Microsoft Dynamics™ GP

Using Web Services for Microsoft Dynamics GP in Business Portal

White Paper

How to use Visual Studio™ 2005 and Web Services for Microsoft Dynamics GP 10.0 to create a new Business Portal web part.

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**Introduction**

This document provides the developer a sample solution that demonstrates how to add new functionality into Business Portal for Microsoft Dynamics GP 10.0. In this scenario, we use Visual Studio 2005 and Web Services for Microsoft Dynamics GP 10.0 to create a web part that creates Sales Quotes from the Sales Quote List page in Business Portal.

The custom Enter Sales Quotes web part is shown below in the Sales Quote List page:

**Internet Information Services (IIS) configuration**

If Business Portal and Web Services for Microsoft Dynamics GP will be installed on the same web server, these programs need to be installed in their own web sites. The following steps describe how to move the web site for Web Services for Microsoft Dynamics GP to a new site. (For more information, refer to Knowledge Base article 920903).

**Uninstall Web Services for Microsoft Dynamics GP:**
1. From the Start menu, choose Control Panel, and then choose Add or Remove Programs.
2. Select Web Services for Microsoft Dynamics GP, and then click Change.
3. Click Remove. Do not mark the Remove SQL Objects and Data check box.
4. Click Next.
Create a new web site:

1. From the Start menu, choose Administrative Tools, and then choose Internet Information Services (IIS) Manager.
2. Expand the local computer name in the left pane, and then right-click Web Sites. Choose New, and then choose Web Site.
3. In the Web Site Creation wizard, click Next.
4. On the Web Site Description page, enter a description for the site, such as "Web services."
5. Click Next.
6. On the IP Address and Port Settings page, enter a port number other than port 80. Alternatively, enter a host header, such as "Web services."
   
   Note: Port 80 is the default port number for the Default Web Site. Only one web site can use a specific port number unless you specify a host header for the new site. That host header lets IIS correctly route requests to the appropriate sites. See the IIS documentation for more information about port numbers and host headers.
7. Click Next.
8. On the Web Site Home Directory page, enter the path of the folder in which you want to create the new web site. This folder can be in any location, or you can create a new folder.
9. Clear the Allow anonymous access to this web site check box.
10. Click Next.
11. On the Web Site Access Permissions page, mark the Read check box, the Run scripts check box, and the Execute check box.
12. Click Next to complete the wizard and to create the new web site.

Reinstall Web Services for Microsoft Dynamics GP:

1. Reinstall Web Services for Microsoft Dynamics GP to the site that you created in the previous procedure. Use the installation procedure described in the Microsoft Dynamics GP Web Services Installation and Administration Guide.
2. Verify the new URL in a web browser. You can access the web site for Web Services for Microsoft Dynamics GP by using one of the following URLs, depending on whether you specified a port or a host header when you created the site:
   - http://<computer_name:port>/DynamicsGPWebServices
   - http://<host_header>/DynamicsGPWebServices
Add the Microsoft® Windows® user to the BDC Administrator role:

The Business Data Catalog web parts in Business Portal use Web Services for Microsoft Dynamics GP. It is necessary to use the Dynamics Security Console to add the Windows user running the Application pool for the Business Portal web site into the BDC Administrator role.

To determine the Application Pool for the Business Portal web site, right click on the web site and choose **Properties**, and then display the **Home Directory** tab. If you are not sure which web site is the Business Portal web site, click each web site to look for a virtual directory called BusinessPortal.

To add the Windows user to the BDC Administrator role, complete the following steps:

1. Open the Dynamics Security Console on a computer where the console is installed. From the **Start** menu, choose **Administrative Tools**, and then choose **Dynamics Security Console**.
2. Select the **Role Assignments** node in the left pane of the Dynamics Security Console.
3. From the **Action** menu, choose **Add**. The **Add Role Assignments** window will appear.
4. In the **Role** list, select the **BDC Administrator** role.
5. Click **Add Windows Users** to add individual windows users to the role assignment.
6. Select the desired company or all companies and click **OK** to save the new role assignment.
Visual Studio 2005 Web Site custom application

The custom application is an ASP.NET web site application created with Visual Studio 2005. A web reference in the project is made to the DynamicsGPService.asmx page to access the WSDL (Web Services Description Language) of the Dynamics GP Web Service.

The web site application is made up of a simple Default.aspx page that has four text box controls, two button controls, and some labels. The Default.aspx page references a DataMgr class that handles calling the web service. The attached code is for the Default.aspx.cs and DataMgr.cs files.

**Note:** To view attachments, you must be viewing this document in Adobe Reader 6.0 or later, or in the full version of Acrobat. Right-click the paperclip icon to the left of the desired file, and choose to open or save the file.

- Default.aspx.cs.txt
- DataMgr.cs.txt

When it is time to publish the web site, make sure the following options are marked:

- Allow this precompiled site to be updatable
- Enable strong naming on precompiled assemblies
- Mark assemblies with AllowPartiallyTrustedCallerAttribute

The following illustration shows the Publish Web Site window in Visual Studio 2005. (To view this window, choose Build from the Publish Web Site menu.)

Steps for using the Strong Name tool to create a key file are located at [http://msdn2.microsoft.com/en-us/library/6f05ezxy(vs.80).aspx](http://msdn2.microsoft.com/en-us/library/6f05ezxy(vs.80).aspx). It is necessary to follow these steps when publishing the web site so the web part will display correctly. Windows SharePoint® Services 3.0 will need to trust the new assemblies that are generated from the Publish Web Site process.

In addition to the Publish Web Site steps, you will need to add a new code group to the WSS_minimaltrust.config file, using the following steps:

1. From the Start menu, choose Administrative Tools, and then choose Microsoft .NET 2.0 Configuration.

2. Expand Runtime Security Policy, expand Machine, expand Code Groups, expand All Code, and then expand My_Computer_Zone.

3. Right-click My_Computer_Zone, and then choose New.
4. In the **Create Code Group** window, give the group a name such as “WSStrongName.”

5. Click **Next**.

6. In the **Choose Condition Type** window, click **Strong Name**, click **Import**, and then locate the .dll file that contains the digitally signed assembly. A public key appears on the window.

7. Click **Next**, click **Existing Permission Set**, and then click **Full Trust**.

8. Click **Next**.

9. Click **Finish**. This step creates a code group for that key.

10. Locate the C:\Windows\Microsoft.NET\Framework\v2.0.50727\CONFIG folder on the computer where you created the code group.

11. Open the Security.config file, and then copy the code group nodes that contain the new group. For example, a code group node resembles the following:

   ```xml
   <configuration>
   <system.web>
   <codeSource>
   <permissionSetReference PermissionSetName="FullTrust" Name="BPSDKStrongName" Description="" />
   </codeSource>
   </system.web>
   </configuration>
   ```

12. Locate the C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\Config folder, open the WSS_minimaltrust.config file, and then locate the following code group.

   ```xml
   <configuration>
   <system.web>
   <codeSource>
   <permissionSetReference PermissionSetName="FullTrust" Name="MBFStrongName" Description="" />
   </codeSource>
   </system.web>
   </configuration>
   ```

13. Paste the code group nodes that you copied in step 11 into the WSS_minimaltrust.config file immediately after the code group that you located in step 12. This is a **critical** step. If the code group is not put in the correct location, the code and the Business Portal assemblies will not be trusted.


15. Copy the strong named assemblies to the Bin folder of the Business Portal web site and the aspx pages to the desired location.
Exposing the custom application in Business Portal

Since the custom application allows a user to enter Sales Quotes, the location of the custom application will be on the Sales Quote List page under the Sales Center site.

The custom application will be rendered in a Page Viewer web part. The default.aspx page will be located in the BusinessPortal virtual directory. The default location is at C:\Program Files\Microsoft Dynamics\Business Portal\Applications. The following screen shot illustrates the Page Viewer web part points to a new folder called SalesQuoteMgmt. The path is /BusinessPortal/Applications/SalesQuoteMgmt:

A benefit of storing the custom application pages in the BusinessPortal virtual directory is the ability to leverage the Business Portal session information. In this example, the custom application is leveraging the user’s Business Portal session to attain the company database ID and set the OrganizationKey of the Context object in the Dynamics GP Web Service call.

The code files attached below provide examples of using the Microsoft Business Framework and Office SharePoint Server assemblies. The Office SharePoint Server assembly method can be used when Business Portal is installed in a Microsoft Office SharePoint Server environment.

Note: To view attachments, you must be viewing this document in Adobe Reader 6.0 or later, or in the full version of Acrobat. Right-click the paperclip icon to the left of the desired file, and choose to open or save the file.

- MBFMethod.txt
- OSSMethod.txt
How to use Company Database ID in custom application

Use the method appropriate for your installation type.

Microsoft Business Framework Method:
1. Open the project using Visual Studio 2005.
2. In Solution Explorer, right-click on the project and choose Add Reference.
3. View the Browse tab and locate the Microsoft.BusinessFramework.dll. Click OK. (This assembly is located in the Bin folder of the Business Portal web site.)
4. Add the following using directives:

```csharp
using Microsoft.BusinessFramework;
using Microsoft.BusinessFramework.Entity;
```

5. Add the code from the MBFMethod.txt file to the class in the project. Notice that the CompanyKey of the Web Services is set to the value returned by the GetDBID() method.
6. Build and publish the web site application, following the recommendations in this document.

Office SharePoint Server Method:
1. Open the project using Visual Studio 2005.
2. In Solution Explorer, right-click on the project and choose Add Reference.
3. View the Browse tab and locate the Microsoft.Office.Server.dll. Click OK. (The default location is C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\ISAPI)
4. Add the following using directive:

```csharp
```

5. Add the code from the OSSMethod.txt file to the class in the project. Notice that the CompanyKey of the Web Services is set to the value returned by the GetDatabaseOSS() method.
6. Build and publish the web site application, following the recommendations in this document.