ENOVIA SmarTeam

SmarTeam Visual Components Customization Guide

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Part No: VCT-I1-200010

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Chapter 1: Overview

SmarTeam Visual Components provides you with the building blocks to customize the way that SmarTeam components are displayed. The customization of Visual Components is usually performed by an Adminstrator/Implementer who writes codes and needs to work with customization of the application.

Customizable Features

SmarTeam Visual Component Customization, enables you to customize the following SmarTeam Web components:

- Login
- Profile Card
- Object Grid
- Object Tree
- SmartBox
- Lifecycle Visual Component

Internet Site

You are highly recommended to frequently visit our website for the latest updates and plug-in products, including the latest Service Packs, Program Directory (Release Notes), Hotfixes and technical support at http://support.smarteam.com/.

In addition, you will also be able to view any installation known issues.

Chapter 2: Setup

This chapter describes the SmarTeam Visual Components (VC) installation and setup processes.

Prerequisites

To use the SmarTeam Visual Components, you must have installed on your machine:

- SmarTeam – Foundation or SmarTeam – Editor, version V5R19 SP0 or later
- Microsoft Visual Studio 2008

Installation

Run the SmarTeam Visual Components SDK setup file from the SmarTeam Installation, DVD.

During the Visual Components installation process the VC Application folder is installed on the target machine. The SmarTeam Visual Components Application folder includes the following folders: Files, Pages, UI components.

Note: When SmarTeam Visual Components SDK is installed on a machine that includes SmarTeam, all .dll files are installed to the \Bin folder. If SmarTeam Visual Components SDK is installed on a machine that does not include SmarTeam, the VC.dll is not installed in the proper location, but is installed to **C:\ProgramFiles\SMARTEAM\VisualComponents\Bin** folder.

Post Installation Tasks

The Post Installation tasks for SmarTeam Visual Components consists of two alternative models for you to select in accord with your requirements.

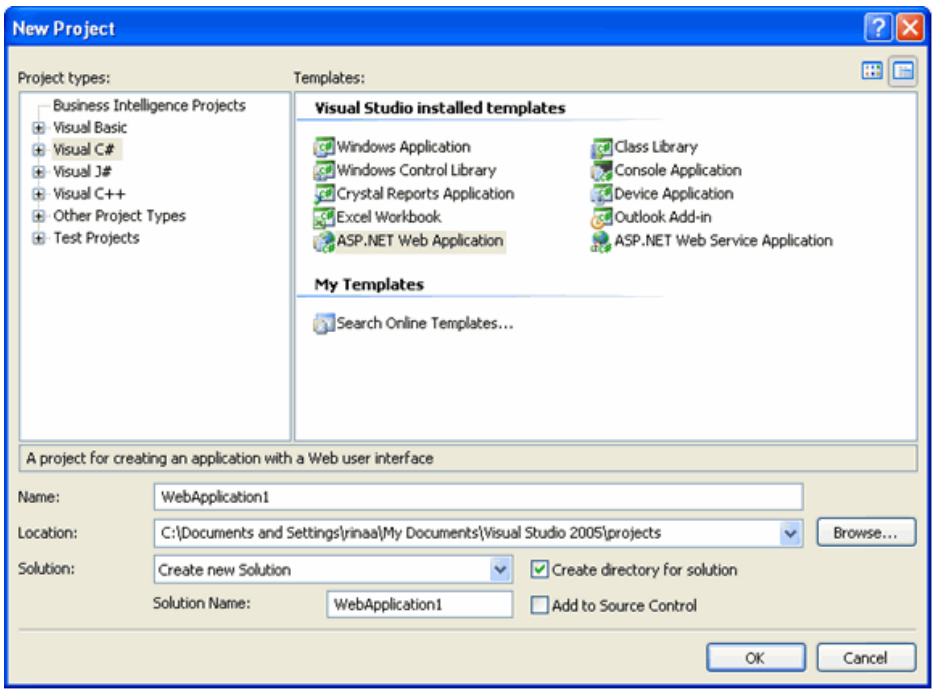
Note: The **JavaAppletLoadAttempts** key in the web.config file specifies how many times the application attempts to load Java Applets. If the number of attempts is insufficient (due to the defined JRE loading time), you are prompted with the message: "Java Applet failed to load. Please contact your System Administrator to redefine the number of attempts. The Administrator must increase the key's value in the web.config file. The key is located in the appSettings section of the web.config file in the SmarTeam – Web Editor or any Visual Components applications. For example: **<add key = "JavaAppletLoadAttempts" value = 10"/>**

Setting Up a SmarTeam Visual Components Web Application

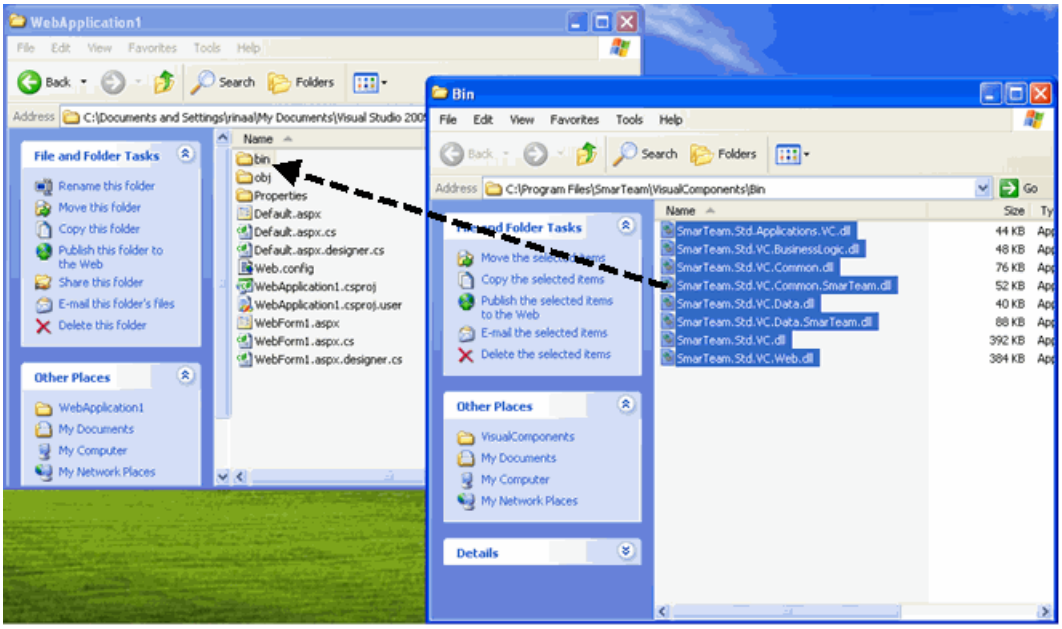
Note: If you are using the Visual Studio Web Site model please refer to Setting up a SmarTeam Visual Components Web Site .

To setup Visual Components Web Application:

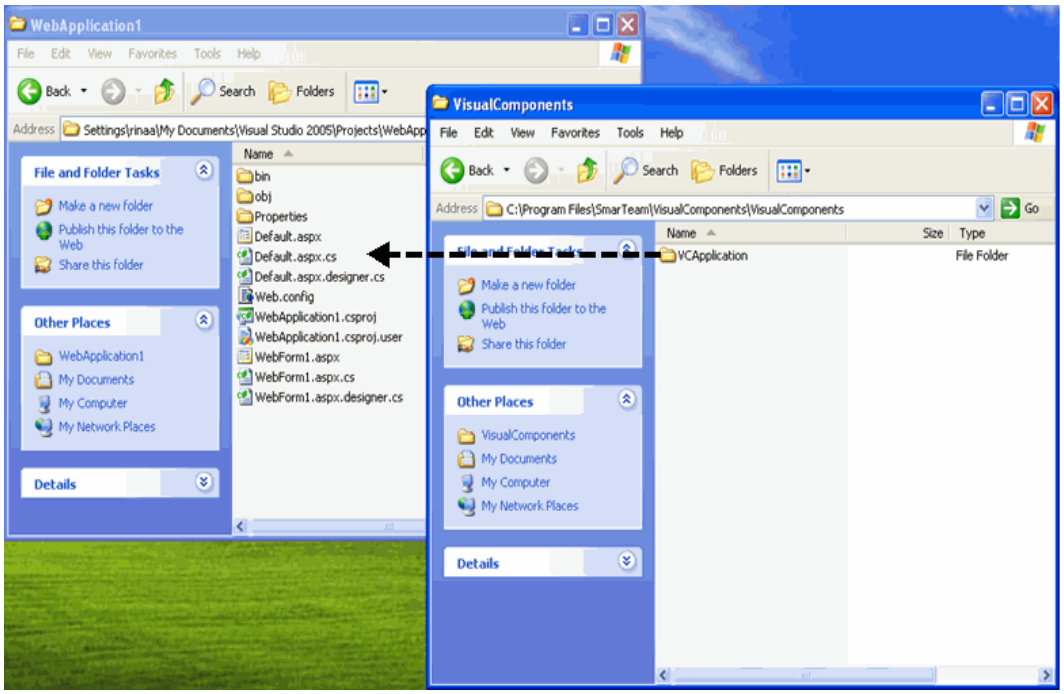
1. Open **Visual Studio**.
2. Open an existing Web Application or create a new one by selecting **File**, **New**, **Project**, **ASP.NET Web Application**.



3. In the New Project dialog:
   - Click **Browse** and navigate to the VC SDK Installation location (by default "C:\program files\SmarTeam\Visual Components"):
   - Copy all the .dll files in the Bin folder into your application's Bin folder

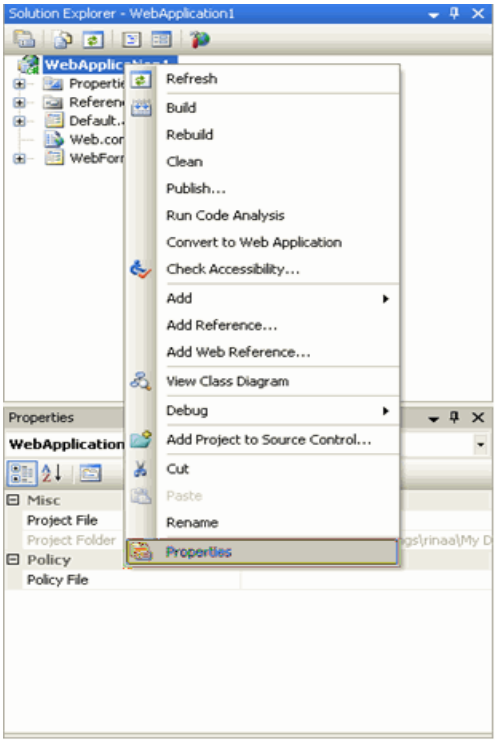


■ Copy the VCApplication folder into the root folder of your application

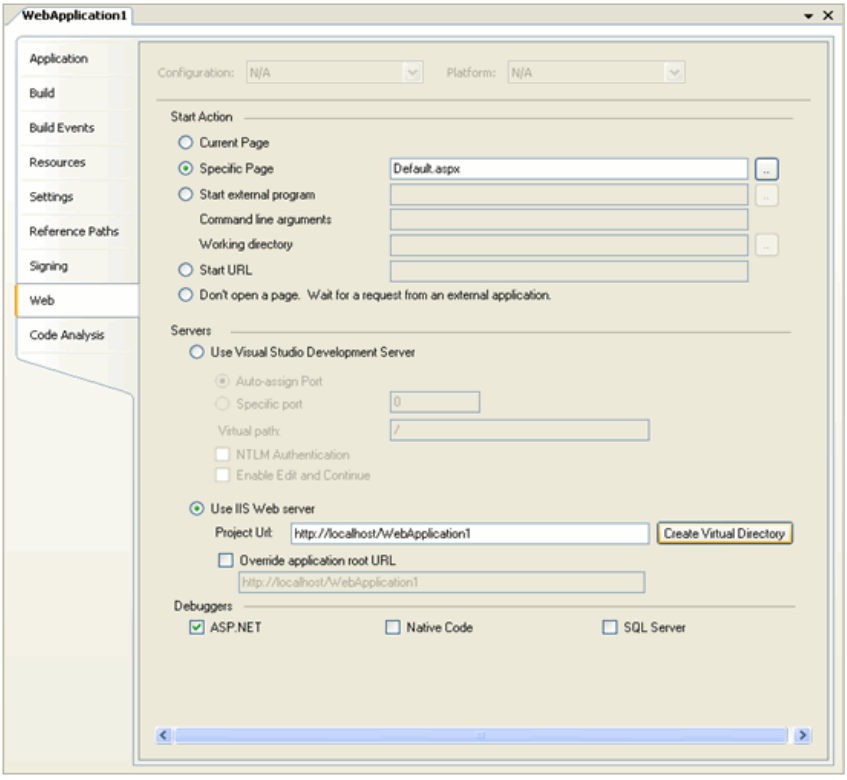


Note: You must use IIS for a Visual Components project instead of the internal Visual Studio development server.

4 Setup the IIS Virtual Directory for your project by right-clicking **Project** and select **Properties** from the popup menu.

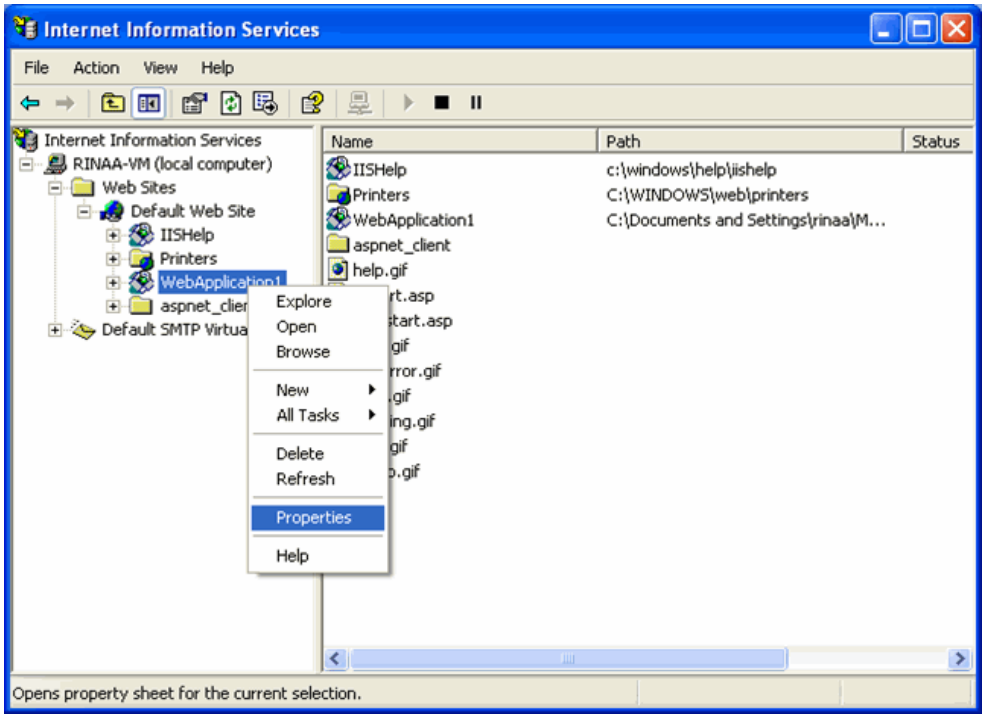


5 In the Web tab window, select the **Use IIS Web Server** radio box and click **Create Virtual Directory**.

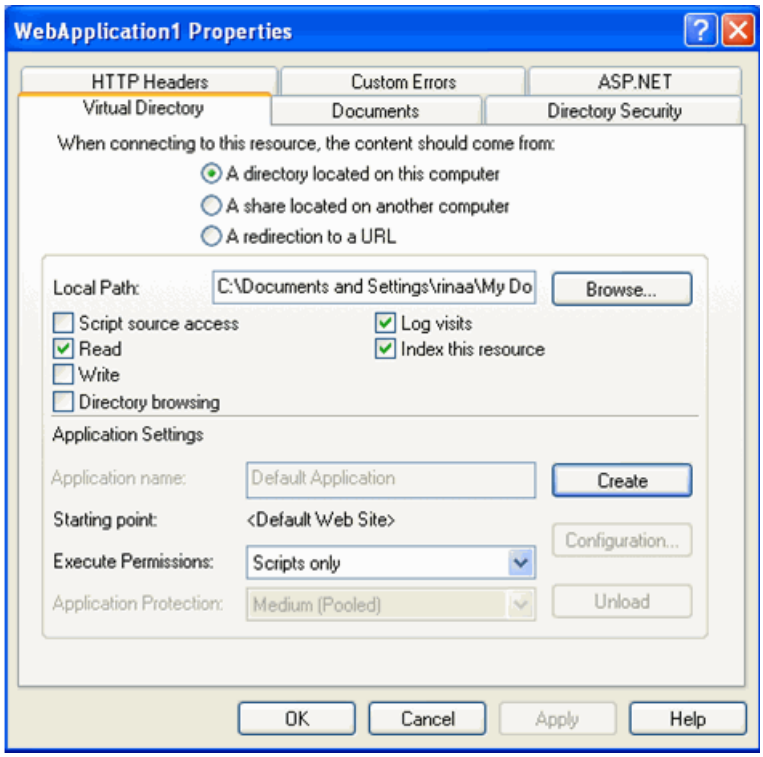


6 Open IIS management by selecting **Start**, **Control Panel**, **Administrative Tools**, **IIS**.

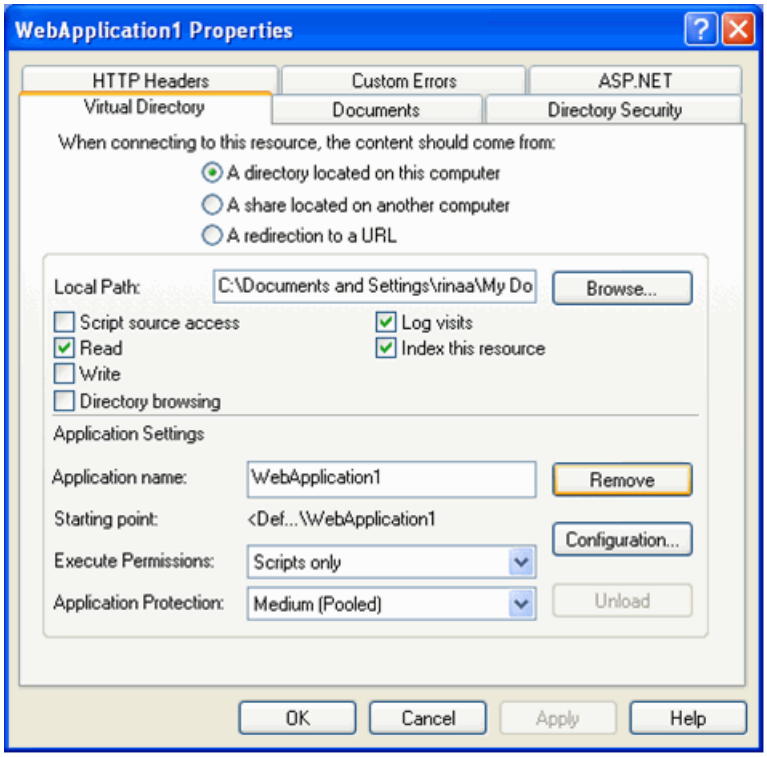
7 Right-click your web application and select **Properties** from the popup menu.



8 If the Application Name field is disabled and its value is Default Application, click **Create** to enable the application name field.

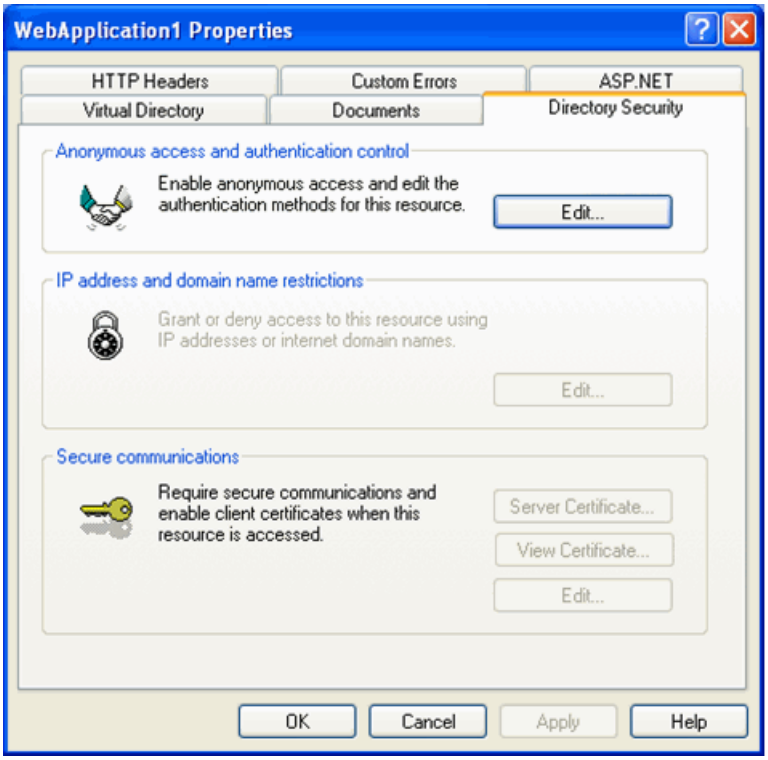


- Enter a filename in the Application name field
- Click **OK**

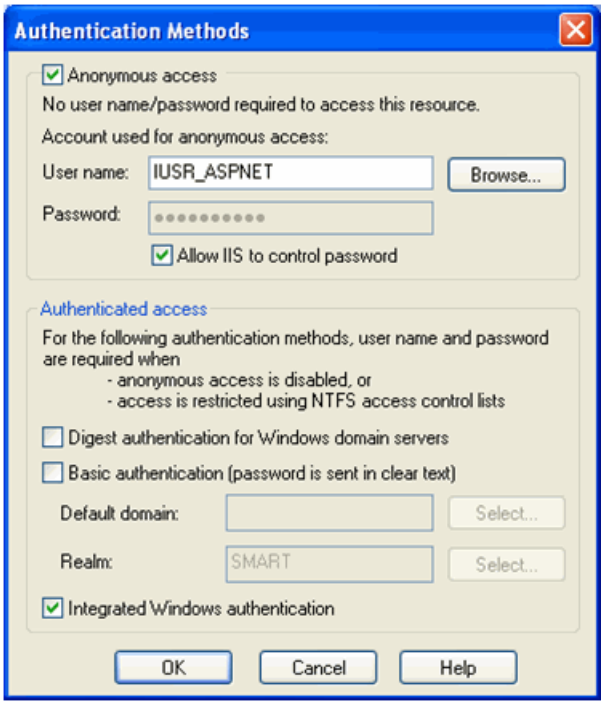

WebApplication1 Properties
HTTP Headers
Custom Errors
ASP.NET
Virtual Directory
Documents
Directory Security
When connecting to this resource, the content should come from:
A directory located on this computer
A share located on another computer
A redirection to a URL
Local Path:
C:\Documents and Settings\rinaa\My Do
Browse...
Script source access
Log visits
Read
Index this resource
Write
Directory browsing
Application Settings
Application name:
WebApplication1
Remove
Starting point:
<Def...\WebApplication1
Configuration...
Execute Permissions:
Scripts only
Application Protection:
Medium (Pooled)
Unload
OK
Cancel
Apply
Help

9 If you want to be able to debug the project:

- Click **Directory Security** tab
- Click **Edit** in the Anonymous Access and Authentication Control pane.



- Verify that the Integrated Windows Authentication option is selected and click **OK**.



10 Assign the web application to an existing application pool or create one.

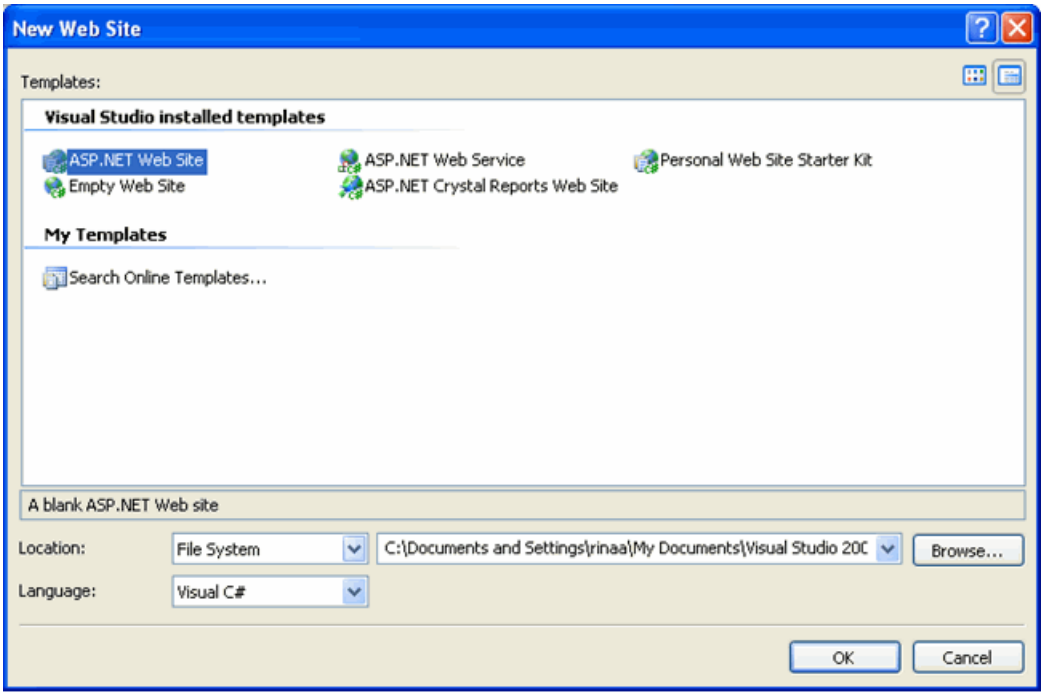
For additional information about Assigning Web Applications to a Application Pool and Creating Application Pools, refer to the Microsoft© websites: Assigning Web Applications to Pool and Creating Application Pools.

Setting Up a SmarTeam Visual Components Web Site

To setup a Visual Components web site:

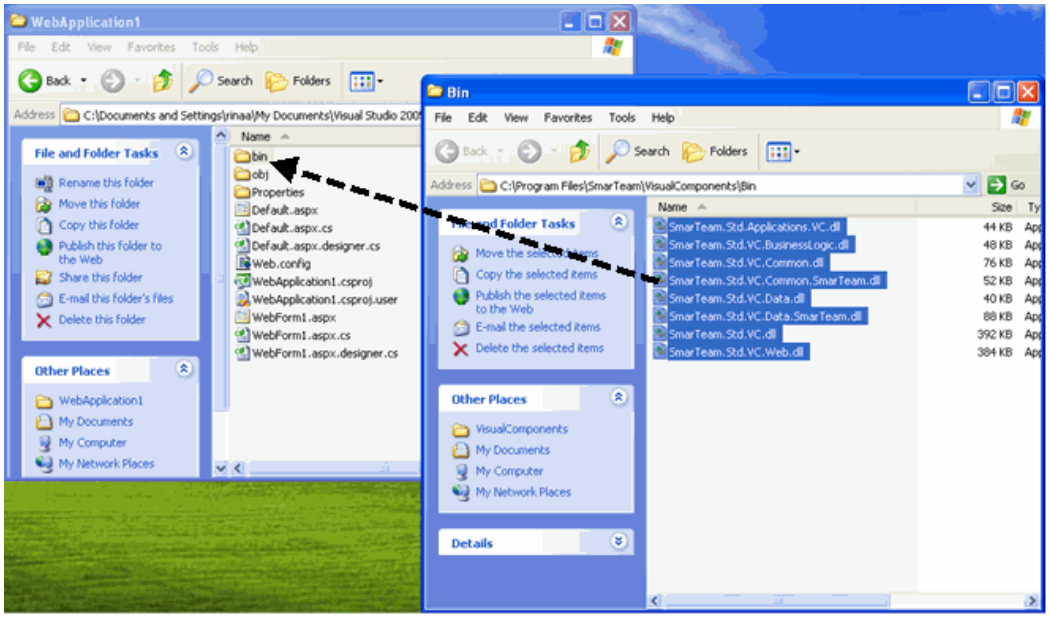
1 Open **Visual Studio**.

2 Open an existing web site or create a new one (File, New, Web Site).

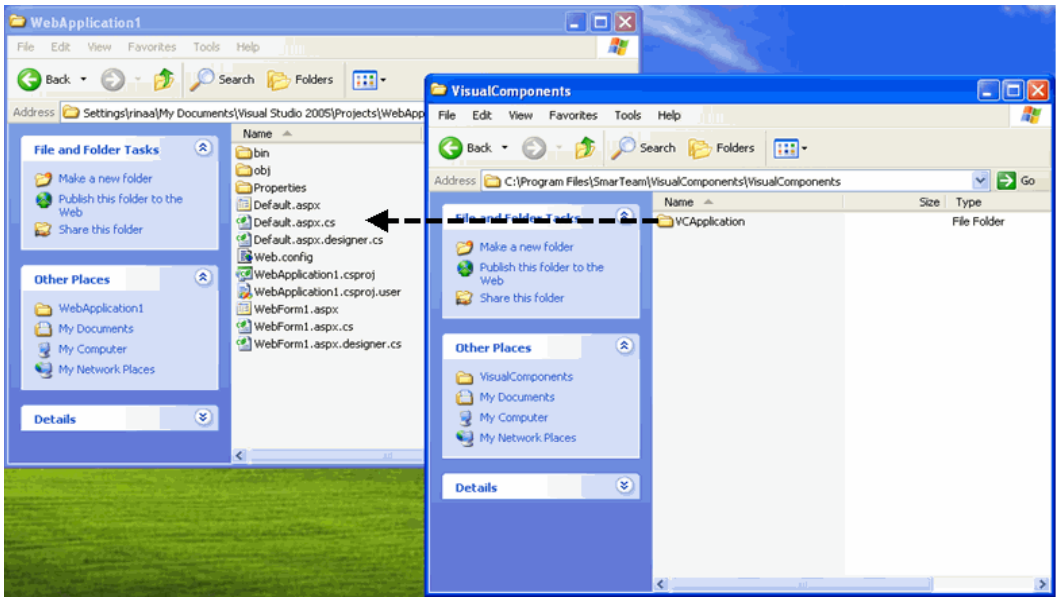


3 Click Browse:

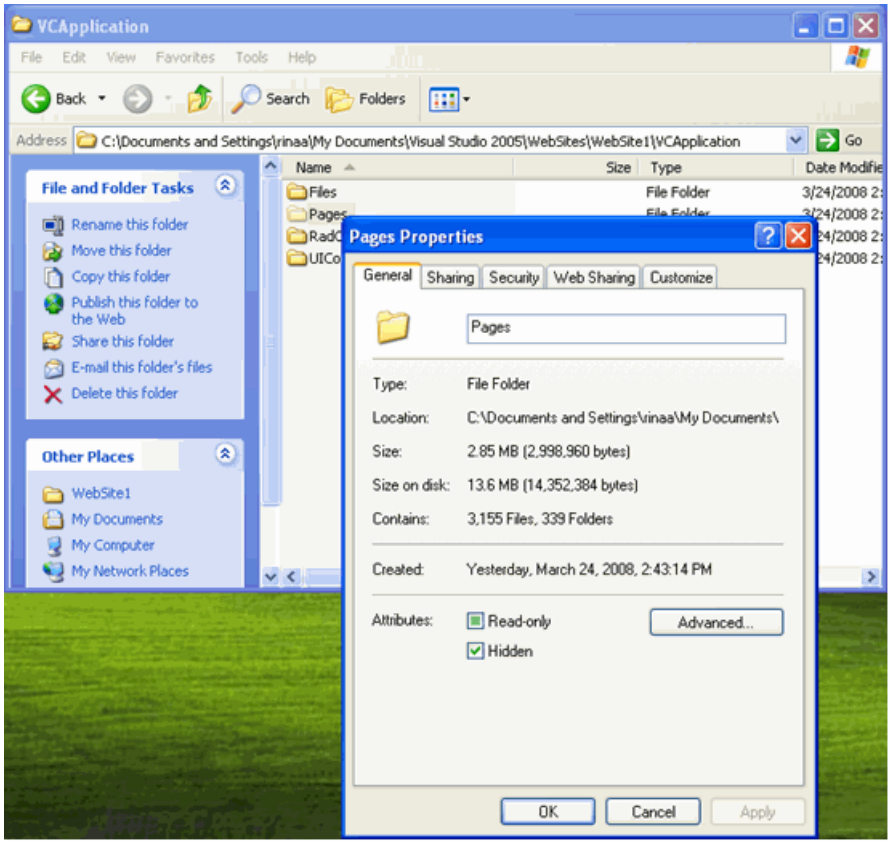
- Navigate to the Visual Components Installation location (the default is C:\program files\SmarTeam\Visual Components)
- Copy all the .dll files in the Bin folder into your applications Bin folder



■ Copy the VCApplication folder into the root folder of your application.



■ Navigate to the **Pages** folder (under<your web site>\VCApplication) and select it (and all the files and folders in it) as **Hidden**.



Note: In the Visual Studio Web Site model, no project file exists, so any file under the root directory is automatically part of the site. Visual Studio attempts to compile the aspx files under the **Pages** folder but fails because the **codebehind** files are missing. Marking the folder **Hidden** solves this issue.

Chapter 3: Using Visual Components

This chapter describes the SmarTeam Visual Components features:

- Login
- Profile Card
- Object Grid
- Object Tree
- SmartBox
- Lifecycle Visual Component

For details about how to customize SmarTeam Visual Components programmatically, refer to the SmarTeam Visual Components SDK API documentation.

Login

The SmarTeam Login Visual Components, enables the system administrator/implementer to authenticate to the SmarTeam application and control the appearance of the login process. The system administrator/implementer can customize the appearance of the Login page by setting colors, logo and custom skin of the login page. Also, the system administrator/implementer can determine whether to work in Single Sign-on (SSO) mode or whether to apply the custom encrypted and decoded mechanism.

The Login component consists of three modes:

- Login mode
- Change password
- Select Environment mode

Login Mode

In the Login mode, you can login to the system, change passwords and change your working environment (database and vault server) with one operation.

User Credentials

The Login component has place holders that capture the User name and Password. The Password validation rules must be based on Administrator settings and the Password field encryption.

Connect to Last Environment

Selecting the **Connect to Last Environment** checkbox specifies to the system to connect to the system using the last database and vault settings. Clearing the checkbox opens two additional dropdown list for you to select new settings:

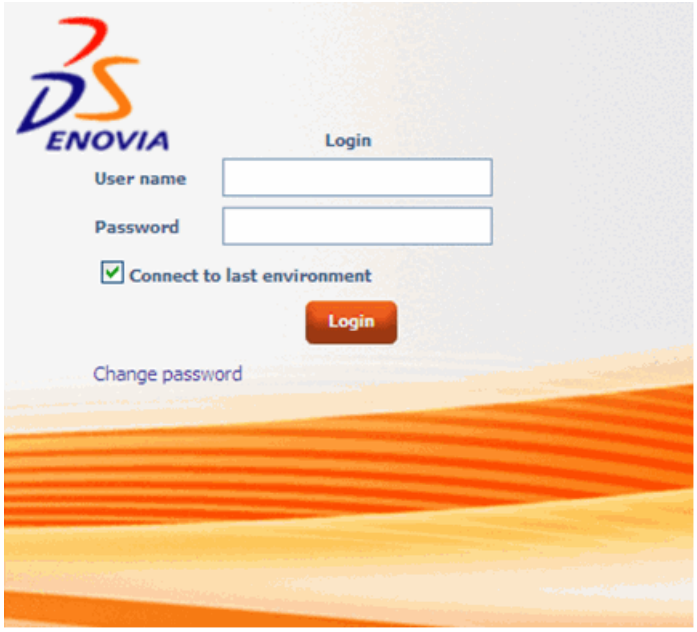
- Database- Enables you to select from the available databases list
- Vault - For each database you select, you can select the vault attached to the database

Logging In

Logging in triggers SmarTeam authentication. If the authentication fails, you receive a message to enter a valid User name and/or Password. In cases where your user password has expired, you will be prompted to change your password, see Change Password Mode for details.

Change Password Link

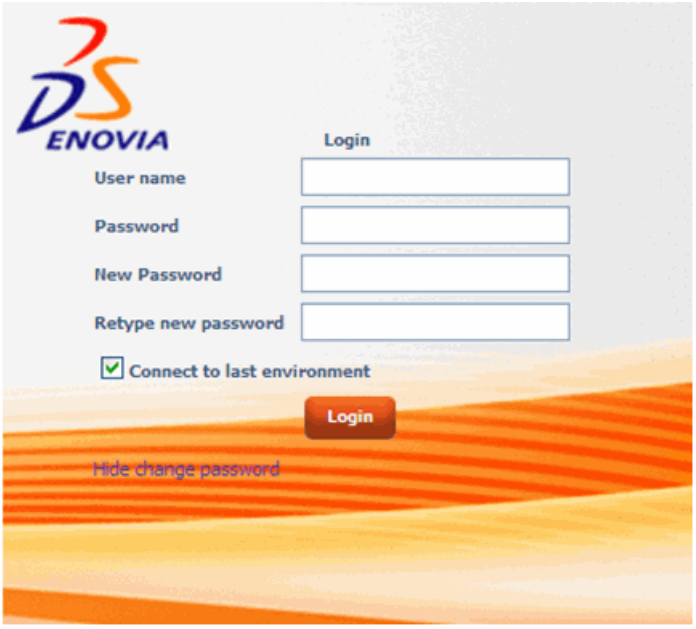
Clicking this link causes the system to open the Change Password dialog box. See Change Password Mode for details about changing your password.



Change Password Mode

The Change Password Mode enables the system administrator/implementer to include change password functionality that opens after you fail Login authentication. This mode consists of a dialog with these fields:

- **User Name** - Populate this field with your user name
- **Old Password** - Populate this field with your current password. This field must be encrypted
- **New Password** - Populate this field with your new password string. This field must be encrypted
- **Retype New Password** - You must reenter the new password string in this field to confirm it. This field must be encrypted



Select Environment Mode

Select Environment mode enables the system administrator/implementer to include change environment functionality after entering your initial login. This mode consists of two dialogs with the fields:

- **User Name** - Populate this field with your user name
- **Password** - Populate this field with your password
- **Database** - Select an available database from the dropdown list

Select Environment dialog:

- **Database** - Select an available database from the dropdown list

- **Vault** - Select the vault attached to the selected database.
- Click **OK**.

Refer to the **Visual Components. chm** for details and code samples on how to use the Login Visual Component.

Profile Card

The SmarTeam Profile Card Visual Component, enables you to display the data of an object. The object can also have a link object. For example, when you select an object in a tree, the object is linked to the leading object by a link object. The Profile Card has the functionality to also display the data of the link object.

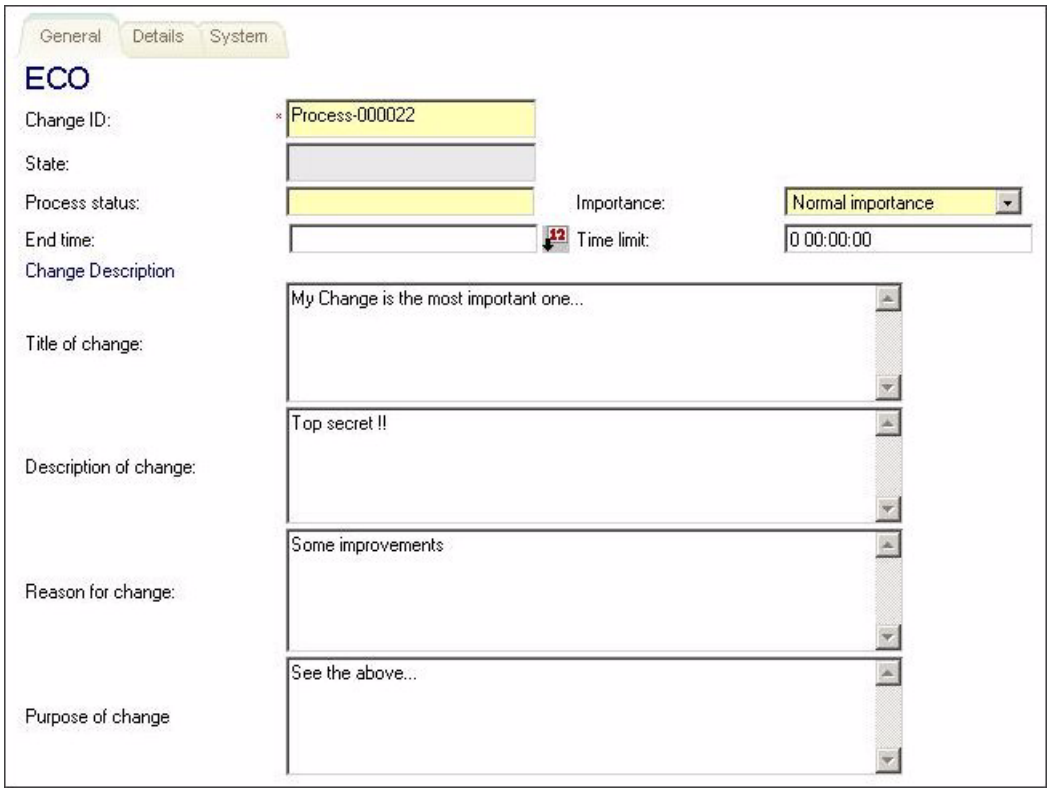
You can define the structure of a specific profile card for a certain class in the Web Form Designer (an application used to determine the structure of a Profile Card). With this application you can build any card you need, for each super-class. When accessed the Profile Card reads the data and displays the data according to the elements you include in its visual and functional design.

This section describes the basic procedures used to customize a Profile Card and includes samples of the display modes you can customize:

- Update
- Add
- Query
- View

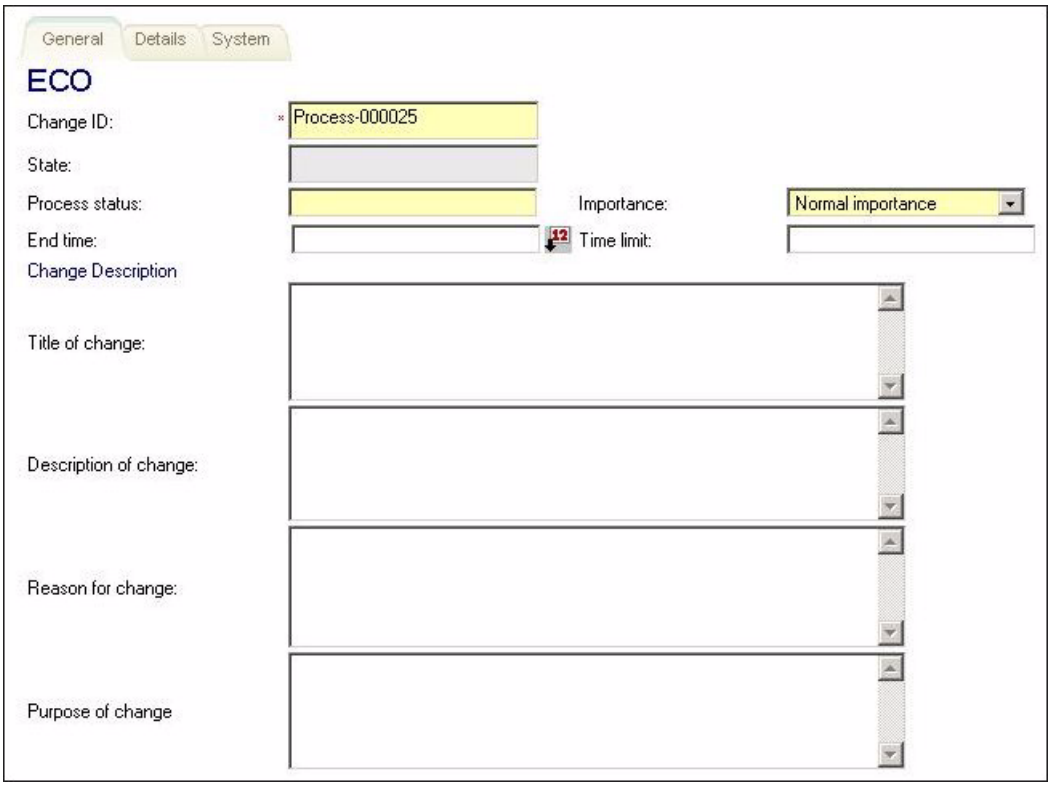
Update Mode

Update mode displays and enables you to edit the values of an existing SmarTeam object. To finish the update, you must save the modified values manually.



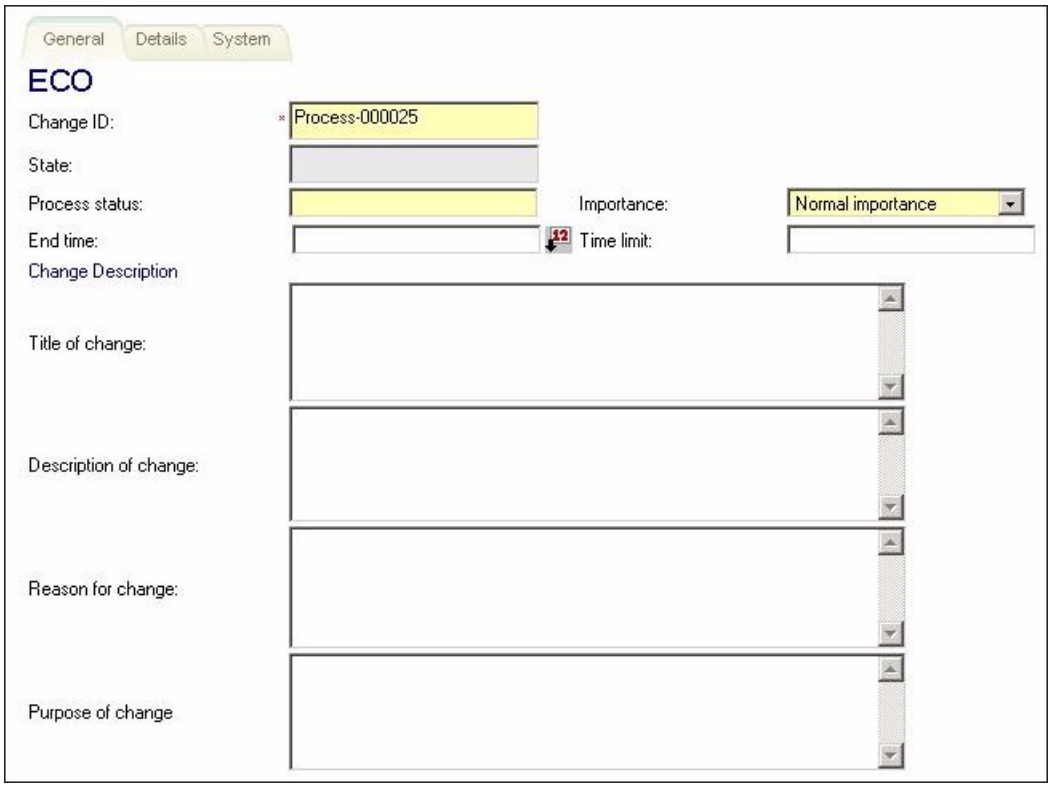
Add Mode

Add mode enables you to create a new SmarTeam object of a specified class. The profile card is loaded with the default values for each field, which can be edited by the user. To finish creating the SmarTeam object, you must save the new object manually..



Query Mode

Query mode enables you to customize the elements that will define your queries. All fields are read/write and empty by default.



View Mode

View mode enables you to customize a Profile Card view with special application tabs in read-only mode, for example:

- Note
- Attached objects (Process)
- Flowchart (Process)
- History

Refer to the **Visual Components. chm** for details and code samples on how to use the Profile Card Visual Component.

Object Grid

The SmarTeam Object Grid Visual Component provides you with the functionality to design grid views according to your needs. You can determine a grid view's size, number of columns/rows, sorting conventions, paging, etc. You can design it to include single or multiple checkbox selection, type of information to appear, Click-events, etc.

Designing Grid views with SmarTeam Visual Components requires you to add a display attribute (column display), any custom attributes you need and a relevant data source to the page. Refer to the **Visual Components. chm** for details and code samples of how to use the Object Grid Visual Component.

Object Tree

The SmarTeam Object Tree Visual Components enables you to display SmarTeam objects in a hierarchical view.

Many objects in the system are linked via different types of links, the ObjectTree is used to display the relationship between the objects in a convenient and configurable way. The ObjectTree is also used as a selection method. It can display a checkbox next to any item that you can select/clear and display a list of all the selected items. Define a certain view built from the root objects and include the links that will be displayed for each super-class.

Customizing a ObjectTree view requires:

- **Nodes display attribute** - Determines what object attributes data to display in the Object Tree
- **Hierarchical view** - Object that defines which links should be used in the ObjectTree. Since the DataSource is responsible for supplying the data this object exists in the Data Source.
  - **Predefined view** - A Hierarchical view that is defined for the SmarTeam – Web Editor Navigation Pane.This view is defined in the Preferences feature. It also include the System Views (e.g., Desktop Objects, Product View).
- **Data source** - Supplies data to the Object Tree

Refer to the **Visual Components. chm** for details and code samples on how to use the Object Tree Visual Component.

SmartBox

The SmarTeam SmartBox Visual Component, SmartBox component enables you to customize how SmartBox folder objects (e.g., Inbox, Sent, Completed) will be displayed. You can add paging, sorting, Click Events, etc. Refer to the **Visual Components. chm** for details and code samples on how to use the SmartBox Visual Component.

Lifecycle Visual Component

Document Lifecycle Management

Lifecycle Visual Component enables you to perform any revision operation on an object and all its children simultaneously. For example, if you have an Engine that has many children, you can perform any revision operation (such as **Check In, Check Out, Release**) on the Engine together with all its components simultaneously.

As you revise a drawing or assembly, you can perform the following Lifecycle operations:

- Check out the file from the vault (using the **Check Out** option) in order to modify it and launch it in its original application. When a file is checked out of the vault, it can only be modified by the current user.
- Check in the object to the vault for safekeeping, using the **Check In** option. When an object is checked in to the vault, it is made publicly available to other users.
- Copy a file to your working directory in order to view it. In this case, you cannot modify the file, and the original file remains in the vault. This option is helpful when another user is modifying a file, but you want to view it from a working directory.
- Release the object by placing its file in the **Released** vault, using the **Release** option. The object can then be checked out for modification, using the **New Release** option, but only after creating a new revision.
- Obsolete the object by placing its file in the **Obsolete** vault, using the **Obsolete** option. The Obsolete object can no longer be modified.
- Undo Check out enables you to change your mind and cancel a Check out operation.

Document Lifecycle States

When a new object is created, it has the status **New**. Its file is not yet placed in the vault. When you perform a **Check In** operation on the object its file is then placed in the vault and cannot be modified until the object is checked out of the vault. Lifecycle management operations can now be applied to this object; after each Lifecycle operation, the object's status is changed. The table below lists all Lifecycle operations, the resulting state and a description of the state.

Lifecycle Options	Resultant State	Description
Open File – Opens a selected file.	Open File	It enables you to open a file in the native application, e.g. CATIA. You can modify, save or perform a Check in operation.
Copy File – Copies a selected file **Operation**: • No Operation • Copy File **Actions**: Propagate Operation Propagate Settings Show Parents	Copy File	The copied file is placed in a local directory.
Check In – checks in a new object and places its file in the vault or places an object that is checked out (being modified) back in the vault. **Operation**: • No Operation • Check In **Actions**: • Propagate Operation • Propagate Settings • Show Parents of Previous Revision • Update Parent with New Revision	Checked In	The object's file is placed in the vault, and cannot be modified but may be accessed. You can copy it to view it but not modify it. In order to change a file, a Lifecycle Visual Components user must check the object out of the vault.
Check Out – checks out a Checked In object from the vault. **Operation**: • No Operation • Check Out • Copy File **Actions**: • Show Relatd Objects being Modified • Replace with Selected Revision • Switch to Latest	Checked Out	This state is assigned to an object that has been checked out. The object's file is undergoing changes and is in a user's work directory. No other user can currently modify the file but other users can view the file of the parent revision. After the object is checked back in or released, the state is changed to **Checked In** or **Released**.

Lifecycle Options	Resultant State	Description
• **New Release** – makes a new copy of the Released object placed in the Released vault. The resultant object is a new revision of the source object. **Operation**: • No Operation • New Release • Copy File **Actions**: • Show Relatd Objects being Modified • Replace with Selected Revision • Switch to Latest • Update Parent with New Revision	New Release	After a document has been released to the next production stage, it may be required to carry out additional modifications to the document, even though it has been released. In this case, a document assigned a **Released** status can only be taken out of the vault by carrying out a **New Release** operation. This operation will automatically create a new revision for the document.
Release – transfers an object to the **Released** state. **Operation**: • No Operation • Release **Actions**: • Propagate Operation • Propagate Settings • Show Parents of Previous Revision	Released	After a stage of development is completed, the object's file is saved in the vault for released files.
Obsolete – transfers an object to the **Obsolete** state. **Operation**: No Operation Obsolete **Actions**: Propagate Operation Propagate Settings Show Parents	Obsolete	The object's file can be accessed by any Lifecycle Visual Components user but cannot be changed. It is stored in a vault of inactive files.
Undo Check Out - cancels check out and transfers a object back into the vault.	Undo Check Out	If you perform a Check Out operation on a object unintended, this option enables you to undo the check out and return the file to the vault.

Refer to the Visual Components. chm for details and code samples on how to use the Lifecycle Visual Component.

Managing a Document in a Lifecycle

This section provides operating instructions for managing a document Lifecycle Visual Components. The following steps are described:

- Copying a File
- Checking In a Document
- Checking Out a Document
- Undoing a Check Out
- Releasing a Document
- Creating a New Release
- Defining a Document as Obsolete

Copying a File

This operation enables you to copy a file to your working directory to view it. In this case, you cannot modify the file, and the original file remains in the vault. This option is helpful when another user is modifying a file, but you want to view it in the working directory.

To copy a File:

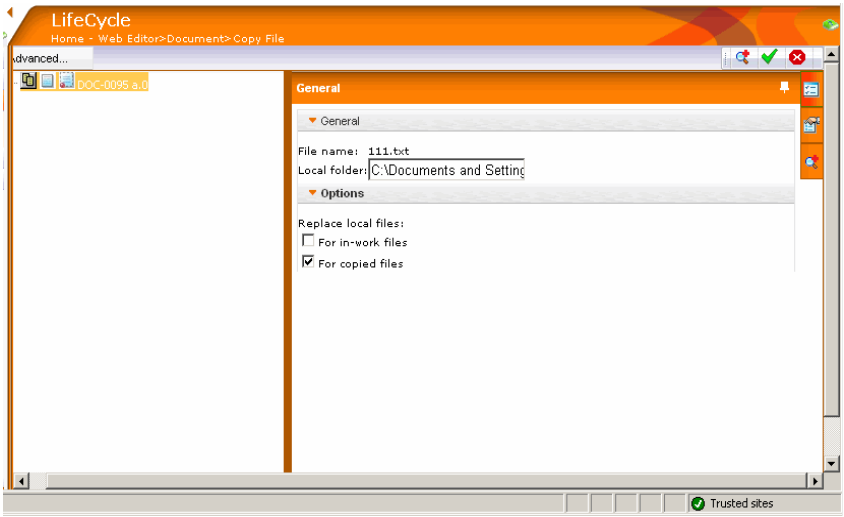
1. Select the document to display its profile card.
2. From the Lifecycle menu, select **Copy File**.

   The Copy File, Light Mode page appears.

   See Light Mode Check In Page and Fields for details of all the operations and fields on this page.
3. If you need to apply the operation to single or multiple selections with children, click to open the Check In window in Advanced Mode.

   See Advanced Mode Check In Page and Fields for details of all the operations and fields on this page.

Light Mode Copy File Page and Fields



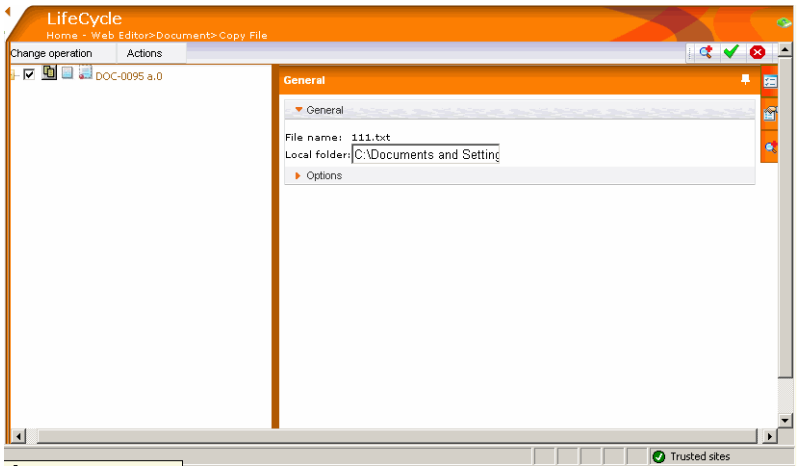
You can fill in the fields in the Light Mode Copy File page as follows:

1. Click the General tab to bring it forward:
   - In the **Comment** field, right-click, to enter any comments relating to this Copy File process
2. Click the **Options** tab:
   - Select or clear the Replace Local Files checkboxes:
     - **For in-work files**, select the checkbox to replace local files that were created in previous copy operations
     - **For copied files**, select the checkbox to replace files from previous copy operations
3. Click to evaluate the Copy File operation results and remain in the window.

   OR

   Click to perform the Copy File operation and exit the Copy File window.

Advanced Mode Copy File Page and Fields



Fill in the fields in the Advanced Settings Copy File page:

1. From the Change Operation combo box, select the operation to perform:
   - Set to **Copy File**: Select this option to copy file to you working directory
   - Set to **No Operation**: Select this option to perform no operation on the selected object
2. From the Actions combo box, select:
   - Propagate Operation to apply this operation to the entire document branch
   - Propagate Settings
   - Show Parents
3. In the **General** tab, the filename and the path to which the file was copied appears.
4. In the Options tab:
   - Select or clear the Replace Local Files checkboxes:
     - **For in-work files**, select the checkbox to replace local files that were created in previous copy file operations
     - **For copied files**, select the checkbox to replace files from previous copy file operations
5. Click to evaluate the Copy File operation results and remain in the window.

   OR

   Click to perform the Copy File operation and exit the Copy File window.

   The copied file is placed in a local directory.

Checking In a Document

After creating a new document, you will need to begin the revision process to protect it from modifications that cannot be tracked. Your first step in protecting a new document is to perform a **Check In** Lifecycle operation, checking the new document in to the SmarTeam vault.

The Check In operation can be applied to a new document or one that is currently being modified (after a Check Out or New Release operation).

To check a document into the SmarTeam vault:

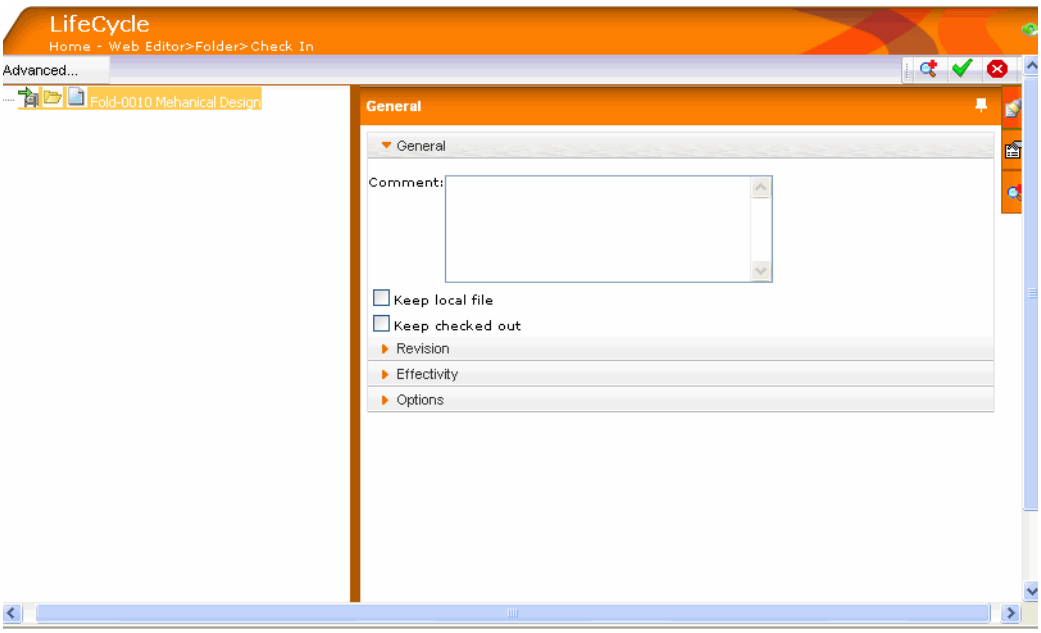
1. Select the document to display its profile card.
2. From the Lifecycle menu, select **Check In**.

   The Check In, Light Mode window appears.

   See Light Mode Check In Page and Fields for details of all the operations and fields on this page.
3. If you need to apply the operation to single or multiple selections with children, click to open the Check In window in Advanced Mode.

   See Advanced Mode Check In Page and Fields for details of all the operations and fields on this page.

Light Mode Check In Page and Fields



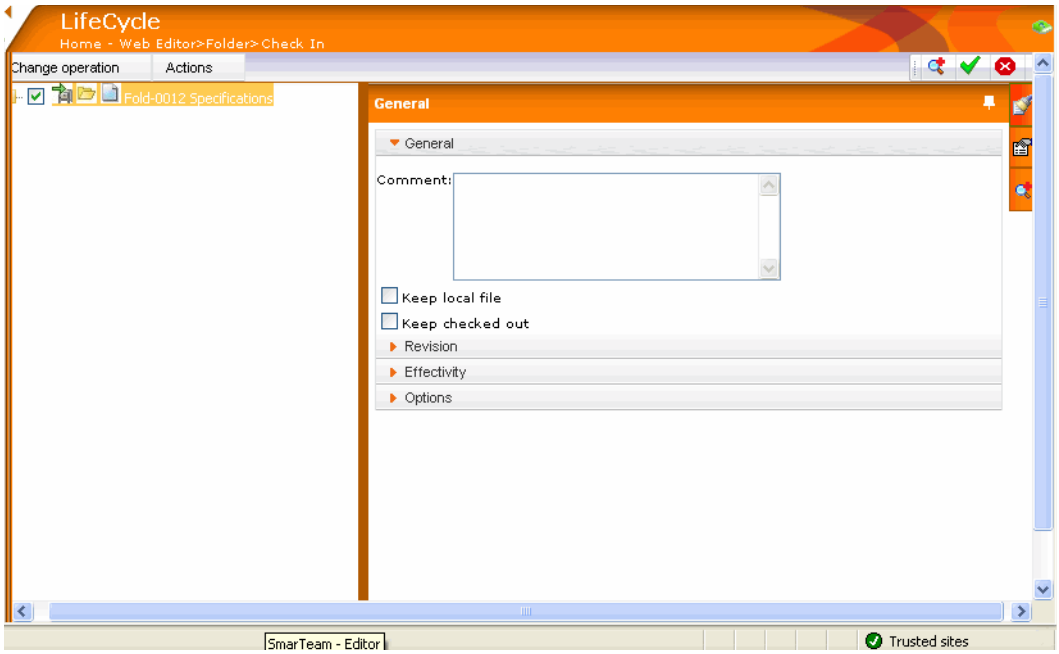
You can fill in the fields in the Light Mode Check In page as follows:

1. Click the General tab to bring it forward:
   - In the **Comment** field, right-click, to enter any comments relating to this Check In process
2. Select the **Keep Checked Out** option to keep the file checked out for modifications after performing the Check In operation.
3. Check the **Keep Local File** box to keep the file located in the working directory in read-only mode.
4. Click the **Revision** tab and select of the following options:
   - Current Revision
   - Replace Previous Revision
5. Click the **Effectivity** tab and perform the following:
   - **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
   - **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields
6. Click the **Options** tab and select or clear the Copy General Link checkbox.
7. Click to evaluate the Check In operation results and remain in the window.

   OR

   Click to perform the Check In operation and exit the Check In window.

Advanced Mode Check In Page and Fields



Fill in the fields in the Advanced Settings Check In page:

1. From the Change Operation combo box, select the operation to perform:
   - Set to **Check In**: Select this option to check the selected document into the vault
   - Set to **No Operation**: Select this option to perform no operation on the selected object
2. From the Actions combo box, select:
   - Propagate Operation to apply this operation to the entire document branch
   - Propagate Settings
   - Show Parents of Previous Revision
   - Update Parent with New Revision
3. In the **Comment** field, right-click to enter any comments relating to this Check In process.
4. Select the **Keep Checked Out** option to keep the file checked out for modifications after performing the Check Out operation.
5. Check the **Keep Local File** box to keep the file located in the working directory in read-only mode.
6. Click the **Effectivity** tab and perform the following:
   - **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
   - **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields
7. Click the **Options** tab and select or clear the Copy General Link checkbox.
8. Click to evaluate the Check In operation results and remain in the window.

   OR

   Click to perform the Check In operation and exit the Check In window.

The next time the document's profile card is displayed, its status is shown as Checked In in the state field.

Checking Out a Document

When a user needs to make modifications to a file, the document checked in to the vault must first be checked out of the vault.

To check a document out of the vault:

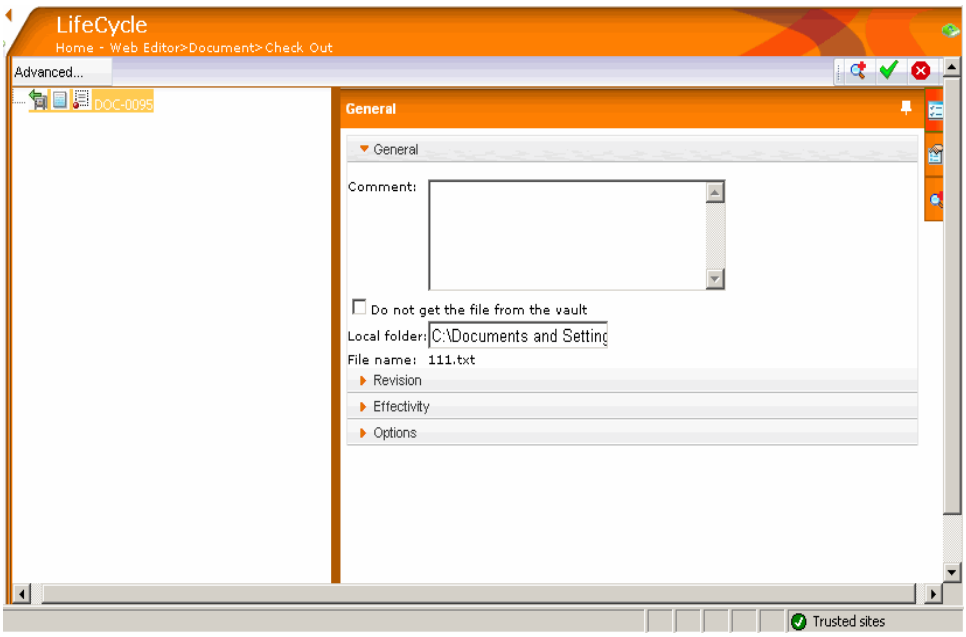
1. Select the document to display its profile card.
2. From the Lifecycle menu, select **Check Out**.

   The Check Out Light Mode page appears.

   See Light Mode Check Out Page and Fields for details of all the operations and fields on this page.
3. If you need to apply the operation to single or multiple selections with children, click to open the Check Out window in Advanced Mode.

   See Advanced Mode Check Out Page and Fields for details of all the operations and fields on this page.

Light Mode Check Out Page and Fields



Fill in the fields in the Light Mode Check Out page:

1. The **Local folder** field contains the directory path on your computer where the document's file is located after performing the Check Out operation.
2. In the **Comment** field, right-click to enter any comments relating to this Check Out process.
3. Select the **Do not get the file from the vault** check box to not Check Out file from the vault.
4. In the Revisions tab, select the checkbox to create a new branch.
5. Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

6 In the **Options** tab:

- Select or clear the **Copy General Link** checkbox
- Select or clear the Replace Local Files checkboxes:
  - **For in-work files**, select the checkbox to replace local files that were created in previous Check Out or New Release operations
  - **For copied files**, select the checkbox to replace files from previous copy operations

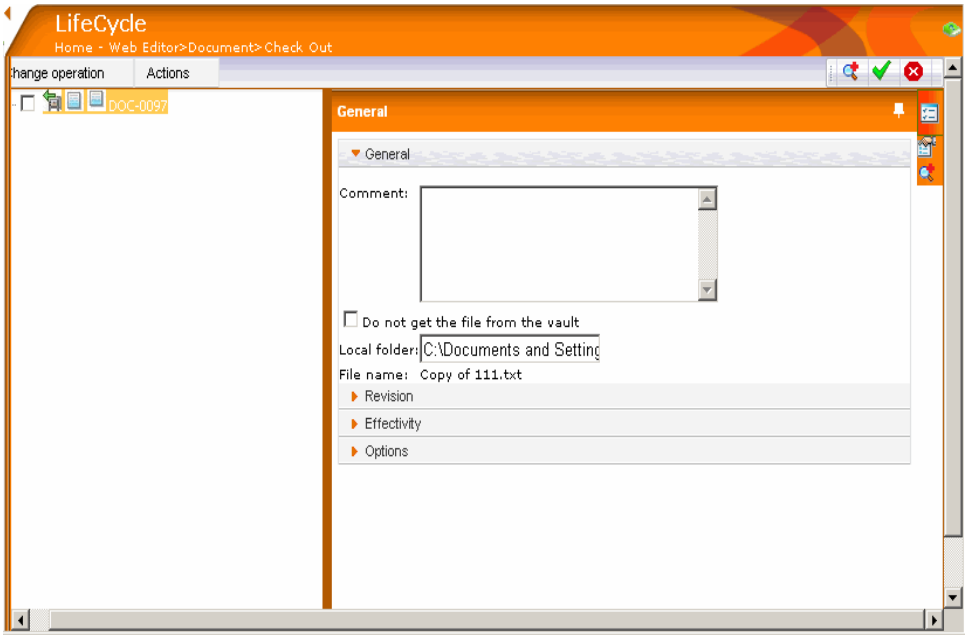
7 Click to evaluate the Check Out operation results and remain in the window.

OR

Click to perform the Check Out operation and exit the Check In window.

The next time the document's profile card is displayed, its status is shown as Checked Out in the state field.

Advanced Mode Check Out Page and Fields



Fill in the fields in the Advanced Settings Check Out page:

1 From the Change Operation combo box, select the action to perform:

- Set to **Check Out** - Select this option to check the selected document out of the vault
- Set to **Copy File** - Select this option to copy the file of a document to your working directory without checking out the document from the vault. You can view the document in your working directory, but you cannot modify it
- Set to **No Operation** - Select this option to perform no operation on the selected document

2 From the Actions combo box, select the action to perform:

- Propagate Operation
- Propagate Settings
- Switch to latest
- Replace with selected Revision
- Show Parents

3 In the Revisions tab, select the checkbox to create a new branch.

4 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

5 In the **Options** tab:

- Select or clear the **Copy General Link** checkbox
- Select or clear Replace Local Files:
  - **For in-work files**, select the checkbox to replace local files that were created in previous Check Out or New Release operations
  - **For copied files**, select the checkbox to replace files from previous copy operations

6 Click to evaluate the Check Out operation results and remain in the window.

OR

Click to perform the Check Out operation and exit the Check Out window.

The next time the document's profile card is displayed, its status is shown as Checked Out in the state field.

Undoing a Check Out

If you mistakenly perform a Check Out operation and want to cancel the operation, this option enables you to reverse the process and transfer the file back into the vault. When you click the Undo Check Out option, a warning message appears:

```
Verify the Undo Check Out operation for <DocumentID - Description>
```

If the object has a hierarchical structure (with linked children) this message also appears:

```
<DocumentID - Description> - is referenced as parent in the class Document
Tree. Do you want to continue?
```

```
A checkbox, Delete attached file appears if a file is attached to the
object
```

The default checkbox value = Yes.

Releasing a Document

After a document has been modified, authorization will eventually be received to release it to production (or similar) for the next development phase. This next step will assign the document to the SmarTeam **Release** vault, placing the object in a **Released** state. You can perform a **Release** operation on a document that is assigned one of the following states:

- New

- Checked In
- Checked Out

After a document is placed in a **Released** state, its security is ensured. Modifications can only be carried out on the **Released** document by checking it out as a **New Release** with a new revision number.

After documents have been saved to the Release vault they can only be changed after a New Release operation has been performed.

> **Note:** To release a document, it must have the status **Checked In, Checked Out** or **New**.

To release a document to the SmarTeam vault:

1. Select the document to display its profile card.
2. From the Lifecycle menu, select

.

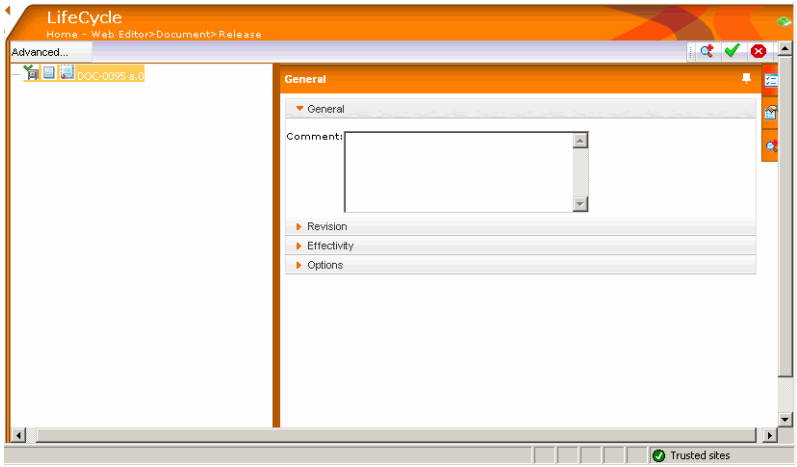
   The Release, Light Mode window appears.

   See Light Mode Release Page and Fields for details of all the operations and fields on this page.
3. If you need to apply the operation to single or multiple selections with children, click

to open the Release window in Advanced Mode.

   See Advanced Mode Release Page and Fields for details of all the operations and fields on this page.

Light Mode Release Page and Fields



You can fill in the fields in the Light Mode Release page as follows:

1. Click the General tab to bring it forward:
   - In the **Comment** field, right-click, to enter any comments relating to this Release process
2. Select the **Keep Checked Out** option to keep the file checked out for modifications after performing the Release operation
3. Check the **Keep Local File** box to keep the file located in the working directory in read-only mode.

4 Click the **Revision** tab and the Current Revision appears automatically selected

5 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.

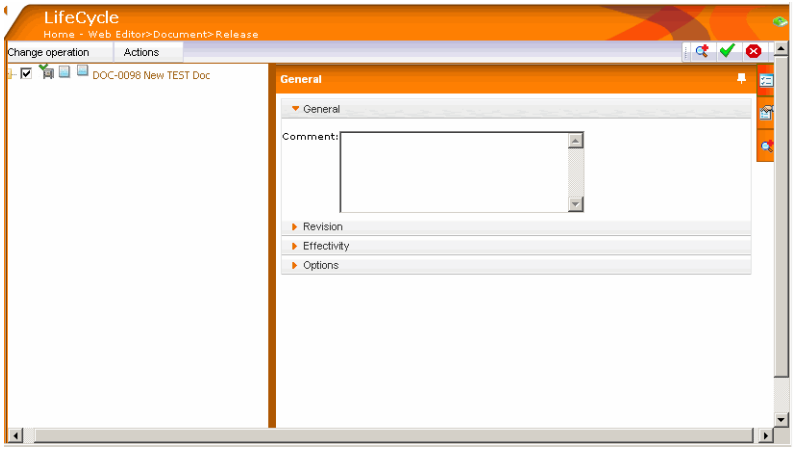
6 Click the **Options** tab and select or clear the Copy General Link checkbox.

7 Click to evaluate the Check In operation results and remain in the window.

OR

Click to perform the Check In operation and exit the Check In window.

Advanced Mode Release Page and Fields



Fill in the fields in the Advanced Settings Release page:

1 From the Change Operation combo box, select the operation to perform:

- Set to **Release** - Select this option to copy the file to the Release vault. You can modify the document by checking it out as a New Release with a new revision number
- Set to **No Operation** - Select this option to perform no operation on the selected document

2 In the Actions combo box, select the action to perform:

- Propagate Operation
- Propagate Settings
- Show Parents

3 In the **Comment** field, right-click, to enter any comments relating to this Release process.

4 Select the **Keep Checked Out** option to keep the file checked out for modifications after performing the Release operation

5 Check the **Keep Local File** box to keep the file located in the working directory in read-only mode.

6 Click the **Revision** tab and the Current Revision appears automatically selected.

7 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.

8 Click the **Options** tab and select or clear the Copy General Link checkbox.

9 Click to evaluate the Release operation results and remain in the window.

OR

Click to perform the Release operation and exit the Release window.

Creating a New Release

After a document has been released to the next production stage, it may be required to carry out additional modifications to the document, even though it has been released. In this case, a document assigned a **Released** status can only be taken out of the vault by carrying out a **New Release** operation. This operation will automatically create a new revision for the document.

You can perform a Release lifecycle operation on a document that is assigned one of the following states:

- New
- Checked In
- Checked Out

To release a document assigned a Released state to the SmarTeam vault:

1 Select the document to display its profile card.

2 From the Lifecycle menu, select **New Release** .

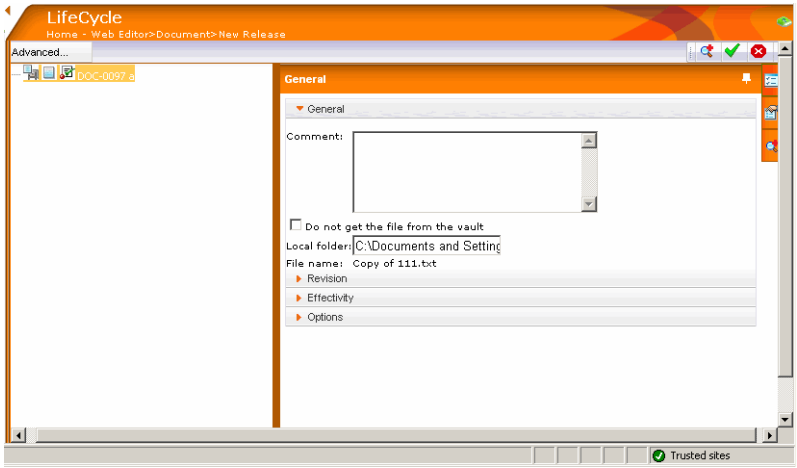
The New Release page appears.

See Light Mode Release Page and Fields for details of all the operations and fields on this page.

3 If you need to apply the operation to single or multiple selections with children, click to open the Check Out window in Advanced Mode.

See Advanced Mode Check Out Page and Fields for details of all the operations and fields on this page.

Light Mode New Release Page and Fields



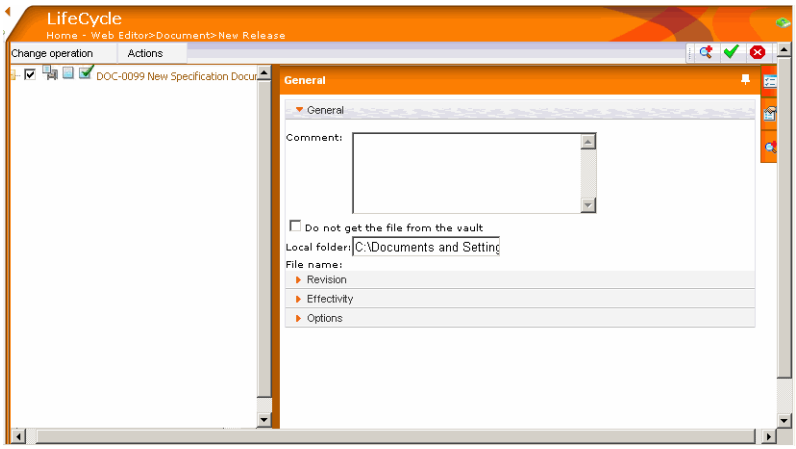
You can fill in the fields in the Light Mode New Release page as follows:

1. Click the General tab to bring it forward:
   - In the **Comment** field, right-click, to enter any comments relating to this New Release process
2. In the Revisions tab, select the checkbox to create a new branch.
3. Click the **Effectivity** tab and perform the following:
   - **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.
   - **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.
4. In the **Options** tab:
   - Select or clear the **Copy General Link** checkbox
   - Select or clear the Replace Local Files checkboxes:
     - **For in-work files**, select the checkbox to replace local files that were created in previous Check Out or New Release operations
     - **For copied files**, select the checkbox to replace files from previous copy operations
5. Click to evaluate the New Release operation results and remain in the window.

   OR

   Click to perform the New Release operation and exit the New Release window.

Advanced Mode New Release Page and Fields



Fill in the fields in the Advanced Settings New Release page:

1. In the Change Operation combo box, select the operation to perform:
   - Set to **New Release** - Select this option to copy the file to the New Release vault. You can modify the document by checking it out as a New Release with a new revision number
   - Set to **No Operation** - Select this option to perform no operation on the selected document.
2. In the Actions combo box, select the action to perform:
   - Propagate Operation
   - Propagate Settings
   - Show Parents
3. In the **Comment** field, right-click, to enter any comments relating to this New Release process.
4. In the **Revisions** tab, select the checkbox to create a new branch.
5. Click the **Effectivity** tab and perform the following:
   - **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.
   - **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.
6. In the **Options** tab:
   - Select or clear the **Copy General Link** checkbox
   - Select or clear the **Replace Local Files** checkboxes:
     - **For in-work files**, select the checkbox to replace local files that were created in previous Check Out or New Release operations
     - **For copied files**, select the checkbox to replace files from previous copy operations
7. Click to evaluate the New Release operation results and remain in the window.

   OR

   Click to perform the New Release operation and exit the New Release window.

Defining a Document as Obsolete

During the production stage, a document will eventually become inactive and no longer needed. More important, production requirements will probably demand that this object can no longer be accessed for modifications. For this reason, Lifecycle Visual Components enables you to define the object to be in an Obsolete state, placing it in an area in the SmarTeam Vault where it can no longer be activated and modified. An object assigned as Obsolete can no longer be activated, released or modified.

To define an object to be in an Obsolete state and move it into the vault it must currently be in a Released state.

To define an object to be in an Obsolete state:

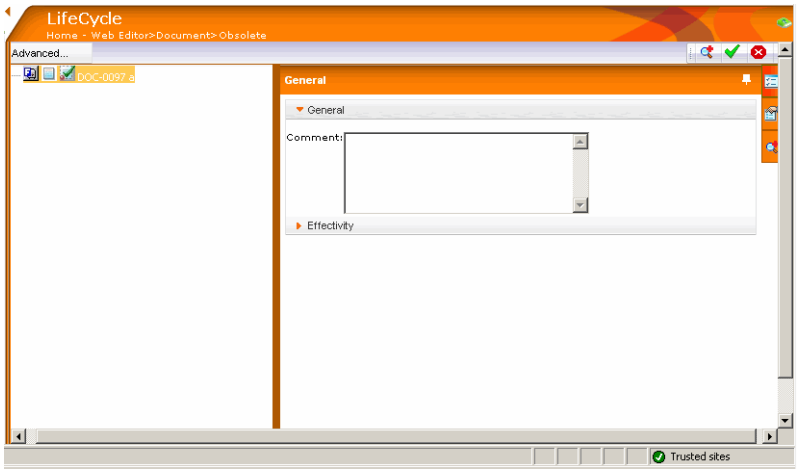
1. Click on the document to display its profile card.
2. From the Lifecycle menu, select **Obsolete** .

   The Obsolete window appears.

   See Light Mode Obsolete Page and Fields for details of all the operations and fields on this page.
3. If you need to apply the operation to single or multiple selections with children, click to open the Check Out window in Advanced Mode.

   See Advanced Mode Obsolete Page and Fields for details of all the operations and fields on this page.

Light Mode Obsolete Page and Fields



You can fill in the fields in the Light Mode Obsolete page as follows:

1. Click the General tab to bring it forward:
   - In the **Comment** field, right-click to enter any comments relating to this Obsolete process.
2. Click the **Effectivity** tab and perform the following:
   - **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
   - **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

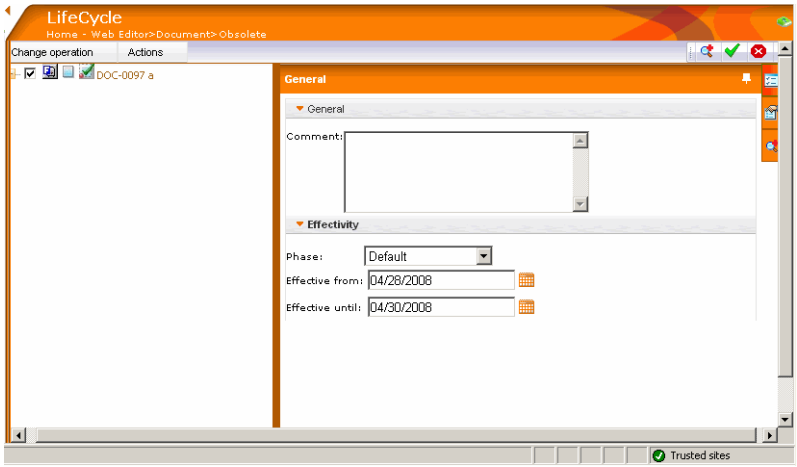
3 Click to evaluate the Obsolete operation results and remain in the window.

OR

Click to perform the Obsolete operation and exit the Obsolete window.

The Obsolete object is placed in an area in the SmarTeam Vault where it can no longer be activated and modified.

Advanced Mode Obsolete Page and Fields



Fill in the fields in the Advanced Settings Obsolete page:

1 In the Change Operation combo box, select the operation to perform:

- Set to **Obsolete** - Select this option to copy the file to the Obsolete vault
- Set to **No Operation** - Select this option to perform no operation on the selected document

2 In the Actions combo box, select the action to perform:

- Propagate Operation
- Propagate Settings
- Show Parents

3 In the **Comment** field, right-click, to enter any comments relating to this Obsolete process

4 Click the Effectivity tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

5 Click to evaluate the Obsolete operation results and remain in the window

OR

Click to perform the Obsolete operation and exit the Obsolete window.

The Obsolete object is placed in an area in the SmarTeam Vault where it can no longer be activated and modified.

Promoting an Item in the Lifecycle

The **Promote** command advances a item from one state of the lifecycle to the next. The standard Lifecycle Advanced View is used to show and change operations and parameters for the item subtree.

During the Promote command, the user can specify the following attributes:

- Item phase - The Part Phase can be customized for possible values of a phase based on the item state and the previous phase values. The user will select the phase attribute from a lookup table.
- Item effectivity
- Comment

Lifecycle Visual Components enables the user to propagate the above inputs to the children according to Promote rules.

To promote an item in the lifecycle:

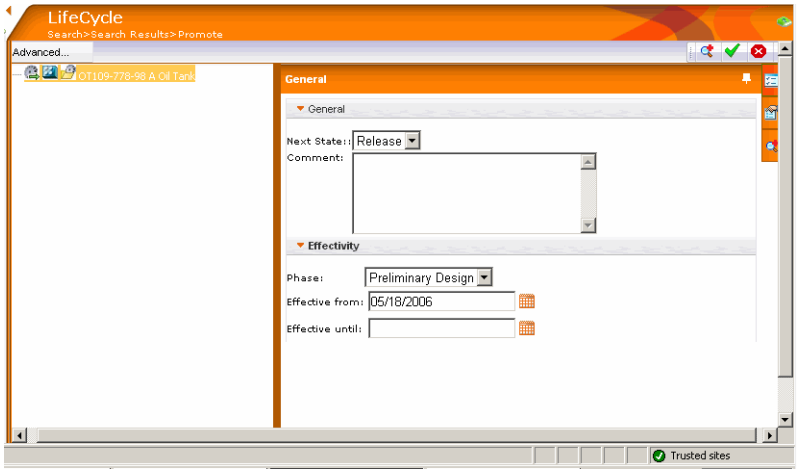
1. Display the item's profile card.
2. From the Actions menu, select **Promote**.

   The Promote window appears:

   See Light Mode Promote Page and Fields for details of all the operations and fields on this page.
3. If you need to apply the operation to single or multiple selections with children, click to open the Check Out window in Advanced Mode.

   See Advanced Mode Promote Page and Fields for details of all the operations and fields on this page.

Light Mode Promote Page and Fields



You can fill in the fields in the Light Mode Promote page as follows:

1. Click the General tab to bring it forward:
   - In the **Comment** field, right-click to enter any comments relating to this Promote process.

Note: When a item is promoted to Active, the user has to specify a Effective From (and optionally an Effective to) date. The item effectivity dates specify how long a item is effective for. The Effective From date for a new revision automatically sets the Effective to date for the previous revision.

2 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

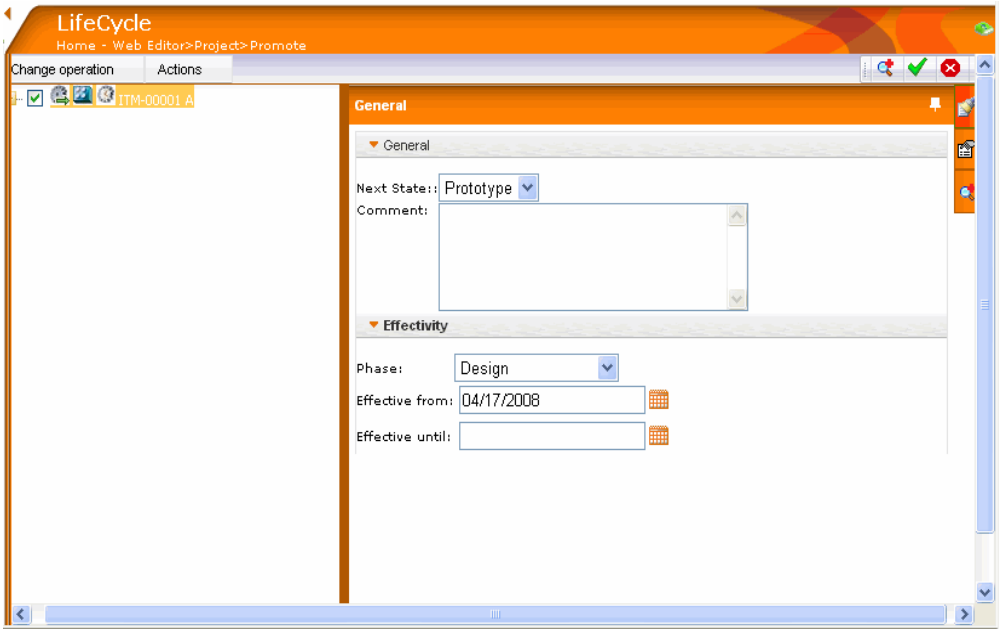
3 Click to evaluate the Promote operation results and remain in the window.

OR

Click to perform the Promote operation and exit the Promote window.

The next time the document's profile card is displayed, its status is shown as Promote in the state field.

Advanced Mode Promote Page and Fields



In the Promote Advanced Mode page, fill in the fields as described below:

1 From the Change Operation combo box, select the action to be done:

- Set to **No Operation** - Select this option to perform no operation on the selected document
- Set to **Promote** - Select this option to perform a Promote operation on the item

2 From the Actions combo box:

- Select **Propagate Operation** to apply this operation to the entire document branch.
- Type in comments in the Comments field and select **Propagate Settings** to apply all settings to branch

Note: When a item is promoted to Active, the user must specify a Effective From (and optionally an Effective to) date. The item effectivity dates specify how long a item is effective for. The Effective From date for a new revision automatically sets the Effective to date for the previous revision.

3 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.

4 Click to evaluate the Promote operation results and remain in the window

OR

Click to perform the Promote operation and exit the Promote window.

The next time the document's profile card is displayed, its status is shown as Promote in the state field.

Demoting an Item in Lifecycle

To demote an item in the lifecycle:

1 Select an item to display its profile card.

2 From the Lifecycle menu, select **Demote**.

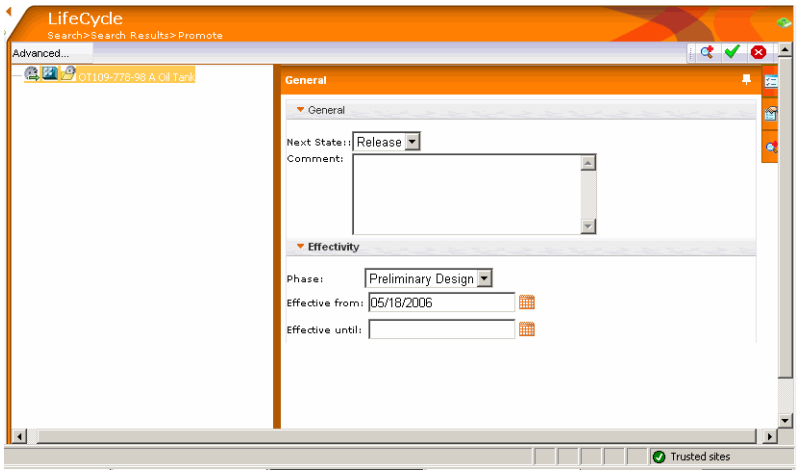
The Demote page appears.

See Light Mode Demote Page and Fields for details of all the operations and fields on this page.

3 If you need to apply the operation to single or multiple selections with children, click to open the Check Out window in Advanced Mode.

See Advanced Mode Demote Page and Fields for details of all the operations and fields on this page.

Light Mode Demote Page and Fields



You can fill in the fields in the Light Mode Demote page as follows:

1 Click the General tab to bring it forward:

- In the **Comment** field, right-click to enter any comments relating to this Promote process.

2 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.

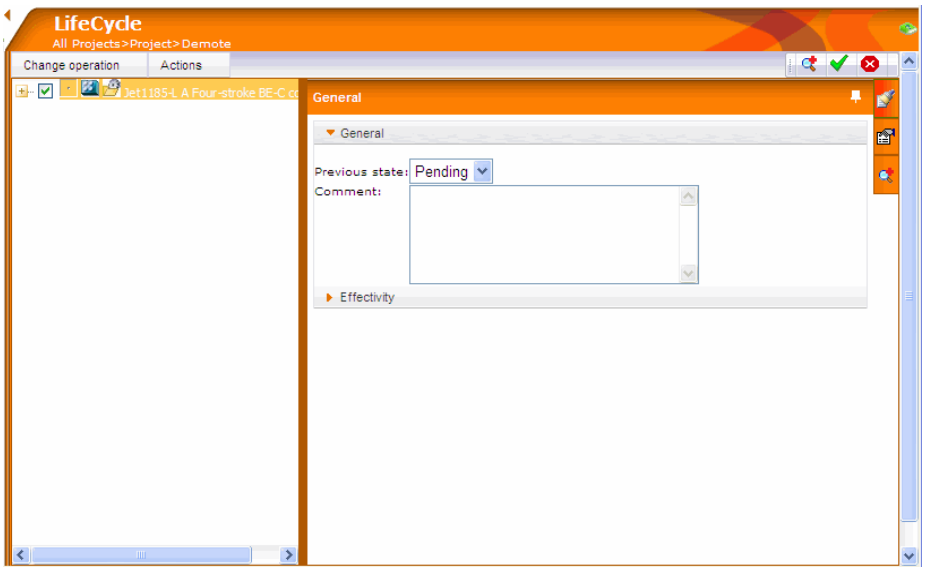
3 Click to evaluate the Demote operation results and remain in the window

OR

Click to perform the Demote operation and exit the Demote window.

The next time the document's profile card is displayed, its status is shown as Demote in the state field.

Advanced Mode Demote Page and Fields



In the Demote page, fill in the fields as described below:

1 From the Change Operation combo box, select the action to be done:

- Set to **Demote** - Select this option to perform a Demote operation on the item
- Set to **No Operation** - Select this option to perform no operation on the selected document

2 From the Actions combo box:

- Select Propagate Operation apply this operation to the entire document branch.
- Type in comments in the Comments field and select Propagate Settings to apply all settings to branch

3 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status

- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

4 Click to evaluate the Demote operation results and remain in the window

OR

Click to perform the Demote operation and exit the Demote window.

The next time the document's profile card is displayed, its status is shown as Demote in the state field.

Inactivating an Item in Lifecycle

To Inactivate an item in lifecycle:

1 Display the item's profile card.

2 From the Actions menu, select **Inactivate**.

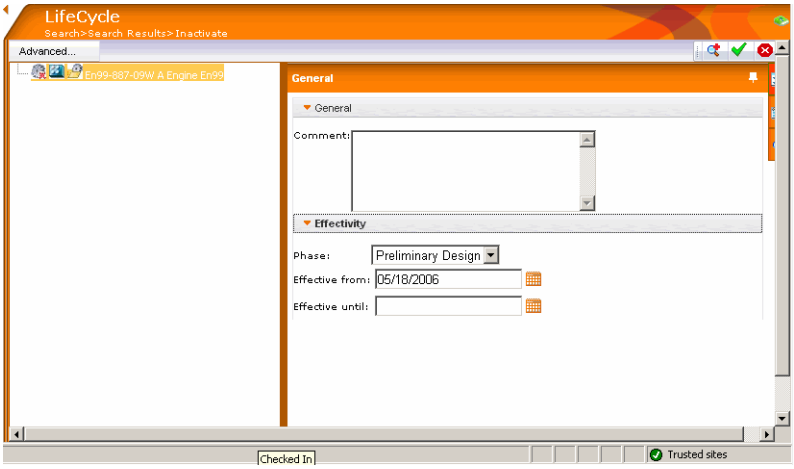
The Inactivate page appears.

See Light Mode Obsolete Page and Fields for details of all the operations and fields on this page.

3 If you need to apply the operation to single or multiple selections with children, click to open the Check Out window in Advanced Mode.

See Advanced Mode Obsolete Page and Fields for details of all the operations and fields on this page.

Light Mode Inactivate Page and Fields



You can fill in the fields in the Light Mode Inactivate page as follows:

1 Click the General tab to bring it forward:

- In the **Comment** field, right-click to enter any comments relating to this Promote process.

2 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status.

- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields.

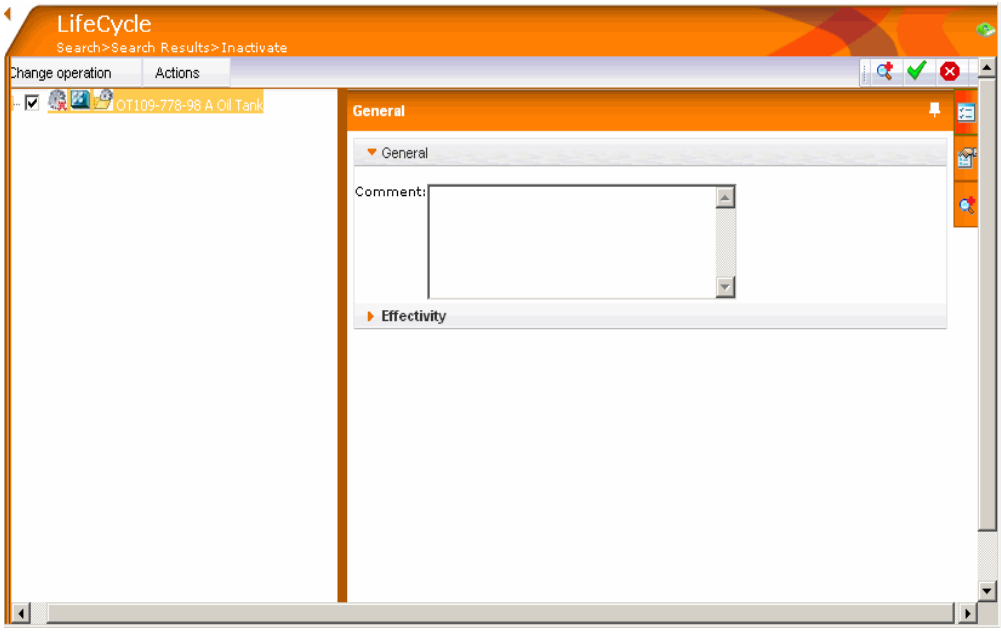
3 Click to evaluate the Inactivate operation results and remain in the window

OR

Click to perform the Inactivate operation and exit the Inactivate window.

The next time the document's profile card is displayed, its status is shown as Inactivate in the state field.

Advanced Mode Inactivate Page and Fields



In the Inactivate page, fill in the fields as described below:

1 From the Change Operation combo box, select the action to be done:

- Set to **Inactivate** - Select this option to perform an Inactivate operation on the item
- Set to **No Operation** - Select this option to perform no operation on the selected document

2 From the Actions combo box:

- Select Propagate Operation apply this operation to the entire document branch.
- Type in comments in the Comments field and select Propagate Settings to apply all settings to branch

3 Click the **Effectivity** tab and perform the following:

- **Phase**: Open the combo box to select an option to define the phase for this revision. This field is descriptive only and does not affect the revision status
- **Effective From/Until**: Click the Date button to enter applicable dates for effectivity in these fields

4 Click to evaluate the Inactivate operation results and remain in the window

OR

Click to perform the Inactivate operation and exit the Inactivate window.

The next time the document's profile card is displayed, its status is shown as Inactivate in the state field.

Refer to the **Visual Components. chm** for details and code samples on how to use the Lifecycle Visual Components.

Chapter 4: Encapsulating VC in Web Parts for Windows SharePoint Services

Installing Windows SharePoint Services (WSS) 3.0

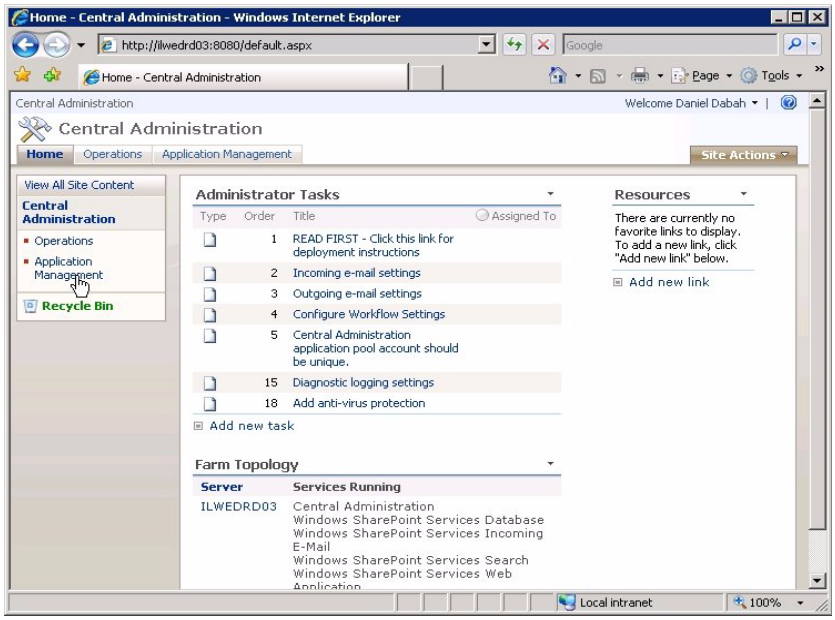
Requirements for WSS 3.0:

- Microsoft® Windows Server 2003 SP2
- .Net Framework 3.0
- In order for things to be easier for you, the developer, install Visual Studio 2005 extensions for Windows SharePoint Services 3.0. These extensions enable you to deploy your Web Parts to WSS web-sites easily. Without them you must package and deploy the Web Parts using a cab utility and **stsadm** (click here for instructions). The Visual Studio (VS) extensions can only be installed on a computer that has WSS 3.0 installed. This means that you need to install Visual Studio 2005 on the same server as WSS 3.0 and develop your Web Parts on that server.

The WSS 3.0 installation creates two new IIS websites - one for central administration, and the other to serve as the default SharePoint team site for viewing documents and Web Parts. The team site will work on port 80, replacing the server's default IIS web site. For Web Part deployment purposes, it is better to leave the new SharePoint website as **IIS's** default website. But if you need to keep the default site running, perform the instructions in the next section to create a new SharePoint website not on port 80.

To create a new SharePoint website:

1. In a browser:
   - Navigate to the SharePoint 3.0 Central Administration website, **Home** tab
   - In the left-pane **Central Administration** main menu, click **Application Management**



2 In the SharePoint Web Application Management pane, click **Create or Extend Web Application**.

3 Click **Create a new Web application**:

- Keep all the options unchanged - or change the port if required
- Enter a Username and Password for Microsoft® Windows authentication
- Click **OK**

This procedure creates a new SharePoint website at the port you specified. This is the website to which your Web Parts will be deployed by Visual Studio.

Creating Web Parts

To create Web Parts:

1 In Visual Studio:

- Verify that you have VS2005 extensions installed
- Create a new Web Part project

The project will appear in the New Project dialog under: **Visual C#/SharePoint/Web Part**

2 Create a new class.

To qualify as a Web Part, your class must inherit from:

```
System.Web.UI.WebControls.WebParts.WebPart
```

The next section describes how to incorporate a Visual Component (VC) into this class.

Integrating SmarTeam Visual Components

Add references to the relevant SmarTeam .dll files:

For V5R18:

- SmarTeam.Std.Applications.VC
- SmarTeam.Std.VC
- SmarTeam.Std.VC.Web

For V5R19 and V5R20 also add:

- SmarTeam.Std.VC.BusinessLogic
- SmarTeam.Std.VC.Common
- SmarTeam.Std.VC.Common.SmarTeam
- SmarTeam.Std.VC.Data
- SmarTeam.Std.VC.Data.SmarTeam

The way to load a VC into a Web Part is to create an instance of the VC class, and add it to the Web Part's Control collection (see Example 1). The control then appears as the main control in the Web Part you created and utilized all of the space allocated to the Web Part as long as there are no other displayable controls added to the Web Part's control collection. For more information refer to the SmarTeam Visual Components API.

Example 1:

```
public class SmartBoxWebPart : WebPart
{
    private SmartBox _smartBox1;
    private VCManager _vcManager1;

    public SmartBoxWebPart()
    {
        ExportMode = WebPartExportMode.All;
    }

    protected override void OnInit(EventArgs e)
    {
        SmarTeamSession.LoadSmSession();

        base.OnInit(e);

        _vcManager1 = new VCManager();
        _vcManager1.ID = "VCManager1";
        _vcManager1.LoadingPanelPositionMode =
LoadingPanelPositionModeEnum.DocumentMiddle;

        _smartBox1 = new SmartBox();
        _smartBox1.ID = "SmartBox1";
        _smartBox1.DataSourceNeeded += new
DataSourceNeededEventHandler(_smartBox1_DataSourceNeeded);

        Controls.Add(_vcManager1);
        Controls.Add(_smartBox1);
    }

    private void _smartBox1_DataSourceNeeded(object sender, EventArgs e)
    {
        ISmartBoxDataSourceFactory factory = new
SmartBoxDataSourceFactory();
        ISmartBoxDataSource dataSource =
factory.CreateSmartBoxDataSource(GetBoxType());
```

```
            _smartBox1.DataSource = dataSource;
        }

        private SmartBoxType GetBoxType()
        {
            if(HttpContext.Current.Request["SmartBoxType"]==null)
                return SmartBoxType.Inbox;

            string value =
    HttpContext.Current.Request["SmartBoxType"].ToUpper();

            switch(value)
            {
                case "COMPLETED":
                    return SmartBoxType.Completed;
                ...
            }
        }
    }
```

Each use of a VC in a class must include a reference to a one VCManager object also, as illustrated in the immediately preceding example.

Logging In

To access **SmSession**, you must login to SmarTeam before starting to work - this is a prerequisite for Visual Components to work. Use the SmarTeam API to execute this operation, refer to the SmarTeam COM API Reference for details. If you want to login your users without prompting them for their username and password, this can be executed behind the scenes (see Example 2). You can place a simulated login function in the class and call it when you load the component for the first time. This function creates a **SmEngineClass** and a **SmSessionClass** to open a database connection and login the user. For more information on supplying a SmSession to Visual Components, refer to the SmarTeam Visual Components API documentation and the SmarTeam COM API Reference.

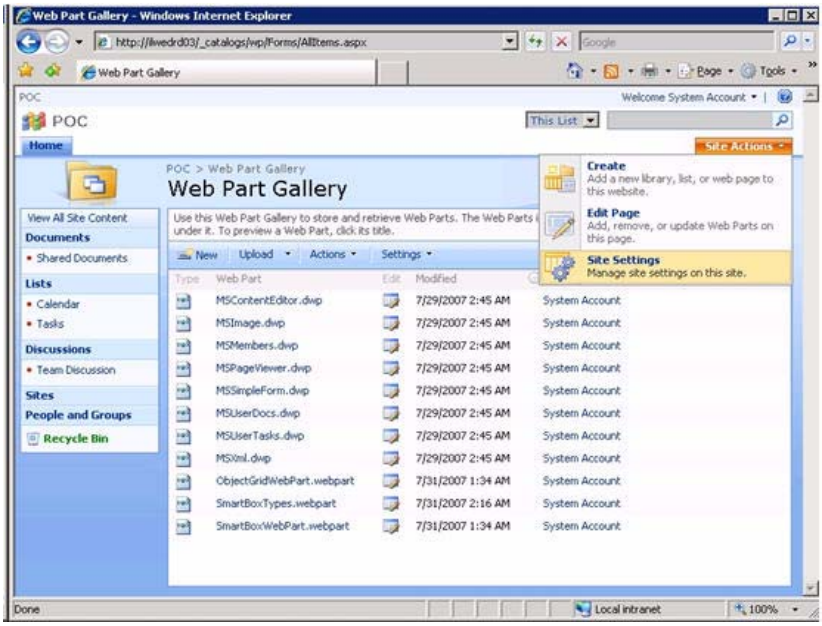
Example 2:

```
engine = new SmEngineClass();

engine.Init("SmTeam32")

sess = new SmSessionClass();

sess.Init(engine, "SmarTeam", "SmTeam32");

//At this point you could iterate all of the databases in your environment
and populate a list, allowing the user to select a database.

sess.OpenDatabaseConnection(myConnectionString, myPassword, true);


//login

sess.UserLogin("myUserName","myPassword");
```

Deploying Your Web Parts

Deploy the Web Part package to the default SharePoint site on the server by clicking **Build > Deploy *[MyWebPart]***. This deploys the Web Part to the local SharePoint at port 80. If your SharePoint site is not the IIS default website on port 80, you will not be able to deploy the project automatically. According to my knowledge, there is no way to configure the VS extensions to deploy to a different site or different port.

If you do not have Visual Studio 2005 extensions for WSS 3.0 installed, you need to package and deploy the project yourself according to the instructions found here: http://msdn2.microsoft.com/en-us/library/ms916839.aspx.

When you try to add your Web Part to a SharePoint page, it will already be in the list of Web Parts displayed in the "Add" dialog and the Web Part Gallery.

After you deploy your project, any class in the project .dll that inherits from the Web Part class appears in the cab package of the **manifest.xml**. This causes it to appear in the site's Web Part gallery. The Web Part gallery can be accessed by navigating from the root directory (see the following **Web Part Gallery** window) of your SharePoint site (not the SharePoint Central Administration) via this path: **Site Actions > Site Settings > Galleries: Web Parts**