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Sending Email in ASP.NET 2.0

By Scott Mitchell

Introduction

Email serves as a ubiquitous, asynchronous notification and information distribution system. Not s development scenarios where server-side code needs to generate an email and scuttle it off to th may be destined for a user of the website, informing them of their newly created user account, re password, or emailing them an invoice. Or it may be destined for a web developer or site admini an unhandled exception that just transpired or user feedback.

Fortunately, ASP.NET makes sending email a breeze. The .NET Framework version 1.x included a `System.Web.Mail` class that allowed programmatically sending an email with a few scant lines of these classes still exist in the .NET Framework version 2.0, they have been deprecated in favor o in the `System.Net.Mail` namespace. (For an article on sending email in ASP.NET version 1.x, see 1.x Web Page or consult www.SystemWebMail.com.)

In this article we'll look at the classes in the `System.Net.Mail` namespace and see how to send a page's code-behind class. We'll also look at specifying relay server information in `Web.config` an used in some of the built-in ASP.NET server controls for sending emails (such as when a user crea password reminder/reset). Read on to learn more!

> After reading this article, be sure to check out Sending Email in ASP.NET 2.0: HTML-For Attachments, and Gracefully Handling SMTP Exceptions, where we'll look at sending HT emails with attachments, and gracefully handling SMTP exceptions! Then mosey over to ASP.NET 2.0: Reply-To, Priority, and Read Receipts for even more great email content.

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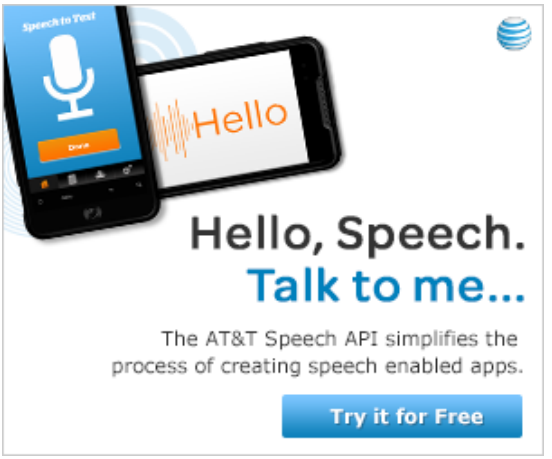


Exploring the Classes in the `System.Net.Mail` Namespace

There are 16 different classes in the `System.Net.Mail` namespace, all related to send email to a Protocol (SMTP) server for delivery. The two core classes in this namespace are:

- `MailMessage` - represents an email message; has properties like `From`, `To`, `Subject`, `Body`
- `SmtpClient` - sends a specified `MailMessage` instance to a specified SMTP server.

When sending an email from an ASP.NET 2.0 page you will, typically:

1. Create a `MailMessage` object
2. Assign its properties
3. Create an instance of the `SmtpClient` class
4. Specify details about the SMTP server to use (if they're not already specified within `Web.cc`
5. Send the `MailMessage` via the `SmtpClient` object's `Send` method

Steps 1 and 2 may be bypassed as the `SmtpClient` class's `Send` method can accept either a `Mail` representing the from, to, subject, and body contents of the email message.

The `System.Net.Mail` namespace's other classes allow for more advanced email functionality. Th to add attachments to an email message, to embed objects within an email, to specify SMTP serv and `Exception`-derived classes for handling SMTP-specific exceptions. We'll examine using some advanced scenarios in future articles.

Providing the SMTP Server's Details

When sending an email to a friend from Outlook or GMail, the email program establishes a conne sends the contents of the email message, along with information such as the date the email was format (text or HTML, for example), the recipient(s), and so on. The relay server accepts the me recipient's SMTP server and sends the message. Once the message has been delivered, the recipi time, pull down the message using a different protocol (such as IMAP or POP3).

Therefore, to send an email from an ASP.NET page we need to provide the `SmtpClient` class witl server. Along with the hostname of the relay server, you can specify the port (typically port 25 is when communicating your email message contents to the relay server, and authentication creder if you have a local SMTP service installed on your web server, it may periodically monitor a partic any messages that appear in that directory. You can configure whether the `SmtpClient` class rela separate relay server or if it drops it off in a specified pickup directory through the `DeliveryMeth`

The relay server information used by the `SmtpClient` class can be specified programmatically, th properties, or can be centralized in `Web.config`. To use the `Web.config` approach, add a `<syste` `<configuration>` element. Then, add a `<mailSettings>` element that contains an `<smtp>` elem within its `<network>` child element, like so:

```
<configuration>
  <!-- Add the email settings to the <system.net> element -->
  <system.net>
    <mailSettings>
      <smtp>
        <network
             host="relayServerHostname"
             port="portNumber"
             userName="username"
             password="password" />
      </smtp>
    </mailSettings>
  </system.net>

  <system.web>
    ...
  </system.web>
</configuration>
```

The `host` attribute contains the *relayServerHostname*. If you are using an external relay server, be something like `smtp.yourisp.com`. If the relay server's port number is something other than through the `port` attribute. Most external relay servers require authentication of some sort (in or spammers from sending their garbage through the relay). The `userName` and `password` attributes where username/password authentication is needed.

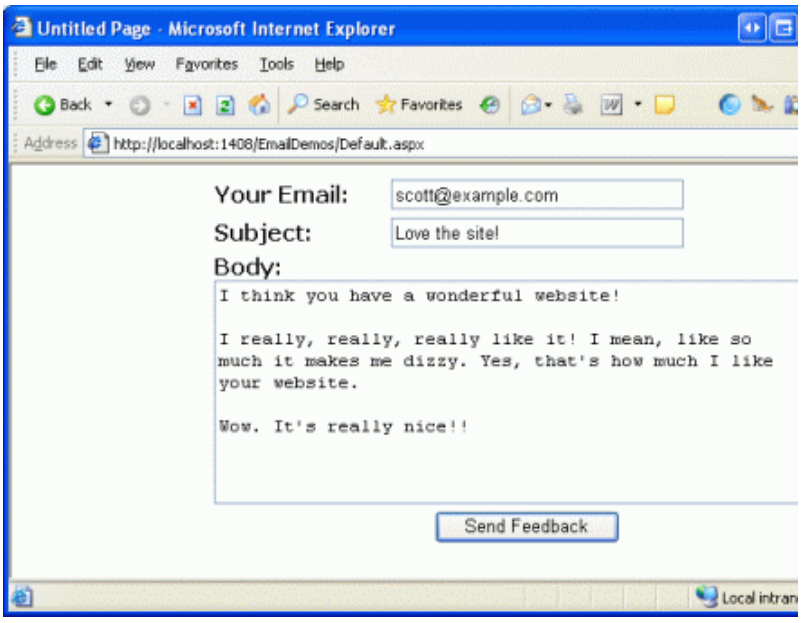
Only a subset of the `SmtpClient` properties can be specified through settings in `Web.config`. To properties - `EnableSsl`, `Timeout`, and so on - set them programmatically when sending the emai steps examined earlier in this article).

Sending an Administrator Email Through a Feedback Web Page

To illustrate sending an email using the `MailMessage` and `SmtpClient` classes, I've created a sim this page the user is prompted for their email address, the subject of their feedback, and their fe

```
<table border="0">
    <tr>
        <td><b>Your Email:</b></td>
        <td><asp:TextBox runat="server" ID="UsersEmail" Columns="30"></asp:TextE
    </tr>
    <tr>
        <td><b>Subject:</b></td>
        <td><asp:TextBox runat="server" ID="Subject" Columns="30"></asp:TextBox>
    </tr>
    <tr>
        <td colspan="2">
            <b>Body:</b><br />
            <asp:TextBox runat="server" ID="Body" TextMode="MultiLine" Columns='
</asp:TextBox>
        </td>
    </tr>
    <tr>
        <td colspan="2" align="center">
```

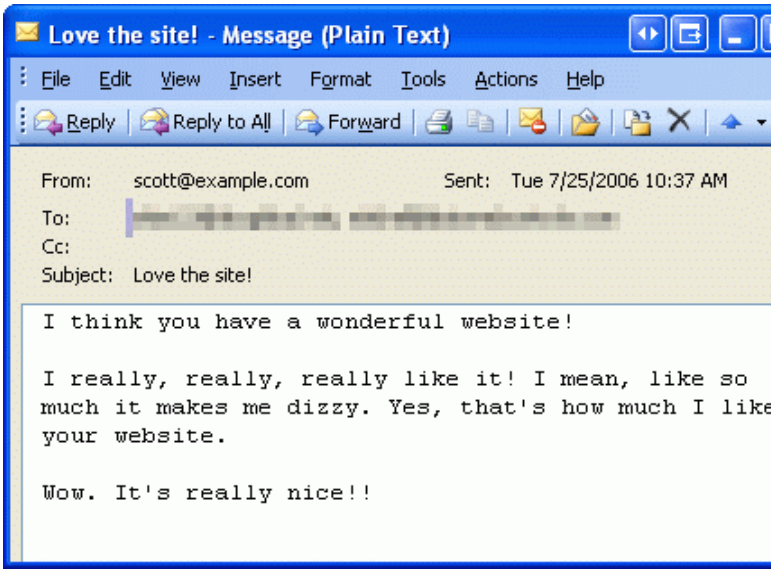
```
            <asp:Button runat="server" ID="SendEmail" Text="Send Feedback" />
        </td>
    </tr>
</table>
```



Once the user has supplied the feedback information and clicked the "Send Feedback" button, a p
`Click` event fires. Inside the event handler, a `MailMessage` object is created and its `To`, `From`, `Su`
set according to the information provided by the user. With the `MailMessage` object created and
email is then sent through the `SmtpClient` class's `Send` method.

```
Protected Sub SendEmail_Click(ByVal sender As Object, ByVal e As System.EventArg
SendEmail.Click
    '!!! UPDATE THIS VALUE TO YOUR EMAIL ADDRESS
    Const ToAddress As String = "you@youremail.com"

    '(1) Create the MailMessage instance
    Dim mm As New MailMessage(UsersEmail.Text, ToAddress)

    '(2) Assign the MailMessage's properties
    mm.Subject = Subject.Text
    mm.Body = Body.Text
    mm.IsBodyHtml = False

    '(3) Create the SmtpClient object
    Dim smtp As New SmtpClient

    '(4) Send the MailMessage (will use the Web.config settings)
    smtp.Send(mm)
End Sub
```

We didn't need to set any of the `SmtpClient` class's properties here in code because they have be
(download the complete code at the end of this article to run this application on your computer).



Conclusion

Along with a plethora of other improvements from ASP.NET 1.x, the email sending capabilities in and moved to a new namespace, `System.Net.Mail`. In 2.0 the relay server settings can easily b code and moved into the `Web.config` file, as we saw in this example. Moreover, there's better su authentication. Future articles will explore more advanced email scenarios, such as: crafting HTM attachments, embedding objects within the email body, handling SMTP/relay server-related exce

> See Sending Email in ASP.NET 2.0: HTML-Formatted Emails, Attachments, and Graceful Exceptions for a look at sending HTML-formatted emails, emails with attachments, and SMTP exceptions...

Happy Programming!

- By Scott Mitchell

Attachments

- Download the complete code samples examined in this article (in ZIP format)

Suggested Readings

- Sending Email with `System.Net.Mail` (*includes a C# example*)
- www.SystemNetMail.com (*a great set of FAQs and samples for sending email using the `System`*
- Sending Email in ASP.NET 2.0: HTML-Formatted Emails, Attachments, and Gracefully Handling
- Sending Email in ASP.NET 2.0: Reply-To, Priority, and Read Receipts