

.Net Framework: What are the different approaches for resolving URLs in ASP.Net, and how do they differ?

By "resolving URLs in ASP.Net", what we are referring to is how does a control resolve relative/absolute path while looking for a resource on the server-side and making it available on the client side.

For example, why is there a difference in the rendering with the following two approaches:

```
<img src='~/images/edujini-labs-logo.jpg' runat='server' />
```

and

```
<img src='<%= ResolveUrl("~/images/edujini-labs-logo.jpg" %>' />
```

The class `System.Web.UI.Control` provides two methods - `ResolveClientUrl` and `ResolveUrl` which have different approaches for resolving the URLs. The former approach uses `ResolveClientUrl` method while in the latter we are using `ResolveUrl` method.

The method `ResolveUrl` in conjunction with two little-explored but very powerful properties - `TemplateSourceDirectory` and `AppRelativeTemplateSourceDirectory` - defined in the class `System.Web.UI.Control`.

The first property gets the "virtual directory of the Page or UserControl object that contains the current server-control"!

The property `AppRelativeTemplateSourceDirectory` returns the "application-relative virtual directory of the Page or UserControl object that contains the current server-control".

So, what we end up in getting is a path relative to application-relative virtual directory, ie, from the top of the virtual directory. For example, the path that we may get is "`/VirtualDirectory-Name/images/edujini-labs-logo.jpg`".

The method `ResolveClientUrl` returns a path that is relative to the current-page. So, if the page is in the folder "`/VirtualDirectory-Name`", the value returned will be "`images/edujini-labs-logo.jpg`", where as if the page is in the folder "`/VirtualDirectory-Name/F1/F2`", the value returned will be "`images/edujini-labs-logo.jpg`".

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