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MONASH
INFORMATION
TECHNOLOGY

FIT5192 Module 2
Internet Applications Development
Lecture 9

GROUP
OF EIGHT
AUSTRALIA

Lecture Overview

1. Introduction
2. Sending Email with ASP.NET
3. Accessing the Web Server File System

Introduction

Sending Email in an Application

confirm a user who has registered distribute a monthly newsletter or request a forgotten password

.NET Framework

- SmtpClient class
- MailMessage class

Part of System.Net.Mail namespace.

System.Net.Mail

SmtpClient

Sends the email using the Microsoft SMTP (Simple Mail Transport Protocol) Service included in IIS

MailMessage class

Contains properties as the message body, sender and receiver.

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Sending Email

Sending Email Example

```
<%@ Import Namespace="System.Net.Mail" %>
```

```
SmtpClient smtp = new SmtpClient();
smtp.Host = “smtp.monash.edu.au”
smtp.Send(“murray.mount@monash.edu”,
“murray.mount@monash.edu”, “Convention”,
“FIT5192 ASP.NET Emailing Test”);
```

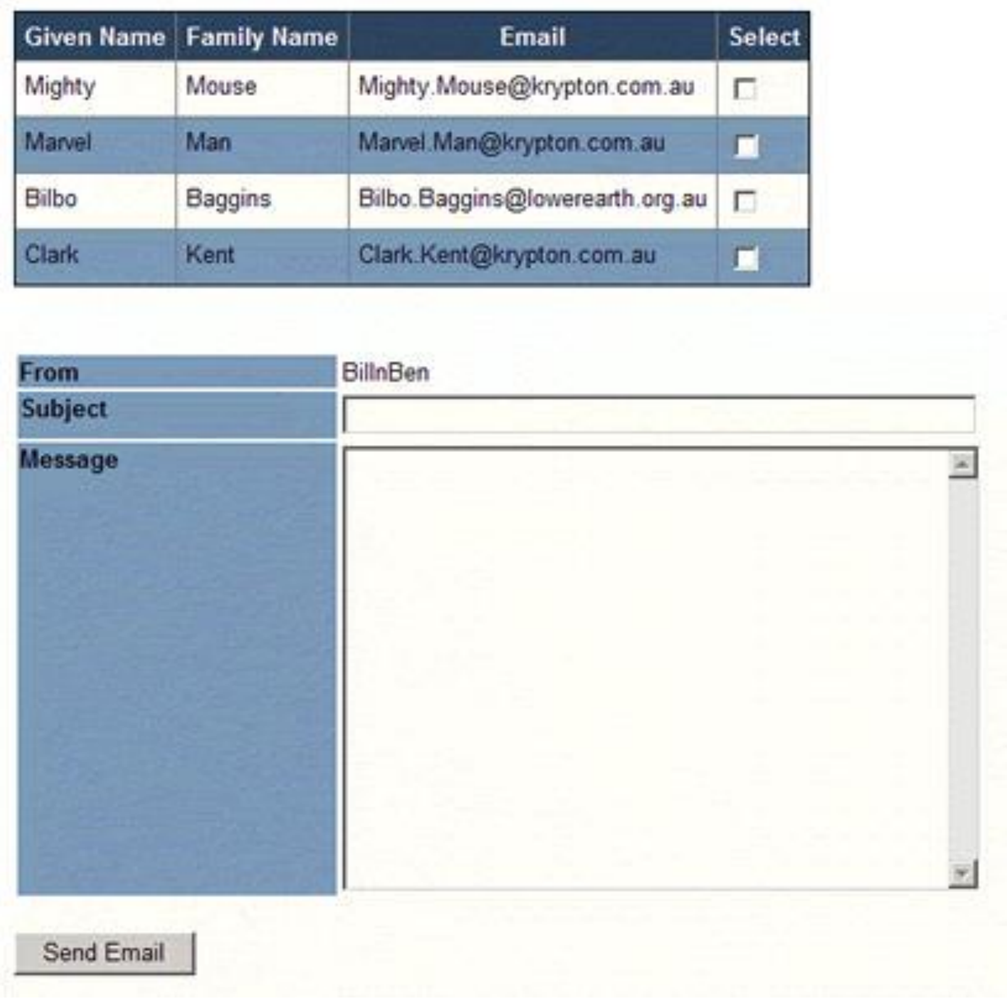
Change examples to your own email address

SmtpClient send method

Send method of the SmptClient class, which takes 4 arguments:

- From
- To
- Subject
- Message Text

Sending Email using a database



Given Name	Family Name	Email	Select
Mighty	Mouse	Mighty.Mouse@krypton.com.au	□
Marvel	Man	Marvel.Man@krypton.com.au	□
Bilbo	Baggins	Bilbo.Baggins@lowerearth.org.au	□
Clark	Kent	Clark.Kent@krypton.com.au	□

From	BillnBen
Subject	
Message	

Database Email Example (Part 1)

```
MailMessage newMsg = new MailMessage();
foreach (GridViewRow gvRow in gvCustomers.Rows)
{
CheckBox cb = (CheckBox)gvRow.FindControl("chkEmail");
if (cb != null && cb.Checked) {
    newMsg.To.Add(new MailAddress(gvRow.Cells[3].Text,
    gvRow.Cells[1].Text + " " + gvRow.Cells[2].Text)); }
}

newMsg.From = new MailAddress("BillnBen@billnben.com","BillnBen");
newMsg.Subject = txtSubject.Text;
newMsg.Body = txtMsg.Text;
```

MailMessage Object

- MailAddress constructor parameters: email address and a display name
- Email will be sent to the user’s email address
- Firstname and surname will be displayed in the To field of the email client when the email is received.

Database Email Example (Part 2)

```
try {
SmtpClient smtp = new SmtpClient();
smtp.Host = "smtp.monash.edu.au";
smtp.Send(newMsg);
lblMail.Text = "Mail Successfully Sent";
}
catch (Exception exc) {
lblMail.Text = exc.Message;
}
```

Check Box TemplateField in GridView

```
<asp:TemplateField HeaderText="Select">
<ItemTemplate>
<asp:CheckBox runat="server"     id="chkEmail" />

</ItemTemplate>
</asp:TemplateField>
```

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Sending email with an attachment

Attachments

Use the Attachment class

a collection of the MailMessage object.

```
Attachment newAttach = new
    Attachment(Server.MapPath("MyFile.txt"));
    newMsg.Attachments.Add(newAttach);
```

Adds "MyFile.txt", located in the same directory as the .aspx file, as an attachment to the email.

Accessing the Web Server File System

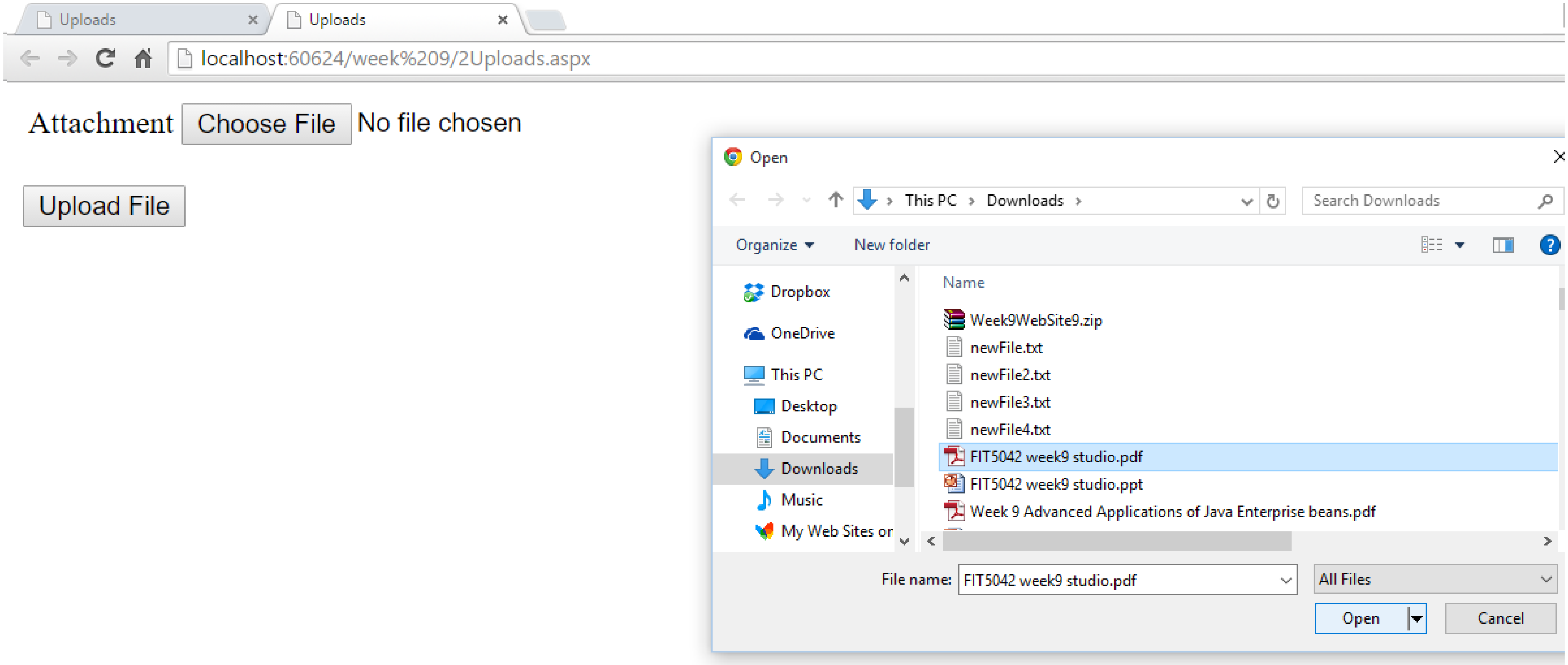
Uploading Files

.NET Framework provides the HttpPostedFile class

to allow uploading of files

```
<asp:fileupload id="fileUpload" runat="server" width="430" />
```

File Upload Example



localhost:60624/week%209/2Uploads.aspx

Attachment Choose File No file chosen

Upload File

Week9WebSite9.zip
newFile.txt
newFile2.txt
newFile3.txt
newFile4.txt
FIT5042 week9 studio.pdf
FIT5042 week9 studio.ppt
Week 9 Advanced Applications of Java Enterprise beans.pdf

File name: FIT5042 week9 studio.pdf

All Files

File Upload

Default upload file size limit is 4096 KB in machine.config file

Can be overridden in the web.config file

```
<httpRuntime maxRequestLength="10240" />
```

Allows uploads of 10Mb

- probably not a good idea for users to upload files of 50 or 100Mb !

Event handler for file Upload

Function UpLoadFile can be called by an event handler (Page_Load etc)

```
void UpLoadFile(string strFileName) {
   strPath = Server.MapPath(".") + “/UploadFiles/" + strFileName;
   fileUpload.PostedFile.SaveAs(strPath);
}
```

Specify a directory to save the uploaded file.

Server.MapPath(".") returns the directory that the currently executing .aspx file resides in, e.g. "C:\inetpub\wwwroot\ASPNET".

Adding “/UploadFiles/" and the actual filename onto this path e.g.

"c:\inetpub\wwwroot\ASPNET\UploadFiles\image1.gif".

PostedFile.SaveAs method, saves the file

Restricting File Extensions

File Extensions

A good precaution is to restrict the types of files that users are able to upload.

E.g. restrict uploads to files with certain extensions.

```
public bool UpLoadFile(string strFileName) {
        bool blnFileOK = false;
        string strExt = System.IO.Path.GetExtension(fileUpload.PostedFile.FileName);
        if ((strExt != ".gif") && (strExt !=".jpg"))
        {       lblMail.Text = "Invalid File Type"; }
        else {
                blnFileOK = true;
                strPath = Server.MapPath(".") + "/UploadFiles/" + strFileName;
                fileUpload.PostedFile.SaveAs(strPath); }
        return blnFileOK;
}
```

System.IO Namespace

File Information

```
FileInfo file = new FileInfo(Server.MapPath
   (Request.ServerVariables["SCRIPT_NAME"]));
fileProp.Text = "<b>File Information</b><br />";
fileProp.Text += "<b>Name:</b> " + file.Name + "<br />";
fileProp.Text += "<b>Path:</b> " + file.DirectoryName + "<br />";
fileProp.Text += "<b>Is Read Only:</b> " + file.IsReadOnly + "<br />";
fileProp.Text += "<b>Last Access:</b> " + file.LastAccessTime + "<br />";
fileProp.Text += "<b>Last Write:</b> " + file.LastWriteTime + "<br />";
fileProp.Text += "<b>Length:</b> " + file.Length / 1024;
```

Directory Information

```
DirectoryInfo dir = new DirectoryInfo(Server.MapPath("."));
dirProp.Text = "<b>Directory Information</b><br />";
dirProp.Text += "<b>Name:</b> " + dir.Name + "<br />";
dirProp.Text += "<b>Parent:</b> " + dir.Parent + "<br />";
dirProp.Text += "<b>Full Name:</b> " + dir.FullName + "<br />";
dirProp.Text += "<b>Attributes:</b> " + dir.Attributes + "<br />";
dirProp.Text += "<b>Creation Time:</b> " + dir.CreationTime;
```

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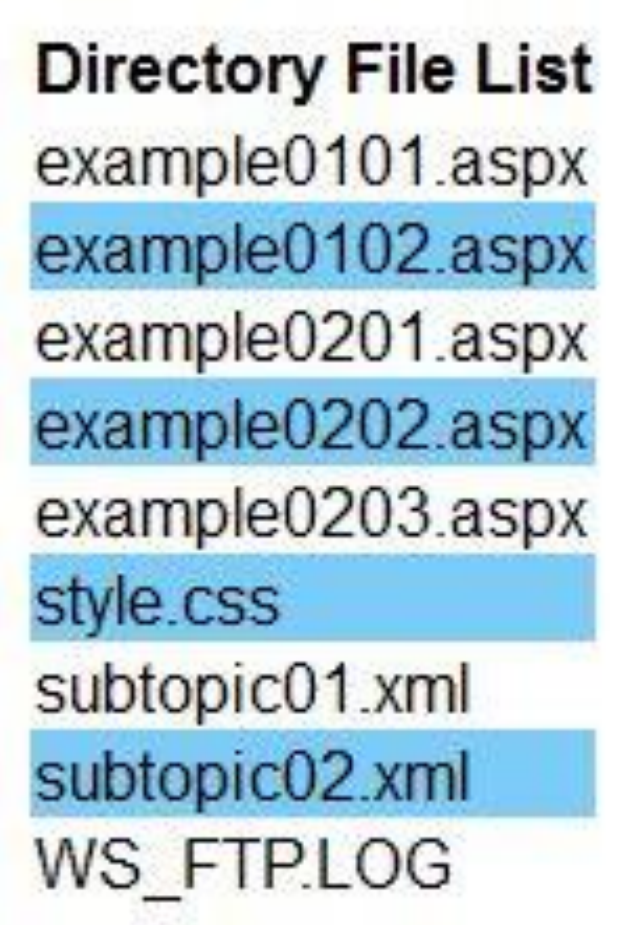
Iterating through the Files in a Directory

Listing Directory



Directory File List

example0101.aspx

example0102.aspx

example0201.aspx

example0202.aspx

example0203.aspx

style.css

subtopic01.xml

subtopic02.xml

WS_FTP.LOG

Listing Directory Example

```
ArrayList fileList = new ArrayList();
DirectoryInfo dir = new
  DirectoryInfo(Server.MapPath("."));

foreach(FileInfo file in dir.GetFiles()) {
  fileList.Add(file.Name);
}
dlFiles.DataSource = fileList;
dlFiles.DataBind();
```

DataList Control definition

```
<asp:DataList ID="dlFiles" runat="server"
Font-Names="Arial">
  <HeaderStyle Font-Bold="true" /> <HeaderTemplate>
      Directory File List
  </HeaderTemplate>
<AlternatingItemStyle BackColor="#7DCCF7" /> <ItemTemplate>
      <%# Container.DataItem %>
  </ItemTemplate>
</asp:DataList>
```

Reading Files

Reading Files Example

Link to a file that DisplayCode.aspx will display the contents of a file:

```
<ItemTemplate>
   <a href="DisplayCode.aspx?filename=<%# Container.DataItem %>
           target="_blank">
   <%# Container.DataItem %>
   </a>
</ItemTemplate>
```

Checking Extension Type

```
string filePath = Server.MapPath(Request.QueryString["filename"]);
FileName.Text = Request.QueryString["filename"];
FileInfo file = new FileInfo(filePath);

if (file.Extension != ".mdb" && file.Extension != ”.accdb" && file.Extension !=
    ".mdf" && file.Extension != ”.sdf" && file.Extension != ".exe") {
            Code.Text = ReadFile(filePath); }
else {
            Code.Text = "Sorry you can't read a file with an extension of " +
                 file.Extension;
}
```

ReadFile function

```
StreamReader FileReader = new StreamReader(filepath);
//The returned value is -1 if no more characters are
//currently available.
while (FileReader.Peek() > -1) {
//ReadLine() Reads a line of characters from the
//current stream and returns the data as a string.
fileOutput += FileReader.ReadLine().Replace("<", "&lt;").
   Replace(" ", "&nbsp;&nbsp;&nbsp;&nbsp;") + "<br />"; }
FileReader.Close();
```

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Creating, Copying and Deleting Files

Creating Files

```
string filePath = Server.MapPath(".") + "/newFile.txt";
StreamWriter file = File.CreateText(filePath);
for (int i = 1; i <= 4; i++) {
   file.WriteLine("This is text line " + i);
}
file.WriteLine("The Date is " + DateTime.Now);
file.Close();
```

Copying Files

```
string fromPath = Server.MapPath(".") + "/newFile.txt";

string toPath = Server.MapPath(".") + "/newFile2.txt";

File.Copy(fromPath, toPath);
```

Overwriting Files

If the file to be copied to already exists, an error will be created.

The Copy method can take a third argument.

- A boolean value, indicates if the destination file is to be overwritten if it already exists.

```
File.Copy(fromPath, toPath, true);
```

Copy operation succeeds and will overwrite the destination file if it already exists.

Deleting Files

```
string filePath = Server.MapPath(".") + "/newFile2.txt";

File.Delete(filePath);
```

File Permissions

Note: success of the file manipulation functions in this topic are dependent on the security permissions set on the web server.

If users do not have permission to create and/or delete files then the execution of these .aspx files will fail.

Drive Listings

Drive Information

The List of Drives on the machine can be retrieved:

```
drvList = DriveInfo.GetDrives();
```

If the drive is ready, the following drive properties are displayed to the user:

Name

DriveType (Fixed, CDRom, Network etc.)

DriveFormat (NTFS, FAT32)

TotalSize (by default in bytes)

TotalFreeSpace (by default in bytes)

RootDirectory

VolumeLabel

Drive Info Code

drvList[index].IsReady

drvList[index].Name

drvList[index].DriveType

drvList[index].DriveFormat

drvList[index].TotalSize

drvList[index].TotalFreeSpace

drvList[index].RootDirectory

drvList[index].VolumeLabel

Summary

1. Introduction
2. Sending Email with ASP.NET
3. Accessing the Web Server File System

What you will do in the Studio

Try topic 10 examples

Read ahead ASP examples from topic 11

Run using Visual Studio 2013

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Thanks and See you in the Studio!