AdRotator control

The **AdRotator** web server control provides a convenient way to display advertisements (ads) on your ASP.NET web pages. The control displays a graphic image that you provide—a .gif file or similar image. When users click the ad, they are redirected to a target URL that you have specified. The control automatically reads advertisement information, such as the graphic file name and the target URL, from a list of ads that you provide using a data source, which is usually an XML file or database table.

The **AdRotator** control selects ads randomly, changing the displayed ad each time the page is refreshed. Ads can be weighted to control the priority level of banners, making it possible to have certain ads display more often than others. You can also write custom logic that cycles through the ads.

Ad information can come from a variety of sources:

- **An XML file**   You can store ad information in an XML file that contains references to ad banners and their associated properties.

- **Any data source control, such as the SqlDataSource control**   For example, you can store ad information in a database, and can use a SqlDataSource control to retrieve ad information, and then bind the AdRotator control to the data source control.

- **Custom logic**   You can create a handler for the AdCreated event and select an ad in the event.

Using an XML file as an AdRotator Source

One method of storing ad-banner image locations, URLs for redirection, and associated properties is to put the information in an XML file. By using the XML file format, you can create and maintain a list of advertisements without having to change the code in your application whenever a change is made to an advertisement.

The **AdRotator** control has the following attributes that you can specify in the XML file.

AdRotator attributes

- **ImageUrl**   The URL of the image to display.

- **NavigateUrl**   The URL of the page to go to when the AdRotator control is clicked.

- **AlternateText**   The text to display if the image is unavailable.

- **Keyword**   The category of the ad, which can be used to filter for specific ads.

- **Impressions**   A numeric value (a weighting number) that indicates the likelihood of how often the ad is displayed. The total of all impressions values in the XML file cannot exceed 2,048,000,000 - 1.

- **Height**   The height of the ad in pixels. This value overrides the default height setting for the AdRotator control.

- **Width**   The width of the ad in pixels. This value overrides the default width setting for the AdRotator control.

To create an ad list as an XML file

1. Create a new XML file in your website's App_Data or _private folder. For extra security, give the file a file name extension other than .xml, such as .ads.

2. Add the following XML elements to the file:

```
<?xml version="1.0" encoding="utf-8" ?><Advertisements
xmlns="http://schemas.microsoft.com/AspNet/AdRotator-Schedule-File">
</Advertisements>
```

3. Create an Ad element inside the Advertisements element for each ad that you want to include in the ad list, and then save the file. A sample file might look like the following:

```
<?xml version="1.0" encoding="utf-8" ?><Advertisements
xmlns="http://schemas.microsoft.com/AspNet/AdRotator-Schedule-File"><Ad>
<ImageUrl>~/images/Contoso_ad.gif</ImageUrl><NavigateUrl>http://www.contoso-
ltd.com</NavigateUrl><AlternateText>Ad for Contoso, Ltd. website</AlternateText>
<Impressions>100</Impressions></Ad><Ad>
<ImageUrl>~/images/Aspnet_ad.gif</ImageUrl>
<NavigateUrl>http://www.asp.net</NavigateUrl><AlternateText>Ad for ASP.NET
website</AlternateText><Impressions>50</Impressions></Ad></Advertisements>
```

To display ads from the XML file

1. In **Design** view, from the Toolbox, drag an AdRotator control to your the ASP.NET web page at the location where you want the ads to display.

   The **Common AdRotator Tasks** menu appears.

2. Do one of the following:

   - In the **Choose Data Source** drop-down box, select the XML file you created.

   - In the **Tag Properties** task pane, set the AdRotator control's AdvertisementFile property to the path of the XML file that you created.

Using a Database as an AdRotator Source

Instead of creating an XML file for ad information, you can store ad information in a database table. The table requires a specific schema that the AdRotator control can read.

You can store ad information in any type of database, as long as you have the corresponding data source control for that database.

To create the database table for ads

1. If you do not already have a database table that contains the ad information, create a table with the following schema. All columns except ID are optional.

> **ⓘ Note:**
>
> Data types are provided as SQL Server types. If you are using a different database, substitute the appropriate corresponding type.

Column name	Data type	Description
ID	int	The primary key. This column can have any name.
ImageUrl	nvarchar(length)	The relative or absolute URL of the image to display for the ad.
NavigateUrl	nvarchar(length)	The target URL for the ad. If you do not provide a value, the ad is not a hyperlink.
AlternateText	nvarchar(length)	The text displayed if the image cannot be found. In some browsers, the text is displayed as a ToolTip. Alternate text is also used for accessibility so that users who cannot see the graphic can hear its description read out loud.
Keyword	nvarchar(length)	A category for the ad on which the page can filter.
Impressions	int(4)	A number that indicates the likelihood of how often the ad is displayed. The larger the number, the more often the ad will be displayed. The total of all impressions values in the XML file may not exceed 2,048,000,000 - 1.
Width	int(4)	The width of the image in pixels.
Height	int(4)	The height of the image in pixels.

2. If you have an existing database table with ad information in it, set the following properties of the AdRotator control to map your database table schema to the fields required by the control:

   - AlternateTextField

   - ImageUrlField

   - NavigateUrlField

3. Insert new records into the table with ad information.

To display ads from the database

1. In **Design** view, from the **Toolbox**, drag a data source control, such as a SqlDataSource control or a AccessDataSource control, onto the ASP.NET web page.

2. Configure the data source control with a connection string and query to select all of the records from the database table you created earlier.

3. Place an **AdRotator** control on the page where you want the ads to appear.

4. Set the **AdRotator** control's **DataSourceID** property to the **ID** of the data source control that you created in step 1.

When the page runs, the **AdRotator** control will query the database for the ads and select one to display.

Filtering Ads by Keyword

In the advertisement file, you can assign categories to ads by using the **Keyword** attribute and then configuring the **AdRotator** control to show ads according to the filter criteria that you specify. For example, if a specific ad file contains categories for both banks and hardware stores, you might only want the page to display ads that are related to banks. By setting the **AdRotator** control's **KeywordFilter** property to "banks," the hardware store ads will be filtered out.

If a filter is specified, then one of the following two situations can result:

- If the **AdRotator** control can find ads with the matching keyword, an ad with the keyword is displayed.

- If no match for the keyword exists, then the **AdRotator** control will display a blank image in the browser.

Tracking Ad Response

The **AdRotator** control does not inherently provide a way to gather statistics about which ads users have clicked, how many times an ad has been clicked, and so on. However, because you have control over the URL to which the ad points, you can add tracking logic for the ads to your application. A typical way to do this is to point all ads to a tracking page that first gathers the statistics you want, and then jumps to the ad's destination page.

Caching Ads

If the page that contains the **AdRotator** control is cached, the **AdRotator** control automatically performs cache substitution to replace the cached ad with a new one whenever the page is retrieved from the cache. For more information, see Dynamically Updating Portions of a Cached Page in the MSDN Library.

For more information about the **AdRotator** control see AdRotator in the MSDN Library.

For a full description of all **AdRotator** control properties, see AdRotator in the MSDN library.

Community Additions