

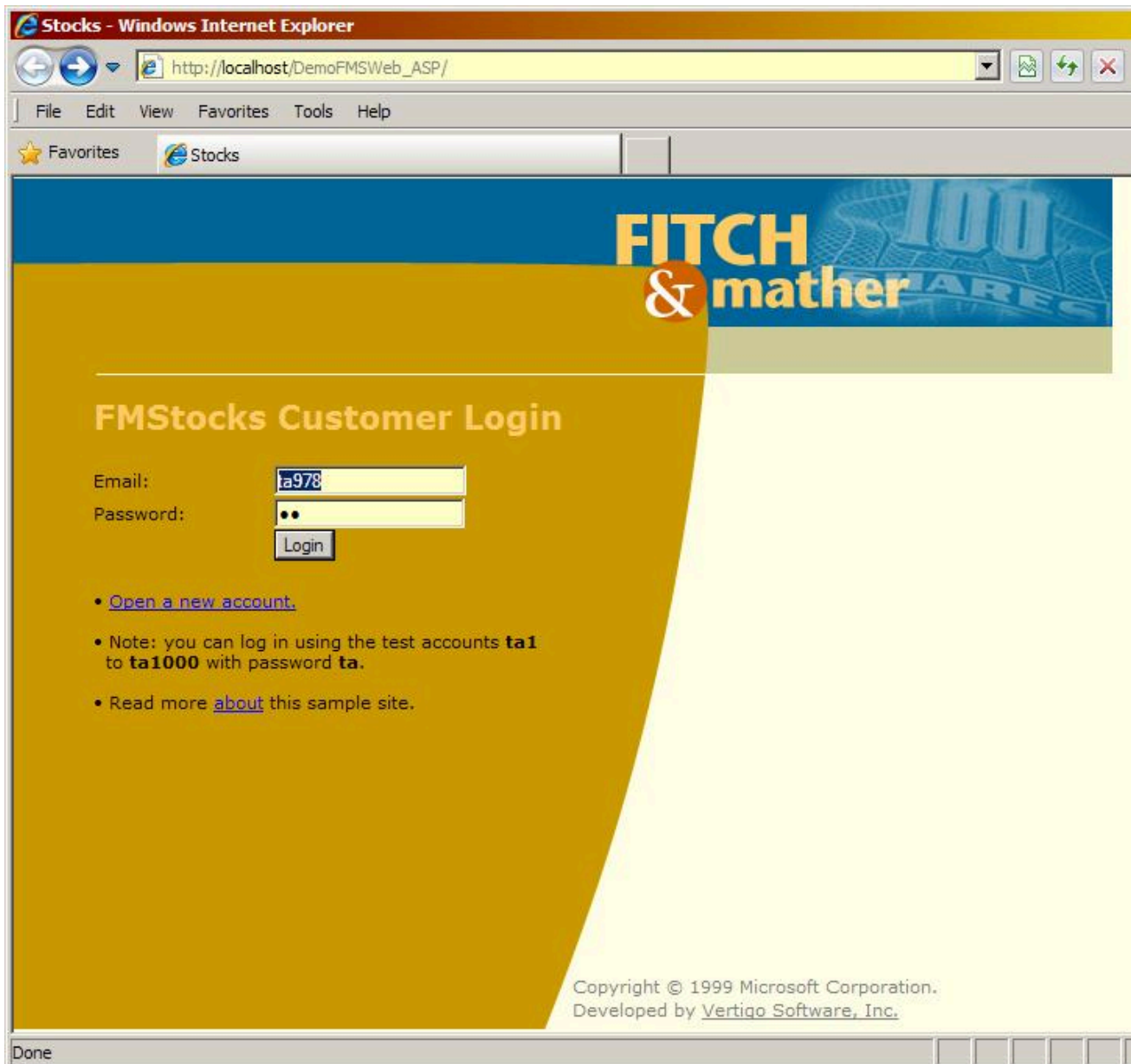
Great Migrations

FMStocks (VB6/ASP)

Overview

The FMStocks sample consists of two sets of projects:

- FMSLib contains six inter-related VB6 libraries and one test executable
- FMSWeb contains thirty-four ASP pages, which reference the six VB6 libraries in FMSLib.



 **Video:** https://www.youtube.com/watch?v=XofC8_QpwK4

The FMStocks sample shows how to migrate interrelated ASP and VB6/COM components. The application was published to demonstrate a 3-tier architecture (ASP, COM+, and SQL Server) in the context of a stock trading site with the following features:

- Portfolio Management
- Research/Buy/Sell Stocks
- On-line Store
- Forms-based Login

FMStocks, the Fitch and Mather Stocks 2000 sample, was created by Vertigo software and distributed through MSDN to demonstrate some of the best practices for building scaleable web applications using ASP and COM+. FMStocks was also featured in the Patterns and Practices guide as an example of how to upgrade VB6 to .NET.

It consists of seven (7) VBPs (2500 LOC)

FMStocks_DB.vbp	(Data Access)
FMSStore_DB.vbp	(Data Access)
FMSStore_Bus.vbp	(Business Objects)
FMStocks_Bus.vbp	(Business Objects)
FMSStore_Events.vbp	(Business Objects)
FMStocks_Ext.vbp	(Business Objects)
FMSTest.vbp	(A Simple Desktop Application Test Harness)

and thirty-four ASP pages (2300 LOC)

ASP Pages
Include files
Pulp (images, css, client-side script files, etc.)

A pivot table of data produced by the Source Structure report for the FMStocks VB6 code is displayed below.

SrcFile	ModName	ModType	Sum of Cnt_Tot	Sum of Cnt_Cod	Sum of Cnt_GUI
FMSSStore_Bus.vbp	Helpers	Module	201	143	0
	Product	Class	72	48	0
	ShoppingCart	Class	188	131	0
FMSSStore_Bus.vbp Total			461	322	0
FMSSStore_DB.vbp	Helpers	Module	201	143	0
	Product	Class	67	45	0
	ShoppingCart	Class	131	88	0
FMSSStore_DB.vbp Total			399	276	0
FMSSStore_Events.vbp	ShoppingCart	Class	19	15	0
FMSSStore_Events.vbp Total			19	15	0
FMSTest.vbp	frmFMSTest	Form	413	285	38
	utils	Module	35	30	0
FMSTest.vbp Total			448	315	38
FMStocks_Bus.vbp	Account	Class	171	107	0
	Broker	Class	340	215	0
	Helpers	Module	201	143	0
	Ticker	Class	143	91	0
	Version	Class	49	40	0
FMStocks_Bus.vbp Total			904	596	0
FMStocks_DB.vbp	Account	Class	134	89	0
	Broker	Class	91	66	0
	DBHelper	Class	371	253	0
	Helpers	Module	193	137	0
	Position	Class	66	47	0
	Ticker	Class	96	64	0
	Tx	Class	84	55	0
	TxNew	Class	42	31	0
	Version	Class	37	31	0
FMStocks_DB.vbp Total			1114	773	0
FMStocks_Ext.vbp	Helpers	Module	201	143	0
	History	Class	45	29	0
FMStocks_Ext.vbp Total			246	172	0
Grand Total			3591	2469	38

A pivot table of data produced by the Migration Set Report for the FMStocks web site is displayed below.

BldType ▼	SrcName ▼	Sum of SrcSize	Count of SrcName
INCLUDE	strings_asp	24	1
	t_begin_asp	67	1
	t_begin_cart_asp	41	1
	t_end_asp	16	1
	t_head_asp	75	1
INCLUDE Total		223	5
PAGE	_about_asp	36	1
	_GetXMLPortfolio_asp	27	1
	_GetXMLTickerHistory_asp	18	1
	_NewAccount_asp	158	1
	_runsql_asp	78	1
	_version_asp	69	1
	401k_asp	43	1
	AccountSummary_asp	41	1
	browse_asp	46	1
	BuyStock_asp	154	1
	cart_asp	99	1
	ChartPortfolio_asp	339	1
	checkout_asp	68	1
	default_asp	168	1
	FindProduct_asp	52	1
	Home_asp	19	1
	Logout_asp	13	1
	news_asp	25	1
	OfflinePortfolio_asp	19	1
	Portfolio_asp	134	1
	SellStock_asp	119	1
	SellStockAction_asp	51	1
	SellStockReceipt_asp	36	1
	store_asp	25	1
	template_asp	21	1
	TickerDetail_asp	108	1
	TickerList_asp	111	1
	ViewProduct_asp	71	1
PAGE Total		2148	28
Grand Total		2371	33

The migration concepts introduced in the context of the ScanTool demo also apply to ASP-to-ASP.NET translations. For the most part, these concepts are all handled the same way for ASP as they are for VB6. In fact, gmStudio compiles both VB6 and ASP codes to the same intermediate semantic model format before analyzing and restructuring them to the target architecture. However, in addition to a programming language change — in this case VB Script to C# or VB.Net — ASP brings several fundamental migration challenges:

- Subtle changes in the semantics of core ASP classes (Request, Response)
- Scoping matters relating to nested and stacked ASP include files
- Weak typing everywhere
- Various obscure differences between the syntax VBScript and Visual Basic

- Different rules for structuring markup and script tags
- Different format and semantics of ASP directives
- Looser coupling to COM, and
- Architectural decisions regarding where and how to use the many powerful new features of ASP.NET

The FMStocks sample illustrates how gmStudio handles many of these matters for you. FMStocks also provides another example of VB to .NET migration because there is a set of VB6 COM objects providing the business and data objects used by the pages.

COM Dependencies

FMStocks depends on the following external COM components that must be installed on your workstation to perform the migration successfully:

File	Description	Upgrade Strategy
scrrun.dll	Scripting, Microsoft Scripting Runtime	Replace with System.IO
msado27.tlb	ADODB, Microsoft ActiveX Data Objects 2.7 Library	Replace with System.Data and System.Data.SqlClient with the help of MigrationSupport.DataLib , a set of classes that implement the ADODB API in C#. MigrationSupport.DataLib is part of the sample <u>runtime library</u> available as source with a Professional Edition License of gmStudio.

Note: The version of FMStocks distributed as a sample here uses

File	Description	Upgrade Strategy
COM instead of COM+.		

Special Features: a Structural Migration

This sample illustrates the **SharedFiles** statement that allows placing a shared code file into a selected .NET translation and referencing its content from that location. In this example Helpers.bas is shared by several of the VB6 projects, but in the generated code, there is only one copy in a selected "host" project. The other projects reference the "host" assembly and reference the Helpers content from there. See GlobalSettings.xml script with the sample and the [gmpSharedFileStatement](#) for more information.

Deployment

The source codes for the FMSTLib VB6 projects are located in the [INSTALLDIR]\samples\source\FMStocks\FMSTLib subdirectory. The source code for the ASP pages is located in the [INSTALLDIR]\samples\source\FMStocks\FMSWeb\asp subdirectory. Four sample Migration Projects are included in the FMStocks example, depending on target language (C# or VB.NET) and treatment of referenced components (Interoped or migrated to .NET), as shown below:

Project[.gmproj]	Description
DemoFMSTLib_csh	All interrelated VB6 DLLs are migrated to C#.NET
DemoFMSWeb_csh	ASP Site and FMSTLib libraries are migrated to C#.NET
DemoFMSTLib_vbn	All interrelated VB6 DLLs are migrated to VB.NET

Project[.gmproj]	Description
DemoFMSWeb_vbn	ASP Site and FMSLib libraries are migrated to VB.NET

The FMStocks projects have the following deployment settings:

The VB6 Projects (COM libraries):

```
ProjectFolder = [INSTALLDIR]\samples\workspace\FMStocks_[lang]
DeployFolder  = %ProjFolder%\deploy\lib
```

The ASP Projects (web site):

```
ProjectFolder = [INSTALLDIR]\samples\workspace\FMStocks_[lang]
DeployFolder  = %ProjFolder%\deploy\web
```

Log files showing all migration steps are created in the workspace\log folders.

```
[INSTALLDIR]\samples\workspace\FMStocks_[lang]\log
```

The .NET project files are deployed to the following folders:

.NET Library Code:

```
[INSTALLDIR]\samples\workspace\FMStocks_[lang]\deploy\lib\  
[project]_std_[lang]
```

ASP.NET Site:

```
[INSTALLDIR]\samples\workspace\FMStocks_[lang]\deploy\web
```

where:

[project] is the name of the migration unit associated with each migration task in the migration project.

[lang] is "csh" or "vbn" depending on target language choice.