -> Development -> Document types -> ... Edit specified document type ... -> Queries**.

The portal engine equivalent of the CMSViewer control is the **Listings and viewers -> XSLT viewer** web part.

The following topics are available to help you familiarize yourself with the CMSViewer control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control

- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.2.9.2 Getting started

The following is a step-by-step tutorial that will show you how to use the CMSViewer control to display a specific news item (CMS.News document) using an XSLT transformation:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **CMSViewer** control from the toolbox onto the form and set its following properties:

- **ClassNames**: *CMS.News*
- **Path**: */News/Your-First-News*
- **TransformationName**: *cms.news.default_xslt*

This tells the control which document types to read, specifies the **Path** to the news document and assigns the transformation that should be used.

Please note

The document types entered into the **ClassNames** property must be identical (it is **case sensitivite**), to the value of the **match** property of the **<xsl:template>** element of the specified xslt transformation.

3. Switch to the **Source** tab. The code of the CMSViewer control should look like this:

```
<cms:CMSViewer ID="CMSViewer1" runat="server" ClassNames="CMS.News" Path="/News/
Your-First-News" TransformationName="cms.news.default_xslt" />
```

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like this:

NewsID: 4
News Title: Your first news
News Summary:

Here you can enter the summary of the news item. You can use WYSIWYG editor to format the text, insert links and images. The summary will be used in news item preview.

News Text:

This is the news text. It's displayed in combination with news title and summary. Depending on transformation chosen by the web developer, the news item may be displayed in various formats, with or without teaser image.

Release Date: 2008-01-09T05:00:00+01:00

1.8.6.2.9.3 Configuration

The following properties of the CMSViewer control can be set or used in the API:

All of the common properties from:

- CMS controls - common properties
- Displaying related documents

In addition, the following properties are available:

Property Name	Description	Sample Value
HideControlForZeroRows	Hides the control when no data is loaded. Default value is False.	
SelectedItemTransformationName	Name of the XSLT transformation applied to the selected item in format **<class prefix>.<document type>.<transformation name>**.	
TransformationName	Name of the used XSLT transformation in format **<class prefix>.<document type>.<transformation name>**.	"cms.news.default_xslt"
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	

1.8.6.2.9.4 Appearance and styling

The appearance and design of the displayed content is completely driven by the XSLT transformation specified in the **TransformationName** property.

1.8.6.3 Listings and viewers with a custom query

1.8.6.3.1 Overview

The controls in this section provide various ways to display document data from the Kentico CMS database.

Each of these controls inherits a corresponding control from the Basic Listings and viewers section and extends it to easily work with Kentico CMS documents and read and use predefined queries from the system.

The functionality of these controls is very similar to that of the controls in the Standard listings and viewers section, the main difference between them is that these controls use full database queries assigned through their **QueryName** property to determine the content they display. Only queries stored in the *CMS_Query* table of the Kentico CMS database can be selected, so if you wish to use a custom query, you must create it there or edit an existing one. The queries can be managed through the administration interface at **Site Manager -> Development -> Document types / System tables / Custom tables -> ... Edit (🖉) object ... -> Queries**.

These controls also support the use of Transformations.

Since the controls in this section use pre-defined queries to read data, certain steps must be taken to keep the functionality of the usual properties that set query clauses, such as **OrderBy** etc. This must be taken into consideration when writing custom queries. For more information, please refer to the Using control properties to set query clauses topic.

Available controls:

- QueryDataGrid
- QueryDataList
- QueryRepeater

1.8.6.3.2 Using control properties to set query clauses

If you wish to maintain the functionality of the control properties that set query clauses when writing a custom query to be used by the controls in this section, you need to make sure it contains the appropriate macro expressions that are dynamically replaced with the values of the corresponding properties at run-time. The following table maps the query clause properties to their respective macro expression:

Property	Expression
OrderBy	##ORDERBY##
SelectedColumns	##COLUMNS##
TopN	##TOPN##
WhereCondition	##WHERE##

So a query that selects page (menu item) documents would look like this:

```
SELECT ##TOPN## ##COLUMNS## FROM View_CONTENT_MenuItem_Joined WHERE (##WHERE##)
ORDER BY ##ORDERBY##
```

Dynamic insertion of WhereCondition parameters

The controls in this section also support dynamically inserted parameters into the **WhereCondition** property:

You can use context macro expressions that are resolved at run-time, such as the following:

Expression	Description
{%currentaliaspath%}	Alias path of the current page.
{%currentculturecode%}	Culture code of the user's preferred content culture.
{%currentsiteid%}	SiteID value of the current site.

1.8.6.3.3 CMS Custom query - common properties

All of the Listings and viewers controls with a custom query have the following properties in common:

Property Name	Description	Sample Value
PageSize	The number of displayed items per page.	
QueryName	Name of the used query in format **<class prefix>.<document type>.<query name>**.	"CMS.MenuItem. selectdocuments"
QueryParameters	Gets or sets an array with query parameters.	

1.8.6.3.4 QueryDataGrid

1.8.6.3.4.1 Overview

The QueryDataGrid control displays document data from the Kentico CMS database in a customizable table without the need to write any extra code. Additionally, it allows you to specify the query used to retrieve data through its **QueryName** property. Only queries stored in the *CMS_Query* table of the Kentico CMS database can be selected, so if you wish to use a custom query, you must create it there or edit an existing one. The queries can be managed through the administration interface at **Site Manager -> Development -> Document types / System tables / Custom tables -> ... Edit ( ) object ... -> Queries**.

The QueryDataGrid is derived from the BasicDataGrid control.

The standard DataGrid designer can be used to set up QueryDataGrid style and behaviour.

Please refer to the Using control properties to set query clauses topic to find information about using properties such as **WhereCondition** with this control.

The portal engine equivalent of the QueryDataGrid control is the **Listings and viewers -> Grid with custom query** web part.

Please note

If you only wish to display data from a specific part of the content tree, please consider using the CMSDataGrid control instead.

The following topics are available to help you familiarize yourself with the QueryDataGrid control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.3.4.2 Getting started

The following is a step-by-step tutorial that will show you how to display a table that contains the latest news items (CMS.News documents) from the sample Corporate Site using the QueryDataGrid control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **QueryDataGrid** control from the toolbox onto the form and set its **QueryName** property to *cms.news.selectlatest*. This assigns the query that should be used to retrieve news documents and tells the control to ensure sorting.

3. Right-click the QueryDataGrid on the form, select **AutoFormat...** and choose a scheme.

4. Right-click the QueryDataGrid on the form, select **Show Smart Tag** and then **Property Builder...**; the **QueryDataGrid1 Properties** dialog will be displayed.

On the **General** tab, check the **Allow sorting** box.

Now switch to the **Columns** tab, where you can specify the columns that will be displayed, and uncheck the **Create columns automatically at run time** box.

Add a new **Bound Column** from the **Available columns** list to the **Selected columns** list. Enter the following values into the appropriate fields:

- **Header text:** News Title
- **Data Field**: NewsTitle
- **Sort expression**: NewsTitle

Add another **Bound column** from the **Available columns** list to the **Selected columns** list. Enter the following values in the appropriate fields:

- **Header text:** Release Date
- **Data Field**: NewsReleaseDate
- **Sort expression**: NewsReleaseDate

Click **OK**.

5. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a table similar to the following (depending on the chosen scheme):

News Title ▲	Release Date
Your first news	1/10/2008 5:00:00 AM
Your second news	1/15/2008 12:00:00 AM

1.8.6.3.4.3 Configuration

As it is inherited from the BasicDataGrid control, the QueryDataGrid control has all of its properties. These can be found in the BasicDataGrid -> Configuration topic.

In addition, it has all of the following properties that can be set or used in the API:

- CMSBase - common properties
- CMS Custom query - common properties

1.8.6.3.4.4 Appearance and styling

You can modify the appearance of the QueryDataGrid control by setting the standard properties of the ASP.NET DataGrid control (inherited through the BasicDataGrid). You can find more details on particular properties in the .NET Framework documentation for the DataGrid class.

A common way to set the appearance of this control is to assign a skin through the **SkinID** property. Skins can be defined in .skin files under individual themes in the **App_Themes** folder. More information can be found in the .NET Skins and Themes documentation.

1.8.6.3.5 QueryDataList

1.8.6.3.5.1 Overview

The QueryDataList control displays document data from the Kentico CMS database in a list based on transformations without the need to write any extra code. Additionally, it allows you to specify the query used to retrieve data through its **QueryName** property. Only queries stored in the *CMS_Query* table of the Kentico CMS database can be selected, so if you wish to use a custom query, you must create it there or edit an existing one. The queries can be managed through the administration interface at **Site Manager -> Development -> Document types / System tables / Custom tables -> ... Edit ( ) object ... -> Queries**.

The QueryDataList is derived from the BasicDataList control.

Unlike the QueryRepeater control, the QueryDataList allows you to display data in several columns.

Please refer to the Using control properties to set query clauses topic to find information about using properties such as **WhereCondition** with this control.

The portal engine equivalent of the QueryDataList control is the **Listings and viewers -> Datalist with custom query** web part.

Please note

If you only wish to display data from a specific part of the content tree, please consider using the CMSDataList control instead.

The following topics are available to help you familiarize yourself with the QueryDataList control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.3.5.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list of all cell phones (CMS.Cellphone documents) from the sample Corporate Site using the QueryDataList control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **QueryDataList** control from the toolbox onto the form and set its following properties:

- **QueryName**: cms.cellphone.selectdocuments
- **RepeatColumns**: 2
- **TransformationName**: ecommerce.transformations.Product_SimplePreview
- **SelectedItemTransformationName**: ecommerce.transformations.Product_Default

This assigns the query that should be used to retrieve cellphone documents, determines the amount of displayed columns and assigns the transformations that should be used.

3. Switch to the **Source** tab. The code of the QueryDataList control should look like this:

```
<cms:QueryDataList ID="QueryDataList1" runat="server" QueryName="cms.cellphone.
selectdocuments"
RepeatColumns="2" TransformationName="ecommerce.transformations.
Product_SimplePreview"
SelectedItemTransformationName="ecommerce.transformations.Product_Default" >
</cms:QueryDataList>
```

It's not necessary to define the standard **ItemTemplate** elements of the DataList control since the transformation names have already been specified.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list like this:


Nokia N73
Our price: $399.00


Samsung SGH E250
Our price: $249.00

1.8.6.3.5.3 Configuration

As it is inherited from the BasicDataList control, the QueryDataList control has all of its properties. These can be found in the BasicDataList -> Configuration topic.

In addition, it has all of the following properties that can be set or used in the API:

- CMSBase - common properties
- CMS Custom query - common properties

As well as:

Property Name	Description	Sample Value
AlternatingTransformationName	Name of the transformation applied to alternating items in format **<class prefix>.<document type>.<transformation name>**.	
EnablePaging	Indicates whether the built-in DataPager control should be used to page the list. This property does not affect the UniPager control, which must be added separately if you wish to use it.	
IsSelected	Indicates whether the current data source contains the selected item.	
PagerControl	This property can be used to set or get the pager control and its properties.	
SelectedDatabaseColumnName	Gets or sets the column name that should be used to select items.	
SelectedItemTransformationName	Name of the transformation applied to the selected item in format **<class prefix>.<document type>.<transformation name>**.	
SelectedQueryStringKeyName	Gets or sets the query string key name. The presence of the key in a query string indicates, that some item should be selected. The item is determined by the value of the query string key.	
SelectedValidationType	Gets or sets the validation type used for the query string key that determines which item is selected.	"int" "guid" "string"
ShowEditDeleteButtons	Indicates if edit and delete buttons should automatically be shown for each displayed item in the edit mode of CMS Desk.	
TransformationName	Name of the transformation applied to standard items in format **<class prefix>.<document type>.<transformation name>**.	

1.8.6.3.5.4 Appearance and styling

You can modify the appearance of the QueryDataList control by setting the standard properties of the ASP.NET DataList control (inherited through the BasicDataList). You can find more details on particular properties in the .NET Framework documentation for the DataList class.

The design of list items can be determined by the transformations specified by the **AlternatingTransformationName**, **TransformationName** and **SelectedItemTransformationName** properties or by the code of the template properties inherited from the standard ASP.NET DataList control.

1.8.6.3.6 QueryRepeater

1.8.6.3.6.1 Overview

The QueryRepeater control displays document data from the Kentico CMS database in a list based on transformations without the need to write any extra code. Additionally, it allows you to specify the query used to retrieve data through its **QueryName** property. Only queries stored in the *CMS_Query* table of the Kentico CMS database can be selected, so if you wish to use a custom query, you must create it there or edit an existing one. The queries can be managed through the administration interface at **Site Manager -> Development -> Document types / System tables / Custom tables -> ... Edit ( ) object ... -> Queries**.

The QueryRepeater is derived from the BasicRepeater control.

If you only wish to display data from a specific part of the content tree, please consider using the CMSRepeater control instead.

Please refer to the Using control properties to set query clauses topic to find information about using properties such as **WhereCondition** with this control.

The portal engine equivalent of the QueryRepeater control is the **Listings and viewers -> Repeater with custom query** web part.

Please note

If you only wish to display data from a specific part of the content tree, please consider using the CMSRepeater control instead.

The following topics are available to help you familiarize yourself with the QueryRepeater control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - describes how the design of the control can be modified

1.8.6.3.6.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list of all PDAs (CMS.PDA documents) from the sample Corporate Site using the QueryRepeater control:

1. Create a new **Web form** somewhere in your website installation directory.

2. Switch to its **Design** tab, drag and drop a **QueryRepeater** control from the toolbox onto the form and set its following properties:

- **QueryName**: cms.pda.selectdocuments
- **TransformationName**: ecommerce.transformations.Product_SimplePreview
- **SelectedItemTransformationName**: ecommerce.transformations.Product_Default

This assigns the query that should be used to retrieve PDA documents and the transformations that should be used to display them.

3. Switch to the **Source** tab. The code of the QueryRepeater control should look like this:

```
<cms:QueryRepeater ID="QueryRepeater1" runat="server" QueryName="cms.pda.
selectdocuments"
TransformationName="ecommerce.transformations.Product_SimplePreview"
SelectedItemTransformationName="ecommerce.transformations.Product_Default" >
</cms:QueryRepeater>
```

It's not necessary to define the standard **ItemTemplate** elements of the Repeater control since the transformation names have already been specified.

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should display a list like this:

Asus A639
Our price: $470.00

HP iPAQ 114
Our price: $389.00

1.8.6.3.6.3 Configuration

As it is inherited from the BasicRepeater control, the QueryRepeater control has all of its properties. These can be found in the BasicRepeater -> Configuration topic.

In addition, it has all of the following properties that can be set or used in the API:

- CMSBase - common properties
- CMS Custom query - common properties

As well as:

Property Name	Description	Sample Value

AlternatingTransformationName	Name of the transformation applied to alternating items in format **<class prefix>.<document type>.<transformation name>**.	
EnablePaging	Indicates whether the built-in DataPager control should be used to page the list. This property does not affect the UniPager control, which must be added separately if you wish to use it.	
IsSelected	Indicates whether the current data source contains the selected item.	
ItemSeparator	Separator between displayed items.	" "
PagerControl	This property can be used to set or get the pager control and its properties.	
SelectedDatabaseColumnName	Gets or sets the column name that should be used to select items.	
SelectedItemTransformationName	Name of the transformation applied to the selected item in format **<class prefix>.<document type>.<transformation name>**.	
SelectedQueryStringKeyName	Gets or sets the query string key name. The presence of the key in a query string indicates, that some item should be selected. The item is determined by the value of the query string key.	
SelectedValidationType	Gets or sets the validation type used for the query string key that determines which item is selected.	"int" "guid" "string"
ShowEditDeleteButtons	Indicates if edit and delete buttons should automatically be shown for each displayed item in the edit mode of CMS Desk.	
TransformationName	Name of the transformation applied to standard items in format **<class prefix>.<document type>.<transformation name>**.	

1.8.6.3.6.4 Appearance and styling

You can modify the appearance of the QueryRepeater control by setting the standard properties of the ASP.NET Repeater control (inherited through the BasicRepeater). You can find more details on particular properties in the .NET Framework documentation for the Repeater class.

The design of list items can be determined by the transformations specified by the **AlternatingTransformationName**, **TransformationName** and **SelectedItemTransformationName** properties or by the code of the template properties inherited from the standard ASP.NET Repeater

control.

1.8.7 Edit mode buttons

1.8.7.1 Overview

The controls in this section display buttons that allow Kentico CMS documents to quickly and easily be created, edited or deleted. These buttons are only displayed in the **Edit** mode of **CMS Desk**.

Available controls:

- CMSEditModeButtonAdd
- CMSEditModeButtonEditDelete

1.8.7.2 CMSEditModeButtonAdd

1.8.7.2.1 Overview

The CMSEditModeButtonAdd control displays a button that is shown in the **Edit** mode of **CMS Desk** and allows content editors to add a new document when they click it. It provides an intuitive way of creating new documents.

The following topics are available to help you familiarize yourself with the CMSEditModeButtonAdd control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - lists which CSS classes can be used with the control

1.8.7.2.2 Getting started

The following tutorial will show you how to display a button, that creates new news documents, on an ASPX page template using the CMSEditModeButtonAdd control:

1. Create a new **Web form** and prepare it to be an ASPX page template according to the guide found in the Using ASPX page templates topic.

2. Switch to its **Design** tab, drag and drop a **CMSEditModeButtonAdd** control from the toolbox onto the form and set its following properties:

- **ClassName**: CMS.News
- **Path**: /News/

This tells the control what type of documents it should create and sets the path to the document under which they should be added.

The code of the control will look like this:

```
<cms:CMSEditModeButtonAdd ID="CMSEditModeButtonAdd1" runat="server" Path="/News/"
ClassName="CMS.News" />
```

3. Switch to the code behind of the page and make sure it has the following references at the beginning of the code:

[C#]

```
using CMS.UIControls;
using CMS.CMSHelper;
using CMS.PortalEngine;
using CMS.GlobalHelper;
```

4. Now add the following code to the **Page_Load** method:

[C#]

```
// Register edit mode buttons script
if (CMSContext.ViewMode != ViewModeEnum.LiveSite)
{
    ScriptHelper.RegisterClientScriptBlock(this, typeof(string), ScriptHelper.
EDIT_DOCUMENT_SCRIPT_KEY, ScriptHelper.EditDocumentScript);
}
```

This is necessary if you wish to use the control individually on an ASPX page template.

5. Save the changes to the web form. Now if you look at the page using the created template on some website in the **Edit** mode of **CMS Desk**, a button like the one in the following image will be displayed:

If you press the button, it will redirect you to the form used to create new news documents under the */News* page.

1.8.7.2.3 Configuration

The following properties of the CMSEditModeButtonAdd control can be set or used in the API:

Property Name	Description	Sample Value
ClassName	Document type that specifies the type of the document that should be created.	"cms.article"
Path	Alias path of the parent document under which the new document should be created. If omitted, the document is added under the currently selected document.	"/whitepapers"
StopProcessing	Indicates if processing of the control should be stopped and the control should not retrieve or display any data.	
Text	Custom caption of the button. If not set, the	"Add new article"

	default text "Add new" is displayed.	

1.8.7.2.4 Appearance and styling

The appearance of the CMSEditModeButtonAdd control is determined by the CSS class it uses.

You can use the following CSS class to modify the design of the control:

Class Name	Description
CMSEditModeButtonAdd	CSS style of the <A> element.

The recommended place to define this class is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.7.3 CMSEditModeButtonEditDelete

1.8.7.3.1 Overview

The CMSEditModeButtonEditDelete control displays a pair of buttons that are shown in the **Edit** mode **CMS Desk** and allow content editors to edit or delete documents when they click it. It provides an intuitive way of editing/deleting documents.

Many CMS listing controls (and web parts), such as the CMS Repeater (Repeater) have the **ShowEditDeleteButtons** (**Show Edit and Delete buttons**) property, which causes this control to automatically be shown next to every displayed document. The path of these controls will automatically be set to that of the corresponding displayed document.

The following topics are available to help you familiarize yourself with the CMSEditModeButtonEditDelete control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - lists which CSS classes can be used with the control

1.8.7.3.2 Getting started

The following tutorial will show you how to display a pair of buttons, that can edit or delete a specific news document, on an ASPX page template using the CMSEditModeButtonEditDelete control:

1. Create a new **Web form** and prepare it to be an ASPX page template according to the guide found in the Using ASPX page templates topic.

2. Switch to its **Design** tab, drag and drop a **CMSEditModeButtonEditDelete** control from the toolbox onto the form and set its **Path** property to */News/Your-first-news*.

This sets the path to the document that the control should edit or delete.

The code of the control will look like this:

```
<cms:CMSEditModeButtonEditDelete ID="CMSEditModeButtonEditDelete1" runat="server"
Path="/News/Your-first-news" />
```

3. Switch to the code behind of the page and make sure it has the following references at the beginning of the code:

[C#]

```
using CMS.UIControls;
using CMS.CMSHelper;
using CMS.PortalEngine;
using CMS.GlobalHelper;
```

4. Now add the following code to the **Page_Load** method:

[C#]

```
// Register edit mode buttons script
if (CMSContext.ViewMode != ViewModeEnum.LiveSite)
{
    ScriptHelper.RegisterClientScriptBlock(this, typeof(string), ScriptHelper.
EDIT_DOCUMENT_SCRIPT_KEY, ScriptHelper.EditDocumentScript);
}
```

This is necessary if you wish to use the control individually on an ASPX page template.

5. Save the changes to the web form. Now if you look at the page using the created template on some website in the **Edit** mode of **CMS Desk**, a pair of buttons as seen in the following image will be displayed:

If you press the **Edit** button, it will redirect you to the form used to edit the */News/Your-first-news* document. If you click the **Delete** button, the same document will be deleted.

Use in transformations

If you wish to use this control in the code of a transformation, you can do so by adding code similar to the following:

```
<cms:CMSEditModeButtonEditDelete runat="server" id="btnEditDelete" Path='<%# Eval
("NodeAliasPath") %>' />
```

The path will automatically be set to that of the currently transformed document.

1.8.7.3.3 Configuration

The following properties of the CMSEditModeButtonEditDelete control can be set or used in the API:

Property Name	Description	Sample Value
DeleteText	Custom caption of the delete button. If not set, the default text "Delete" is displayed.	"Delete article"
EditText	Custom caption of the edit button. If not set, the default text "Edit" is displayed.	"Edit article"
Path	Alias path of the document to be edited/ deleted.	"/whitepapers/myfirstpaper"

1.8.7.3.4 Appearance and styling

The appearance of the CMSEditModeButtonEditDelete control is determined by the CSS classes it uses.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSEditModeButtonEdit	CSS style of the edit button <A> element.
CMSEditModeButtonDelete	CSS style of the delete button <A> element.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.8 Editable regions for ASPX page templates

1.8.8.1 Overview

The controls in this section allow the creation of editable regions that can be used by editors to fill in content. They provide editing dialogs in the **Edit** mode of **CMS Desk** and once some content is entered into them, it is displayed on the live site. They are only compatible with Kentico CMS ASPX page templates.

> **Please note:**
>
> If you wish to have this kind of functionality on Portal engine templates, use the **Editable text** and **Editable image** web parts instead.

Available controls:

- CMSEditableImage
- CMSEditableRegion
- CMSPageManager

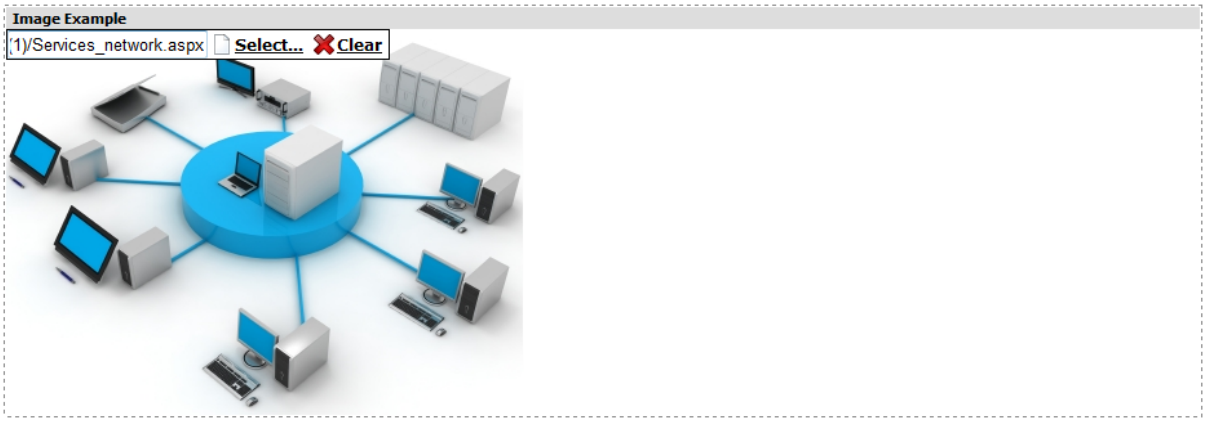
1.8.8.2 CMSEditableImage

1.8.8.2.1 Overview

Please note

This control is compatible only with ASPX page templates. On portal engine pages, use the **Editable image** web part instead of this control

The CMSEditableImage control displays an editable region in the **Edit** mode of CMS Desk that allows content editors to select an image. The chosen image is then displayed without the selection interface on the live version of the website.



This control requires the CMSPageManager control to regulate the flow of data to/from the editable region, it doesn't communicate with the database directly. There only has to be one CMSPageManager control for any number of CMSEditableImage controls.

The following topics are available to help you familiarize yourself with the CMSEditableImage control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control

1.8.8.2.2 Getting started

The following is a step-by-step tutorial that will show you how to display a region which can be used to select and display images using the CMSEditableImage control:

1. Create a new **Web form** in your website installation directory under the **CMSTemplates/CorporateSiteAspx** folder and check the **Select master page** box.

2. The **Select a Master Page** dialog appears. Choose the folder **CMSTemplates/CorporateSiteASPX** and choose the **root.master** file and click **OK**..

3. Follow the remaining steps of the guide found in the Using ASPX page templates topic.

4. Switch to the **Design** tab and drag and drop a **CMSEditableImage** control from the toolbox onto the form and set its **ImageTitle** property to *Image Example*.

5. Switch to the **Source** tab. The code of the CMSEditableImage control should look like this:

```
<cms:CMSEditableImage ID="CMSEditableImage1" runat="server" ImageTitle="Image
Example" />
```

It's not necessary to add the CMSPageManager control onto the web form, as there is already one on the *root.master* master page.

6. Save the changes to the web form. Now if you look at the page using the created template on some website, it will display an image selection dialog in the **Edit** mode of **CMS Desk** similar to the following:

Now if you select an image and press the **Save** button, the image will be displayed on the live site version of the page without the selection dialog.

1.8.8.2.3 Configuration

The following properties of the CMSEditableImage control can be set or used in the API:

Property Name	Description	Sample Value
AlternateText	ALT text of the image displayed on the website.	
DisplaySelectorTextBox	Indicates whether a textbox with the image path should be displayed in **Edit** mode.	
ImageControl	Returns the instance of the used Image control.	
ImageCSSClass	Sets or gets the name of the image CSS class.	
ImageHeight	Image height in pixels - the image will be resized to this height.	
ImageStyle	Sets or gets the style of the image.	
ImageTitle	Title displayed above the image in **Edit** mode.	
ImageWidth	Image width in pixels - the image will be resized to this width.	

1.8.8.3 CMSEditableRegion

1.8.8.3.1 Overview

Please note

This control is compatible only with ASPX page templates. On portal engine pages, use the **Editable text** web part instead of this control.

The CMSEditableRegion control displays an editable region in the **Edit** mode of CMS Desk that allows website editors to enter a wide range of content. It then displays its content without the editing interface on the live version of the website.

This control requires the CMSPageManager control to regulate the flow of data to/from the editable region, it doesn't communicate with the database directly. There only has to be one CMSPageManager control for any number of CMSEditableRegion controls.

The following topics are available to help you familiarize yourself with the CMSEditableRegion control:

- Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - lists which CSS classes can be used with the control and how its appearance can be modified

1.8.8.3.2 Getting started

The following is a step-by-step tutorial that will show you how to display an editable region, which works as an HTML editor, using the CMSEditableRegion control:

1. Create a new **Web form** in your website installation directory under the **CMSTemplates/ CorporateSiteAspx** folder and check the **Select master page** box.

2. The **Select a Master Page** dialog appears. Choose the folder **CMSTemplates/CorporateSiteASPX** and choose the **root.master** file and click **OK**..

3. Follow the remaining steps of the guide found in the Using ASPX page templates topic.

4. Switch to the **Design** tab and drag and drop a **CMSEditableRegion** control from the toolbox onto the form and set its following properties:

- **RegionTitle**: Region Example
- **DialogHeight**: 200
- **RegionType**: HTMLEditor
- **HTMLAreaToolbarLocation**: In

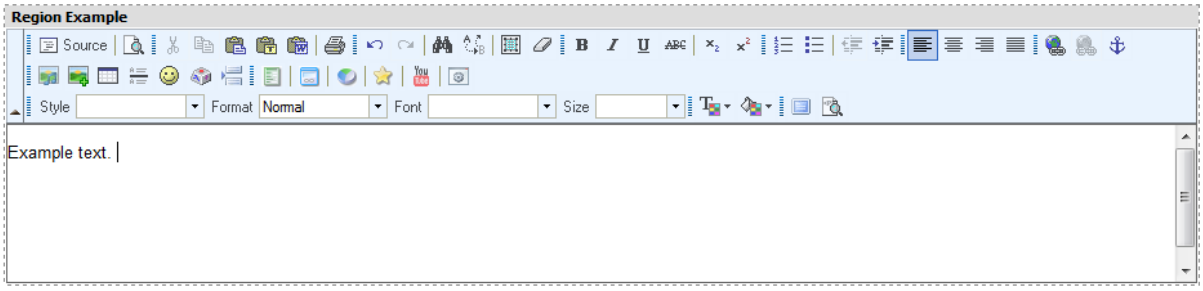
This specifies the height of the editable region, tells the control that the region should act as an HTML editor and that the toolbar of the editor should be displayed directly above the region.

5. Switch to the **Source** tab. The code of the CMSEditableRegion control should look like this:

```
<cms:CMSEditableRegion ID="CMSEditableRegion1" runat="server" RegionTitle="Region
Example"
DialogHeight="200" RegionType="HTMLEditor" HtmlAreaToolbarLocation="In" />
```

It's not necessary to add the CMSPageManager control onto the web form, as there is already one on the *root.master* master page.

6. Save the changes to the web form. Now if you look at the page using the created template on some website, it will display an editable region in the **Edit** mode of **CMS Desk** similar to the following:



Now if you enter some content and press the **Save** button, it will be displayed on the live site version of the page without the editor.

1.8.8.3.3 Configuration

The following properties of the CMSEditableRegion control can be set or used in the API:

Property Name	Description	Sample Value
DialogHeight	Height of the displayed region in pixels.	
DialogWidth	Width of the displayed region in pixels.	
HtmlAreaToolbar	Name of the HTML editor toolbar set. This is only used if the **RegionType** property is set to *HtmlEditor*.	"Default"
HtmlAreaToolbarLocation	Determines the location of the HTML editor toolbar. This is only used if the **RegionType** property is set to *HtmlEditor*.	"In" for inline - directly above the region "Out:FCKToolbar" for shared - at the top of the page
InheritContent	Indicates if the content of the editable region should be inherited from the parent page (menu item) document.	
MaxLength	Maximum length of the content (in number of characters).	

MinLength	Minimum length of the content (in number of characters).	
RegionTitle	Title displayed about the editable region in editing mode.	
RegionType	Type of server control which is displayed in the editable region. It can be a textbox, textarea or HTML editor.	"HtmlEditor" "TextArea" "TextBox"
WordWrap	Indicates whether text displayed by the control should use word wrapping if the text area **RegionType** is selected.	

Please note: the other properties are used by the CMSPageManager control only and shouldn't be modified manually.

1.8.8.3.4 Appearance and styling

The appearance of the CMSEditableRegion control is determined by the CSS classes it uses and by some of its properties.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSEditableRegionEdit	Style of the main <TABLE> element.
CMSEditableRegionTitle	Style of the <TD> element containing the error title.
CMSEditableRegionError	Style of the <TD> element containing the error message.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.8.4 CMSPageManager

1.8.8.4.1 Overview

> **Please note:**
>
> This control is compatible only with ASPX page templates, do not use it on Portal engine templates. For portal engine pages, use the **Editable text** and **Editable image** web parts instead of the CMSEditableRegion and CMSEditableImage controls.

The CMSPageManager control is required for pages with editable regions, as it manages the flow of data to/from the CMSEditableRegion and CMSEditableImage controls. It ensures that the content of editable regions is loaded from and saved to the database. It also displays the "Save" dialog.

Data Source

Content is loaded from the nearest Page (menu item) document in the alias path specified through the URL or through the **DefaultPageAliasPath** property. The content is stored in the following format:

```
<content>
<region id="ID of the CMSEditableRegion control related to this content section">
<!CDATA[ content of the editable region ]>
</region>
<region id="...">
<!CDATA[ content of the editable region ]>
</region>
</content>
```

The following topics are available to help you familiarize yourself with the CMSEditableRegion control:

- Getting started - describes the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Appearance and styling - lists which CSS classes can be used with the control

1.8.8.4.2 Getting started

To use the CMSPageManager control, simply drag and drop it from the toolbox onto an ASPX page template that contains CMSEditableImage or CMSEditableRegion controls. A common place to have the control is on the master page, as this allows it to manage editable regions on all page templates that use this master page.

1.8.8.4.3 Configuration

The following properties of the CMSPageManager control can be set or used in the API:

Property Name	Description	Sample Value
CacheDependencies	List of the cache keys on which the cached data depends. When the cache item changes, the cache of the control is cleared. Each item (dependency) must be on one line. If you leave this property empty, default dependencies will be used.	cms.user|all
CacheItemName	Name of the cache item the control will use. By setting this name dynamically, you can achieve caching based on a URL parameter or some other variable - simply enter the value of the parameter. If no value is set, the control stores its content in the item named "URL|ControlID".	"homepage_pagemanager"

CacheMinutes	Number of minutes the retrieved content is cached for. Zero indicates that the content will not be cached. -1 indicates that the site-level settings should be used. This parameter allows you to set up caching of content so that it doesn't have to be retrieved from the database each time a user requests the page.	
CheckPermissions	Allows you to specify whether to check permissions of the current user. If the value is 'false' (default value) no permissions are checked. Otherwise, only nodes for which the user has read permission can be selected.	
CMSEditableControls	Returns an array containing the managed editable controls (CMSEditableImage or CMSEditableRegion).	
CombineWithDefaultCulture	Indicates if the results should be combined with default language versions in case the translated version is not available. This property is applied only if you do not set the **TreeProvider** property manually.	
CultureCode	Culture code of documents to be selected, such as en-us. If not specified, it's read from the user's session or the default value is used.	"en-us"
DefaultPageAliasPath	Default path that is used if no alias path is provided in the query string or through a friendly URL.	"/home"
ErrorMessage	Gets or sets the error message string.	
InfoMessage	Gets or sets the information message string.	
IsAuthorized	Is true if the current user is authorized for the current document.	
PageAliasPath	The alias path of the current page.	
PreserveContent	Allows you to specify whether the content of non-existing or not visible regions should be preserved when the content is saved.	
SaveChanges	Is true if the current changes to the page should be saved.	
SiteName	Specifies the site code name.	

TagKey	Overrides the generation of the SPAN tag with a custom tag.	
TreeProvider	Tree provider instance used to access data. If no TreeProvider is assigned, a new TreeProvider instance is created automatically.	
ViewMode	Gets or sets the current page mode.	"Edit" "Preview" "LiveSite"

1.8.8.4.4 Appearance and styling

The appearance of the CMSPageManager control is determined by the CSS classes it uses.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSPageManagerError	Style of the error label.
CMSPageManagerLabel	Style of the standard label.
CMSPageManagerTextLink	Style of the link.
CMSPageManagerTDLabel	Style of the TD element that contains text with save confirmation message.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

1.8.9 Search Controls

1.8.9.1 Overview

The controls in this section provide the capability to search through the content of the Kentico CMS database. They use the SQL search engine, which uses standard SQL queries to search for a given expression. It runs a separate query for each document type. You can find the search query for a given document type in **Site Manager -> Development -> Document types -> ... select document type ... -> Queries -> Edit** () the **searchtree** query.

Common fields (such as document name) are searched using the **cms.root.searchdocuments** query.

Uploaded files are searched using the **cms.root.searchattachments** query. If you want to search uploaded files, you need to configure the system as described at Developer's Guide -> Installation and deployment -> Additional configuration tasks -> Configuration of full-text search in files. In this case, the files are searched using the Microsoft SQL Server Search Engine.

	Please note

Current Kentico CMS versions contain Smart search capability. The Smart search engine is index based and has significantly better performance than the SQL search engine.

To learn more about it, please refer to Developer's Guide -> Modules -> Smart search.

Available controls:

- CMSSearchDialog
- CMSSearchResults

1.8.9.2 CMSSearchDialog

1.8.9.2.1 Overview

The CMSSearchDialog control allows users to enter expressions that are then searched for in the Kentico CMS database. The user can also (optionally) specify the search scope (where to search) and search mode (how to search).

CMSSearchDialog can easily be used with the CMSSearchResults control to display search results. Both controls can be used separately.

The CMSSearchDialog control is not connected to any data source - it only communicates with the user. The search method in the CMSSearchResults dialog uses the pre-defined **searchtree** queries stored in document type definitions. It combines all results and returns them as one table.

The portal engine equivalent of the CMSSearchDialog control is the **Full-text search -> SQL Search dialog** web part.

The following topics are available to help you familiarize yourself with the CMSSearchDialog control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Structure - continues the tutorial from Getting started, shows a more advanced example of how the control can be configured and demonstrates what individual template properties affect
- Appearance and styling - lists which CSS classes can be used with the control and how its appearance can be modified

1.8.9.2.2 Getting started

The following is a step-by-step tutorial that will show you how to create a working search dialog using the CMSSearchDialog and CMSSearchResults controls:

1. Create a new **Web form** somewhere in your website installation directory.

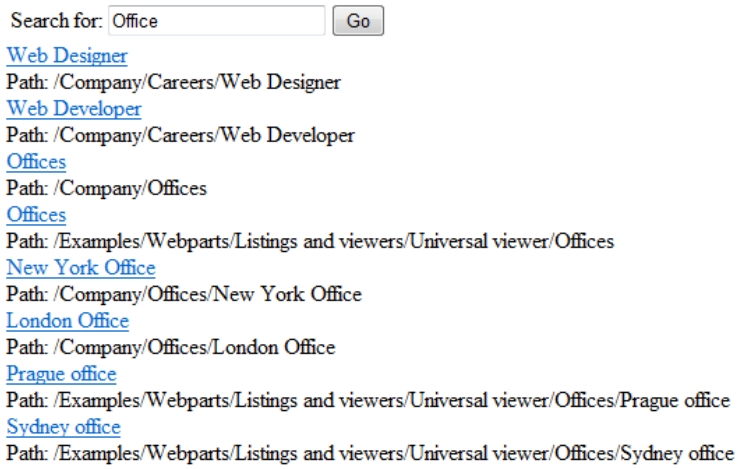
2. Switch to its **Design** tab, drag and drop a **CMSSearchDialog** control from the toolbox onto the form.

3. Now drag and drop a **CMSSearchResults** control form the toolbox onto the form below the CMSSearchDialog and set its **CMSSearchDialogID** property to *CMSSearchDialog1*.

The code of the two controls should look like this:

```
<cms:CMSSearchDialog ID="CMSSearchDialog1" runat="server" />

<cms:CMSSearchResults ID="CMSSearchResults1" runat="server" CMSSearchDialogID
="CMSSearchDialog1">
</cms:CMSSearchResults>
```

4. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page will contain a functional search dialog that will allow you to search the sample Corporate Site:



Continue this tutorial in the Structure topic to see how to create a more advanced search dialog.

1.8.9.2.3 Configuration

The following properties of the CMSSearchDialog control can be set or used in the API:

Property Name	Description	Sample Value
CustomQueryStringData	Gets or sets a custom query string which is placed after search querystring data, do not use & or ? at the start of the custom query string.	
SearchExpression	Entered word(s) to be searched for.	
SearchMode	Search mode - any word, all words or exact phrase.	"AllWords" "AnyWord" "ExactPhrase"
SearchScope	Indicates whether all content or only the current section should be searched.	"SearchAllContent" "SearchCurrentSection"
ShowSearchMode	Indicates whether search mode settings should be displayed.	

ShowSearchScope	Indicates whether search scope settings should be displayed.	
StopProcessing	Indicates if processing of the control should be stopped and the control should not retrieve or display any data.	

CMSSearchDialog Events

Event Name	Description
DoSearch	Occurs when a user submits the dialog.

The CMSSearchDialog contains the following controls. Refer to the Structure topic to see what individual controls represent. They can be accessed in your code behind through the following properties:

Property Name	Description
SearchButton	Search submit button.
SearchForLabel	SearchFor label control.
SearchForTextBox	SearchFor textbox.
SearchModeLabel	SearchMode label.
SearchModeList	SearchMode drop-down list.
SearchScopeLabel	SearchScope label.
SearchScopeList	SearchScope drop-down list.

1.8.9.2.4 Structure

This topic shows an example of how the CMSSearchDialog control looks when its **ShowSearchMode** and **ShowSearchScope** properties are enabled. If you wish to create this example for yourself, please follow the tutorial in the Getting started topic, then continue with the following steps:

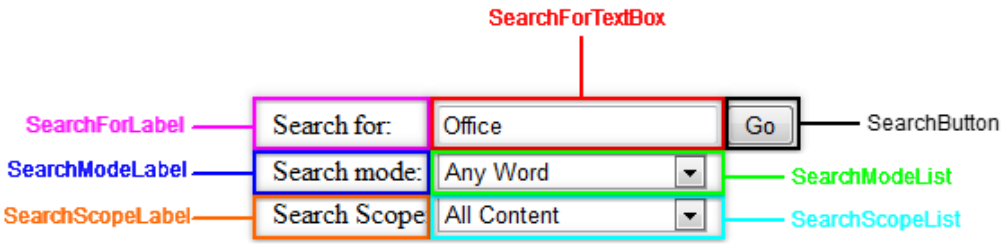
1. Make sure that the following properties of the CMSSearchDialog are set:

- **ShowSearchMode**: True
- **ShowSearchScope**: True

The code of the CMSSearchDialog control should now look like this:

```
<cms:CMSSearchDialog ID="CMSSearchDialog1" runat="server"
    ShowSearchMode="True" ShowSearchScope="True" />
```

2. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like the following diagram (without the descriptions), which shows the structure of the CMSSearchDialog control:



Individual areas correspond with the controls the dialog is composed of.

1.8.9.2.5 Appearance and styling

The appearance of the CMSSearchDialog control is determined by the CSS classes it uses and by some of its properties.

You can use the following CSS classes to modify the design of the control:

Class Name	Description
CMSSearchDialogSearchButton	CSS class of the search button.
CMSSearchDialogSearchForLabel	CSS class of the "Search for:" label.
CMSSearchDialogSearchForTextBox	CSS class of the search expression text box.
CMSSearchDialogSearchModeDropDownList	CSS class of the search mode drop down list.
CMSSearchDialogSearchModeLabel	CSS class of the "Search mode:" label.
CMSSearchDialogSearchScopeDropDownList	CSS class of the search scope drop down list.
CMSSearchDialogSearchScopeLabel	CSS class of the "Search Scope:" label.

The recommended place to define these classes is in a stylesheet in the Kentico CMS administration interface at **Site Manager -> Development -> CSS stylesheets**. These stylesheets can be applied to individual documents (pages) that contain the control in **CMS Desk -> Content -> Edit -> Properties -> General -> CSS stylesheet**.

The design can also be modified in your code behind files by configuring individual controls contained in the CMSSearchDialog. The properties that can be used to access them are listed in the Configuration topic.

1.8.9.3 CMSSearchResults

1.8.9.3.1 Overview

The CMSSearchResults control is used to display search results according to parameters provided from the CMSSearchDialog control.

It can also receive search results using the CMS.TreeEngine.TreeProvider.Search() method.

The displayed search results can be formatted using the built-in DataPager control.

The portal engine equivalent of the CMSSearchResults control is the **Full-text search -> SQL Search results** web part.

The following topics are available to help you familiarize yourself with the CMSSearchResults control:

- CMSSearchDialog -> Getting started - contains a quick step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes and explains the properties that can be set for the control
- Structure - demonstrates what individual templates and transformations affect
- Appearance and styling - describes how the design of the control can be modified

1.8.9.3.2 Configuration

The following properties of the CMSSearchResults control can be set or used in the API:

Property Name	Description	Sample Value
CacheDependencies	List of the cache keys on which the cached data depends. When the cache item changes, the cache of the control is cleared. Each item (dependency) must be on one line. If you leave this property empty, default dependencies will be used.	cms.user|all
CacheItemName	Name of the cache item the control will use. By setting this name dynamically, you can achieve caching based on a URL parameter or some other variable - simply enter the value of the parameter. If no value is set, the control stores its content in the item named "URL|ControlID".	"mycachename" + Request.QueryString["id"]. ToString()
CacheMinutes	Number of minutes the retrieved content is cached for. Zero indicates that the content will not be cached.	

	-1 indicates that the site-level settings should be used. This parameter allows you to set up caching of content so that it doesn't have to be retrieved from the database each time a user requests the page.	
CheckPermissions	Allows you to specify whether to check permissions of the current user. If the value is 'false' (default value) no permissions are checked. Otherwise, only nodes for which the user has read permission are selected.	
ClassNames	Specifies which document type should be selected. Several values separated by a semicolon can be entered.	"cms.news" or "cms.news;cms.article"
CMSSearchDialogID	You can use this property to specify the ID of the source CMSSearchDialog control that provides search parameters.	"CMSSearchDialog1"
CombineWithDefaultCulture	Indicates whether documents from the default culture version should be used if they are not available in the selected culture. This property is applied only if you do not set the **TreeProvider** property manually.	
CultureCode	Culture code of documents to be selected, such as en-us. If not specified, it's read from the user's session or the default value is used.	"en-us"
DataSource	Gets or sets a DataSet containing values used to fill the items of the control.	
EnablePaging	Enables the paging of search results. True by default.	
FilterControl	Gets or sets the appropriate filter control used to limit the data read by this control.	
FilterName	Gets or sets the code name of the appropriate filter control used to limit the data read by this control.	
FilterOutDuplicates	Indicates if duplicated (linked) documents should be filtered out from the data.	
IgnoreTransformations	Indicates whether the **TransformationName** property should be ignored and the templates for direct access (described further below) used instead.	
NoResultsLabel	The label control that should be displayed when there are no results.	

OrderBy	ORDER BY part of the SQL statement.	"NewsReleaseDate DESC"
PagerControl	DataPager object used for the paging of search results.	
QueryStringKey	Name of the query string parameter that contains the current page number (if paging is used).	"pagenumber"
SearchExpression	Word(s) to be searched for.	
SearchMode	Search mode - any word, all words or exact phrase.	"AllWords" "AnyWord" "ExactPhrase"
SearchScope	Indicates whether all content or only the current section should be searched.	"SearchAllContent" "SearchCurrentSection"
SelectOnlyPublished	Indicates whether only published documents should be selected.	
SiteName	Specifies the site code name.	
StopProcessing	Indicates if processing of the control should be stopped and the control should not retrieve or display any data.	
TagKey	Overrides the generation of the SPAN tag with a custom tag.	
TransformationName	Name of the transformation applied to displayed search results in format **<class prefix>.<document type>.<transformation name>**. The default transformation is **cms.root.searchresults**.	"cms.searchresults"
WhereCondition	WHERE clause used for the SQL search queries.	" DocumentModifiedWhen > '1/1/2007' "
OrderBy	ORDER BY clause used for the SQL search queries.	"DocumentModifiedWhen DESC"

The CMSSearchResults control accepts the following querystring (URL) parameters:

Parameter Name	Description	Sample Value
searchtext	Searched text.	products
searchmode	Search mode.	allwords exactphrase anyword (default value)

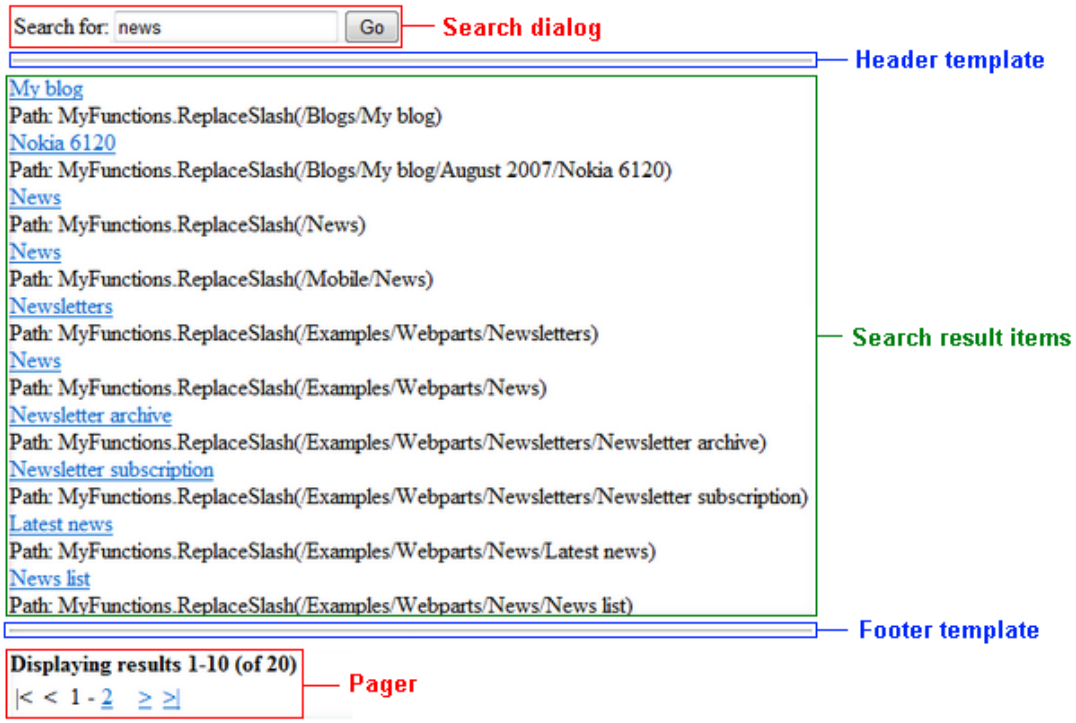
1.8.9.3.3 Structure

This topic shows an example of how the CMSSearchResults control can be configured. If you wish to create this example for yourself, please follow the tutorial in the CMS Search Dialog -> Getting started topic, then continue with the following steps:

1. Add the code marked by the **CMSSearchResults templates** comments between the *<cms:CMSSearchResults>* tags. The overall code of the CMSSearchResults control should look like this:

```
<cms:CMSSearchResults ID="CMSSearchResults1" runat="server" CMSSearchDialogID
="CMSSearchDialog1">

            <%-- CMSSearchResults templates
        ------------------------------------------------- --%>

            <HeaderTemplate>
            <hr />
            </HeaderTemplate>

            <FooterTemplate>
            <hr />
            </FooterTemplate>

            <%-- CMSSearchResults templates
        ------------------------------------------------- --%>

</cms:CMSSearchResults>
```

2. Save the changes to the web form. Now right-click it in the Solution explorer and select **View in Browser**. The resulting page should look like the following diagram (without the descriptions), which shows the structure of the CMSSearchResults control. Individual areas are described below.



- **SearchDialog** - the CMSSearchDialog control specified by the *CMSSearchDialogID* property.
- **HeaderTemplate** - this area is defined by the code between the <*HeaderTemplate*> tags.
- **Search Result Items** - this area is used to display the search results. It is defined by the transformation specified by the *TransformationName* property (*cms.root.searchresults* by default) or by the code between the <*ItemTemplate tags*> if the *IgnoreTransformations* property is enabled.
- **FooterTemplate** - this areas is defined by the code between the <*FooterTemplate*> tags.
- **Pager** - the built-in DataPager control, which is used for the paging of search results unless the *EnablePaging* property is set to *false*. It can be accessed through the *PagerControl* property.

1.8.9.3.4 Appearance and styling

The appearance of the CMSSearchResults control is determined by the transformation specified in its **TransformationName** property or by its templates.

The following templates can be defined:

Property Name	Description	Sample Value
FooterTemplate	Code of the template used for the footer.	`<hr />`
HeaderTemplate	Code of the template used for the header.	`<hr />`
ItemTemplate	Code of the template applied to search result items.	

1.9 UI Controls

1.9.1 Overview

UI Controls are **user** controls that provide the functionality of standard user interface elements, but offer a higher degree of versatility and customization, and also support additional useful features. Many examples of these controls can be found in the administration interface of Kentico CMS.

Available controls:

- UniGrid
- UniSelector

1.9.2 UniGrid

1.9.2.1 Overview

The UniGrid is a **user** control that can be used to display data in a highly customizable and flexible table. It also supports many additional features such as paging, sorting, filtering, row selection and action buttons. It is used extensively in the user interface of Kentico CMS.

Although this control may only be used within a Kentico CMS project, it can display data from an external data source.

Please be aware that using the UniGrid control beyond its most basic functions requires some knowledge of coding and Kentico CMS API.

The following topics are available to help you familiarize yourself with the UniGrid control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Implementing custom functionality - contains a tutorial showing how custom modifications can be added via code
- Configuration - describes and explains the properties that can be set for the control
- XML definition - describes the format and configuration options of the XML file that is used to determine the structure and behaviour of the UniGrid control

1.9.2.2 Getting started

The following is a step-by-step tutorial that will show you how to display a list of all users from the Kentico CMS Database in a table and implement a simple action button using the UniGrid user control:

1. Create a new **Web form** called *User_UniGrid.aspx* somewhere in your website installation directory.

2. Add the following directive to the beginning of the page code to register the UniGrid control:

```
<%@ Register src="~/CMSAdminControls/UI/UniGrid/UniGrid.ascx" tagname="UniGrid"
tagprefix="cms" %>
```

3. Modify the **<%@ Page %>** directive at the top of the code as in the following example:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeFile="User_UniGrid.aspx.cs"
Inherits="UniGridExample_User_UniGrid" Theme="Default" %>
```

The **Theme** attribute was added with its value set to *"Default"*, which specifies the default theme used to style the UniGrid control. Please keep in mind that the value of the **Inherits** attribute depends on the location of the web form, so the example above will not match your code exactly.

4. Now add the following code into the content area of the page (by default between the ** ** tags inside the **<form>** element):

```
<asp:Label runat="server" ID="lblInfo" EnableViewState="false" Visible="false" />

<cms:UniGrid ID="UserGrid" runat="server" GridName="User_UniGrid.xml" OrderBy
="UserName" />
```

This adds a standard label control, that will be used to display information messages, and the UniGrid control itself. The label is not necessary for the functioning of the UniGrid, but it can be very convenient, for example to display error messages.

5. Now create a new **XML file** called *User_UniGrid.xml* in the same location as the web form. It will be used as the configuration file for the UniGrid control and as you can see, it is already specified in the **GridName** property. Now copy the following into the XML file and save it:

```
<?xml version="1.0" encoding="utf-8" ?>
<grid>
  <actions>
    <action name="edit" caption="$General.Edit$" icon="Edit.png" />
  </actions>

  <columns>
    <column source="UserName" caption="$general.username$" width="100%"  />
  </columns>

  <query name="cms.user.selectall" columns="UserID, UserName" />

</grid>
```

The basic example above defines only a single action (edit) and one column containing user names without any additional configuration settings. This example uses a query to retrieve the user data. For more details and a full account of the settings that can be set in a UniGrid XML configuration file, please see the XML definition topic.

6. Switch to the code behind of the **User_UniGrid.aspx** web form and add the following code into it. Please keep in mind that the name of the class will be different according to the location of your web form.

[C#]

```
using CMS.SiteProvider;
using CMS.GlobalHelper;

public partial class UniGridExample_User_UniGrid : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        // Assigns a handler for the OnAction event
        UserGrid.OnAction += userGrid_OnAction;
    }

    /// <summary>
    /// Handles the UniGrid's OnAction event.
    /// </summary>
    protected void userGrid_OnAction(string actionName, object actionArgument)
    {
        //Defines the code used to implement the edit action
        if (actionName == "edit")
        {
            //Sets an integer to the value of the actionArgument argument (UserID)
            int userId = ValidationHelper.GetInteger(actionArgument, 0);

            //Gets a UserInfo object of the user with the given ID
            UserInfo ui = UserInfoProvider.GetUserInfo(userId);

            //If user exists
            if (ui != null)
            {
                //Sets the information label to display the full name of the edited
                lblInfo.Visible = true;
                lblInfo.Text = "Edited user: " + HTMLHelper.HTMLEncode(ui.FullName);
            }
        }
    }
}
```

This code demonstrates how the task that should be performed when an action is used can be implemented. The parameters of **OnAction** event handlers are explained below:

- **string actionName** - is used to identify which action raised the event; this example only has one action, but the UniGrid control often contains more in real scenarios. The name passed into this parameter is defined in the configuration XML file in the **name** attribute of individual **<action>** elements.
- **object actionArgument** - is used to pass the value of a data source column from the UniGrid row for which the action was used. The used column can be specified in the configuration XML file in the **commandargument** attribute of individual **<action>** elements, otherwise the first column in the data source is used by default.

This example only displays the full name of the "edited" user in the label above the UniGrid when the edit button is clicked, but any required action can be implemented in a similar fashion.

7. Save the changes to all files. Now right-click the web form in the Solution explorer and select **View in Browser**. The resulting page should display a table containing user names and edit action buttons. If you click one of the edit buttons, the full name of the user on the same row will be displayed above the grid, similar to the following:

1.9.2.3 Implementing custom functionality

This tutorial follows up on the one from the Getting started topic and will demonstrate how custom functionality can be added to action buttons and columns using the handler of the **OnExternalDataBound** event:

1. Open the web form from the previous tutorial as well as its code behind and XML configuration files.

2. Modify the XML configuration file like in the following code:

```
<?xml version="1.0" encoding="utf-8" ?>
<grid>
  <actions>
    <action name="edit" caption="$General.Edit$" icon="Edit.png"
externalsourcename="edit_modify" />
  </actions>

  <columns>
    <column source="UserName" caption="$general.username$" width="100%"
externalsourcename="user_modify" />
  </columns>

  <query name="cms.user.selectall" columns="UserID, UserName" />

</grid>
```

This defines the **externalsourcename** attributes used to identify the action or column in the OnExternalDataBound handler, where the required functionality can be implemented.

3. Switch to the code behind file, and add the sections marked in the following code:

[C#]

```
using System.Data;
using CMS.SiteProvider;
using CMS.GlobalHelper;


public partial class UniGridExample_User_UniGrid : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {

        // Assigns a handler for the OnAction event
        UserGrid.OnAction += userGrid_OnAction;

        // Assigns a handler for the OnExternalDataBound event
        UserGrid.OnExternalDataBound += userGrid_OnExternalDataBound;



    }


    /// <summary>
    /// Handles the Unigrid's OnExternalDataBound event.
    /// </summary>
    protected object userGrid_OnExternalDataBound(object sender, string
sourceName, object parameter)
    {
        switch (sourceName)
        {
            //Custom code for the edit action
            case "edit_modify":

                //Gets the value of the UserName column from the current data row
                string userName = ValidationHelper.GetString(((DataRowView)((
GridViewRow)parameter).DataItem).Row["UserName"], "");

                //If the user is the administrator
                if (userName == "administrator")
                {

                    //Gets the ImageButton object of the edit action that is
being processed
                    ImageButton button = ((ImageButton)sender);

                    //Disables the button and changes its icon
                    button.ImageUrl = "~/App_Themes/Default/Images/Design/
Controls/UniGrid/Actions/Editdisabled.png";
                    button.Enabled = false;
                }

                break;

            //Custom code for the UserName column
            case "user_modify":

                //Returns modified user names to be displayed in the UniGrid
```

```
                return Convert.ToString(parameter) + " - modified";
            }

            return parameter;
        }


        /// <summary>
        /// Handles the UniGrid's OnAction event.
        /// </summary>
        protected void userGrid_OnAction(string actionName, object actionArgument)
        {
            //Defines the code used to implement the edit action
            if (actionName == "edit")
            {
                //Sets an integer to the value of the actionArgument parameter (UserID)
                int userId = ValidationHelper.GetInteger(actionArgument, 0);

                //Gets a UserInfo object of the user with the given ID
                UserInfo ui = UserInfoProvider.GetUserInfo(userId);

                //If user exists
                if (ui != null)
                {
                    //Sets the information label to display the full name of the edited
                    lblInfo.Visible = true;
                    lblInfo.Text = "Edited user: " + HTMLHelper.HTMLEncode(ui.FullName);
                }
            }
        }
    }
```

This code demonstrates how custom functionality can be handled for actions and columns. The parameters of **OnExternalDataBound** event handlers are explained below:

- **object sender** - is used to pass the ImageButton object of the current action. For columns, it contains a DataRowView of the current row.
- **string sourceName** - is used to identify the action or column for which the functionality is implemented. The name passed into this parameter is defined in the configuration XML file in the **externalsourcename** attribute of individual **<action>** or **<column>** elements.
- **object parameter** - is used to pass the value in the current row of a column. For actions, it contains a DataRowView of the current row.

This example modifies the **edit** action to be disabled for the UniGrid row containing the user named *administrator*, and also alters the values displayed in the **UserName** column. Any custom functionality required for actions or columns can be implemented in a similar fashion.

4. Save the changes to all files. Now right-click the web form in the Solution explorer and select **View in Browser**. The resulting page should display a table just like in the example before, but all the values in the **User name** column will be modified, and the edit action for the administrator user will be grayed out and won't be functional:

1.9.2.4 Configuration

The following properties of the UniGrid control can be set or used in the API:

Property Name	Description	Sample Value
Columns	Specifies the columns that should be loaded from the data source specified in the **DataSource** property. By default, the values of the first column are passed as the **actionArgument** parameter of the **OnAction** event handler. This can be overridden in the XML configuration file by specifying a column name in the **commandargument** attribute of individual **<action>** elements.	
CompleteWhereCondition	Can be used to get the used WHERE clause including any modifications applied by the filter.	
DataSource	Can be used to gets or set an object (DataSet or DataTable) containing the data to be displayed by the UniGrid control.	
DelayedReload	If enabled, data will not be loaded automatically during the **Load** event of the page and the **ReloadData()** method must be called manually instead.	
FilterDirectoryPath	Path to the control (.ascx file) that should be used instead of the default filter. The default relative path is *~/CMSAdminControls/UI/UniGrid/Filters/*.	
FilteredZeroRowsText	Text to be shown when no rows are	

	displayed after the filter is applied.	
FilterLimit	Determines the minimum amount of rows that must be displayed in the UniGrid before a filter is shown. The default value is read from the **CMSDefaultListingFilterLimit** web.config key.	
GridName	Contains the name of the XML file that defines the structure and behaviour of the UniGrid control. For more information, please refer to the XML definition topic.	
GridView	Can be used to access the GridView control encapsulated by the UniGrid.	
HideControlForZeroRows	Indicates whether the control should be hidden when no rows are loaded. The control is not hidden if the filter causes zero rows to be displayed.	
ImageDirectoryPath	Path to the directory that contains images used by the control. The default value is *~/App_Themes/Default/Images/Design/Controls/UniGrid/Actions*.	
ObjectType	Can be used to define the data class of the objects that should be displayed by the UniGrid control. A list of all data classes and related information can be found in the *CMS_Class* database table. Alternatively, the same can be defined in the XML configuration file through the **<objecttype>** element as described in the following topic.	
OrderBy	The ORDERBY clause used to determine how the UniGrid rows are sorted when the page is first loaded.	
Pager	Can be used to access the UniGridPager control used for paging.	
PageSize	This setting can be used to override the default values offered by the page size selection drop-down list. Values must be separated by commas. The ##ALL## macro can be used as a value to indicate that all rows should be displayed. The default value is *"25,50,100,##ALL##"*.	"10,20,##ALL##"
Query	Can be used to specify the name of the query that should be used to retrieve data	"cms.user.selectallview"

	from the Kentico CMS database to be displayed by the UniGrid control. The name is entered in format *<class name>.<query name>*. Alternatively, the same can be defined in the XML configuration file through the **<query>** element as described in the following topic.	
SelectedItems	Gets (as an ArrayList) or sets the currently selected rows from the UniGrid.	
SortDirect	The ORDERBY clause reflecting the current row sorting being used by the UniGrid.	
TopN	Specifies the maximum amount of rows that should be selected.	
WhereCondition	Can be used to get the used WHERE clause without modifications applied by the filter.	
ZeroRowsText	Text to be shown when the control is hidden by the **HideControlForZeroRows** property.	

The following events of the UniGrid control are available:

Event Name	Description
OnAction	Occurs when one of the actions of the control is used. The name of the given action is passed as a parameter to the handlers of the event. An example of how it is used can be found in the tutorial found in the Getting started topic.
OnExternalDataBound	Occurs after data is loaded. It is used to implement a custom design or functionality for UniGrid columns, including the action column. An example of how it is used can be found in the Implementing custom functionality topic.
OnBeforeDataReload	This event can be used to perform any actions before the *ReloadData()* method is executed.
OnAfterDataReload	This event can be used to perform any actions after the *ReloadData()* method is executed.

1.9.2.5 XML definition

Many configuration options that determine the behaviour, design and content of the UniGrid control must be defined in an external XML configuration file, which is then assigned to the control through its **GridName** property.

The following is the structure that this kind of XML file must have:

```
<?xml version="1.0" encoding="utf-8" ?>
<grid>

  <actions>
    ...
  </actions>

  <columns>
    ...
  </columns>

  <objecttype />

  <query>
    ...
  </query>

  <pager>
    ...
  </pager>

  <options>
    ...
  </options>

</grid>
```

Please be aware

The names of elements and their attributes used in this XML configuration file are case sensitive and must be written in **lower case** to be recognized correctly.

Individual child elements that can be added under the main **<grid>** element are described below:

- <actions>
- <columns>
- <objecttype>
- <query>
- <pager>
- <options>

actions:

This element is used to define a column that contains various possible actions (e.g. Edit, Delete, View...) represented by icons for every row of the UniGrid. Individual actions must be defined by child **<action>** elements.

The following attributes of the **<actions>** element are available:

Attribute Name	Description	Sample Value
parameters	A list of columns used as parameters in the **onclick** attribute of child **<action>** elements separated by semicolons.	"AttachmentGUID; AttachmentFormGUID"
showheader	Indicates whether the header of the actions column should be displayed. The default value is true.	
width	Determines the width of the actions column in the UniGrid.	"30%" "100px"

This element may contain **<action>** and **<separator>** child elements.

action:

This element is used to define individual actions. The implementation of individual actions is handled during the **OnAction** event of the UniGrid control. Any advanced features of individual action buttons, such as defining when a button should be functional, can be implemented in the handler of the **OnExternalDataBound** event.

The following attributes are available:

Attribute Name	Description	Sample Value
caption	Specifies the resource string used as the tooltip of the image defined in the **icon** attribute. Must begin and end with the $ character.	"$General.Delete$"
commandargument	The name of the column whose value should be passed as the **actionArgument** parameter of the **OnAction** event handler. If not defined, the first column of the data source is used.	
confirmation	The resource string used in a JavaScript confirmation. Most commonly used as a confirmation for delete type actions. Must begin and end with the $ character.	"$General.ConfirmDelete$"
externalsourcename	Name of the action that is passed as the **sourceName** parameter of the **OnExternalDataBound** event handler.	"deletefile"
icon	Name of the image that should be used as the icon of the action. The image must be located in the folder defined by the **ImageDirectoryPath** property of the UniGrid.	"delete.png"
name	Name of the action. This is passed to the	"delete"

	handler of the **OnAction** event as the **actionName** parameter.	
onclick	The JavaScript OnClick function for the given action. It uses the columns defined in the **parameters** attribute of the actions element as parameters, which can be called by using the following expressions: **{0}** - first parameter **{1}** - second parameter and so forth.	"alert('{0}');"

separator:

This element is used to define a separator between actions. The following attribute is available for it:

Attribute Name	Description	Sample Value
text	Text to be generated in the Literal control between actions.	"<span class=" UniGridActionSeparator " > "

columns:

This element represents the main section of the UniGrid. The <columns> element itself has no attributes as each column can have its own settings. Individual columns are defined by child **<column>** elements.

column:

This element is used to define columns. Any advanced functionality of the cells in the given column can be implemented in the handler of the **OnExternalDataBound** event.

The following attributes are available for it:

Attribute Name	Description	Sample Value
allowsorting	Indicates whether the column can be used to sort the rows of the UniGrid.	
caption	Specifies the resource string used as the header for the column. Must begin and end with the $ character.	"$general.name$"
externalsourcename	Name of the column passed as the **sourceName** parameter of the **OnExternalDataBound** event handler. Used	

	for implementing custom functionality in the cells of the given column.	
href	If a URL is entered here, a link to this URL is generated around the content of the cells in this column. Macros {0}, {1}, ... can be used to access parameters defined by the **parameters** attribute.	"~/page.aspx"
icon	Name of an image that should be added into the column cells after the loaded data. The image must be located in the folder defined by the **ImageDirectoryPath** property of the UniGrid.	"edit.png"
istext	Indicates whether the content of the column is of type Text or nText. This is used to generate a special OrderBy clause of the query, so it must be set if sorting is enabled for the column.	
localize	Indicates whether localization is enabled for strings in the column.	
parameters	Names of the columns used as parameters of the URL generated by the **Href** attribute. Separated by semicolons.	
source	Name of the column from the data source of the UniGrid that is used as the source for the content of this column. The special macro ##ALL## can be used to specify all columns.	
sort	Used to define the column name to be used for sorting if the ##ALL## macro is used in the **source** attribute.	
style	The style used for the entire column.	"padding:10px"
visible	Indicates whether the column should be visible.	
width	Determines the width of the column.	"20%" "200px"
wrap	Indicates whether word wrapping is used in the column.	

The column element may contain child **<tooltip>** and **<filter>** elements.

tooltip:

When this element is added, a tooltip is displayed when the mouse hovers over the content of the cells in this column. If an icon is present in the cell, the tooltip is displayed over the icon instead of the text. The content of the tooltip can be defined and configured by the following attributes:

Attribute Name	Description	Sample Value
encode	Indicates whether the output of the tooltip should be encoded.	
externalsourcename	Name used in the OnExternalDataBound event for changing the appearance of the tooltip. This can be used to create complex tooltips including images, panels etc.	
source	Name of the column from the data source of the UniGrid that is used as the source of the tooltip.	
width	Determines the width of the tooltip.	

filter:

When this element is added, the given column will be used in the UniGrid filter. The following attributes are available to configure the filter:

Attribute Name	Description	Sample Value
format	Can be used to define a custom WHERE clause format to be generated by the default filter. The following expressions can be used: **{0}** - is resolved into the column name **{1}** - is resolved into the operator selected in the drop-down list of the default filter **{2}** - is resolved into the value entered into the textbox of the default filter	" [{0}] {1} '{2}' "
size	Determines the maximum amount of characters that can be entered into the textbox of the default filter. Available for *Text*, *Integer* and *Double* filter **types**. The default value is 1000.	
source	Name of the column used in the WHERE clause generated by the filter.	
path	Path to the control (.ascx file) that should be used instead of the default filter for the column. If filled, the **type** attribute is ignored. The default relative path is *~/CMSAdminControls/UI/UniGrid/Filters/*.	
type	The filter type that should be created for the given column.	"Text" "Bool" "Integer" "Double"

objecttype:

This element can be used to define the data class of the objects that should be displayed by the UniGrid control. A list of all data classes and related information can be found in the *CMS_Class* database table. If it isn't used, a data source must be retrieved by means of the **<query>** element or assigned through the UniGrid control's **DataSource** property before its *ReloadData()* method is called. Alternatively, the **ObjectType** property of the UniGrid control can be used for the same purpose.

The following attributes can be used to define the object type:

Attribute Name	Description	Sample Value
columns	Names of the columns that should be retrieved separated by commas. If empty, all columns will be retrieved. By default, the values of the first column are passed as the **actionArgument** parameter of the **OnAction** event handler. This can be overridden for actions by specifying a column name in the **commandargument** attribute of individual **<action>** elements.	
name	Code name of the used data class.	"cms.user"

query:

This element can be used to specify the system query that will retrieve data from the Kentico CMS database to be displayed by the UniGrid control. If it isn't used, an external data source must be assigned through the UniGrid control's **DataSource** property before its *ReloadData()* method is called. Alternatively, the **Query** property of the Unigrid control can be used for the same purpose.

The following attributes can be used to define the query:

Attribute Name	Description	Sample Value
columns	Names of the columns that should be retrieved by the query separated by commas. If empty, all database columns will be retrieved. By default, the values of the first column are passed as the **actionArgument** parameter of the **OnAction** event handler. This can be overridden for actions by specifying a column name in the **commandargument** attribute of individual **<action>** elements.	
name	Code name of the used system query in format <*class name*>.<*query name*>.	"cms.site.selectsitelist"

The query element may contain **<parameter>** child elements:

parameter:

This element can be used to define the value of a parameter inside the specified query.

The following attributes must be filled to define the parameter:

Attribute Name	Description	Sample Value
name	Name of the parameter. Parameters are placed into queries using the following syntax: *@<paramater name>* For example, if the specified query looked like this: `SELECT TOP @customTop FROM CMS_User` Then entering *customTop* into this attribute would cause the **value** of this element to be used by the query instead of the **@customTop** expression.	
type	The type of the parameter.	"String" "Int" "Double" "Bool"
value	The value of the parameter.	

pager:

This element is used to define the behaviour of the UniGrid pager. This is done by adding **<key>** child elements; the following are available:

Key name	Description	Sample Value
DefaultPageSize	Defines the default amount of rows displayed on one UniGrid page. The value must be one of the options offered by the page size selection drop-down list. These values are defined by the **PageSizeOptions** key.	`<key name="DefaultPageSize" value="10" />`
PageSizeOptions	This setting can be used to override the default values offered by the page size selection drop-down list. Values must be separated by commas. The ##ALL## macro can be used as a value to indicate that all rows should be displayed.	`<key name="PageSizeOptions" value="10,20,##ALL##" />`

	The default value is *"25,50,100,##ALL##"*.	
ShowDirectPageControl	Indicates whether a drop-down list used for direct page selection should be displayed.	`<key name="ShowDirectPageControl" value="true" />`
ShowFirstLastButtons	Indicates whether the buttons that link to the first and last page should be displayed.	`<key name="ShowFirstLastButtons" value="false" />`
ShowPageSize	Indicates whether the page size selection drop-down list should be displayed.	`<key name="ShowPageSize" value="false" />`
ShowPreviousNextButtons	Indicates whether the buttons that link to the previous and next page page should be displayed.	`<key name="ShowPreviousNextButtons" value="false" />`
ShowPreviousNextPageGroup	Indicates whether the buttons that link to the next group of page links should be displayed.	`<key name="ShowPreviousNextPageGroup" value="false" />`
VisiblePages	Determines the amount of displayed page links in one group.	`<key name="VisiblePages" value="5" />`

options:

This element is used to define additional settings and special features of the UniGrid control. This is done by adding **<key>** child elements; the following are available:

Key name	Description	Sample Value
DisplayFilter	Indicates whether a filter should be displayed above the UniGrid. If the amount of displayed rows is lower than the value of the **FilterLimit** key, the filter will be hidden despite this setting.	`<key name="DisplayFilter" value="true" />`
FilterLimit	Determines the minimum amount of rows that must be displayed in the UniGrid before a filter is shown. The default value is read from the **CMSDefaultListingFilterLimit** web.config key.	`<key name="FilterLimit" value="10" />`
ShowSelection	Indicates whether a column allowing the selection of rows should be displayed on the left of the UniGrid. This can be used to perform mass actions affecting multiple rows. The selected rows can be accessed through the **SelectedItems** property of the UniGrid.	`<key name="ShowSelection" value="true" />`
SelectionColumn	Name of the column used as an item in the array of selected rows which can be accessed through the **SelectedItems** property of the UniGrid. By default the first column in the data source is used.	`<key name="SelectionColumn" value="SiteName" />`

ShowSortDirection	Determines if an arrow showing the sorting direction should be displayed next to the header of the column used for sorting.	`<key name="ShowSortDirection" value="false" />`

1.9.3 UniSelector

1.9.3.1 Overview

The UniSelector is a **user** control that can be used to make a selection from a list of objects of a specified data class, such as users, sites etc. Several different selection modes are supported, as is extensive customization. This control can be found in many places within the user interface of Kentico CMS.

Another advantage provided by the UniSelector over standard selection controls, such as the DropDownList, is greater performance and scalability, since it is optimized to handle very large amounts of objects.

Please be aware that using the UniSelector control beyond its most basic functions requires some knowledge of coding and Kentico CMS API, because when a selection is made, the control only stores the values of the selected objects. Any additional functionality, such as database changes, must be implemented in the handlers of the control's events or using the **Click** event of a Button control used for confirmation. A basic example can be found in the next topic.

The following topics are available to help you familiarize yourself with the UniSelector control:

- Getting started - contains a step-by-step tutorial that allows you to learn the basics of using the control
- Configuration - describes the properties and events available for the control

1.9.3.2 Getting started

The following is a step-by-step tutorial that will show you how to use the UniSelector user control to allow the selection of users from the system and perform a basic task with the selected user:

1. Create a new **Web form** called *User_UniSelector.aspx* somewhere in your website installation directory.

2. Add the following directive to the beginning of the page code to register the UniSelector control:

```
<%@ Register src="~/CMSAdminControls/UI/UniSelector/UniSelector.ascx" tagname
="UniSelector" tagprefix="cms" %>
```

3. Modify the **<%@ Page %>** directive at the top of the code as in the following example:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeFile="User_UniSelector.aspx.cs"
Inherits="UniSelectorExample_User_UniSelector" Theme="Default" %>
```

The **Theme** attribute was added with its value set to *"Default"*, which specifies the default theme used to style the UniSelector control. Please keep in mind that the value of the **Inherits** attribute depends on the

location of the web form, so the example above will not match your code exactly.

4. Now add the following code into the content area of the page (by default between the ** ** tags inside the **<form>** element):

```
<table>
    <tr>
       <td>
           <cms:UniSelector ID="UserSelector" runat="server" ObjectType="cms.user"

           SelectionMode="SingleDropDownList" ReturnColumnName="UserName" />
       </td>
    </tr>
    <tr>
       <td>
           <asp:Button runat="server" ID="OKButton" onclick="OKButton_Click"
CssClass="SubmitButton" Text="OK" />
       </td>
    </tr>
    <tr>
       <td>
           <asp:Label runat="server" ID="lblButton" Visible="false" />
       </td>
    </tr>
</table>
```

This adds the UniSelector control, which is configured to allow the selection of user objects from a drop-down list and to use the content of the *UserName* column in its value. For more information about the available properties of the control, please refer to the Configuration topic. The code also contains a Button and Label control, organized in a basic table layout, which will be used to demonstrate how a basic task can be performed with the value of the UniSelector.

5. Switch to the code behind of the **User_UniSelector.aspx** web form and add the following code into it. Please keep in mind that the name of the class will be different according to the location of your web form.

[C#]

```
using CMS.GlobalHelper;

public partial class UniSelectorExample_User_UniSelector : System.Web.UI.Page
{

    /// <summary>
    /// Handles the Click event of the submit button.
    /// </summary>
    protected void OKButton_Click(object sender, EventArgs e)
    {
        //Assigns the value of the UniSelector control to be displayed by the Label
        lblButton.Visible = true;
        lblButton.Text = ValidationHelper.GetString(UserSelector.Value, null);
    }

}
```

This code causes the user name of the selected user to be displayed when the button on the page is clicked. This code would also work if the UniSelector control used a **SelectionMode** that allowed the selection of multiple users, the user names would all be displayed separated by semicolons.

This example only serves as a demonstration and the selection has no permanent effect, however, any required functionality, such as changes in the database, can be implemented using the Kentico CMS API in a similar fashion. Another option is to use handlers of the UniSelector events listed in the Configuration topic.

6. Save the changes to both files. Now right-click the web form in the Solution explorer and select **View in Browser**. The resulting page should display a drop-down list containing user names and an **OK** button like in the following image:

If you select a user and click the button, the user name of the user will be displayed below:

1.9.3.3 Configuration

The following properties of the UniSelector control can be set or used in the API:

Property Name	Description	Sample Value
AdditionalColumns	Contains the names of columns that should be loaded with the objects of the specified data class in addition to those required by default.	
AllowAll	Indicates whether the selector allows the *all* value.	
AllowEditTextBox	Indicates whether the value of the TextBox displayed in *SingleTextBox* or *MultipleTextBox* **SelectionMode** can be manually edited.	
AllowEmpty	Indicates whether the selector allows an empty value. If enabled, the *(none)* value is available in *SingleDropDownList* **SelectionMode** and the **Clear** button is displayed in *SingleTextBox* and *MultipleTextBox* mode. When an empty value is used, the **Value** of the control is by default *0* in *SingleDropDownList* **SelectionMode** or an	

	empty string in the remaining modes.	
AllRecordValue	Contains the value used when the *(all)* item is selected in *SingleDropDownList* **SelectionMode**. The default value is -1.	
ButtonImage	Can be used to enter a path to an image. If specified, the selection button is displayed as a LinkButton using this image. Only applies if the **SelectionMode** is *SingleButton* or *MultipleButton*.	"~/App_Themes/Default/Images/SampleImage.png"
CacheMinutes	Number of minutes that the content of the control is cached for, so that it doesn't have to be retrieved from the database each time a user requests the page. Zero indicates that caching will not be used. -1 indicates that the site-level settings should be used. Please refer to the Caching topic to learn more.	
DialogWindowHeight	Determines the default height of the opened selection window.	
DialogWindowName	Can be used to specify the name of the selection window to prevent conflicts between multiple UniSelector controls.	
DialogWindowWidth	Determines the default width of the opened selection window.	
DisplayNameFormat	Used to modify the format of the display names of objects in the selection list. To correctly display values dependant on individual objects, macro expressions in format *{%ColumnName%}* must be used here. The columns required by the used macros are loaded automatically.	"{%FullName%}, {%Email%}"
EditItemPageUrl	Can be used to specify the URL of a custom page that handles the editing of the selected object. If a value is entered, an edit button that links to the specified URL is displayed. Only available for *SingleTextBox* and *SingleDropDownList* **SelectionMode**. The URL may contain macros in format ##<*ITEM*>*ID*##, which will be resolved into the value of the selected object's ID column. For example, *<url>?userid=##USERID##*	

	would contain the ID of the currently selected user for a UniSelector set to use the cms.user **ObjectType**.	
EditWindowName	Can be used to specify the name of the object editing window to prevent conflicts between multiple UniSelector controls.	
EmptyReplacement	Contains a string that is used in the selection list as a replacement value for objects whose display name column is empty.	"N/A"
Enabled	Indicates whether the control is enabled.	
EnabledColumnName	Can be used to specify the name of the column that determines if the selected object is enabled.	
FilterControl	Path to the filter control (.ascx file; must inherit from the CMSAbstractBaseFilterControl class) that will be used for custom filtering of objects in the selection window.	"~/CMSFormControls/Filters/CustomFilter.ascx"
GridName	Path to the XML configuration file of the UniGrid control used to display and select objects in *Multiple* **SelectionMode**.	
IconPath	Can be used to enter the path to the image used in the title of the selection window.	
ItemsPerPage	Can be used to set the maximum amount of displayed selected items per page in *Multiple* **SelectionMode**.	
LocalizeItems	Indicates whether localization macros should be resolved in the control.	
MaxDisplayedItems	Determines the maximum amount of objects displayed in the list in *SingleDropDownList* **SelectionMode**. The default value is 25.	
NewItemPageUrl	Can be used to specify the URL of a custom page that handles the creation of new objects. If a value is entered, a new button that links to the specified URL is displayed. Only available for *SingleTextBox* **SelectionMode**.	
NoneRecordValue	Contains the value used when the *(none)* item is selected in *SingleDropDownList* **SelectionMode**. The default value is 0.	
ObjectType	Specifies the data class of the objects to be selected.	"cms.user"

OrderBy	Contains the ORDERBY clause used to determine the order of objects. Also affects the order in the selection window.	
RemoveConfirmation	Can be used to specify the text displayed in the confirmation message displayed when removing selected items from the UniSelector. Entering an empty string disables the confirmation message.	
ResourcePrefix	Determines the prefix that is used in the full names of resource strings (Keys) containing the labels of the various interface elements displayed by the UniSelector. This can be used to assign custom strings to the control. Custom strings can be created at **CMS Site Manager -> Development -> UI cultures -> ... edit (✎) a UI culture ... -> Strings**. The keys of these strings must use the following format: *<ResourcePrefix>.<string name>* The following string names are available for the UniSelector: • **additems** - text caption of the add items button used to open the selection window in *Multiple* mode • **all** - name of the list item representing the selection of all available objects in *SingleDropDownList* mode • **clear** - text caption of the clear button used in TextBox modes • **edit** - text caption of the edit button used in *SingleTextBox* and *SingleDropDownList* mode • **empty** - name of the list item representing an empty selection in *SingleDropDownList* mode • **itemname** - header text of the column containing the names of objects in the selection window and the UniGrid displaying selected objects in *Multiple* mode • **moreitems** - name of the list item that opens the selection window if the maximum amount of list items is exceeded in *SingleDropDownList* mode • **new** - text caption of the new button used in *SingleTextBox* mode • **newitem** - name of the list item that opens the new item page in	"mycustom"

	SingleDropDownList mode • **nodata** - text message displayed in *Multiple* mode if no objects are selected and the **ZeroRowsText** property is not defined • **pleaseselectitem** - text of the JavaScript alert displayed when the edit button is used when no object is selected • **removeall** - text caption of the button used to deselect all objects in *Multiple* mode • **removeselected** - text caption of the button used to deselect the specified objects in *Multiple* mode • **select** - text caption of the select button used to open the selection window in TextBox and Button modes • **selectitem** - text of the labels associated with the action elements used by the UniSelector; this is also used to set the title of the selection window	
ReturnColumnName	Specifies the name of the column used for the values of selected objects by the UniSelector. If empty, the ID column is used. To ensure correct functionality of the control, the column must be a unique identifier for the given object type.	
SelectionMode	Determines the design of the selection dialog displayed by the control. The value of this property affects the behaviour of many of the other properties of the UniSelector control. The following modes are available: • **SingleTextBox** - consists of a button that allows the selection of one object and a TextBox displaying the selected value. • **MultipleTextBox** - consists of a button that allows the selection of multiple objects and a TextBox displaying the selected values. • **SingleDropDownList** - displays a drop-down list containing objects. If necessary, the selection window can be opened by selecting *(more items ...)* from the list. • **Multiple** - consists of a UniGrid control displaying the selected objects and	"SingleTextBox" "MultipleTextBox" "SingleDropDownList" "Multiple" "SingleButton" "MultipleButton"

	buttons that can be used to add or remove them. • **SingleButton** - consists of a button that allows the selection of one object. • **MultipleButton** - consists of a button that allows the selection of multiple objects.	
SpecialFields	Can be used to get or set a two dimensional string array that contains custom items to be displayed in *SingleDropDownList* **SelectionMode**. The first value in the array is the name of the item in the list, the second represents the value of that item when it is selected.	
UseDefaultNameFilter	Indicates whether the default name filter should be used in the selection window. Can be used to disable the default filter if a custom filter is specified through the **FilterControl** property.	
Value	Can be used to get or set the selected value of the control. The column that is used for the values of selected objects can be specified in the **ReturnColumnName** property.	
ValuesSeparator	Specifies the character used to separate selected values in the case of multiple selection. A semicolon (" ; ") is used by default.	
WhereCondition	Contains the WHERE clause used for the list of objects available for selection.	
ZeroRowsText	Can be used to specify the text displayed when no objects are selected in *Multiple* **SelectionMode**.	

The following events of the UniSelector control are available:

Event Name	Description
OnItemsSelected	Occurs when an object or objects are selected in *SingleButton* and *MultipleButton* **Selection Mode**. This event is **not** raised in other modes.
OnSelectionChanged	Occurs when the set of selected objects is changed. The event is not raised in *SingleButton* or *MultipleButton* **SelectionMode** and may not always be triggered in TextBox modes depending on how the selection is changed. This event is usually used to perform tasks with selected objects in

	Multiple mode without the need for a confirmation button.

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