Deploying a Data Processing Extension

The FIM Data Processing Extension needs to be installed on the SSRS server that will host the reports for FIM.

The following steps need to be taken to deploy the FIM DPE:

1. Copy the FIM DPE to the SSRS bin folder
2. Copy the FIM Client to the SSRS bin folder
3. Modify the RSReportServer.config file
4. Modify the RSSrvPolicy.config file

If the SQL Server Business Intelligence Development Studio will be used to develop reports:

1. Copy the FIM DPE to the Visual Studio bin folder
2. Copy the FIM Client to the Visual Studio bin folder
3. Modify the RSReportDesigner.config file

# Deploying the DPE to SSRS

## Copy the FIM DPE to the SSRS Bin Folder

SSRS looks in this bin folder for the DPE assembly, and any assembly references. This is a configuration choice, as SSRS is able to locate assemblies elsewhere but for the purposes of this guide we drop them to the SSRS bin folder.

|  |
| --- |
| The following script is used to assist in finding the appropriate folder |
| ###  ### Set the location of the FIM DPE assembly and its references  ###  $dropFolder = "\\tsclient\D\FimDataProcessingExtension\putout"  ###  ### Find the SSRS path  ###  if (Test-Path "HKLM:\SOFTWARE\Microsoft\Microsoft SQL Server\MSRS10.MSSQLSERVER\Setup")  {  $SSRSInstallFolder = (Get-ItemProperty -path "HKLM:\SOFTWARE\Microsoft\Microsoft SQL Server\MSRS10.MSSQLSERVER\Setup").SQLpath  }  elseif (Test-Path "HKLM:\SOFTWARE\Microsoft\Microsoft SQL Server\MSRS10\_50.MSSQLSERVER\Setup")  {  $SSRSInstallFolder = (Get-ItemProperty -path "HKLM:\SOFTWARE\Microsoft\Microsoft SQL Server\MSRS10\_50.MSSQLSERVER\Setup").SQLpath  }  $RSBinFolder = "$SSRSInstallFolder" + "ReportServer\bin\"  Copy-Item -Force (Join-Path $dropFolder FimDataProcessingExtension.dll) $RSBinFolder  Copy-Item -Force (Join-Path $dropFolder Microsoft.ResourceManagement.Client.dll) $RSBinFolder  Copy-Item -Force (Join-Path $dropFolder Microsoft.ResourceManagement.ObjectModel.dll) $RSBinFolder |

## Modify the RSReportServer.config File

The FIM DPE project contains sample configuration files used for testing. The RSReportServer.config file can be found in the same location as above.

Find the <Extensions><Data> node, then insert the entry below under that node. See the sample configuration file for details.

|  |
| --- |
| The following entry needs to be added to the RSReportServer.config file |
| <Extension Name="FIMSERVICE" Type="FimDataProcessingExtension.FimConnection,FimDataProcessingExtension"/> |

## Modify the RSSrvPolicy.config File

The FIM DPE project contains sample configuration files used for testing. The RSSrvPolicy.config file can be found in the same location as above.

Insert the entry below under the CodeGroup node. See the sample configuration files for details.

**ALWAYS BACK THIS FILE UP BEFORE MAKING CHANGES!!!** In my experience this is the most difficult file to troubleshoot because Code Access Security makes me want to kick my cat (and I really do like my cat).

|  |
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| The following entry needs to be added to the RSSrvPolicy.config file |
| <CodeGroup class="UnionCodeGroup"  version="1"  PermissionSetName="FullTrust"  Name="FIMServiceCodeGroup" Description="Code\_group\_for\_the\_FIM\_Service\_data\_processing\_extension">  <IMembershipCondition class="UrlMembershipCondition"  version="1"  Url="C:\Program Files\Microsoft SQL Server\MSRS10\_50.MSSQLSERVER\Reporting Services\ReportServer\bin\FimDataProcessingExtension.dll"  /> |

# Deploying the DPE to Visual Studio

If the SQL Server Business Intelligence Development Studio will be used to develop reports:

1. Copy the FIM DPE to the Visual Studio bin folder
2. Copy the FIM Client to the Visual Studio bin folder
3. Modify the RSReportDesigner.config file

## Copy the FIM DPE to the Visual Studio Folder

SQL Server Business Intelligence Development Studio looks in this bin folder for the DPE assembly, and any assembly references. This is a configuration choice, as SSRS is able to locate assemblies elsewhere but for the purposes of this guide we drop them to the this folder.

|  |
| --- |
| The following script is used to assist in finding the appropriate folder |
| ###  ### Find the VisualStudio path  ###  if (Test-Path "HKLM:\SOFTWARE\Wow6432Node\Microsoft\Microsoft SQL Server\100\Tools\ClientSetup")  {  $SqlClientSetupFolder = (Get-ItemProperty -path "HKLM:\SOFTWARE\Wow6432Node\Microsoft\Microsoft SQL Server\100\Tools\ClientSetup").VSToolsPath    Copy-Item -Force (Join-Path $dropFolder FimDataProcessingExtension.dll) $SqlClientSetupFolder  Copy-Item -Force (Join-Path $dropFolder Microsoft.ResourceManagement.Client.dll) $SqlClientSetupFolder  Copy-Item -Force (Join-Path $dropFolder Microsoft.ResourceManagement.ObjectModel.dll) $SqlClientSetupFolder    Copy-Item -Force (Join-Path $dropFolder FimDataProcessingExtension.pdb) $SqlClientSetupFolder  Copy-Item -Force (Join-Path $dropFolder Microsoft.ResourceManagement.Client.pdb) $SqlClientSetupFolder  Copy-Item -Force (Join-Path $dropFolder Microsoft.ResourceManagement.ObjectModel.pdb) $SqlClientSetupFolder  } |

## Modify the RSReportDesigner.config File

The FIM DPE project contains sample configuration files used for testing. The RSReportDesigner.config file can be found in the same location as above.

Find the <Extensions><Data> node, then insert the entry below under that node. See the sample configuration file for details.

|  |
| --- |
| The following entry needs to be added to the RSReportDesigner.config file |
| <Extension Name="FIMSERVICE" Type="FimDataProcessingExtension.FimConnection,FimDataProcessingExtension"/> |

# Troubleshooting

Most of the troubleshooting occurs during the initial deployment. Once the FIM DPE is deployed and simple reports are working then I find I spend most of my time refining the XPath queries and the report layouts.

## Review the SSRS Logs

The SSRS logs are located in a folder named “Reporting Services\LogFiles”. The log files in that folder contain details of SSRS loading the FIM DPE. The get the detail of the assembly load, you must first use the SSRS report manager to attempt to create a data source using the FIM DPE.

Report Manager 🡪 Home 🡪 New Data Source 🡪 BANG!!!

Until you click on “New Data Source” you will not see details of the DPE loading in the SSRS logs.

## Test the Connection String

The FIM DPE uses a connection string to find the FIM web service, and to determine how to authenticate. In its simplest form, credentials can be embedded in the connection string. Here is a sample connection string that works from a non-domain joined machine (verifies we are not relying on the logged on user):

|  |
| --- |
| Sample Connection String |
| Data Source=http://myFimBox:5725;initial catalog=ResourceManagementService;integrated Security=false;fimServicePrincipalName=myFimBox\\myFimServiceAccount;domain= myFimBox;user=administrator;password=st00p1ter |