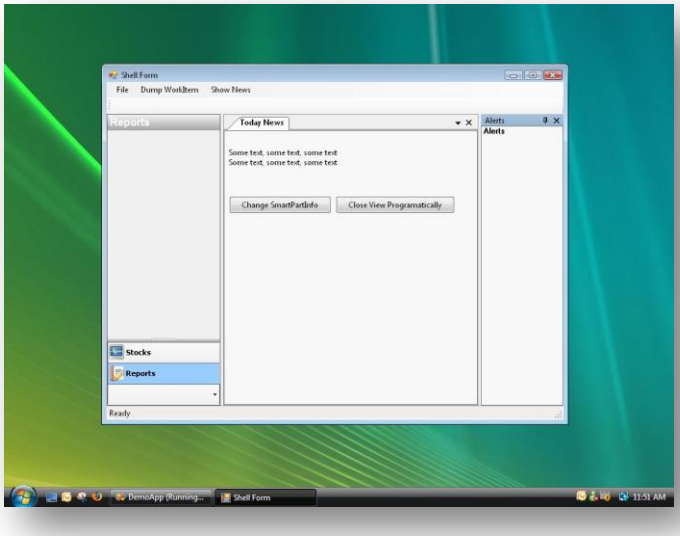
Smart Client Software Factory Demo Application

Demo Script



The goal of this demo script is to help presenters give a presentation that illustrates the main aspects of SC-SF such as WorkItems, Commands, EventBroker, Services, Workspaces and the Dependency Injection pattern.
This demo stript provides step-by-step instructions to create a SC-SF application. The application consists of two **Business Modules**:

- **Notifications** module: this module populates the Main Menu Strip of the Shell with two items and adds them as invokers of the *DumpWorkItem* and *ShowNews* commands respectively. It also adds two views to the Shell.
- **Stocks** module: this module shows **BuyStock** and **Reports** SmartParts in the the Shell.

The Shell is made up of two Workspaces: n **OutlookBarWorkspace** (the one in the right) and a **DockPanelWorkspace** (the one in the left). Both Workspaces are available in SCSF Contrib web site.

Key Technologies:

The following technologies are utilized within this demo script:

Technology / Product	Version
1. **Visual Studio 2008**	RTM
2. **.NET Framework**	3.5
3. **Smart Client Software Factory**	April 2008
4. **SCSFContrib.CompositeUI.WinForms extensions**	1.5

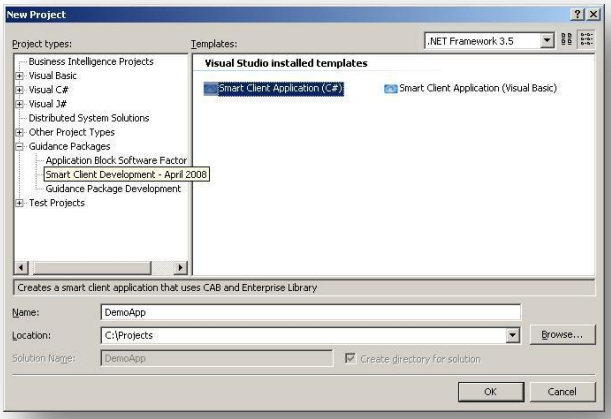
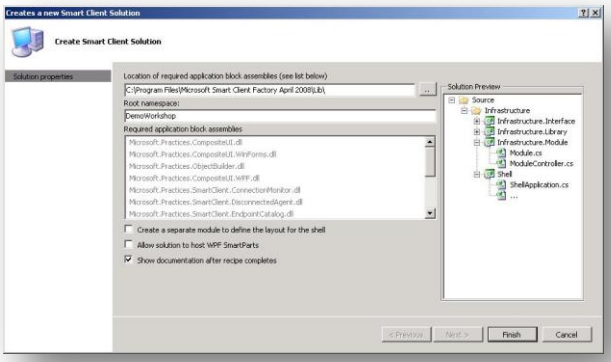
Before starting

Create a new folder named **temp** in the root directory "**C:**". In that folder, the DemoApp will place its log file.

Step-by-step Walkthrough

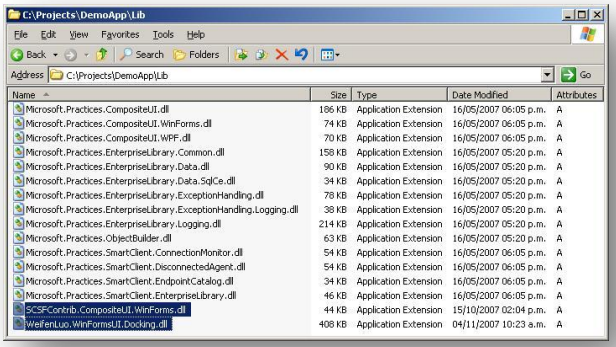
Estimated time to complete the demo script: **30 minutes**.

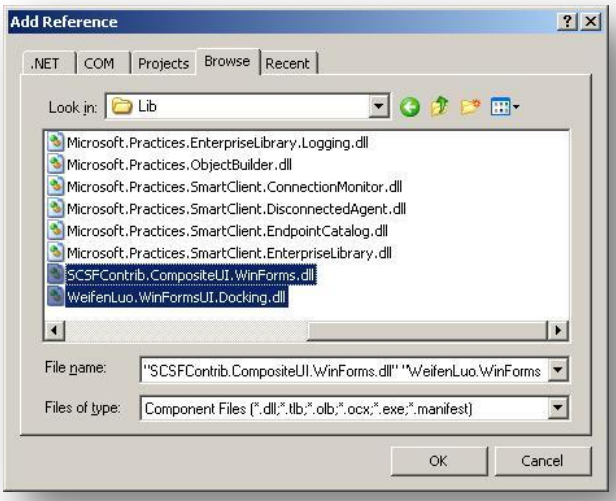
Use the guidance package to create a new Smart Client Solution

Action	Script	Screenshot
1. In Visual Studio, point to **New** on the **File** menu, and then click **Project**. 2. In the **New Project** dialog box, expand the **Guidance Packages** node. Click the **Smart Client Development - April 2008** project type. 3. In the **Templates** window, click **Smart Client Application (C#)**. 4. Change the **Name** to *DemoApp*. 5. (Optional) Change the **location** for the solution **to C:\Projects\DemoApp** (this path will be used throughout the whole script)**.** 6. Click **OK**.	• Use the guidance package to create a new Smart Client Solution	
7. Enter the location of the Composite UI Application Block, Enterprise Library, and the offline application blocks assemblies. (The wizard sets the default location to the **Lib** subfolder of the folder where you installed the software factory.) 8. Enter ***DemoWorkshop*** as the Root namespace for your application. This value appears as the first part of every namespace in the generated solution. 9. Unselect the option **Create a separate module to define the layout for the shell**. In this application, you will not use a separate module to define the layout for the shell. Instead, you will define the layout in a view within the Shell project. 10. Unselect the **Allow solution to host WPF SmartParts** check box. In this application you will develop Windows Forms	• The Smart Client Application template references the **CreateSolution** recipe. The Guidance Automation Extensions calls the **CreateSolution** recipe when you unfold the template. The **CreateSolution** recipe starts a wizard to gather information that it uses to customize the generated source code	

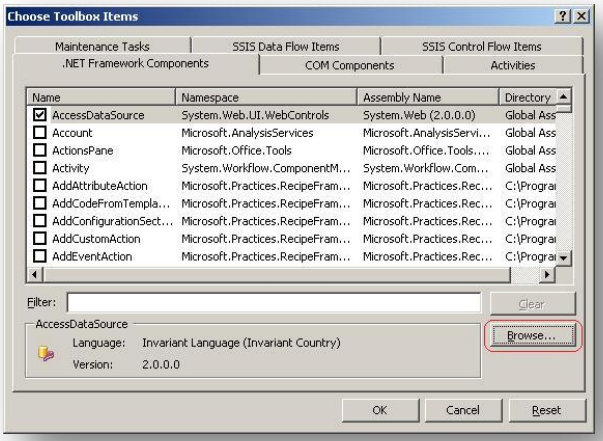
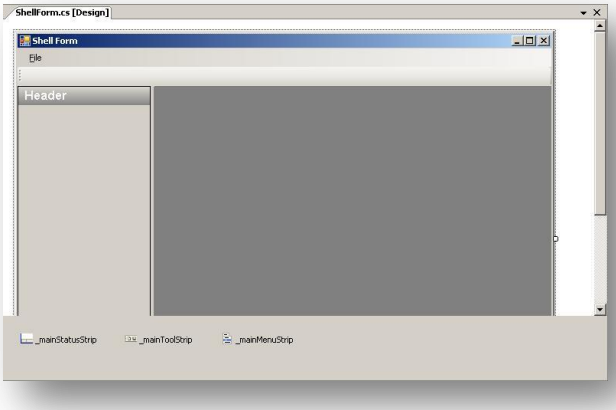
SmartParts; therefore you do not need support for WPF SmartParts. 11. Select the **Show documentation after recipe completes** check box. You will see after the recipe completes a summary of the recipe actions and suggested next steps. 12. Click **Finish**. The recipe unfolds the Smart Client Solution template.		

Add SCSFContrib binaries

Action	Script	Screenshot
1. Go to the **SCSFContrib** project page: **http://www.codeplex.com/scsfcontrib**. 2. In the **Source Code** tab download the last Change Set that contains the source code of the project. 3. Extract the content from the .zip and compile the project **Trunk\src\Extensions\WinForms\SCSFContrib.CompositeUI.WinForms\SCSFContrib.CompositeUI.WinForms.csproj.** 4. Copy the **SCSFContrib.CompositeUI.WinForms.dll** and **WeifenLuo.WinFormsUI.Docking.dll** assemblies to the **Lib** folder of your application (**C:\Projects\DemoApp\Lib**).	• SCSFContrib is a community-developed library of extensions to the patterns & practices **Smart Client Software Factory**. • We are going to use the extensions for WinForms in the application.	

5. In Solution Explorer, right-click the **Shell** project and select **Add Reference…**. In the **Browse** tab, go to the **Lib** folder of your application (**C:\Projects\DemoApp\Lib**) and select **SCSFContrib.CompositeUI.WinForms.dll**, **WeifenLuo.WinFormsUI.Docking.dll**. 6. Click **OK**.	• Add references to the **SCSFContrib.CompositeUI.WinForms** and **WeifenLuo.WinFormsUI.Docking.dll** assemblies in the Shell project to be able to use the **DockPanelWorkspace** and the **OutlookBarWorkspace**.	

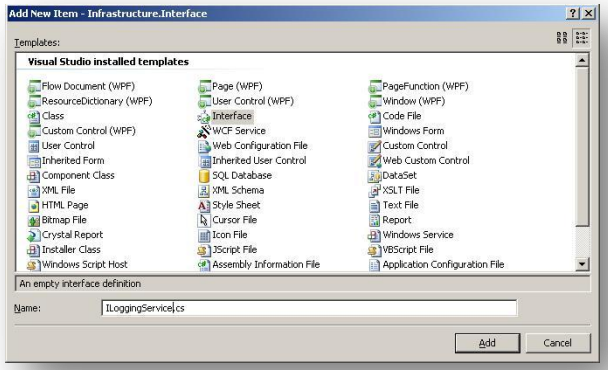
Customizing the Shell

Action	Script	Screenshot
1. Double-click in **ShellForm.cs** file on the Shell project to open the **View Designer**. 2. Open the Toolbox. 3. Right-click the Toolbox and select **Choose Items**. In the **.NET Framework Components** tab click on **Browse** and navigate to the **Lib** folder of your application. Select the **SCSFContrib.CompositeUI.WinForms.dll** assembly. 4. Click **OK**.	• Add the **DockPanelWorkspace** and the **OutlookBarWorkspace** to the Toolbox. • This allows you to drag and drop these controls.	
5. Select the Left and Right **DeckWorkspaces** and delete them. 6. Drag an **OutlookBarWorkspace** to the *left* panel of the **SplitContainer**. 7. Set its **Dock** property to *Fill* and change its **Name** to *_leftWorkspace*. 8. Drag a **DockPanelWorkspace** to the *right* panel of the **SplitContainer**. 9. Set its **Dock** and **DocumentStyle** properties to	• Change the Shell layout. Put an **OutlookBarWorkspace** on the left and a **DockPanelWorkspace** on the right.	

Fill and *DockingWindow* respectively and change its **Name** to *_rightWorkspace*.

Add the LoggingService global service

Create the ILoggingService interface

Action	Script	Screenshot
1. Right-click in the **Services** folder of **Infrastructure.Interface** project and point to **Add -> New Item…**. 2. In the **Add New Item** dialog box, select **Interface** and enter **ILoggingService.cs** as the **Name** of the file.	• Create an interface for the logging service. • Locate the interface in the **Infrastructure.Interface** project so that it is available for all modules.	

3. Open the **ILoggingService.cs** file created in the previous step.

4. Replace the interface definition with the following:

C#

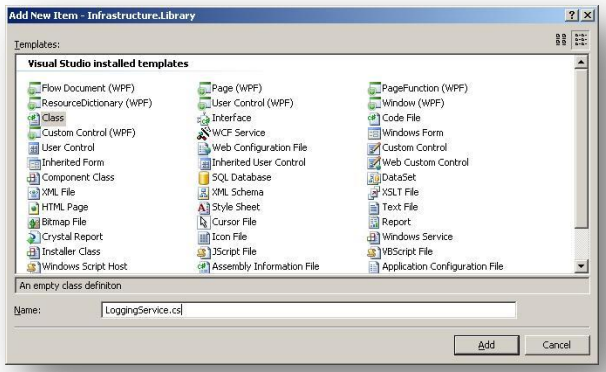
```
public interface ILoggingService
{
    void Log(string message);
}
```

Implement the service

Action	Script	Screenshot

1. Create a **Services** folder in the **Infrastructure.Module** project.
2. Right-click the **Services** folder of the **Infrastructure.Module** project and point to **Add -> Class…**.
3. In the **Add New Item** dialog box, select **Class** and enter **LoggingService.cs** as the **Name** of the file.

- Create the class that represents the logging service.



4. Open the **LogginService.cs** file created in the previous step.

5. Add the following using statements at the top of the file:

C#

```
using DemoWorkshop.Infrastructure.Interface.Services;
using Microsoft.Practices.CompositeUI;
using System.IO;
```

6. Replace the class definition with the following:

C#

```
[Service(typeof(ILoggingService))]
public class LoggingService : ILoggingService
{
    #region ILoggingService Members

    public void Log(string message)
    {
           File.AppendAllText("C:\\temp\\log.txt", message);
    }

    #endregion
}
```

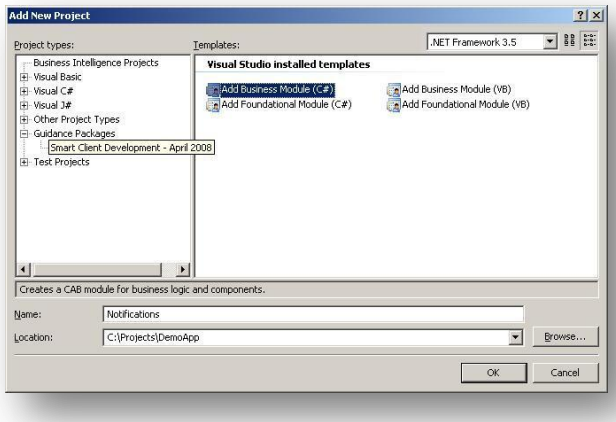
The [Service] attribute indicates to ObjectBuilder that it has to register the logging service in the **RootWorkItem**. This service will be global and available to all modules.

Add Notifications module

Action	Script	Screenshot

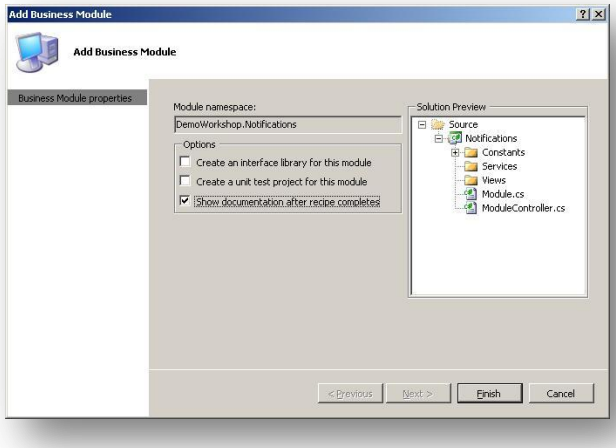
1. In Solution Explorer, right-click the **Source** solution folder, point to **Smart Client Software Factory**, and then click **Add Business Module (C#)**. The **Add New Project** dialog box appears with the **Add Business Module (C#)** template selected.
2. Enter **Notifications** as the **Name** and set the **Location** to the Source folder of the solution.
3. Click **OK**.

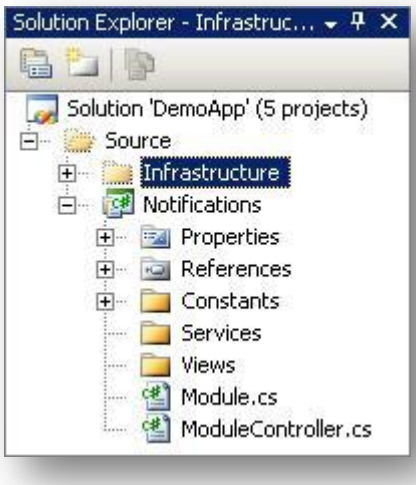
- Add the **Notifications** Business Module.
- Modules are distinct deployment units of a **Composite UI Application Block** application. You use modules to encapsulate a set of concerns of your application and deploy them to different users or applications.
- A Business Module has at least one **WorkItem** (specifically, a **ControlledWorkItem**) and contains business logic elements. Typically, it includes some combination of services, views, presenters, and business entities.

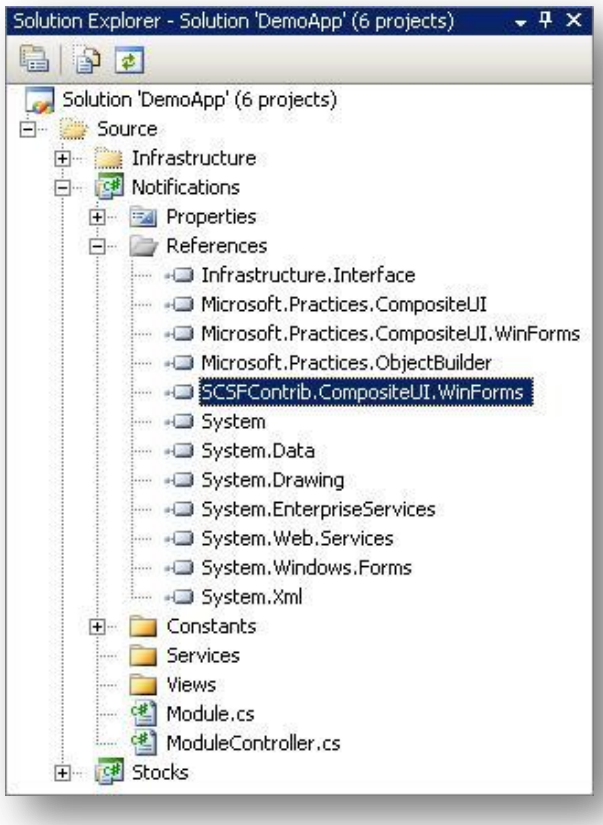


4. The guidance package displays the **Add Business Module** wizard.
5. Unselect the **option Create an interface library for this module**. If you select this option, the recipe will create an additional project to contain the elements that provide the public interface to the assembly.
6. Unselect the option **Create a unit test project for this module**. If you select this option, the recipe will create a test project for the module with test classes for your module components.
7. Select the option **Show documentation after recipe completes** to see a summary of the recipe actions and suggested next steps after the recipe completes.
8. Click **Finish**.

- The guidance package will generate a new class library project named **Notifications**.
- The **Module** class derives from the CAB class **ModuleInit**. CAB calls the **Load** method of this class on startup. The Load method contains code to create and run a new WorkItem. This WorkItem is the module's main WorkItem.
- The **ModuleController** class contains methods that you can modify to customize the behavior of the module on startup. You can add services or display user-interface items. The project also contains the following folders:
- The **Constants** folder contains four classes named **CommandNames**, **EventTopicNames**, **UIExtensionSiteNames**, and **WorkspaceNames**. You can modify these classes to define module-specific identifiers for your commands, event topics, UIExtensionSites, and Workspaces.
- The **Services** folder, where you can store the implementation of business services.
- The **Views** folder, where you





	can store views.	
9. Right-click the **Notifications** project and point to **Add Reference…**. In the **Browse** tab, go to the **Lib** folder of your application (**C:\Projects\DemoApp\Lib**) and select **SCSFContrib.CompositeUI.WinForms.dll**. 10. Click **OK**.	• Add a reference to the **SCSFContrib.CompositeUI.WinForms.dll** assembly. • This allows you to use the **DockPanelSmartPartInfo** and the **OutlookBarSmartPartInfo** and change some features of your views.	

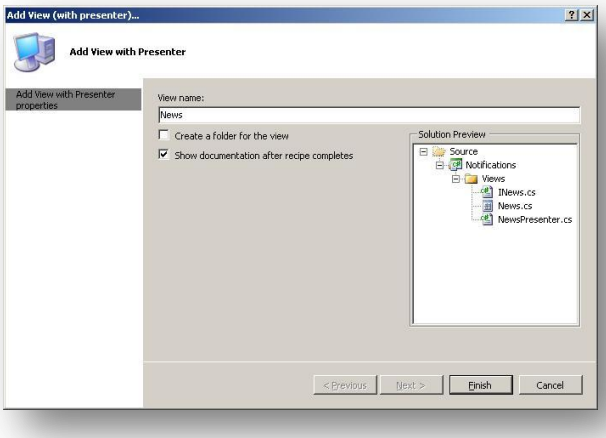
Add News view to Notifications module

Using Add View (with presenter)… recipe

Action	Script	Screenshot

1. In Solution Explorer, right-click the **Views** folder of the **Notifications** project, point to **Smart Client Software Factory**, and then click **Add View (with presenter)…**.
2. In the wizard, enter **News** in the **View Name** field and select the **Show documentation after recipe completes** option to see a summary of the recipe actions and suggested next steps after the recipe completes. If **Create a folder for the view** is selected, the recipe will create a folder and place the new items in this folder.
3. Click **Finish**.

- The recipe generates:
- A view interface. The presenter class uses this interface to communicate with the view. You will modify this interface.
- A view implementation user control. This class derives from **UserControl** and has the **[SmartPart]** attribute. The user control also implements the view interface and contains a reference to its presenter. You will modify this class to call the presenter for user-interface actions that affect other views or business logic.
- A presenter class for the view. This class extends the **Presenter** base class defined in **Infrastructure.Interface** project and contains the business logic for the view. You will modify this class to update the view for your business logic.



Customizing News view

1. In the **Views** folder of the **Notifications** project, open the **INews.cs** file.

2. Paste the following method declaration inside the interface definition:

C#

```
void ShowNews(string n);
```

This method will be called from the presenter whenever news has to be displayed to the user.

3. In the **Views** folder of the **Notifications** project, open the **NewsPresenter.cs** file.

4. Add the following using statements at the top of the file.

C#

```
using DemoWorkshop.Infrastructure.Interface.Services;
using Microsoft.Practices.CompositeUI.SmartParts;
```

5. Replace the **OnViewReady** method with the following code.

C#

```
public override void OnViewReady()
{
    string[] news = { "Some text, some text, some text", "Some text, some text, some text" };
    foreach (string n in news)
```

```
    {
          View.ShowNews(n);
    }
    base.OnViewReady();
}
```

This method will be called when the view is initialized and will populate the view with news.

6. Add the following two methods to the body of the **NewsPresenter** class.

C#

```
private void DisposeView(object smartpart, WorkItem workItem)
{
    if (smartpart is IDisposable) ((IDisposable)smartpart).Dispose();
    workItem.SmartParts.Remove(smartpart);
}

public void ChangeTitle()
{
    IWorkspaceLocatorService locator = WorkItem.Services.Get<IWorkspaceLocatorService>();
    IWorkspace wks = locator.FindContainingWorkspace(WorkItem, View);
    wks.ApplySmartPartInfo(View, new SmartPartInfo("New Title", ""));
}
```

The **ChangeTitle** method locates the workspace where the view is showed and applies a new **SmartPartInfo** with a new title. The **DisposeView** method disposes the current view if it is disposable.

7. Add the following line of code at the bottom of the **OnCloseView** method:

C#

```
DisposeView(View, WorkItem);
```

8. Double-click in the **News.cs** file in the **Views** folder of the **Notifications** project. This will open the **Designer**.

9. Set the **Size** property of control to *349, 200*.

10. Drag a **Label** to the top of the view. Set its **Name** to *NewsLabel* and erase the text in the **Text** property.

11. Drag two **Buttons** to the view surface. Set their **Text** properties to "*Change SmartPartInfo*" and "*Close View Programatically*" respectively. Adjust the size of the buttons to see the text on them.

12. Double-click on the "*Change SmartPartInfo*" button to auto-generate the handler of **Click** event.

13. Add the following code into the body of the handler.

C#

```
_presenter.ChangeTitle();
```

14. Go back to the **Design** of the **News** view and double-click on the "*Close View Programatically*" button to auto-generate the handler of **Click** event.

15. Add the following code into the body of the method.

C#

```
_presenter.OnCloseView();
```

16. Replace the head of the **News** class with the following:

C#

```
public partial class News : UserControl, INews, ISmartPartInfoProvider
```

In this way, the **News** class implements **ISmartPartInfoProvider**.

17. Implement the interfaces **INews** and **ISmartPartInfoProvider**. To do this past the following code in the **News** class body.

C#

```
#region INews Members

public void ShowNews(string n)
{
    NewsLabel.Text += n + Environment.NewLine;
}

#endregion

#region ISmartPartInfoProvider Members

public ISmartPartInfo GetSmartPartInfo(Type smartPartInfoType)
{
    ISmartPartInfo spi = (ISmartPartInfo)Activator.CreateInstance(smartPartInfoType);
    spi.Title = "Today News";
    return spi;
}

#endregion
```

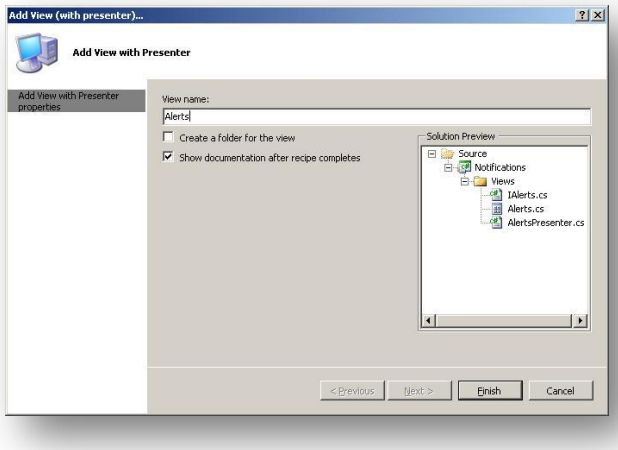
Add Alerts view to Notifications module

Using Add View (with presenter)... recipe

Action	Script	Screenshot

1. In Solution Explorer, right-click the **Views** folder of the **Notifications** project, point to **Smart Client Software Factory**, and then click **Add View (with presenter)…**.
2. In the wizard launched, enter **Alerts** in the **View Name** field and select the **Show documentation after recipe completes** option to see a summary of the recipe actions and suggested next steps after the recipe completes. If **Create a folder for the view** is selected, the recipe will create a folder and place the new items in this folder.
3. Click **Finish**.

- IDEM **News** view



Customizing Alerts view

1. Open the **EventTopicNames.cs** file located in the **Constants** folder of **Infrastructure.Interface** project.

2. Paste the following code in the body of the **EventTopicNames** class:

C#

```
public const string NewStockBuy = "NewStockBuy";
```

This event topic name will be used in the **Notifications** and **Stocks** modules to notify when a new stock is bought.

3. In the **Views** folder of the **Notifications** project, open the **IAlerts.cs** file.

4. Paste the following code inside the interface definition:

C#

```
void ShowAlerts(string p);
```

This method will be called from the presenter whenever a new alert has to be displayed to the user.

5. In the **Views** folder of the **Notifications** project, open the **AlertsPresenter.cs** file.

6. Add the following using statements at the top of the file:

C#

```
using Microsoft.Practices.CompositeUI.EventBroker;
using DemoWorkshop.Notifications.Constants;
```

7. Paste the following code in the body of **AlertsPresenter** class.

C#

```
[EventSubscription(EventTopicNames.NewStockBuy, ThreadOption.UserInterface)]
```

```
public void OnNewStockBuy(object sender, EventArgs<string> eventArgs)
{
    View.ShowAlerts("Alert for " + eventArgs.Data);
}
```

This method is an event handler for the **NewStockBuy** event. The **[EventSubscription]** attribute allows you subscribe to an event in a loosely coupled way. In next tasks, you will publish the **NewStockBuy** event.

8. Double-click the **Alerts.cs** file in the **Views** folder of the **Notifications** project. This will open the **Designer.**

9. Drag two **Labels** to the view's surface and put them at the top-left corner of the view (one below the other).

10. Set the **Text** property of the first label to *Alerts* and set also the **Bold** property of the **Font** to *true*.

11. Change the **Name** of the second label to *AlertsLabel* and erase the text in its **Text** property.

12. Right-click onto the view surface and click on **View Code**.

13. Add the following using statements at the top of the file:

C#

```
using SCSFContrib.CompositeUI.WinForms.SmartPartInfos;
```

14. Replace the head of the **Alerts** class with the following:

C#

```
public partial class Alerts : UserControl, IAlerts, ISmartPartInfoProvider
```

In this way, the **Alerts** class implements **ISmartPartInfoProvider**.

15. Implement the **IAlerts** and **ISmartPartInfoProvider** interfaces. To do this, paste the following code in the **Alerts** class body.

C#

```
#region IAlerts Members

public void ShowAlerts(string p)
{
    AlertsLabel.Text += p + Environment.NewLine;
}

#endregion

#region ISmartPartInfoProvider Members

public ISmartPartInfo GetSmartPartInfo(Type smartPartInfoType)
{
    ISmartPartInfo spi = (ISmartPartInfo)Activator.CreateInstance(smartPartInfoType);
    spi.Title = "Alerts";
    if (spi is DockPanelSmartPartInfo)
    {
          ((DockPanelSmartPartInfo)spi).DockingType = DockingType.TaskView;
```

```
    }
    return spi;
}

#endregion
```

Showing News and Alerts views in the DockPanelWorkspace

1. Open the **ModuleController.cs** file located in the root of the **Notifications** project.

2. Add the following using statements at the top of the file:

C#

```
using DemoWorkshop.Notifications.Constants;
using System.Diagnostics;
using Microsoft.Practices.CompositeUI.SmartParts;
```

3. Replace the **ExtendMenu** method in the **ModuleController** class with the following one:

C#

```
private void ExtendMenu()
{
    ToolStripMenuItem menuItem = new ToolStripMenuItem();
    menuItem.Text = "Dump WorkItem";
    WorkItem.UIExtensionSites[UIExtensionSiteNames.MainMenu].Add<ToolStripMenuItem>(menuItem);
    WorkItem.Commands["DumpWorkItem"].AddInvoker(menuItem, "Click");

    ToolStripMenuItem showNewsMenuItem = new ToolStripMenuItem();
    showNewsMenuItem.Text = "Show News";
    WorkItem.UIExtensionSites[UIExtensionSiteNames.MainMenu].Add<ToolStripMenuItem>(showNewsMen
uItem);
    WorkItem.Commands["ShowNews"].AddInvoker(showNewsMenuItem, "Click");
}
```

In the previous code, you've added two button as invokers of the commands "*DumpWokItem*" and "*ShowNews*".

4. Paste the following three methods inside the body of **ModuleController** class:

C#

```
[CommandHandler("DumpWorkItem")]
public void DumpWorkItem(object sender, EventArgs e)
{
    Debug.WriteLine("SmartParts  Count : " + WorkItem.SmartParts.Count);
}

[CommandHandler("ShowNews")]
public void ShowNews(object sender, EventArgs e)
{
    ShowViewInWorkspace<News>(WorkspaceNames.RightWorkspace);
}
```

```
private void DisposeView(object smartpart, WorkItem workItem)
{
    if (smartpart is IDisposable) ((IDisposable)smartpart).Dispose();
          workItem.SmartParts.Remove(smartpart);
}
```

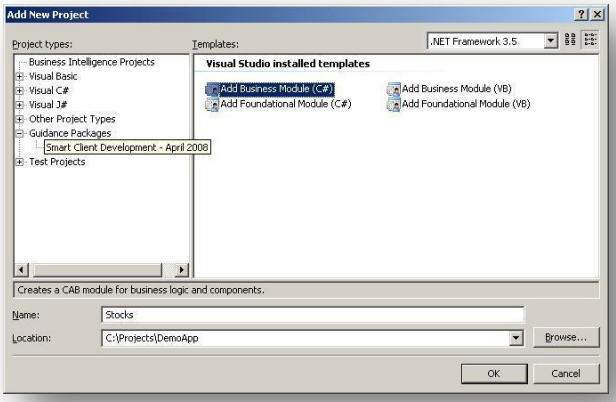
When the "*DumpWorkItem*" Command is raised, the **DumpWorkItem** method will be executed. The same occurs for the "*ShowNews*" command and the **ShowNews** method.

5. Replace the **AddViews** method in the **ModuleController** class with the following one:

C#

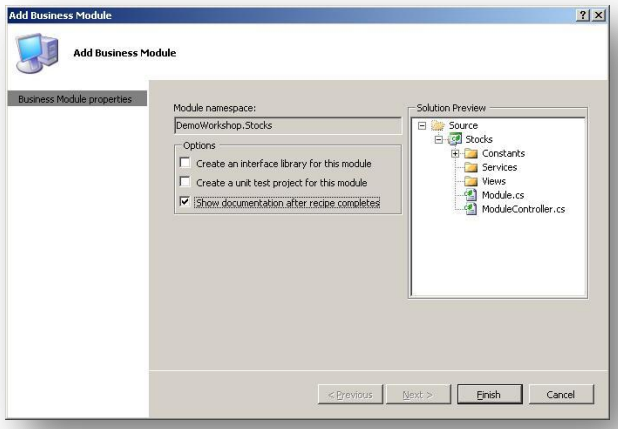
```
private void AddViews()
{
    ShowViewInWorkspace<News>(WorkspaceNames.RightWorkspace);
    ShowViewInWorkspace<Alerts>(WorkspaceNames.RightWorkspace);
    WorkItem.Workspaces[WorkspaceNames.RightWorkspace].SmartPartClosing += new
EventHandler<Microsoft.Practices.CompositeUI.SmartParts.WorkspaceCancelEventArgs>(delegate(obje
ct workspace, WorkspaceCancelEventArgs e)
    {
          DisposeView(e.SmartPart, WorkItem);
    });
}
```

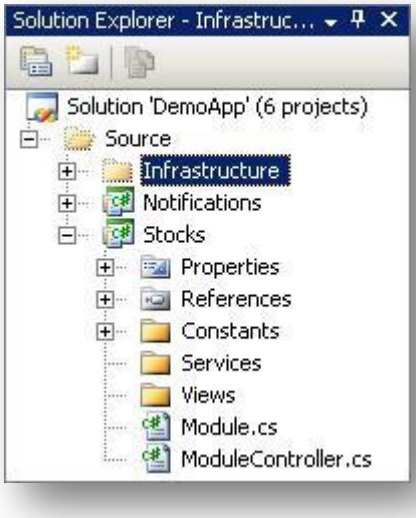
Add Stocks module

Action	Script	Screenshot
1. In Solution Explorer, right-click the **Source** solution folder, point to **Smart Client Software Factory**, and then click **Add Business Module (C#)**. The **Add New Project** dialog box appears with the **Add Business Module (C#)** template selected. 2. Enter **Stocks** as the **Name** and set the **Location** to the Source folder of the solution. 3. Click **OK.**	• IDEM **Notifications** module.	

4. The guidance package displays the **Add Business Module** wizard.
5. Unselect the **option Create an interface library for this module**. If you select this option, the recipe will create an additional project to contain the elements that provide the public interface to the assembly.
6. Unselect the option **Create a unit test project for this module**. If you select this option, the recipe will create a test project for the module with test classes for your module components.
7. Select the option **Show documentation after recipe completes** to see a summary of the recipe actions and suggested next steps after the recipe completes.
8. Click **Finish**.

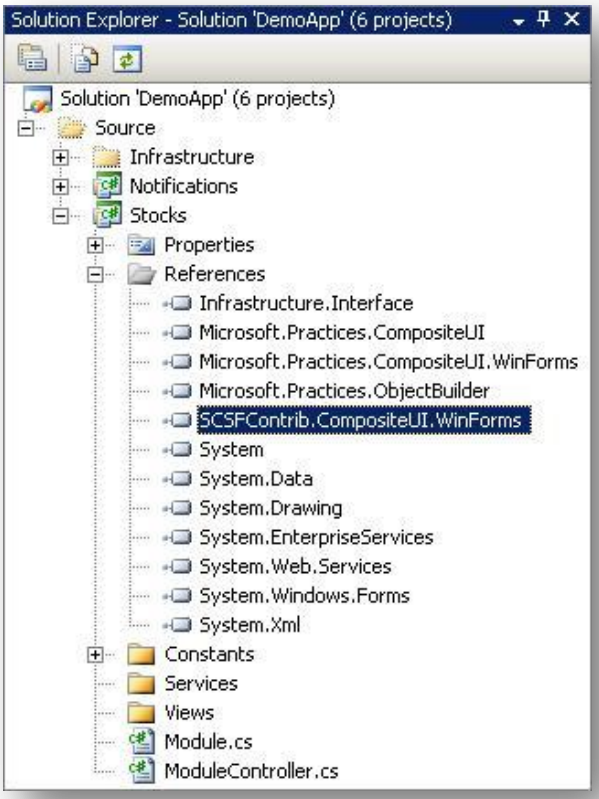
- IDEM **Notifications** module.





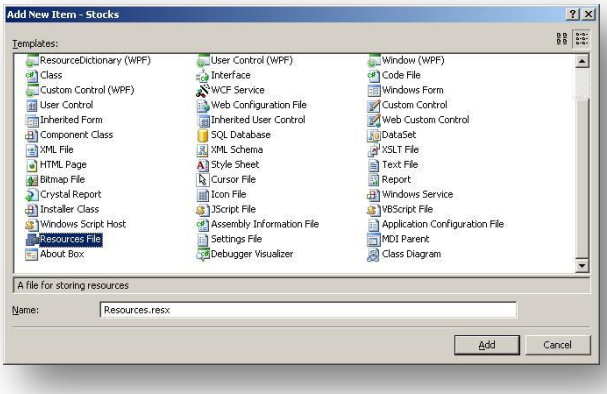
9. Right-click the **Stocks** project and point to **Add Reference…**. In the **Browse** tab, go to the **Lib** folder of your application (**C:\Projects\DemoApp\Lib**) and select **SCSFContrib.CompositeUI.WinForms.dll**.
10. Click **OK**.

- Add a reference to the **SCSFContrib.CompositeUI.WinForms.dll** assembly.
- This allows you to use the **DockPanelSmartPartInfo** and the **OutlookBarSmartPartInfo** and change some features of your views.



11. Right click onto the **Stocks** project and point to **Add** -> **New Item…**.
12. In the **Add New Item** dialog box, select the **Resources File** template and change the **Name** of the file to **Resources.resx, and then drag it to the Properties** folder of the **Stocks** project.

- Add a resources file where you can place the view icons showed by the **OutlookBarWorkspace**.

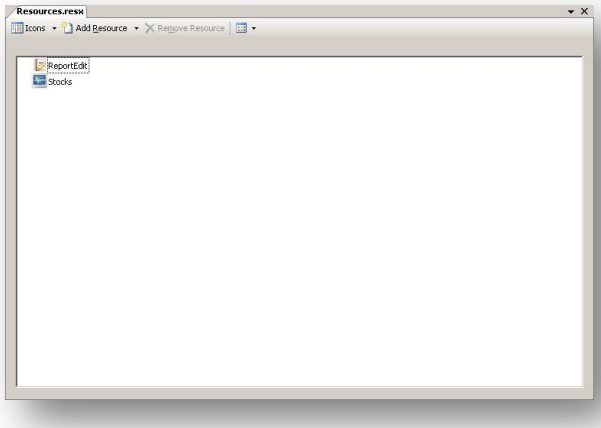


13. Double click onto the **Resourses.resx** file to open it.
14. Select **Icons** in the first dropdown lists.
15. Click in the **Add Existing File…** in the second dropdown list.
16. In the **Add existing file to resources** dialog box, navigate to the folder where you have the icons, one for each view, and select them. Click in **Open**.
17. Rename the resources added previously with the names **ReportEdit** and **Stocks** respectively.

- Add two icons that should be representative of each view.
- You can use the following icons:

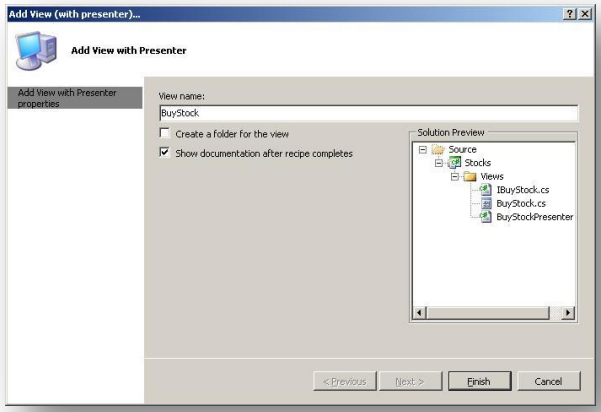
BuyStock view 

Reports view 



Add BuyStock view to Stocks module

Using Add View (with presenter)… recipe

Action	Script	Screenshot
1. In Solution Explorer, right-click the **Views** folder of the **Stocks** project, point to **Smart Client Software Factory**, and then click **Add View (with presenter)…**. 2. In the wizard launched, enter **BuyStock** in the **View Name** field and select the **Show documentation after recipe completes** option to see a summary of the recipe actions and suggested next steps after the recipe completes. If **Create a folder for the view** is selected, the recipe will create a folder and place the new items in this folder. 3. Click **Finish.**	• IDEM **News** view	

Customizing the BuyStock view

1. In the **Views** folder of the **Stocks** project, open the **IBuyStock.cs** file.

2. Paste the declaration of the **ShowMessage** method inside the interface body:

C#

```
void ShowMessage(string p);
```

This method will be called from the presenter when a message has to be shown to the user.

3. In the **Views** folder of the **Stocks** project, double-click on the **BuyStockPresenter.cs** file.

4. Add the following using statements at the top of the file:

C#

```
using Microsoft.Practices.CompositeUI.EventBroker;
using DemoWorkshop.Stocks.Constants;
using DemoWorkshop.Infrastructure.Interface.Services;
```

5. Paste the following code inside the body of **BuyStockPresenter** class.

C#

```
[EventPublication(EventTopicNames.NewStockBuy, PublicationScope.Global)]
public event EventHandler<EventArgs<string>> NewStockBuy;

private ILoggingService _logger;

[ServiceDependency]
public ILoggingService Logger
{
    get { return _logger; }
    set { _logger = value; }
}
```

The following code publishes an event using the **[EventPublication]** attribute of the EventBroker system. It also injects the logging service using the **[ServiceDependency]** attribute thanks to the dependency injection pattern implemented by **ObjectBuilder** and **CAB**.

6. Paste the following methods in the **BuyStockPresenter** class.

C#

```
public void BuyStock(string stock)
{
    OnNewStockBuy(new EventArgs<string>(stock));
    Logger.Log("A new stock was bought " + stock + " - ");
    View.ShowMessage("The stock was succesfully bought");
}

protected virtual void OnNewStockBuy(EventArgs<string> eventArgs)
{
    if (NewStockBuy != null)
    {
           NewStockBuy(this, eventArgs);
    }
}
```

The **BuyStock** method is called by the view every time the user decides to buy. This method raises the **NewStockBuy** event, log the transaction using the logging service and show a message to the user in a **MessageBox**.

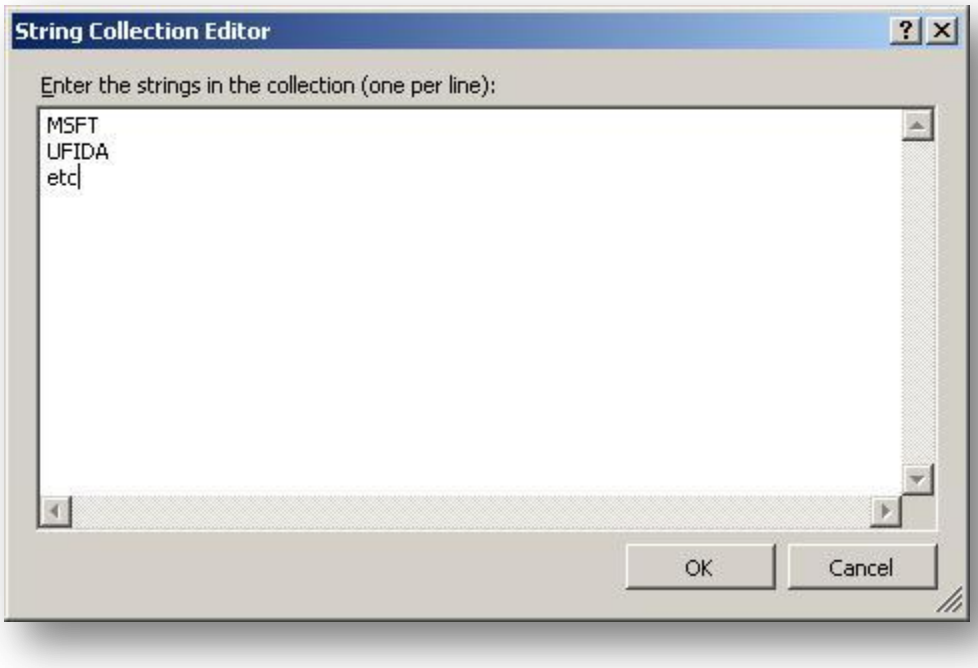
7. Double-click the **BuyStocks.cs** file in the **Views** folder of the **Stock** project. This will open the **Designer.**

8. Change the **Size** of the user control to 265, 40 from the **Properties** view.

9. From left to right, drag a **Label**, a **ComboBox** and a **Button** to the view surface.

10. Set the **Text** property of the label to *Select Stock*.

11. Set the **Anchor** property of combo box to *Top, Left, Right* and add to its **Items** collection the strings *MSFT*, *UFIDA* and *etc* (one per line) as you can see in the following image:



12. Set the **Text** and **Anchor** properties of the button to *Buy* and *Top, Right*. Double-click on the button surface to auto-generate the handler for **Click** event.

13. Paste the following code inside the body of the auto-generated method in the previous step:

C#

```
_presenter.BuyStock(comboBox1.SelectedItem as string);
```

14. Add the following using statements at the top of the **BuyStock.cs** file:

C#

```
using SCSFContrib.CompositeUI.WinForms.Workspaces;
```

15. Replace the head of the **BuyStock** class with the following:

C#

```
public partial class BuyStock : UserControl, IBuyStock, ISmartPartInfoProvider
```

In this way, the **BuyStock** class implements **ISmartPartInfoProvider**.

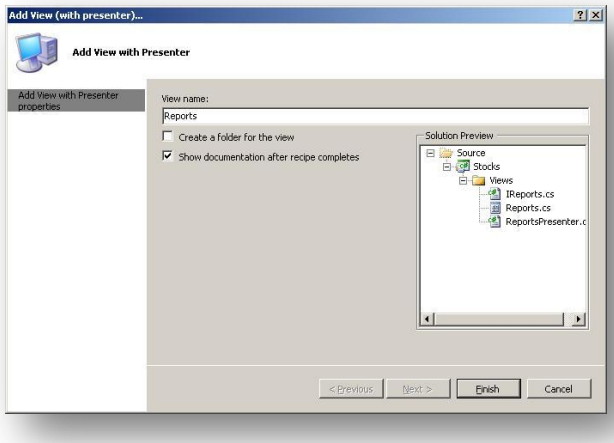
14. Implement the **IBuyStock** and **ISmartPartInfoProvider** interfaces. To do this, paste the following code in the body of the **BuyStock** class:

C#

```
#region IBuyStock Members

public void ShowMessage(string p)
{
    MessageBox.Show(p);
}

#endregion

#region ISmartPartInfoProvider Members

public ISmartPartInfo GetSmartPartInfo(Type smartPartInfoType)
{
    ISmartPartInfo spi = (ISmartPartInfo)Activator.CreateInstance(smartPartInfoType);
    spi.Title = "Stocks";
    if (spi is OutlookBarSmartPartInfo)
    {
          ((OutlookBarSmartPartInfo)spi).Icon = Properties.Resources.Stocks.ToBitmap();
    }

    return spi;
}

#endregion
```

Add Reports view to Stocks module

Using Add View (with presenter)... recipe

Action	Script	Screenshot
1. In Solution Explorer, right-click the **Views** folder of the **Stocks** project, point to **Smart Client Software Factory**, and then click **Add View (with presenter)...**. 2. In the wizard launched, enter **Reports** in the **View Name** field and select the **Show documentation after recipe completes** option to see a summary of the recipe actions and suggested next steps after the recipe completes. If **Create a folder for the view** is selected, the recipe will create a folder and place the new	• IDEM **News** view	

items in this folder.
3. Click **Finish**.

Customizing Reports view

1. Right-click onto the **Reports.cs** file and click on **View Code**.

2. Add the following using statements at the top of the file:

C#

```
using SCSFContrib.CompositeUI.WinForms.Workspaces;
```

3. Replace the head of the **Reports** class with the following:

C#

```
public partial class Reports : UserControl, IReports, ISmartPartInfoProvider
```

In this way, the **Reports** class implements **ISmartPartInfoProvider**.

4. Implement the **ISmartPartInfoProvider** interface. To do this, paste the following methods in the **Reports** class.

C#

```
#region ISmartPartInfoProvider Members

public ISmartPartInfo GetSmartPartInfo(Type smartPartInfoType)
{
    ISmartPartInfo spi = (ISmartPartInfo)Activator.CreateInstance(smartPartInfoType);
    spi.Title = "Reports";
    if (spi is OutlookBarSmartPartInfo)
    {
           ((OutlookBarSmartPartInfo)spi).Icon = Properties.Resources.ReportEdit.ToBitmap();
    }
    return spi;
}

#endregion
```

Showing BuyStock and Reports views in the OutlookBarWorkspace

1. Open the **ModuleController.cs** file located in the root of the **Stocks** project.

2. Add the following using statements at the top of the file:

C#

```
using DemoWorkshop.Stocks.Constants;
```

3. Replace the **AddViews** method in the **ModuleController** class with the following one:

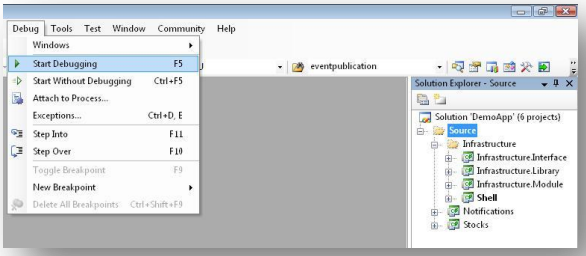
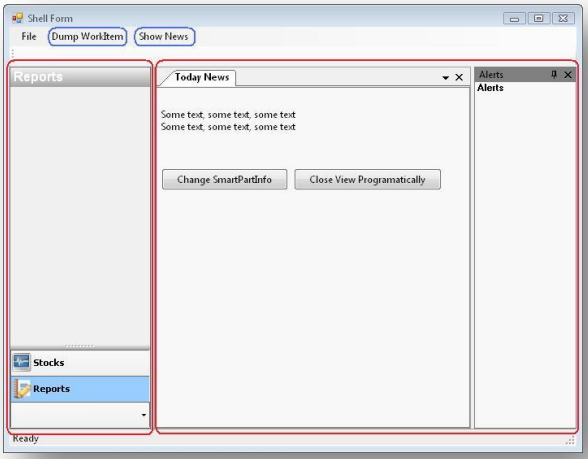
C#

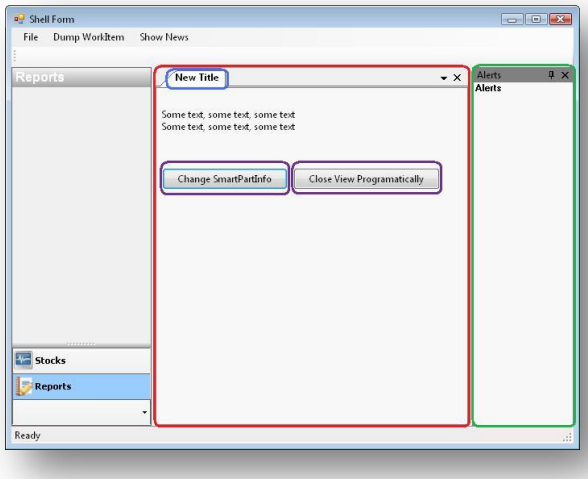
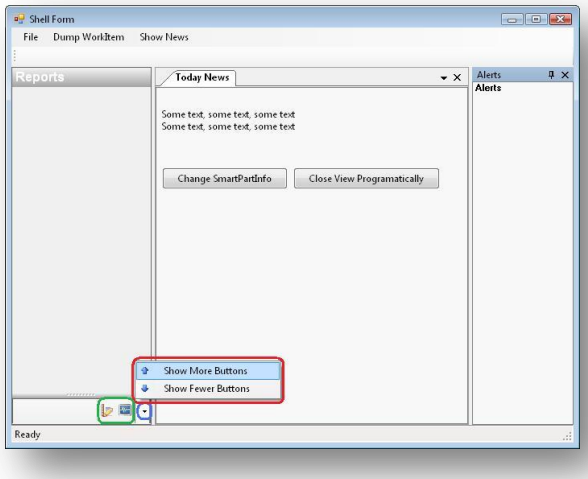
```
private void AddViews()
{
    ShowViewInWorkspace<BuyStock>(WorkspaceNames.LeftWorkspace);
```

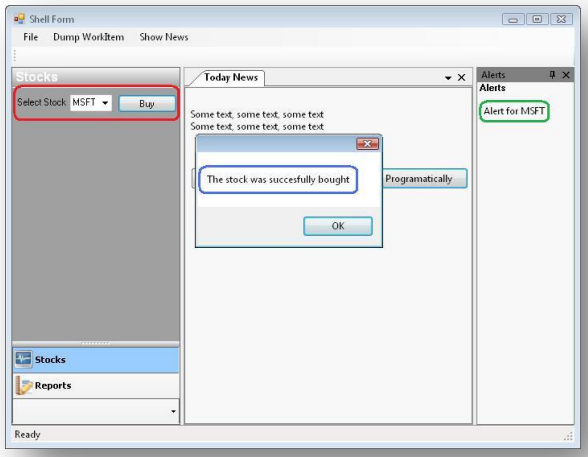
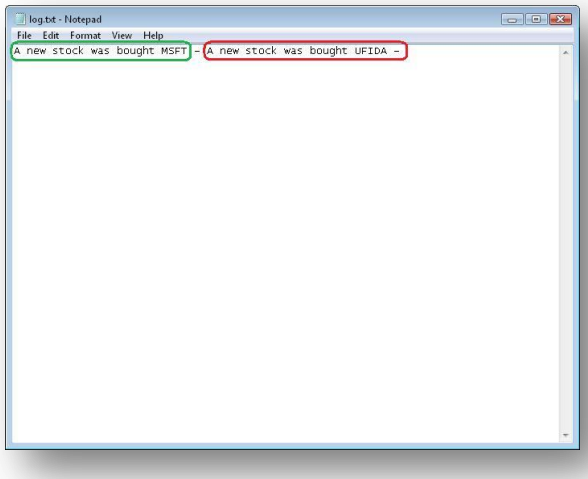
```
    ShowViewInWorkspace<Reports>(WorkspaceNames.LeftWorkspace);
}
```

The previous method shows the Stocks module's views in the **OutlookBarWorkspace** (the left one, in the **Shell**).

Compile, run and show the application

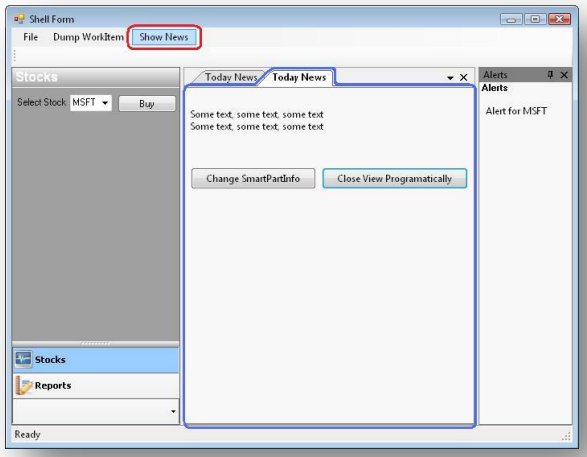
Action	Script	Screenshot
1. Set the **Shell** project as **StartUp Project**. 2. Compile and Run the Application (**F5**).	• Run the application.	
3. Show the application.	• The application consists of two **Business Modules**. Business modules are distinct deployment units of a Composite UI Application Block application that contain business logic elements. SCSF allows loading modules specified in a **Profile Catalog** file. In this file, you can add different roles for each module. • You can see the "**Dump WorkItem**" and "**Show News**" buttons in the Main Menu Strip. These items are added when **CAB** loads the **Notification** module. • You can also see two workspaces. An **OutlookBarWorkspace** on left side and a **DockPanelWorkspace** on right side. Each workspace shows views in different ways. Workspaces are components that encapsulate a particular visual layout of controls and **SmartParts**. • The **Notification** module loads its two views in the right workspace and the **Stocks** module in the left one.	

4.	Show the right workspace and its SmartParts.	• **Smartparts** are data views such as a control, a Windows Form, or a wizard page. In the right workspace you can see two SmartParts: **News** on the left and **Alerts** on the right. The **DockPanelWorkspace** can show SmartParts in two different **Docking Types**: ○ **TaskView,** like the **Alerts** view. ○ **Document,** like the **News** view. • A **SmartPartInfo** is a piece of information about a SmartPart that a workspace can use, such as the title of the SmartPart. If we click in the "Change SmartPartInfo" button, the title of the view is changed. That is because when you press that button, the presenter of the view tells the DockPanelWorkspace to apply a new **SmartPartInfo.** • Click in the "Close View Programatically" button in the **News** smartpart. See how the SmartPart is closed by its presenter.	
5.	Show the left workspace and its SmartParts.	• In the left workspace you can see an **OutlookBarWorkspace.** This workspace allows you switch the views by clicking in the button bellow**.** • Also you can click in the little arrow bellow and select the "**Show More Buttons**" or "**Show Fewer Buttons**" options if you have to many buttons and you want to hide them.	

6. Show the BuyStock view.	• Now you can see the **Reports** view but if I click in the **Stocks** button you can see the **BuyStocks** view • In the Buy Stock view select one option in the combo box (for example MSFT) and then click in "**Buy**" button. • You can see a Message Box and the text "*Alert for MSFT*" in the **Alerts** view. This is achieved by **EventBroker**. This system allows you publish and subscribe to events in a loosely coupling way. • The **BuyStock** and **Alert** views are in different modules and they doesn't have reference each other.	
7. Go to the "C:\temp" directory. 8. Open the "log.txt" file. 9. Show the application log.	• Every time that the Buy button of the **BuyStock** view is clicked, the **Logging Service** is called, which logs the operation in a log file. • A Service is a supporting class that provides functionality to other components in a loosely coupled way. • Services are singletons that can be injected using the Dependency Injection pattern and live in the Service collection of **WorkItem**. • A **WorkItem** is a run-time container of the components and services that are collaborating to fulfill a use case.	

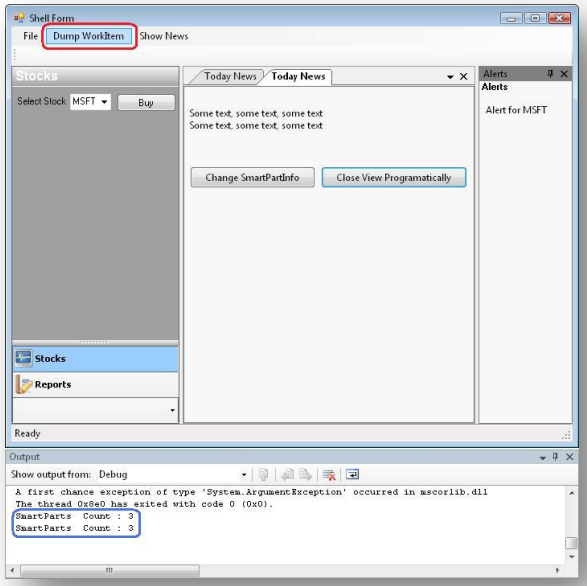
10. Show the "**Show News**" button in the Main Menu Strip.

- If the "**Show News**" button in the Main Menu Strip is clicked, a new **News** view appears in the right Workspace. This is achieved by **Commands**.
- You can use Command to bind an **UIElement** event to more than one command handler and a single command handler to multiple **UIElements** in a loosely coupling way.



11. Maximize Visual Studio.
12. Restore the **DemoApp**.
13. Make sure that the **Output** view of Visual Studio can be seen.

- When the other button is clicked (the "**Dump WorkItem**" button), you can see in the **Output** view of Visual Studio the text "*SmartParts Count: 3*". This represents the count of Smartparts that the module's WorkItem has (views in the left workspace).
- This also executes a **Command** that can be used to debug our application.



Summary

Now you have minimum knowledge about the main features of SCSF. You can deepen your knowledge by reading the documentation, by doing the Hand-On-Labs and by reviewing the Quickstars and the Reference Implementation.

Useful Links

- **Hand-On-Labs**
  - http://www.codeplex.com/smartclient/Release/ProjectReleases.aspx?ReleaseId=6357
- **SC SF Knowledge Base**
  - http://www.codeplex.com/smartclient/Wiki/View.aspx?title=SCSF%20Knowledge%20Base&referringTitle=Home

- **SCSF Community Site**
  - http://www.codeplex.com/smartclient
- **SCSF Contrib**
  - http://www.codeplex.com/scsfcontrib