

MVC 4 – Web Optimizations

Bundling & Minification

Scott Allen



System.Web.Optimization

- **Bundling of script and style files**
- **Minification of script and style files**
- **Decrease page load times**

Installation

- Use NuGet
 - install-package Microsoft.AspNet.Web.Optimization

Microsoft ASP.NET Web Optimization Framework 1.0.0-beta2

ASP.NET Optimization introduces a way to bundle and optimize css/js files.

To install Microsoft ASP.NET Web Optimization Framework, run the following command in the [Package Manager Console](#)

```
PM> Install-Package Microsoft.AspNet.Web.Optimization -  
Version 1.0.0-beta2 -Pre
```

Configuration

- **Script bundles and style bundles**
 - Add bundles to the global BundleTable object
 - Specify a virtual path for the bundle
 - Include files you need in the bundle
 - Works with wildcards - conventions applied for ignoring doc and debug files

```
bundles.Add(new StyleBundle("~/bundles/css")
    .Include("~/Content/styles.css")
    .Include("~/Content/bootstrap.css"));

bundles.Add(new ScriptBundle("~/bundles/js")
    .Include("~/Scripts/jquery-1.*"));
```

Virtual Paths and Relative References

- Use anything, but be careful with style sheets

The screenshot shows the Solution Explorer for a project named 'Optimization'. The tree view includes folders for Properties, References, App_Start, Content, images, themes, and Controllers. The 'Content' folder is expanded, showing 'bootstrap-responsive.css', 'bootstrap-responsive.min.css', 'bootstrap.css', and 'Styles.css'. The 'images' folder is also expanded, showing 'glyphicons-halflings-white.png' and 'glyphicons-halflings.png'.

Three code snippets are overlaid on the image:

```
bundles.Add(new StyleBundle("~/bundles/css")
    .Include("~/Content/styles.css")
    .Include("~/Content/bootstrap.css"));
```

```
<link rel="stylesheet" href="~/bundles/css" />
```

```
background-image: url("images/glyphicons-halflings.png");
```

```
bundles.Add(new StyleBundle("~/content/css")
    .Include("~/Content/bootstrap.css")
    .Include("~/Content/styles.css"));
```

Rendering

- Use the Scripts or Styles helpers
- Use ResolveBundleUrl for fine-grained control

```
@Styles.Render("~/bundles/css")
```

```
<link href="@BundleTable.Bundles.ResolveBundleUrl("~/bundles/css")"  
      rel="stylesheet" type="text/css" />
```

```
@Scripts.Render("~/bundles/modernizr")
```

Summary

- **System.Web.Optimization**
 - Bundle files for fewer downloads
 - Minify files to reduce payload size
 - Render scripts in “debug” and “release” mode