

**Serena® ChangeMan® Version Manager™
IDE Client Implementation Guide**

Copyright © 2000–2005 Serena Software, Inc. All rights reserved.

This document, as well as the software described in it, is furnished under license and may be used or copied only in accordance with the terms of such license. Except as permitted by such license, no part of this publication may be reproduced, photocopied, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written permission of Serena. Any reproduction of such software product user documentation, regardless of whether the documentation is reproduced in whole or in part, must be accompanied by this copyright statement in its entirety, without modification.

The content of this document is furnished for informational use only, is subject to change without notice, and should not be construed as a commitment by Serena. Serena assumes no responsibility or liability for any errors or inaccuracies that may appear in this document.

Trademarks

Serena, TeamTrack, StarTool, and ChangeMan are registered trademarks of Serena Software, Inc. The Serena logo is a trademark of Serena Software, Inc.

Merant, PVCS, and Collage are registered trademarks of Merant Inc. Dimensions, Professional, Tracker, Version Manager, Builder, Meritage, and Mover are trademarks of Merant, Inc.

All other products or company names are used for identification purposes only, and may be trademarks of their respective owners.

U.S. Government Rights

Any Software product acquired by Licensee under this Agreement for or on behalf of the U.S. Government, its agencies and instrumentalities is "commercial software" as defined by the FAR. Use, duplication, and disclosure by the U.S. Government is subject to the restrictions set forth in the license under which the Software was acquired. The manufacturer is Serena Software, Inc., 2755 Campus Drive, San Mateo, CA 94403.

Publication date: April 2005

Table of Contents

	Welcome to Version Manager	13
	Typographical Conventions	13
	Contacting Technical Support	14
Part 1	The Version Manager IDE Client	15
	Introduction	16
<i>Chapter 1</i>	Overview of Version Manager Source Control.	17
	Introduction	18
	Source Control Concepts.	18
	Project Databases	18
	Projects and Subprojects	18
	Archives.	18
	Revisions	19
	Workfiles	19
	Locks.	19
	Version Labels	19
	Promotion	19
	Branches	20
	Sharing	20
	Workspaces	20
	Available Source Control Information	20
	Viewing Properties of Files Under Source Control.	20
	Monitoring Source Control Activity.	20
	Viewing Historical Archive or Revision Activity.	20
	Comparing Files or Revisions	21
	Working with Version Manager 5.3/6.0 Projects.	21
	How Version Manager Integrates with IDEs.	21
<i>Chapter 2</i>	Setting Up Source Control with SCC IDEs	23
	Introduction	24
	Recommended Workflow	24
	Administrators	24
	All Users	24
	About Selecting a Source Control Provider	25
	Selecting an SCC Provider	25
	Testing an SCC Provider.	26
	Stopping the PVCSC LIServ Service	27
	Creating and Configuring Project Databases	27
	About Version Manager Workspaces	27
	Launching the Version Manager Desktop Client.	28

About Setting Defaults for Version Manager Options	28
Setting Defaults	29
About Creating Source Control Projects	31
About Adding Files to Source Control	31
Returning Files to Source Control	31
Advanced Add Options	32
About Sharing Files Across Projects	33
Sharing Files.	33
About Removing Files from Source Control	34

Chapter 3

Setting Up Source Control with COM IDEs	35
Introduction	36
About Web Projects	36
Recommended Workflow	36
Supported Web Server Configurations	37
Configuring Web Server Security	37
Windows Security	37
FrontPage User Permissions	38
Configuring Source Control Defaults.	38
Editing Default Project Settings.	39
Enabling External Source Control	41
Adding Web Projects to Source Control.	42
Nested Project Structure	42
Removing Web Projects from Source Control.	42
Restoring Web Files to Source Control	43
Checking Out a Previous Revision	43

Chapter 4

Using Source Control	47
Introduction	48
Logging In to Version Manager Projects	48
About Getting Files.	48
Advanced Get Options	49
Getting IDE Projects from Source Control.	50
About Checking Out Files	50
Advanced Checkout Options	51
About Undoing Checkout.	52
Advanced Undo Checkout Options	53
About Checking In Files	53
Advanced Check-In Options	54
About Version Labels	56
Assigning Version Labels	56
Renaming Version Labels	58
Deleting Version Labels	60
About Promotion Groups.	61

	Checking Out Revisions Assigned to a Promotion Group	62
	Assigning a Promotion Group to Revisions	62
	Promoting Revisions to the Next Promotion Group.	64
	Changing a Promotion Group	66
	Removing a Promotion Group	68
Chapter 5	Accessing Source Control Information	71
	Introduction	72
	About Properties	72
	Reviewing Properties	72
	Monitoring Source Control Activity with Pulse	73
	Configuring Pulse	73
	About Starting Pulse	74
	Viewing Source Control Activity.	75
	Suspending Project Activity Monitoring	76
	Closing Pulse	77
	About History Reports	77
	Generating History Reports	77
	About Difference Reports	80
	Generating Difference Reports	80
Part 2	IDE Reference	83
	Introduction	84
Chapter 6	ColdFusion Studio	85
	Introduction	86
	Accessing Supported Features.	86
	Setting Up Source Control Projects	87
	Setting Up Projects for Access by Multiple-Users	87
	Selecting a Source Control Provider.	88
	Mapping Projects to Source Control	88
	Adding Files to Source Control	91
	Removing Files from Source Control	92
	Using Source Control	92
	Getting Files	92
	Checking Out Files.	93
	Undoing Checkout	93
	Checking In Files.	93
Chapter 7	FrontPage.	95
	Introduction	96
	Accessing Supported Features.	96
	Setting Up Source Control Projects	96
	Adding Web Projects to Source Control	97
	Removing Web Projects from Source Control	99
	Upgrading 6.0 Projects.	99
	Using Source Control	100

Checking Out Files	101
Undoing a Checkout	101
Checking In Files	102

Chapter 8 PowerBuilder 103

Introduction	104
About Version Manager Project Structure	104
Accessing Supported Features in PowerBuilder	105
Setting Up Source Control Projects in PowerBuilder	106
Connecting PowerBuilder Workspaces to Source Control	106
Adding Objects to Source Control	109
Configuring Workstations in a Multi-User Environment	110
Removing Objects from Source Control	112
Disconnecting Workspaces from Source Control	112
Using Source Control with PowerBuilder	113
Getting Objects	113
Checking Out Objects	113
Undoing Checkout	114
Checking In Objects	115
Adding New Objects	116
Adding New Targets or PBLs	117

Chapter 9 Rational Application Developer 6 (Eclipse 3) Rich Integration 119

Introduction	120
Accessing Supported Features	120
Integration Overview	122
TeamTrack Integration	122
Collaborative Process Overview	122
Using Workspaces	123
Working on Files Without Locking Them	124
Checking Out Files with Locks	125
Setting Up Source Control Projects	126
Excluding Files and Directories from Source Control	126
Migrating Projects from the Previous Source Control Integration	127
Adding Projects to Source Control	127
Connecting Additional Workstations to an Existing Source Control Project	133
Disconnecting Projects from Source Control	139
Using Source Control	139
Viewing Connection Information	139
Viewing Source Control Status	140
Working in the History View	141
Assigning Version Labels	143
Getting Files	145
Checking Out Files	146
Undoing Checkout	148
Checking In Files	148
Using Rename or Move (Refactoring)	153
Comparing and Synchronizing Your Workspace with Source Control	153
Comparing with the Latest Serena Revision	158

	Comparing with Local History	159
	Comparing Workfiles with Each Other	160
	Replacing with Local History	161
	Replacing with Latest Serena Revision	162
	Associating and Working on TeamTrack Issues	162
	Issue Management Workflow	163
	Setting Up Your IDE Personal Folder	164
	Changing TeamTrack Connection Information	164
	Displaying Reports and Issues	167
	Submitting and Modifying Issues	167
	Associating Issues	168
	Setting Default Options	169
	Source Control Options	169
	Issue Management Options	177
Chapter 10	Rational Rose	179
	Introduction	180
	Accessing Supported Features	180
	Setting Up Source Control Projects	181
	Adding Files to Source Control	181
	Removing Files from Source Control	185
	Using Source Control	185
	Getting Files	185
	Checking Out Files	186
	Undoing Checkout	186
	Checking In Files	186
Chapter 11	TestDirector	189
	Introduction	190
	Accessing Supported Features	190
	Setting Up Source Control Projects	191
	Enabling Source Control	191
	Adding Projects to Source Control	191
	Removing Projects from Source Control	192
	Using Source Control	193
	Getting Tests	193
	Checking Out Tests	194
	Undoing Checkout	196
	Checking In Tests	196
	Adding New Tests	197
	Viewing Version History	197
Chapter 12	Together	199
	Introduction	200
	Accessing Supported Features	200
	Setting Up Source Control Projects	201
	Enabling Source Control	201
	Connecting Projects to Source Control	202

	Connecting Additional Workstations to a Source Control Project	206
	Removing Files from Source Control	208
	Using Source Control	209
	Getting Files	209
	Checking Out Files.	210
	Undoing Checkout.	211
	Checking In Files.	211
	Adding New Files.	212
Chapter 13	VisualAge for Java	215
	Introduction	216
	Accessing Supported Features.	216
	Setting Up Source Control Projects	217
	Before Connecting Projects to Source Control	217
	Connecting Projects to Source Control	218
	Configuring VisualAge for Java Projects	222
	Removing Projects from Source Control	223
	Returning Projects to Source Control	224
	Using Source Control	224
	Refreshing (Getting) a Project.	224
	Checking Out Files.	225
	Undoing Checkout.	226
	Checking In Files.	227
	Adding New Files to Source Control	228
	Deleting Files from Source Control	228
Chapter 14	Visual Basic	231
	Introduction	232
	Accessing Supported Features.	232
	About Visual Basic Files	233
	Setting Up Source Control Projects	234
	Adding Files to Source Control	234
	Connecting Additional Workstations to a Source Control Project	238
	Removing Files from Source Control	238
	Using Source Control	239
	Tips.	239
	Getting Files	239
	Checking Out Files.	239
	Undoing Checkout.	240
	Checking In Files.	240
	Adding New Files.	241
Chapter 15	Visual C++	243
	Introduction	244
	Accessing Supported Features.	244
	Setting Up Source Control Projects	245
	Adding Files to Source Control	245
	Connecting Additional Workstations to a Source Control Project	249

	Removing Files from Source Control	250
	Using Source Control	251
	Tips	251
	Getting Files	251
	Checking Out Files	252
	Undoing Checkout	252
	Checking In Files	252
	Adding New Files	253
Chapter 16	VisualCafe	255
	Introduction	256
	Accessing Supported Features	256
	Setting Up Source Control Projects	257
	Adding Files to Source Control	257
	Removing Files From Source Control	262
	Using Source Control	262
	Getting Files	262
	Checking Out Files	263
	Undoing Checkout	263
	Checking In Files	263
	Adding New Files	264
Chapter 17	Visual InterDev	265
	Introduction	266
	About Web Projects	266
	Accessing Supported Features from Web Projects	266
	Setting Up Web Projects	267
	About Visual InterDev Web Projects	268
	Adding Web Projects to Source Control	268
	Removing Web Projects from Source Control	269
	Deleting Files from Visual InterDev and Source Control	269
	Using Source Control with Web Projects	270
	Getting Individual Files	270
	Project-wide Get Options	270
	Checking Out Files	271
	Undoing Checkout	271
	Checking In Files	271
	Adding New Files	272
	Checking Out a Previous Revision	272
	About Non-Web Projects	273
	Accessing Supported Features in Non-Web Projects	273
	Setting Up Non-Web Projects	274
	Adding Non-Web Projects to Source Control	274
	Removing Non-Web Projects from Source Control	277
	Removing Non-Web Files from Source Control	278
	Deleting Files from Visual InterDev and Source Control	278
	Using Source Control with Non-Web Projects	279
	Getting Projects or Solutions	279

Getting Files	279
Checking Out Files.	280
Undoing Checkout	280
Checking In Files.	281
Adding New Files.	282

Chapter 18 Visual Studio .NET 285

Introduction	286
Accessing Supported Features.	286
About Visual Basic Files	287
Setting Up Source Control Projects	287
Configuring Source Control Behavior	288
Configuring Web Projects	288
Excluding or Removing Files from Source Control	289
Adding Visual Studio Files to Source Control.	289
Connecting Additional Workstations to a Source Control Project	293
Using Source Control	294
Getting Files	294
Checking Out Files.	295
Undoing Checkout.	296
Checking In Files.	296

Chapter 19 Visual Studio .NET 2003 Rich Integration 299

Visual Studio 2003 Integration Overview	300
Collaborative Process Overview	300
Using Workspaces	301
Working on Files Without Locking Them	302
Checking Files Out with Locks.	303
Migrating SCC Interface Projects	304
Working with Web, CAB, and Database Projects	305
Setting Up Source Control Projects	305
Working with Uncontrolled Solutions	306
Adding Solutions and Projects to Version Manager.	306
Opening Solutions and Projects from Version Manager.	308
Editing Files	310
Reviewing File History	310
Getting Specific Files or Folders	312
Checking Out Files.	313
Undoing Checkout.	314
Editing Files	315
Reviewing Local Changes	315
Checking In Files.	316
Labeling Revisions.	320
Promoting Revisions	321
Setting Default Options for Dialog Boxes	322
Comparing and Synchronizing Workspaces	324
About the Merge Process	325
Important Refactoring Considerations	325
Comparing Workspaces	326

Getting All Updates from Version Manager	327
Committing Local Changes to Version Manager	329
Synchronizing Workspaces	330
Comparing Files and Resolving Conflicts	331
About File Comparison	331
Setting Encoding and Display Options	331
Comparing Files	333
Reviewing and Resolving Conflicts	335
Associating and Working on TeamTrack Issues	337
Issue Management Workflow	338
Setting Up Your IDE Personal Folder	339
Defining Association Options	339
Logging In to TeamTrack	340
Displaying Reports and Issues	341
Submitting and Modifying Issues	342
Associating Issues	342

Chapter 20**WebSphere Studio Application Developer 5 (Eclipse 2) 345**

Introduction	346
Accessing Supported Features	346
Setting Up Source Control Projects	347
Excluding Files and Directories from Source Control	348
Migrating WebSphere Studio Application Developer Version 4 Projects to Version 5	348
Connecting Projects to Source Control	349
Connecting Additional Workstations to a Source Control Project	352
Adding New Files to Source Control	353
Disconnecting Projects from Source Control	354
Removing Files from Source Control	354
Using Source Control	355
Viewing Source Control Status	355
Getting Files	356
Checking Out Files	356
Locking Files	357
Undoing Checkout	358
Checking In Files	358
Using Rename or Move (Refactoring)	359
Using Local Mode	360
Working Offline	362
Synchronizing Your Workspace with Source Control	363
Comparing with Local History	366
Replacing with Local History	367

Part 3**5.3/6.0 Projects. 369**

Introduction	370
------------------------	-----

Chapter 21**Converting 5.3/6.0 Projects 371**

Introduction	372
Why Convert?	372

	When to Convert Projects	372
	What Happens When You Convert Projects?	373
	Before Converting Projects	373
	Converting 5.3/6.0 Projects	374
	Reviewing the Conversion Report.	378
	Completing the Conversion	378
Chapter 22	About Converting PowerBuilder Projects.	379
	Introduction	380
	Before Converting Projects	380
	Converting	380
	Completing the Conversion	381
	Reconfiguring Source Control Settings	381
Chapter 23	About Converting Visual Basic Projects.	383
	Introduction	384
	Before Converting Projects	384
	Converting	384
	Completing the Conversion	385
	Opening Converted Projects	385
	Restoring Files to New Projects	386
	Restoring Cross-Project File Sharing	386
Chapter 24	About Converting Visual C++ Projects	387
	Introduction	388
	Before Converting Projects	388
	Converting	388
	Completing the Conversion	389
	Verifying Visual C++ Project Settings	389
	Updating the Visual C++ Project File	389
	Opening Converted Projects	390
	Restoring Files to New Projects	391
	Restoring Cross-Project File Sharing	392
	Index.	393

Welcome to Version Manager


Thank you for choosing Serena® ChangeMan® Version Manager™, a powerful and versatile version control system that will revolutionize the way you develop software. Version Manager helps you organize, manage, and protect your software development projects on every level—from storing and tracking changes to individual files, to managing and monitoring an entire development cycle.

Purpose of this manual	This manual provides a conceptual overview of how to work with the Version Manager IDE client outside of the context of a specific IDE, as well as procedures to help you set up and use the Version Manager IDE client with your IDE.
Contents	<p>This manual contains three parts:</p> <ul style="list-style-type: none">■ Part 1, "The Version Manager IDE Client," on page 15, contains conceptual and procedural information common to setting up and using the Version Manager IDE client■ Part 2, "IDE Reference," on page 83, contains procedures specific to setting up and using the Version Manager IDE client with supported IDEs.■ Part 3, "5.3/6.0 Projects," on page 369, contains conceptual and procedural information common to converting 5.3/6.0 projects to the project format introduced with Version Manager 6.5. It also contains IDE-specific conversion information.
For more information	Refer to the <i>Serena ChangeMan Version Manager Getting Started Guide</i> for a description of the Version Manager documentation set, a summary of the ways to work with Version Manager, and instructions for accessing the Online Help.
Edition status	The information in this edition applies to <i>Release 8.1 of Serena ChangeMan Version Manager</i> or later. This edition supersedes earlier editions of this manual.

Typographical Conventions

The following typographical conventions are used in the online manuals and online help. These typographical conventions are used to assist you when using the documentation; they are not meant to contradict or change any standard use of typographical conventions in the various product components or the host operating system.

Convention	Explanation
<i>italics</i>	Introduces new terms that you may not be familiar with and occasionally indicates emphasis.
bold	Indicates the names of controls and fields on dialog boxes and emphasizes important information.
UPPERCASE	Indicates keys or key combinations that you can use. For example, press the ENTER key.
monospace	Indicates syntax examples, values that you specify, or results that you receive.
<i>monospaced italics</i>	Indicates names that are placeholders for values you specify; for example, <i>filename</i> .

Convention	Explanation
monospace bold	Indicates the names of commands and command options in syntax examples. Also indicates the results of an executed command.
vertical rule	Separates menus and their associated commands. For example, select File Copy means to select Copy from the File menu. Also, separates mutually exclusive syntax choices.
braces {}	Encloses a list of mutually exclusive syntax choices, which are themselves set apart by vertical rules. For example, {version from_ver*to_ver}.
brackets []	Indicates optional items. For example, in the following statement: SELECT [DISTINCT] , DISTINCT is an optional keyword.
. . .	Indicates command arguments that you can use multiple times in a single instance of a command.
	Shows you which shortcut button to click. Shortcut buttons are placed in the margin.

Contacting Technical Support

Registered customers can log in to: <http://support.serena.com/>

Part 1

The Version Manager IDE Client

Overview of Version Manager Source Control	17
Setting Up Source Control with SCC IDEs	23
Setting Up Source Control with COM IDEs	35
Using Source Control	47
Accessing Source Control Information	71

Introduction

Contents	This part of the manual contains conceptual and procedural information common to setting up and using the Version Manager IDE client with any IDE.
Purpose	The purpose of this part of the manual is to provide a conceptual and procedural overview of how to set up and use the Version Manager IDE client outside the context of a specific IDE.
Unsupported features	Some IDEs do not support all of the features described in this part of the manual. For information on which features are supported and how to access them, see Part 2, "IDE Reference," on page 83 .
Additional information	Use this part of the manual in conjunction with these additional sources of information.

For more information about...	See the...
Setting up and configuring Version Manager	Version Manager Administrator's Guide
Version Manager features and concepts	Version Manager User's Guide
Setting up and using your IDE with source control	Documentation and online help provided by the vendor of your IDE

Chapter 1

Overview of Version Manager Source Control

Introduction	18
Source Control Concepts	18
Available Source Control Information	20
Working with Version Manager 5.3/6.0 Projects	21
How Version Manager Integrates with IDEs	21

Introduction

Purpose	This chapter is an introduction to key source control concepts and the options available to users of Version Manager. This chapter describes Version Manager features, such as nested project support and project-wide version labeling, that are now available from within supported IDEs.
For more information	For more detailed conceptual information about source control and working with Version Manager, see the <i>Version Manager User's Guide</i> .
IDE-specific information	For information about the Version Manager features supported in your IDE, see Part 2, "IDE Reference," on page 83.

Source Control Concepts

Source control	Source control is a way to manage changes to the individual components of software (or other content) being developed by a team. You can control access and manage change to any file by placing it under source control.
----------------	---

Project Databases

Definition	A <i>project database</i> is a hierarchical collection of projects, subprojects, and files under source control. A project database defines a common source control configuration for all projects and subprojects contained within it. See "Creating and Configuring Project Databases" on page 27.
------------	--

Projects and Subprojects

Definition	<i>Projects</i> are logical groupings of subprojects and files under source control. <i>Subprojects</i> are projects contained within other projects.
------------	---

Archives

Definition	<p>An <i>archive</i> is a Version Manager file that stores the changes you make to a workfile. Whenever you check in a modified workfile, its archive is updated. Archives also store the following:</p> <ul style="list-style-type: none">■ A description of the changes■ The ID of the user who made the changes■ The date and time when the changes were made■ Version label and promotion group information <p>An archive is created for each file you add to source control.</p>
------------	--

Revisions

Definition	A <i>revision</i> is a record within an archive that stores the changes you made to a workfile and checked in on a particular occasion. When you check out a revision, Version Manager re-creates that version of the workfile in the specified workfile location.
Initial and tip revisions	The oldest revision is called the <i>initial revision</i> and is, by default, numbered 1.0. For each new revision you check in, the revision number increments by one; for example, 1.1 to 1.2. The newest revision in the archive is called the <i>tip</i> .
Default revision	The <i>default revision</i> is the revision that is acted on if no other is selected. The default revision is, by default, the tip revision. Through the Version Manager desktop client, you can set the default revision to a specific version label or revision.

Workfiles

Definition	A <i>workfile</i> is any file that you check in to Version Manager to create a new revision or archive. When you check out a revision, Version Manager copies it as a workfile to your workfile location.
------------	---

Locks

Definition	A <i>lock</i> is a way to keep other team members from modifying a revision while you are working on it. They can always view or get the file, but they cannot check in changes and overwrite the locked revision.
Duration of lock	When you check out a revision, Version Manager locks it. The lock stays in place until you either check in the workfile or undo the checkout on the revision.

Version Labels

Definition	A <i>version label</i> is a tag used to identify a specific revision within an archive. Version labels enable you to efficiently work with revisions from multiple archives that belong together, such as all of the revisions that make up a beta version of an application. See "About Version Labels" on page 56 .
------------	---

Promotion

Definition	<i>Promotion</i> is a means to control development based on milestones in the development cycle, from the design phase to final release. Promotion must be set up through the Version Manager desktop client.
Promotion model	A <i>promotion model</i> is a hierarchy of milestones in a development cycle that enforces active development work to the lowest level of the model.
Promotion groups	<p>Each milestone in a promotion model is represented by a <i>promotion group</i>. Examples of promotion groups include Development, QA, and Production.</p> <p>At checkout, you can select revisions based on promotion groups. At check-in, you can assign promotion groups to new revisions. From the ChangeMan Options dialog box, you can assign promotion groups to revisions, promote revisions to the next group, change which promotion group is assigned to revisions, and remove promotion groups from revisions. See "About Promotion Groups" on page 61.</p>

Branches

- Definition A *branch* is a separate line of development consisting of one or more revisions that diverge from a revision on the main line of development (trunk) or on another branch. You can create branches when checking in new revisions.
- Why use branching? Branching lets you develop alternate variations of a file in parallel with the continued development of the revision from which it was branched.

Sharing

- Definition *Sharing* lets you access a file from multiple Version Manager projects while keeping all changes in a single shared archive. You share an archive when you want to use and edit a given file from within multiple IDE projects. See ["About Sharing Files Across Projects" on page 33](#).

Workspaces

- Definition A *workspace* is a collection of work settings defined for a project database, which includes the work settings for all of the projects and archives contained within the project database. These work settings include workfile location, default version, base version, and branch version. See ["About Version Manager Workspaces" on page 27](#).

Available Source Control Information

You can access four types of information about the files you have placed under source control.

Viewing Properties of Files Under Source Control

- Properties dialog box You can use the *Version Manager Properties dialog box* to view information on the following: archives, revisions, version labels, and promotion groups. See ["About Properties" on page 72](#).

Monitoring Source Control Activity

- Pulse *Pulse* allows users who are logged into the same projects to monitor certain source control events. For example, Pulse notifies you when another user has added a new file or checked in changes to an existing file. You can also view results messages for your own source control actions. See ["Monitoring Source Control Activity with Pulse" on page 73](#).

Viewing Historical Archive or Revision Activity

- History report A *history report* summarizes information about archives and/or revisions. You can select revisions for the report by version label, promotion group, date, author, owner, and lock. See ["About History Reports" on page 77](#).

Comparing Files or Revisions

Difference report A *difference report* allows you to compare two files side-by-side to see the additions, deletions, and changes made to the files. You can compare specific revisions, workfiles with revisions, or two workfiles. See ["About Difference Reports" on page 80](#).

Working with Version Manager 5.3/6.0 Projects

New project configuration	The Version Manager IDE client supports Version Manager 6.5 or higher, which lets you organize your versioned files using project databases, projects, and subprojects to reflect the structure of your actual working directories.
New features	In addition to nested project support, other features that are available only when working with the new Version Manager project format include project archive sharing and project-wide version labeling.
Converting projects	To access these features and ensure project compatibility with new Version Manager 6.5 or higher projects, you'll need to convert existing 5.3/6.0 projects to the new Version Manager project format.
Working with 5.3/6.0 projects	You can continue working with 5.3/6.0 projects if both Version Manager 5.3/6.0 and the Version Manager Source Code Control (SCC) Interface 6.0 are installed to your system. But to open multiple projects in an IDE, the projects must use the same source control provider.
For more information	See Part 3, "5.3/6.0 Projects," on page 369 .

How Version Manager Integrates with IDEs

Version Manager supports three conventions for integrating with IDEs: SCC, COM, and Eclipse. The following list shows the method used by each supported IDE:

- Source Code Control (SCC):
 - ColdFusion Studio
 - PowerBuilder
 - Rational Rose
 - Together ControlCenter
 - VisualAge for Java
 - Visual Basic
 - Visual C++
 - VisualCafe
 - Visual InterDev (non-web projects)
 - Visual Studio .NET

- COM:
 - FrontPage
 - TestDirector
 - Visual InterDev (web projects)
- Eclipse:
 - Eclipse
 - Rational Application Developer
 - WebSphere Studio Application Developer

In addition to the above, Version Manager leverages the issue management features of TeamTrack to support rich integrations to the following IDEs:

- Eclipse 3
(See "[Rational Application Developer 6 \(Eclipse 3\) Rich Integration](#)" on page 119.)
- Rational Application Developer 6
(See "[Rational Application Developer 6 \(Eclipse 3\) Rich Integration](#)" on page 119.)
- Visual Studio .NET 2003
(See "[Visual Studio .NET 2003 Rich Integration](#)" on page 299.)

Additional
information

For information on setting up Version Manager with your IDE, see the following:

For more information about ...	See ...
Procedures common to integrating with SCC compliant IDEs	Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23
Procedures common to integrating with COM compliant IDEs	Chapter 3, "Setting Up Source Control with COM IDEs" on page 35
Procedures for integrating with specific IDEs	Part 2, "IDE Reference," on page 83

Chapter 2

Setting Up Source Control with SCC IDEs

Introduction	24
Recommended Workflow	24
About Selecting a Source Control Provider	25
Creating and Configuring Project Databases	27
About Setting Defaults for Version Manager Options	28
About Creating Source Control Projects	31
About Adding Files to Source Control	31
About Sharing Files Across Projects	33
About Removing Files from Source Control	34

Introduction

Contents and purpose	This chapter contains conceptual and procedural information common to setting up the Version Manager IDE client with supported SCC compliant IDEs. The purpose of this chapter is to help administrators create and configure project databases and projects.
IDE-specific information	For information specific to your IDE, see Part 2, "IDE Reference," on page 83 .

Recommended Workflow

We recommend that a project lead or administrator create and set up source control project databases and projects. Once these are established, all users can begin using source control from within their IDE.

Administrators

We recommend that Project leads or administrators first follow these steps:

- 1 If you have an existing Version Manager 5.3/6.0 project, determine when to convert it to the new Version Manager project format. We recommend converting at a successful milestone in your project. See [Part 3, "5.3/6.0 Projects," on page 369](#).
- 2 For new Version Manager projects, create a Version Manager project database which will contain the source control project associated with the IDE project. Use the Version Manager desktop client to create the project database. See ["Creating and Configuring Project Databases" on page 27](#).
- 3 Add the IDE project and files to source control. See [Part 2, "IDE Reference," on page 83](#).
- 4 Configure the source control project in the Version Manager desktop client. Configuration includes setting up security and promotion groups. For more information on project configuration, see the *Version Manager Administrator's Guide*.

All Users

All users can then perform the following source control tasks:

- Define user settings.
- Get or check out and edit files. See ["About Getting Files" on page 48](#) or ["About Checking Out Files" on page 50](#).
- Check in files. Users can assign version labels and revision numbers to revisions during check-in. See ["About Checking In Files" on page 53](#).
- View source control information:
 - Archive and revision properties. See ["About Properties" on page 72](#).
 - Project activity. See ["Monitoring Source Control Activity with Pulse" on page 73](#).

- History and difference reports. See ["About History Reports" on page 77](#) and ["About Difference Reports" on page 80](#).

IDE-specific
information

For information on accessing these functions, see [Part 2, "IDE Reference," on page 83](#).

About Selecting a Source Control Provider

If multiple Serena IDE clients are installed on your system, you can choose which one is active. For example, if the Version Manager Source Code Control (SCC) Interface 6.0 is installed to your system and you wish to continue using it with existing 5.3/6.0 projects, you can make it the active source control provider.



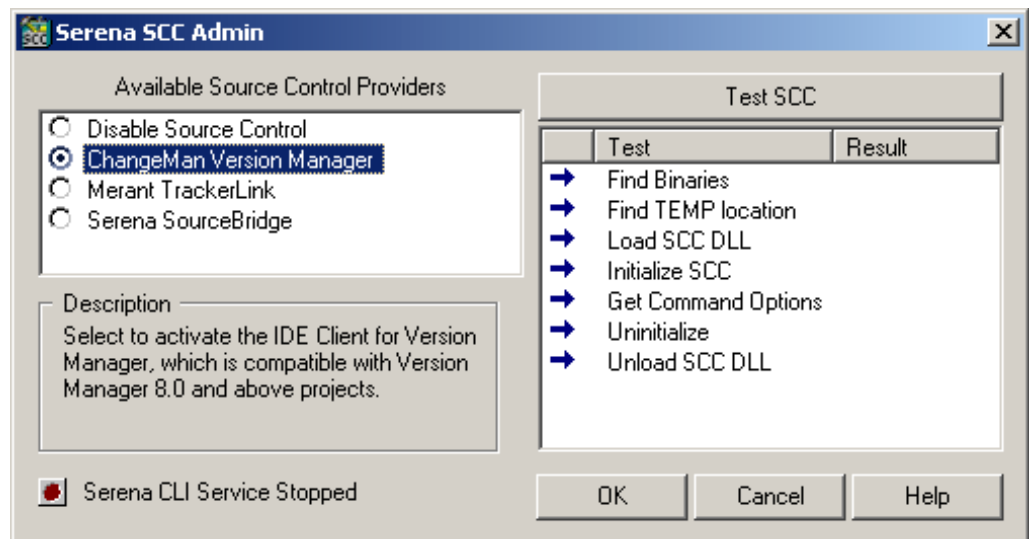
IMPORTANT! The Version Manager IDE client is not compatible with 5.3/6.0 projects. To utilize new Version Manager features from within your IDE, you must convert existing 5.3/6.0 projects to the new project format. For more information, see [Part 3, "5.3/6.0 Projects," on page 369](#).

By default, the Version Manager IDE client becomes the active source control provider when it is installed.

Selecting an SCC Provider

To select a provider, complete the following steps:

- 1 Exit any application you intend to use with a Serena IDE client.
- 2 Select Programs | Serena | ChangeMan Version Manager | Version Manager IDE Client | Version Manager SCC Admin from the Start menu. The Serena SCC Admin tool appears.



Available Serena source control providers are listed under **Available Source Control Providers**. Information about the selected provider appears in the Description frame.

- 3 Select the provider you wish to activate from the list.

To work with this project format...	Select this source control provider...
Version Manager 8.0 or higher	ChangeMan Version Manager (Merant Version Manager)
Version Manager 6.5 to 7.5	PVCS Source Control
Version Manager 5.3/6.0	PVCS Version Manager
Dimensions 6 or higher	Serena Dimensions (Merant Dimensions)



NOTE If TeamTrack SourceBridge or Tracker Trackerlink is installed to your system, it appears as an available source control provider. Selecting it activates the source control provider that it is configured to work with. For more information, see the TeamTrack and/or Tracker documentation.

- 4 Click **OK**.

Restart your IDE

The provider you selected will be active the next time you launch your IDE. Every time you change source control providers, you must restart your IDE for the change to take effect.



NOTE For information on the **Serena CLI Service** button, see ["Stopping the PVCSCSCLIServ Service" on page 27](#).

Testing an SCC Provider

You can test the currently active provider to make sure it initiates correctly.

To test an SCC provider:

- 1 Exit any application you intend to use with a Serena IDE client.
- 2 Select Programs | Serena | ChangeMan Version Manager | Version Manager IDE Client | Version Manager SCC Admin from the Start menu. The Serena SCC Admin tool appears.



IMPORTANT! If the SCC provider you want to test is not the currently active provider, follow the procedure ["Selecting an SCC Provider" on page 25](#) and exit the Serena SCC Admin tool before returning to this procedure.

- 3 Click the **Test SCC** button.
- 4 One of the following will occur:
 - **Success:** A dialog from your SCC provider appears. Dismiss it. In the Test column, a green check mark appears next to each item indicating that SCC initiated successfully.

- **Failure:** In the Test column, a red check mark appears next to the steps that failed.




NOTE This information may be requested by technical support if you call with a problem.

Stopping the PVCSCCLIServ Service

The PVCSCCLIServ service is launched if your IDE uses the same JVM as Version Manager. This ensures that each JVM is run in a separate process space. Once this service is launched, it will continue to run until you reboot or manually unload it.

To stop the PVCSCCLIServ service:

- 1 Select Programs | Serena | ChangeMan Version Manager | Version Manager IDE Client | Version Manager SCC Admin from the Start menu. The Serena SCC Admin tool appears.
- 2  Click the button with the red dot. If the dot is brown, the service is not running.
- 3 A prompt appears asking if you really want to stop the service. Click **Yes**.

Creating and Configuring Project Databases

About project databases	A Version Manager project database is a hierarchical collection of projects, subprojects, and versioned files. It defines a common configuration for all projects and subprojects contained within it.
Default project database	When you install the Version Manager IDE client, you can create a default project database for your source control projects. By default, this database is located at <code><install directory>\serena\vm\common\vmdevint</code> . You can set up this database for use with your source control projects, or create and configure a different database using the Version Manager desktop client.
Configuration options	You can set up security, promotion models, and version labels for your project from the Version Manager desktop client. You can also configure workspace settings such as default version, default promotion group, branch version, and base branch.
For more information	See the <i>Serena ChangeMan Version Manager Administrator's Guide</i> for information on planning, creating, and configuring project databases and projects.

About Version Manager Workspaces

Definition	A Version Manager workspace is a collection of work settings defined for a project database which includes all of the projects and archives contained within the project
------------	--

database. With Version Manager IDE client projects, you can set the default version, default promotion group, branch version, and base branch.



NOTE You cannot override the existing project workfile location with workspace settings. If you will use the Version Manager desktop client or project command line interface with your IDE projects, set your workspace to reference the existing workfile directories. This will ensure that files will always check out to the correct location.

Public, private and root workspaces

You can define both *public* and *private* workspaces. The *root* workspace is the default public workspace. The root workspace is the active workspace for all users for whom private workspaces are not defined.

Workspaces in a team environment

Private workspaces are typically created by individual project team members so they can customize the project work settings without affecting other team members. For settings in a particular workspace to take effect when a user logs into a Version Manager project, that workspace must be made the default for that user. If no default private workspace is set, the work settings defined in the root workspace will take effect.



IMPORTANT! You must exit and restart your IDE for new workspace settings to take effect.

For more information

See the *Version Manager User's Guide*.

Launching the Version Manager Desktop Client

Configuring projects

To configure your Version Manager projects, you can launch the Version Manager desktop client from within your IDE.

To launch the Version Manager desktop client:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))
- 2 Select the General tab.
- 3 Click the **Version Manager** button in the Launch group.

For more information

See the *Version Manager Administrator's Guide*.

About Setting Defaults for Version Manager Options

To save time and improve workflow, you can configure the Version Manager IDE client to reflect the way you normally work. This section describes how to set the following defaults:

- The default behavior for check-in and undo checkout operations
- Which program is used to display history reports
- Which Version Manager workspace to use

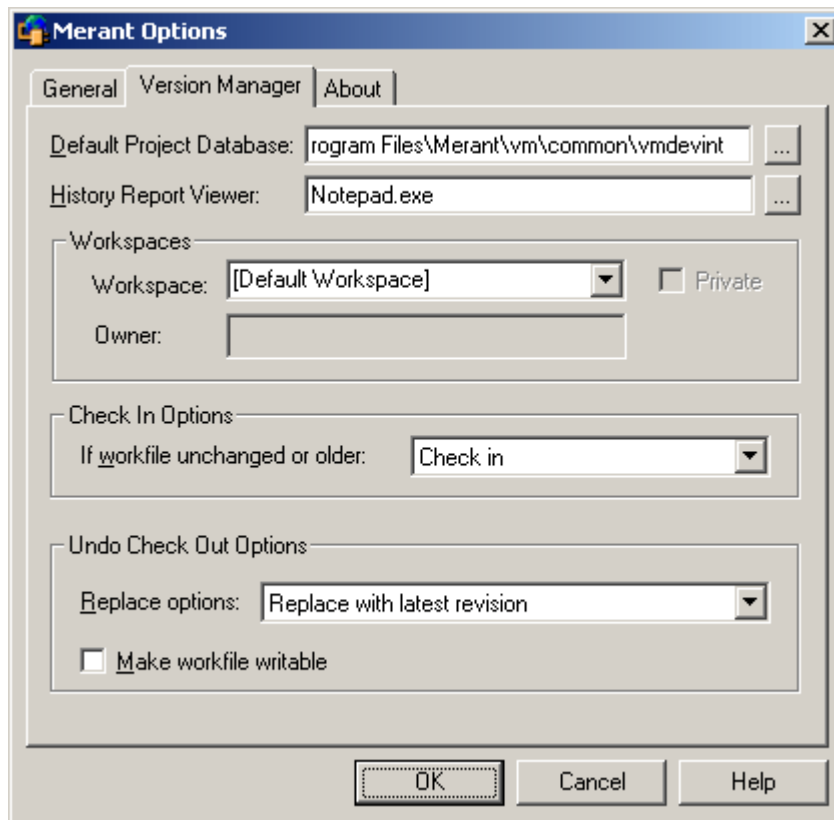
- Which Version Manager project database to open by default for operations such as version labeling

Scope of settings The settings described in this section are not project specific. Any changes to these settings will affect your working environment and persist from project to project.

Setting Defaults

To set defaults:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))



- 2 Under the Version Manager tab do any of the following:

Default project database

- To specify which project database will appear by default every time you add projects to source control, get projects from source control, or assign or modify version labels, enter the project database name and path in the **Default Project Database** field, or click the Browse button to select one. You can override this selection at the time of the operation.

History report viewer

- To specify a text viewer for viewing history reports, enter a text viewer executable name and path in the **History Report Viewer** field, or click the Browse button to select one. If no viewer is selected, Version Manager uses the default Windows .txt file viewer.

Workspaces

- Specify the Version Manager workspace to use. Your IDE controls the actual workfile location regardless of the Version Manager workspace you select, but the following values, as defined in the workspace, will be in effect:
 - **Default Version:** The revision Version Manager operates on (for actions such as checking out) when you do not specify a revision number or version label. For example, you could set the default version to be a specific floating label on a branch.
 - **Base Version:** Used to facilitate automatic branching.
 - **Branch Version:** Used to facilitate automatic branching.
 - **Default Promotion Group:** The lowest-level promotion group of the promotion model, if one is in effect.

In the **Workspace** field you can:

- Select the **Default Workspace** as defined in Version Manager.
- Select the **Root Workspace** as defined in Version Manager.
- Enter or select a workspace that is defined in Version Manager. The last 5 entries are retained in the list.

To enter a nested workspace, enter it as:
ParentWorkspace/ChildWorkspace.

To enter a private workspace, select the **Private** check box and enter the user ID of the owner of the workspace in the **Owner** field.



NOTE If a private workspace is nested below a public workspace, you cannot access it from the IDE client.

For more information on defining and using workspaces, see the *Serena ChangeMan Version Manager Administrator's Guide*.

Check-in options

- To specify default behavior when you check in a workfile that is unchanged or older than the previous revision, select one of the following from the **If workfile unchanged or older** drop-down menu in the Check In Options group:
 - **Prompt** asks what you want to do if the workfile is unchanged.
 - **Check in**, which is the default option, checks in the workfile even if it is unchanged.
 - **Don't check in** does not check in the workfile.



IMPORTANT! Visual Basic users should not change this setting from the default of **Check in**. See ["About Visual Basic Files" on page 233](#).

Undo checkout options

- To specify what happens to workfiles by default when you undo a checkout, select one of the following from the **Replace options** drop-down list in the Undo Check Out Options group:
 - **Replace with latest revision**, which is the default option, replaces the workfile with the tip revision.
 - **Replace with original** replaces the workfile with a fresh copy of the revision that was originally checked out.

- **Leave alone** leaves the workfile as it is at the time of the operation.
 - To make workfiles writable by default after you undo a checkout, select the **Make workfile writable** check box. This option is available only if you chose to replace the workfile via the **Replace options** drop-down list.
- 3 Click **OK**.

About Creating Source Control Projects

Once you have created and saved a project in your IDE, you can add it to an existing Version Manager project database. By default, when you add an IDE project to source control, a new Version Manager project is created.

IDE-specific instructions For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

About Adding Files to Source Control

By default, the following occurs when you add files to source control:

- If any project files are located in nested subdirectories under the root working directory of the IDE project, Version Manager creates nested subprojects that mirror the directory structure of the IDE project's workspace.
- Archives are created in the Version Manager project directories for each file that is added. By default, the name of each archive matches its originating workfile with the addition of an -arc suffix. Custom suffixes can be defined in the project database or project configuration.
- For each archive, the initial revision is checked in and no version label is assigned to the initial revision.

IDE-specific instructions For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Advanced options If your IDE supports advanced options, you can assign a promotion group or version label to the initial revision.

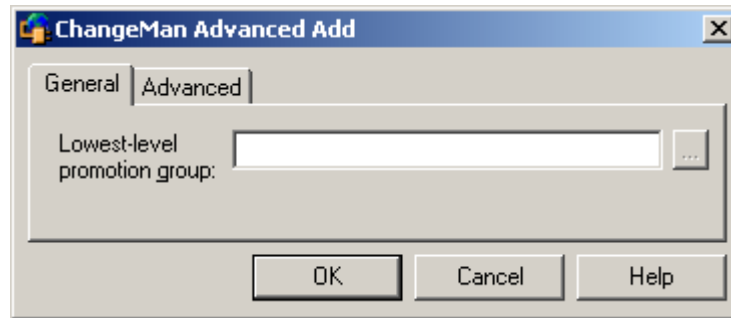
Returning Files to Source Control

If you re-add a file that was previously removed from source control, one of the following will occur:

- If the original archive is still present in the project archive directory, you will be prompted to check the file into the existing archive as a new revision.
- If the archive has been moved or deleted from the project archive directory, a new archive will be created, and the file will be checked in as the initial revision.

Advanced Add Options

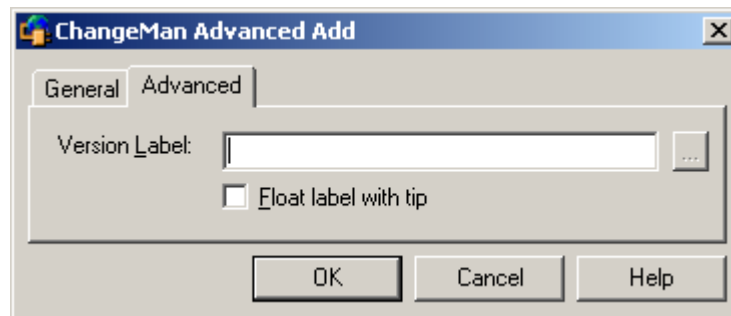
After you click the Advanced button in your IDE's add dialog box, the ChangeMan Advanced Add dialog box appears.



To set advanced add options:

- General tab options
- 1 If you are adding files to a project database or project with a defined promotion model, you can assign a promotion group to the initial revision by entering a lowest-level promotion group in the **Promotion Group** field, or by clicking the Browse button to select one. (Use the Version Manager desktop client to define a promotion model.)

- Advanced tab options
- 2 Under the Advanced tab, do any of the following:



- To assign a version label to the initial revision, enter the version label in the **Version Label** field or click the Browse button to select one.
- To keep the version label assigned to the latest revision in the archive, select the **Float label with tip** check box.

- 3 Click **OK**.
- 4 Your IDE's add dialog box may reappear; click **OK**.

The selected files are added to source control, creating archives in the archive directory specified for the project.

Shared file If you want to share a file with multiple Version Manager projects, see the next section.

About Sharing Files Across Projects

Why share? It may be necessary for multiple development projects to access and edit the same file. To do this, multiple projects within a Version Manager project database can share a single Version Manager archive.

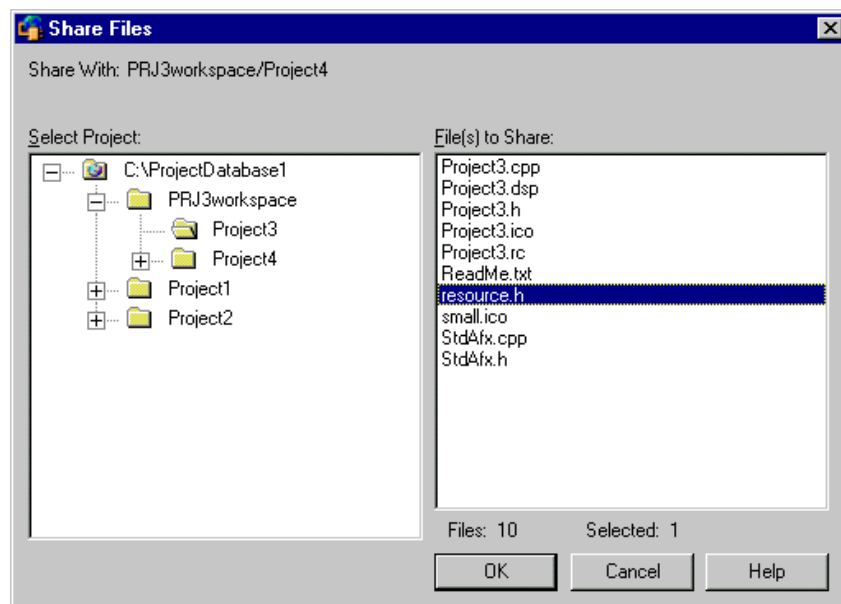
How share works When you share an archive, Version Manager copies the tip revision to your working directory. You can then check out, modify, and check in the file like any other. The archive is not physically copied, but changes to the file are stored in the shared archive.

NOTE You cannot share files across projects that are located in separate project databases. To share files across projects, the projects must be located in the current project database.

Sharing Files

To share a file:

- 1 Open the Share Files dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.)



The Share Files dialog box appears with the current Version Manager project displayed.

- 2 Under **Select Project**, select the project that contains the file(s) you want to share. Click the plus signs to expand the project database tree. The **File(s) to Share** pane displays all files in the selected project.
- 3 Under **File(s) to Share**, select the files whose archives you want to access.
- 4 Click **OK**. The latest revision of each file is copied to your project working directory.

About Removing Files from Source Control

When you remove a file from source control, Version Manager does not delete the workfile or Version Manager archive. The IDE project remains unchanged.

IDE-specific information For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.

Returning files to source control For information on returning files to source control, see ["Returning Files to Source Control"](#) on page 31.

Chapter 3

Setting Up Source Control with COM IDEs

Introduction	36
About Web Projects	36
Recommended Workflow	36
Supported Web Server Configurations	37
Configuring Web Server Security	37
Configuring Source Control Defaults	38
Adding Web Projects to Source Control	42
Removing Web Projects from Source Control	42
Restoring Web Files to Source Control	43
Checking Out a Previous Revision	43

Introduction

Contents and purpose	This chapter contains information common to setting up the Version Manager IDE client with supported COM compliant IDEs. The purpose of this chapter is to help administrators create and configure project databases and projects for web-based projects.
IDE-specific information	For information specific to your IDE, see Part 2, "IDE Reference," on page 83 .

About Web Projects

In a typical web development project, web application files are stored on a web server. Developers access and edit the files from local installations of development environments, such as Microsoft FrontPage.

With a source control system in place, only one developer may check out, edit, and update a file on the server at one time. This ensures that multiple users do not produce conflicting versions of the same files and makes it easier to track changes to each file.

For more information on how source control can help your team manage and track changes to files, see [Chapter 1, "Overview of Version Manager Source Control" on page 17](#).

Recommended Workflow

Administrators **We recommend that Project leads or administrators first follow these steps:**

- 1 Install the following to the web server:
 - FrontPage Server Extensions
 - Version Manager
 - The Version Manager IDE client

For information on installing the Version Manager IDE client in a web development environment, see the *Serena ChangeMan Version Manager Installation Guide*.
- 2 Configure web server security. See ["Configuring Web Server Security" on page 37](#).
- 3 Configure default settings for new source control projects. See ["Configuring Source Control Defaults" on page 38](#).
- 4 Add the IDE projects to source control. See ["Adding Web Projects to Source Control" on page 42](#).

All users **All users can then perform the following source control tasks:**

- Check out files. For IDE-specific information, see [Part 2, "IDE Reference," on page 83](#).
- Edit the files.

- Check in files. For IDE-specific information, see [Part 2, "IDE Reference,"](#) on page 83.



IMPORTANT! Before implementing source control, make sure that Version Manager, the FrontPage Server Extensions, and the Version Manager IDE client are properly installed to the web server.

Supported Web Server Configurations

The Version Manager IDE client is compatible with the following web server configurations:

Use this web server...	With this operating system...
Internet Information Server 6	Windows 2003 Server
Internet Information Server 5	Windows 2000 Server

Configuring Web Server Security

The Version Manager IDE client relies on Windows security to control access to and from the web server. Windows security requires assigned user accounts for all operations.

You can also use FrontPage user permissions to manage access to webs on FrontPage-enabled servers.

Windows Security

The Version Manager IDE client is fully compatible with Windows security, but we recommend using the following options:

- Directory permissions
- Authentication

Windows Directory Permissions

Restrict access
with Windows
security

Windows user privileges, as defined on the web server, determine the level of access each user has to files and directories on the server. Every HTTP request to the web server from a FrontPage client runs under a user account on the web server. The rights granted to that user account on the web server define the operations that can be performed during an HTTP request.

To ensure that developers can access, create, and modify project files on the web server, you must complete the following steps:

- 1 Create user accounts on the web server for every developer.
- 2 Do one of the following:
 - Add each user account to the *Administrator* user group.

- Create a new user group, then add each user account to the new group.
- 3** Grant *Full Control* of the following directories to each group to which you assigned the user accounts:
- The Version Manager project database directory and all subdirectories
 - All FrontPage web project directories and subdirectories
 - The \System32 directory and all subdirectories
 - The system \TEMP directory

The integration of Windows security with different web server configurations may vary. For example, IIS checks requests against the Windows user accounts (user name and password), then impersonates that account to process the request. If a user does not exist, or if a user enters an incorrect password, then the user will be prompted for a valid user ID and password.

For more information on creating user accounts, adding users to groups, and defining permissions for directories, see the Windows documentation.

Windows Authentication

Encrypt user names and passwords

Windows authentication automatically encrypts user names and passwords. Actual user names and passwords are never sent over a network; they are encrypted over multiple transactions, providing better security against would be "hackers" attempting to monitor traffic between the client and server.

FrontPage User Permissions

FrontPage has defined three types of users, which can be assigned to Windows user groups on FrontPage-enabled IIS and Peer web servers:

This user type...	Has these privileges...
Administrator	Administrative, authoring, browsing
Author	Authoring, browsing
Visitor (end-users)	Browsing

When setting up your user permissions, keep in mind that user permissions are defined on a per-web basis. You cannot control permissions on a per-file or per-directory basis.

All FrontPage sub-webs either inherit the permissions of the root web or are specifically assigned their own unique permissions.

Configuring Source Control Defaults

Prerequisites

Once you have installed Version Manager, FrontPage Server Extensions, and the Version Manager IDE client to your web server, you can begin setting up Version Manager

projects. For more information on installing the Version Manager IDE client, see the *Version Manager Installation Guide*.

**IMPORTANT!**

- You must designate a default project database before setting up Version Manager projects. You select a default project database during installation of the Version Manager IDE client. See the *Serena ChangeMan Version Manager Installation Guide*.
- If at some point you designate a new default project database, you must restart your COM server application.

Master
configuration file

Version Manager automatically creates a master configuration file for each project database you create. This file controls the configuration of the project database and all the projects within it.

Every project created within the default project database inherits the settings contained in the master configuration file. You may need to modify these default configuration options before creating new projects. You can change these settings from the Version Manager desktop client.

Once the default project database is configured, you can begin adding projects to source control.

For more
information

See the *Version Manager Administrator's Guide*.

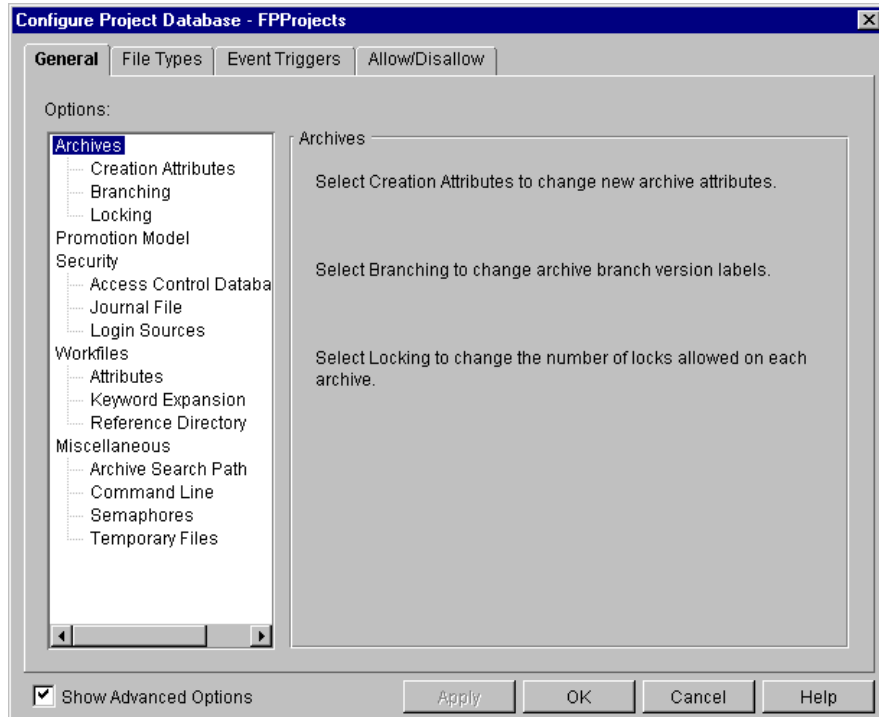
Editing Default Project Settings

To edit default settings for new Version Manager projects, you must edit the master configuration file for your default project database. New projects in the default project database inherit all settings in the master configuration file

**IMPORTANT!**

- Version Manager projects associated with web projects rely on Windows security. Do not configure an access control database for your web projects. See "[Configuring Web Server Security](#)" on page 37.
- Do not configure promotion models for web projects. Promotion groups are not supported for Version Manager projects used in a web development environment.
- To work properly with web projects, Version Manager projects rely on default workspace settings. Do not override default workspace settings.

Configure project database To edit the master configuration file, select the default project database in the Version Manager desktop client then select Admin | Configure Project. The Configure Project Database dialog box appears.



Protect settings Every option you set in the Configure Project Database dialog box is stored in the master configuration file. To ensure that these settings cannot be reset by project configuration files, disallow them under the Allow/Disallow tab. Disallowing options in the master configuration file forces Version Manager to operate according to the settings in the master configuration file.

Mandatory settings There are two main project configuration settings that must be properly set before using a project in a web environment:

- Delta Files
- Keyword Expansion

Delta Files

Delta files contain the changes made between one instance of a workfile and its predecessor. You can choose to store just the deltas or to store complete copies of the workfile.

By default, some text files are stored as deltas. You can change these options under the File Types tab of the Configure Project Database dialog box.



IMPORTANT! Special considerations for binary files:

- While storing complete copies makes the archive larger, it is more efficient for performing actions on large binary files.
- By default, project databases do not store a set of deltas for revisions of binary files.

Keyword Expansion

Keywords are special character strings that are embedded in workfiles. In source code, it is common to place keywords either in a comment or in an initialized string declaration.

By default, keywords are expanded in some text files. You can change these options under the File Types tab of the Configure Project Database dialog box.



IMPORTANT! Special considerations for binary files:

- You must not use keyword expansion on ANY binary file.
- By default, keywords are not expanded in binary files.
- To ensure that the default setting for keyword expansion cannot be reset by project configuration files, disallow it under the Allow/Disallow tab of the Configure Project Database dialog box.

Enabling External Source Control

Before you can add COM projects to source control, you must configure the web server to use external source control.



IMPORTANT! Your Windows user account must have the rights needed to launch the Computer Management Console and the Internet Information Services Manager.

To enable external source control:

- 1 From the web server, launch the Computer Management Console or the Internet Information Services Manager.
- 2 Right-click on the default web site. A pop-up menu appears.
- 3 Select Properties. The Properties dialog box appears.
- 4 Select the Server Extensions tab.
- 5 Select **Use external** from the **Version control** list.



NOTE If **Use external** does not appear in the list, the Version Manager Development Interface is not correctly installed on the server. Please reinstall it.

- 6 Click **OK**. The Source Control Project dialog box appears.
- 7 Click **OK**.

Adding Web Projects to Source Control

Prerequisites Once you have configured the default settings for new Version Manager projects, you can place your web projects under source control.

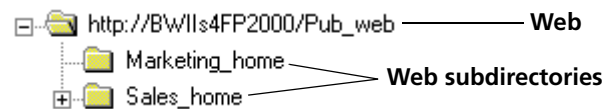


IMPORTANT! Do not use the Version Manager desktop client to add files to a web-based project. Add files only from within the Version Manager IDE client.

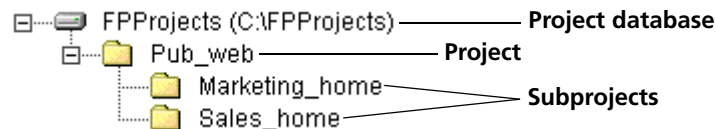
Nested Project Structure

When you place a web project under source control, Version Manager automatically creates a new source control project in the default project database. This new source control project mimics the structure of the web project. If your web project contains subdirectories, the subdirectories appear in Version Manager as subprojects.

Example For example, in the illustration below, the web project Pub_web contains two subdirectories called Marketing_home and Sales_home:



If you place Pub_web under source control, the Version Manager project structure appears as follows in the Version Manager desktop client:



IDE-specific information For information specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Removing Web Projects from Source Control

Removing a project from source control does *not* delete the source control archives; it simply removes the association with the Version Manager project. You can always add the project back to source control later.



IMPORTANT! Re-adding web projects to source control does not re-connect files to their corresponding Version Manager archives. Instead, new archives with mangled names are created in the existing project archive directories. See the next section.

IDE-specific information For information specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Restoring Web Files to Source Control

If a file in an IDE project loses its source control status, you must complete the following steps to successfully restore the file to source control:

- 1 If the file is still in the IDE project, do the following:
 - a Create a temporary folder in the project and copy the file to the new folder. The copy of the file is added to source control.
 - b Delete the original file from the IDE project.
- 2 Open the associated Version Manager project in the Version Manager desktop client. If the file is still in the source control project, delete the file.
- 3 In your IDE, add or copy the file back from the temporary location to its original location. It is restored to source control, and a new archive is created.
- 4 Delete the temporary folder and the copy of the file you made in Step 1 from your web project.

Checking Out a Previous Revision

By design, Visual InterDev and FrontPage allow you to check out only the latest (tip) revision of a file. However, you can get a previous revision with the Version Manager desktop client, then check it back in as the tip revision. The previous revision is then available to check out from within your IDE.

The procedure to check out a previous revision has three parts:

- 1 Get the revision.
- 2 Lock the tip revision.
- 3 Check the revision back in as the tip.



NOTE

- Before you get a previous revision, make sure the workfile that you want to change is checked in.
- Depending on how security is set up within your organization, you may need to have your Web Administrator perform this task.

Part 1: Get the Revision

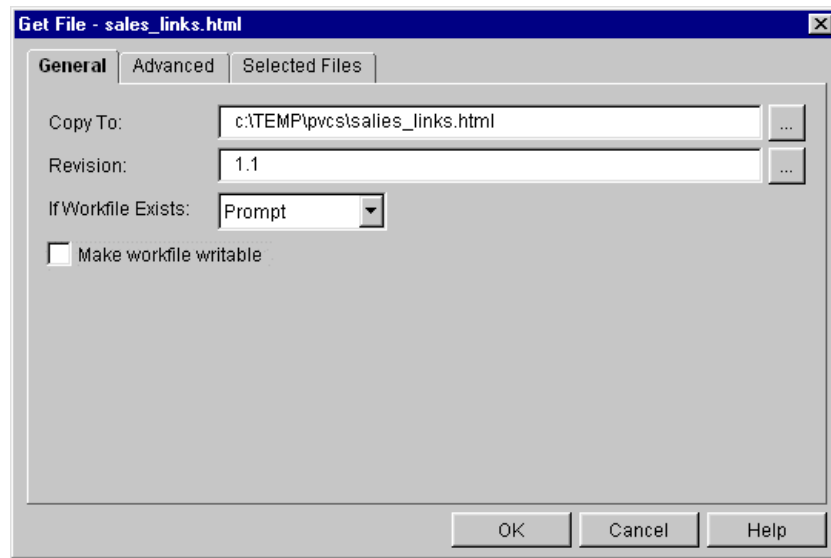
To get a previous revision:

- 1 Open the project in the Version Manager desktop client.
- 2 In the File pane of the main window, select the file you want to restore to a previous revision.

- 3 In the Revision pane of the main window, select the revision that you want to restore to the tip.



- 4 Select Actions | Get. The Get File dialog box appears.



- 5 Enter the location to which the workfile will be copied in the **Copy To** field, or click the browse button to select one.
- 6 Click **OK**. Version Manager copies the file to the location you specified.

Part 2: Lock the Tip Revision

To lock the tip revision:

- 1 Select the tip revision in the Revision pane.
- 2 Select Actions | Lock. The Lock File dialog box appears.
- 3 Click **OK**. The file is locked.

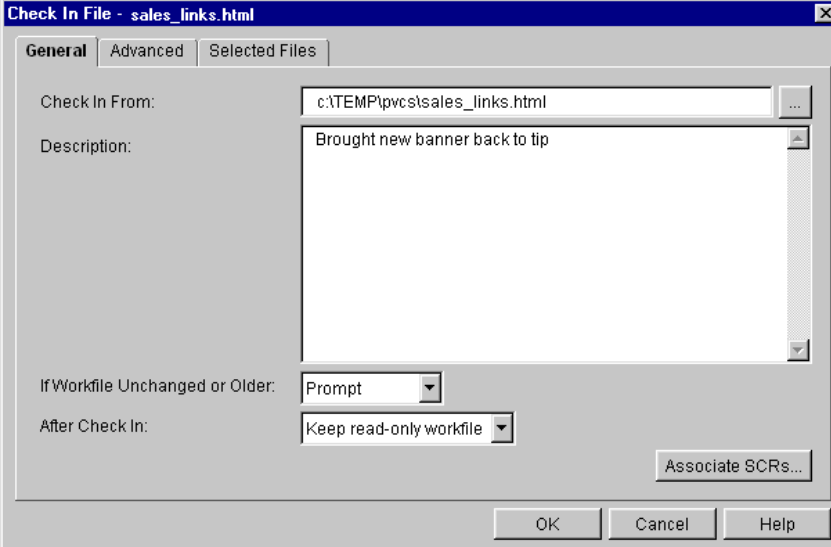
Part 3: Check the Revision Back In as the Tip

Checking a previous revision back in as the tip makes the previous revision accessible for checkout in your IDE.

To check a previous revision in as the tip:

- 1 Select the previous revision in the Revision pane.

- 2 Select Actions | Check In. The Check In File dialog box appears.



The image shows a 'Check In File' dialog box for the file 'sales_links.html'. It has three tabs: 'General', 'Advanced', and 'Selected Files'. The 'General' tab is active. It contains the following fields and controls:

- Check In From:** A text box containing 'c:\TEMP\pvc\sales_links.html' with a browse button (...).
- Description:** A text area containing 'Brought new banner back to tip'.
- If Workfile Unchanged or Older:** A dropdown menu set to 'Prompt'.
- After Check In:** A dropdown menu set to 'Keep read-only workfile'.
- Buttons:** 'OK', 'Cancel', 'Help', and 'Associate SCRs...'.

- 3 Under the General tab, do the following:
 - a Enter a revision description in the **Description** field.
 - b Select **Check In** from the **If Workfile Unchanged or Older** drop-down list.
- 4 Under the Advanced tab, enter the tip revision number in the **Revision** field or click the browse button to select it.
- 5 Click **OK**. The previous revision is stored as the new tip revision.

The next time you edit this file in your IDE, you will see that the contents of this file has reverted to that of the previous revision.



NOTE If you want to update your web site with this previous revision, use the Version Manager IDE client to check the file out and then check it back in. The previous revision will be updated to your web site.

Chapter 4

Using Source Control

Introduction	48
Logging In to Version Manager Projects	48
About Getting Files	48
About Checking Out Files	50
About Undoing Checkout	52
About Checking In Files	53
About Version Labels	56
About Promotion Groups	61

Introduction

Contents This chapter contains information common to performing the following operations with supported IDEs, including default behaviors and advanced options:

- Logging in
- Getting files
- Checking out files
- Undoing a checkout
- Checking in files
- Managing version labels

Purpose The purpose of this chapter is to help your development team effectively use the source control features available through the Version Manager IDE client.



NOTE Your IDE may not support some of the features described in this chapter, such as advanced options and certain default behaviors.

IDE-specific information For information specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Logging In to Version Manager Projects

Depending on how security is configured for the Version Manager project, you may be prompted for a user ID and password when opening a project.

If the Version Manager Login dialog box appears, do the following:

- 1** Enter your user ID in the **User Name** field and your password in the **Password** field.
The **Location** field displays the name of the project database that contains the project you are logging in to.
- 2** Click **OK**.

About Getting Files

Defaults When you get a file, the following occurs by default:

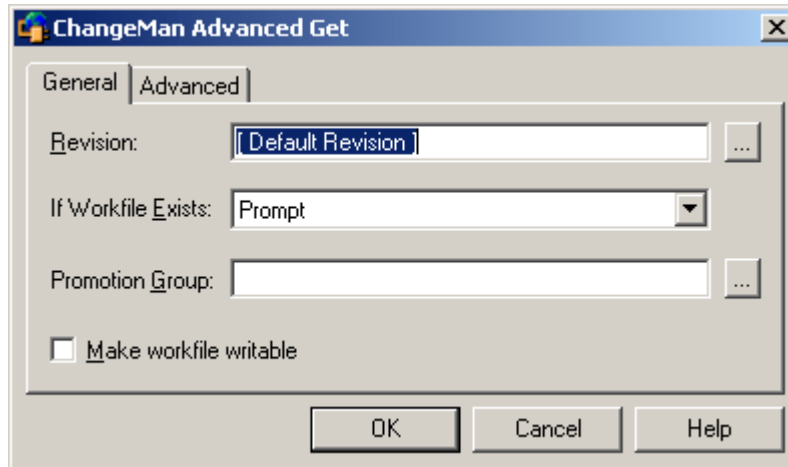
- A read-only copy of the default revision is created in the workfile location.
- If a writable workfile exists in the current workfile location, a prompt displays before overwriting the workfile. If a read-only workfile exists in the current workfile location, there is no prompt for confirmation.
- The archive remains unlocked, allowing other users to check out and edit the file.

IDE-specific instructions For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Advanced options If your IDE supports advanced options, you can select a different revision or browse for a revision associated with a particular version label or promotion group in the ChangeMan Advanced Get dialog box.

Advanced Get Options

After you click the Advanced button in your IDE's get dialog box, the ChangeMan Advanced Get dialog box appears.



To select advanced get options:

General tab options

1 Under the General tab, do any of the following:

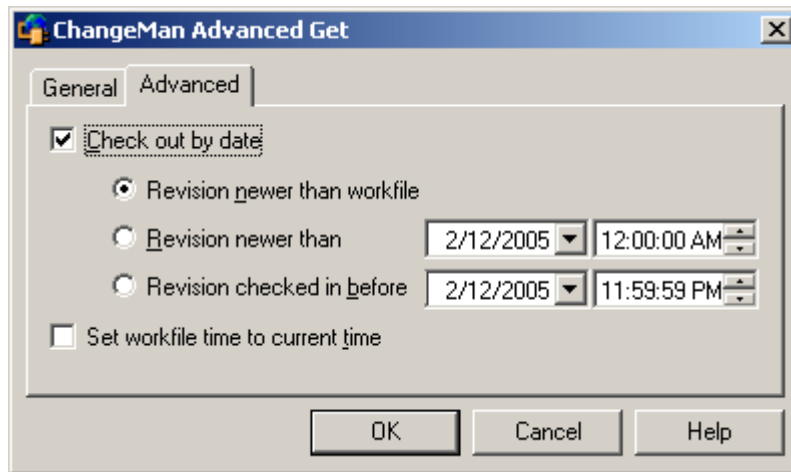
- To select a revision other than the default revision, enter a revision number or version label in the **Revision** field or click the Browse button to select one.



NOTE To specify a version label that begins with a numeral, precede the version label with a backslash (\).

- To specify what to do if a writable copy of the file already exists in the working directory, select one of the following from the **If Workfile Exists** drop-down list:
 - **Prompt:** asks what you want to do if a duplicate file is detected during a get
 - **Overwrite:** replaces the existing workfile with the new file
 - **Don't Overwrite:** does not add the file to the workfile location
- To get a revision by promotion group, enter a promotion group in the **Promotion Group** field, or click the Browse button to select one. The files must belong to a project or project database that has a defined promotion model.
- To get a writable copy of the workfile so that you can edit it, select the **Make workfile writable** check box.

- Advanced tab options **2** Under the Advanced tab of the ChangeMan Advanced Get dialog box, do any of the following:



- To select a revision by date, select the **Check out by date** check box and then select one of the following:
 - **Revision newer than workfile:** gets the revision only if it is newer than the date of its corresponding workfile
 - **Revision newer than:** gets a revision that was last checked in after the specified date and time
 - **Revision checked in before:** gets a revision that was last checked in before the specified date and time
- To update the timestamp of the file to the current date and time, select the **Set workfile time to current time** check box.

3 Click **OK**.

4 Your IDE's get dialog box may redisplay; click **OK**.

The selected revisions are copied to the workfile location.

Getting IDE Projects from Source Control

Getting a project from source control copies the latest revision of every file in the project to a directory of your choice. This is useful if you must update your working copy of the project with all recent changes made by other team members.

- IDE-specific instructions Some IDEs do not support this feature. For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

About Checking Out Files

- Defaults To edit a file that is under source control, you must first check it out. When you check out a file, the following occurs by default:

- The default revision is locked.

- A writable copy of the default revision is created in the workfile location.
- If a writable workfile exists in the current workfile location, a prompt displays before the workfile is overwritten. If a read-only workfile exists in the current workfile location, there is no prompt for confirmation.
- The promotion group currently assigned to the revision is retained, if a promotion model is in effect.

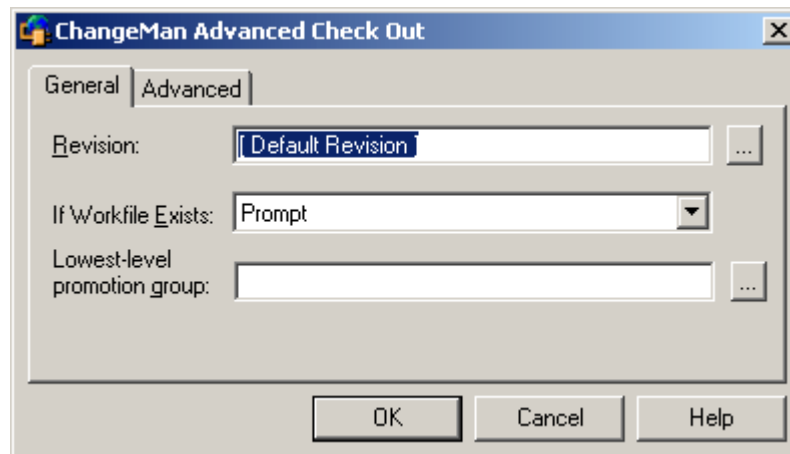
Shared files When you check a file out from a shared archive, Version Manager copies a revision of the file to your working directory and locks the shared archive. Changes to the file are stored in the file's shared archive.

IDE-specific instructions For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Advanced options If your IDE supports advanced options, you can select a different revision or browse for a revision associated with a particular date, promotion group, or version label.

Advanced Checkout Options

After you click the Advanced button in your IDE's checkout dialog box, the ChangeMan Advanced Check Out dialog box appears.



To select advanced checkout options:

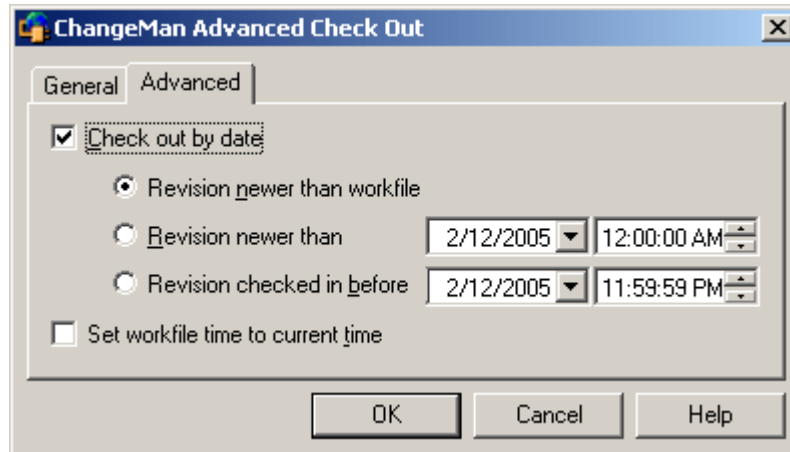
- General tab options**
- 1 Under the General tab, do any of the following:
 - To check out a revision other than the default revision, enter a revision number, version label, or promotion group in the **Revision** field, or click the Browse button to select one.



NOTE To specify a version label that begins with a numeral, precede the version label with a backslash (\).

- To specify what to do if a writable copy of the file already exists in the working directory, select one of the following from the **If Workfile Exists** drop-down list:
 - **Prompt:** displays a prompt asking what to do when a duplicate workfile exists
 - **Overwrite:** replaces the duplicate file with the new file

- **Don't overwrite:** does not add the file to the workfile location
 - If the selected files are associated with a project database or project with a defined promotion model, enter a promotion group to associate with the workfile, or click the Browse button in the **Promotion Group** field to select one.
- Advanced tab options 2 Under the Advanced tab of the ChangeMan Advanced Check Out dialog box, do any of the following:



- To select a revision by date, select the **Check out by date** check box and then select one of the following:
 - **Revision newer than workfile:** checks out the revision only if it is newer than the date of its corresponding workfile
 - **Revision newer than:** checks out a revision that was last checked in after the specified date and time
 - **Revision checked in before:** checks out a revision that was last checked in before the specified date and time
 - To update the timestamp of the file to the current date and time, select the **Set workfile time to current time** check box.
- 3 Click **OK**.
- 4 Your IDE's checkout dialog box may redisplay; click **OK**.

Writable copies of the selected revisions are checked out to the workfile location and the revisions are locked.

About Undoing Checkout

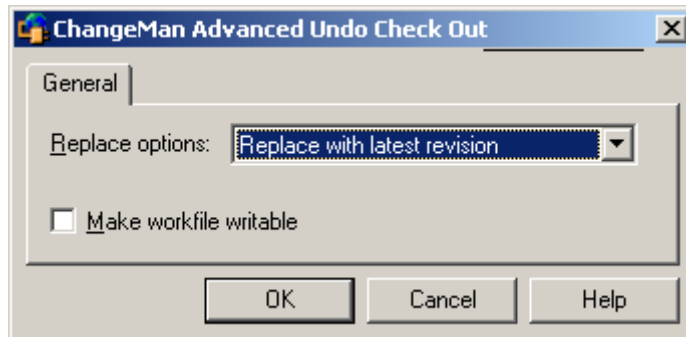
- Defaults Undoing a checkout unlocks a revision without updating the associated archive with changes. This allows other users to check out the revision. When you undo a checkout, the following occurs by default:
- The revision is unlocked.
 - The workfile is replaced with a read-only copy of the latest revision.

IDE-specific instructions For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Advanced options If your IDE supports advanced options, you can choose to leave the workfile writable, replace it with the original, or leave it alone.

Advanced Undo Checkout Options

After you click the Advanced button in your IDE's undo checkout dialog box, the ChangeMan Advanced Undo Check Out dialog box appears.



To select advanced undo checkout options:

- 1 To specify what to do with the current workfile in the working directory, select one of the following from the **Replace options** drop-down list:
 - **Replace with latest revision:** replaces the workfile with a copy of the latest revision of the file. Any changes you made to the workfile will be lost.
 - **Replace with original:** replaces the workfile with a copy of the locked revision of the file. Any changes you made to the workfile will be lost.
 - **Leave alone:** retains the workfile in its current state.
- 2 To leave a writable copy of the workfile in the working directory, select the **Make workfile writable** check box.
- 3 Click **OK**.
- 4 Your IDE's undo checkout dialog box may redisplay; click **OK**.

The archive is unlocked.

About Checking In Files

Defaults Checking in a workfile preserves the changes to the file in a new revision. By default, the following occurs:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.

- The revision that was checked out is unlocked.



NOTE By default, the IDE client will check in a file even if it is unmodified or older than the latest revision. To change this default, see ["Setting Defaults" on page 29](#).

If you are working in Visual Basic, you should not change this default. For more information, see ["About Visual Basic Files" on page 233](#).

IDE-specific
instructions

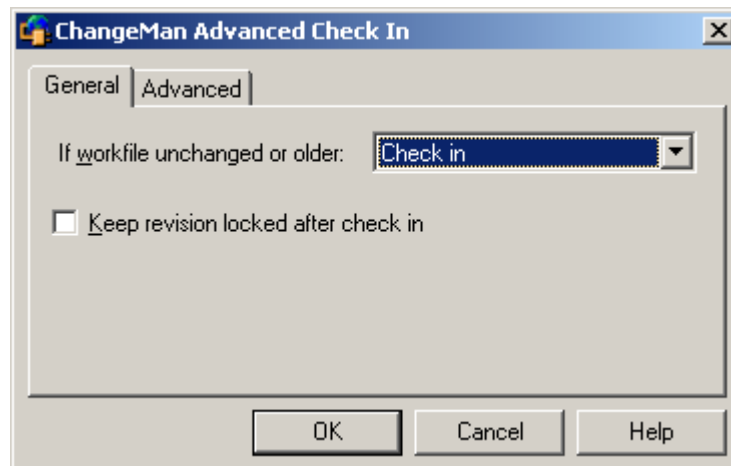
For instructions specific to your IDE, see [Part 2, "IDE Reference," on page 83](#).

Advanced options

If your IDE supports advanced options, you can assign a version label, force a branch, lock the new revision, or choose what happens if the workfile is unchanged or older than the previous revision.

Advanced Check-In Options

After you click the Advanced button in your IDE's check-in dialog box, the ChangeMan Advanced Check In dialog box appears.

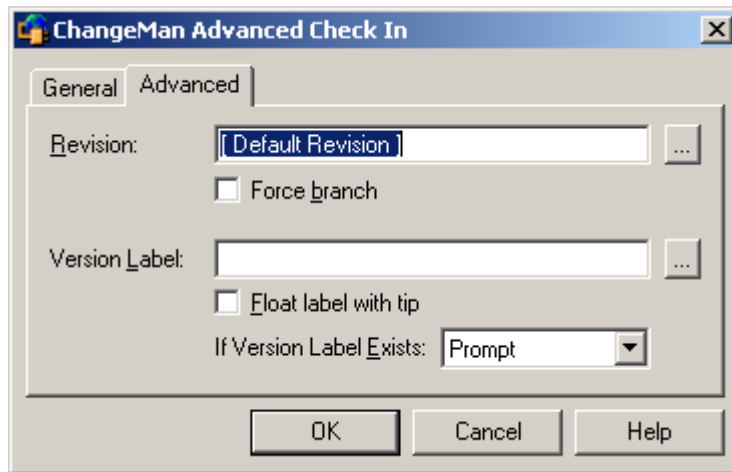


To select advanced check-in options:

General tab
options

- 1 Under the General tab, do any of the following:
 - To specify what to do if any of the files you are checking in are unchanged or older than the previous revisions, select one of the following from the **If workfile unchanged or older** drop-down list:
 - **Prompt:** displays a prompt asking what you want to do if the workfile is unchanged
 - **Check in:** checks in the file even if it is unchanged
 - **Don't check in:** does not check in the file
 - To lock the revision that is created when the file is checked in, select **Keep revision locked after check in**.

- Advanced tab options **2** Under the Advanced tab of the ChangeMan Advanced Check In dialog box, do any of the following:



- If you have multiple revisions of the file checked out, enter the revision in the **Revision** field that you want to check the file into, or click the Browse button to select one.
- Enter a new revision number in the **Revision** field to override the default increment. For example, if the archive currently contains two revisions (1.0 and 1.1), you can check the file in as revision 1.5.
- To create a branch from the revision you are checking the file into, select the **Force branch** check box. A branch is a separate line of development consisting of one or more revisions that diverge from the main line of development (trunk).
- To assign a version label to the revision, enter the version label in the **Version Label** field, or click the Browse button to select one.
- To keep the version label associated with the latest (tip) revision of the current trunk or branch, select the **Float label with tip** check box.
- To specify what to do if an identical version label is already assigned to a revision within the selected archive, select one of the following from the **If Version Label Exists** drop-down list:
 - **Prompt:** displays a prompt asking what you want to do if an identical version label exists
 - **Reassign:** reassigns the identical version label to the revision you are checking in
 - **Don't reassign:** cancels check-in

- 3** Click **OK**.

- 4** Your IDE's check-in dialog box may redisplay; click **OK**.

The file is checked in.

About Version Labels

- What are version labels?** Version labels are tags used to identify a specific revision within an archive. Typically, version labels are used to identify the revisions that make up a specific product release, such as "Beta Test 1".
- Assign a version label to a specific revision when you want to distinguish the revision from other revisions within the same archive or group of archives.
- Using version labels** Use the Version Manager Options dialog box to perform version label functions such as assigning, renaming, reassigning, and deleting version labels.



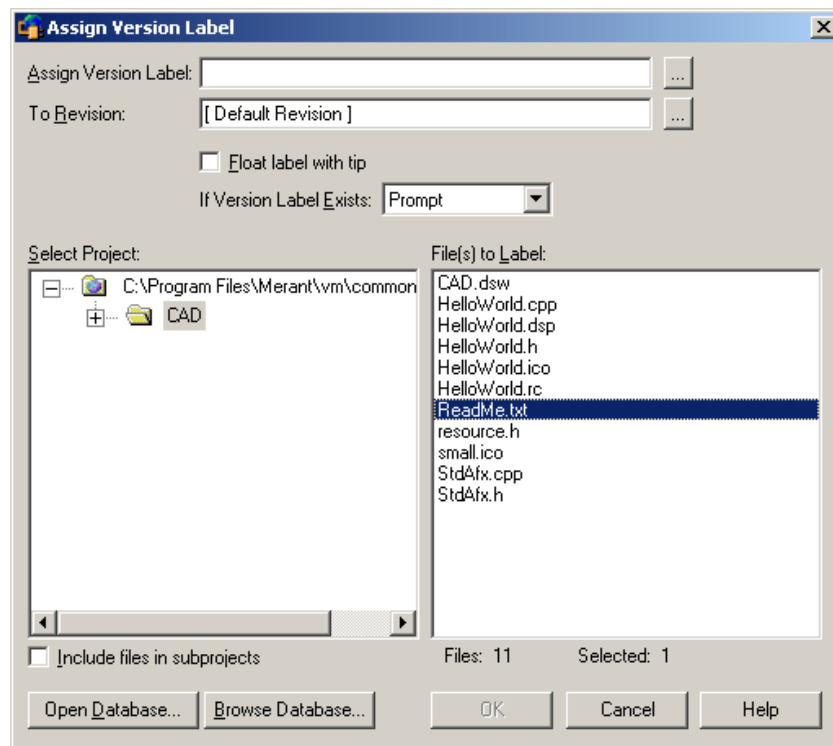
NOTE You can also assign version labels when checking in files. See ["About Checking In Files" on page 53](#).

Assigning Version Labels

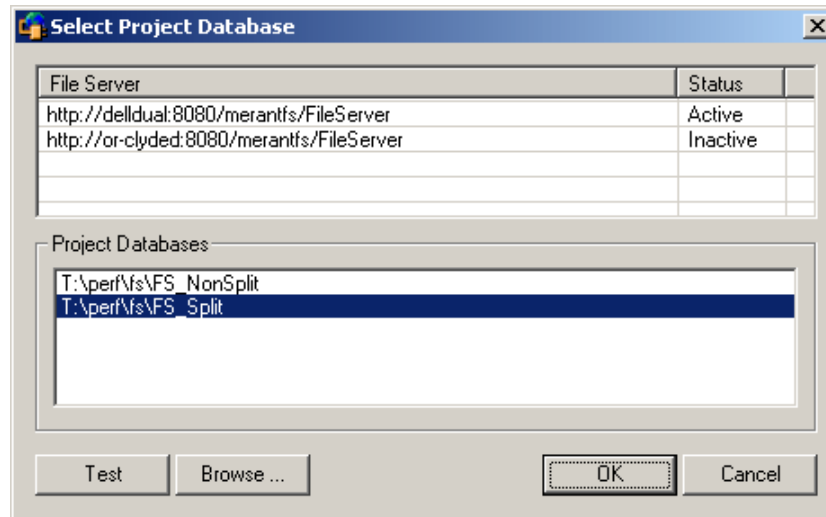
You can assign a version label to specific revisions in one or more archives, projects, or an entire project database.

To assign a version label:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83](#).)
- 2 Select the General tab and click the Assign button in the Manage Version Labels group. The Assign Version Label dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the files you want to label.
- 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files you want to label from under **Files to Label**.



TIP To operate on all listed files, click OK without selecting any files. A prompt asks if you wish to operate on all files. Click Yes.

- 7 In the **Assign Version Label** field, enter the version label name, or click the Browse button to select one.
- 8 In the **To Revision** field, enter the number of the revision to assign the label to, or click the Browse button to select one. If you do not select a revision, the label is assigned by default to the tip revision of every file.

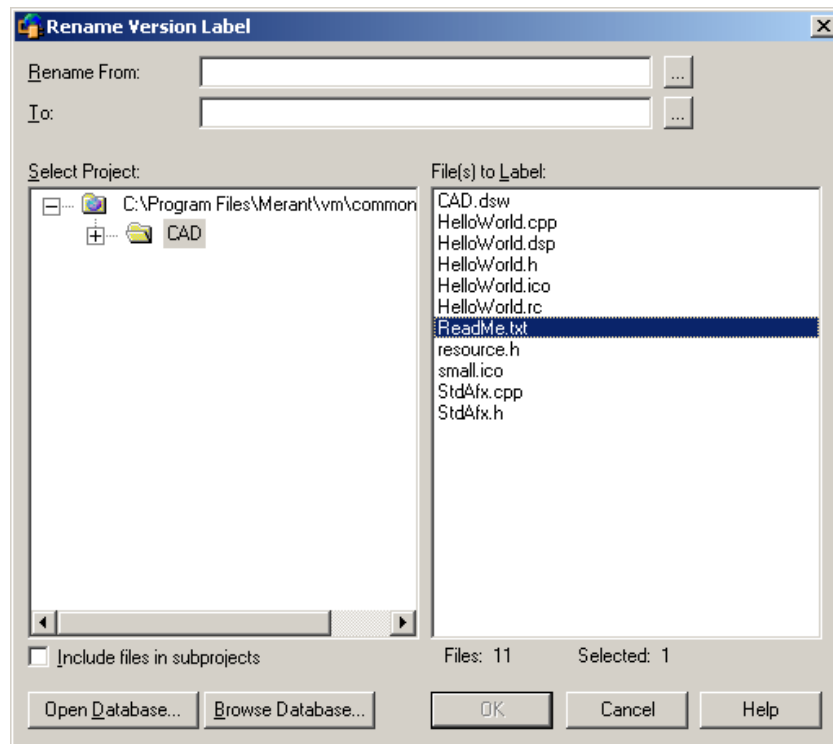
- 9 To allow the version label to move with the latest (tip) revision of each file, select the **Float label with tip** check box.
- 10 To specify what to do if an identical version label is already assigned to a revision in the selected archive, select one of the following from the **If Version Label Exists** drop-down list:
 - **Prompt:** displays a prompt asking what you want to do if an identical version label exists
 - **Reassign:** reassigns the identical version label to the revision
 - **Don't reassign:** does not assign a version label to the revision
- 11 Click **OK**.

Renaming Version Labels

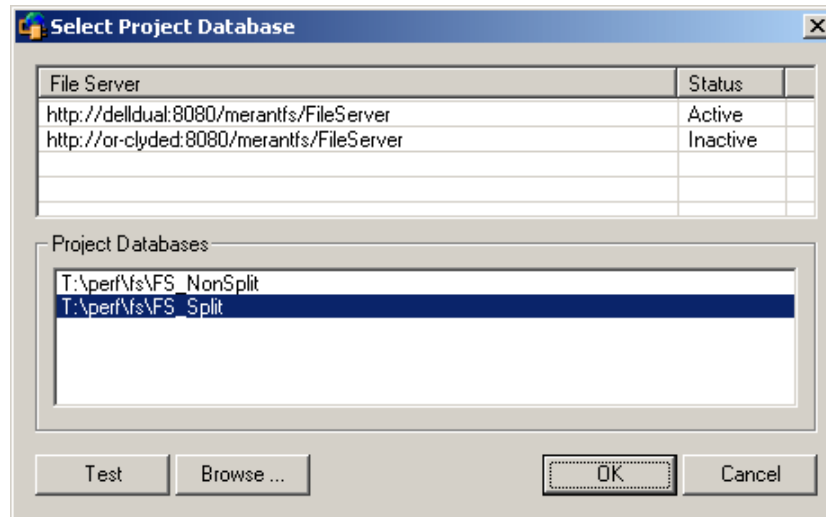
You can rename existing version labels in one or more archives, a project, or an entire project database.

To rename a version label:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.)
- 2 Select the General tab and click the **Rename** button in the Manage Version Labels group. The Rename Version Label dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the label you want to rename.
- 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files with the label you want to rename from under **Files to Label**.



TIP To operate on all listed files, click **OK** without selecting any files. A prompt asks if you wish to operate on all files. Click **Yes**.

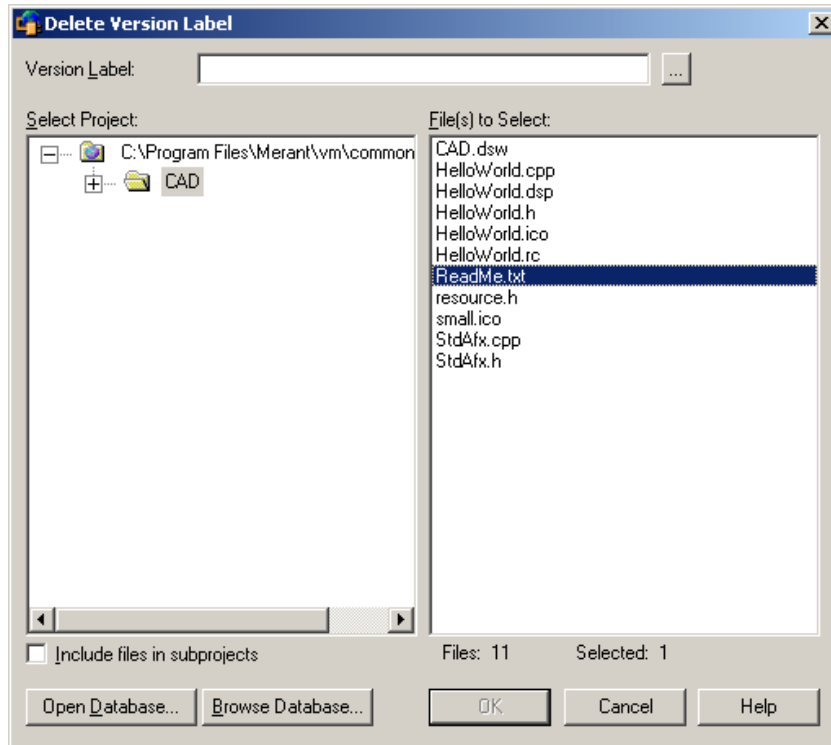
- 7 In the **Rename From** field, enter the version label that you want to rename, or click the Browse button to select one.
- 8 In the **To** field, enter the new version label, or click the Browse button to select one.
- 9 Click **OK**.

Deleting Version Labels

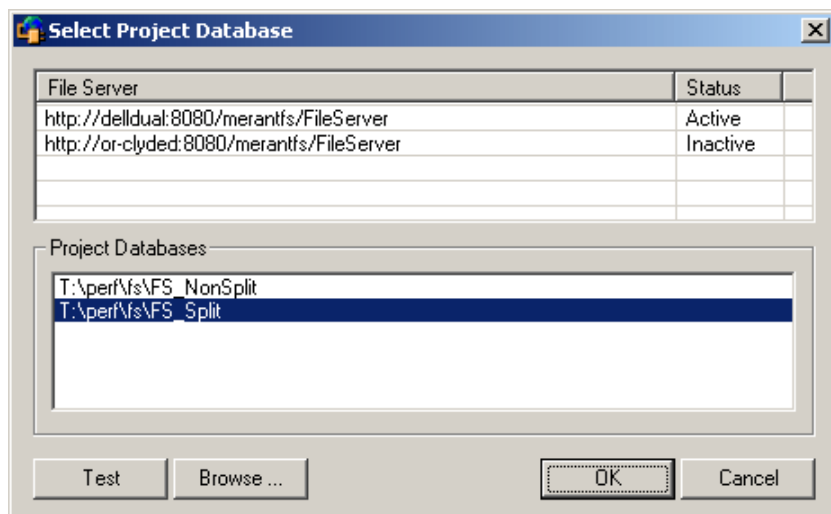
You can delete version labels when they are no longer needed.

To delete a version label:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.)
- 2 Select the General tab and click the **Delete** button in the Manage Version Labels group. The Delete Version Label dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (`http://SystemName:8080/serenafs/FileServer`) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the label you want to delete.
 - 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files from which you want to delete a label from under **Files to Select**.



TIP To operate on all listed files, click OK without selecting any files. A prompt asks if you wish to operate on all files. Click Yes.

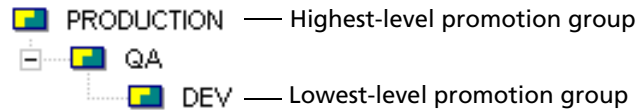
- 7 In the **Version Label** field, enter the version label name, or click the Browse button to select one.
- 8 Click **OK**.

About Promotion Groups

Before you begin... Before you can begin working with promotion groups, you must have a promotion model set up for your project database. A *promotion model* is a hierarchy of milestones in a development cycle. These milestones are represented by promotion groups. For information on setting up a promotion model, see the *Serena ChangeMan Version Manager Administrator's Guide*.

What is a promotion group? A promotion group is a milestone within a promotion model hierarchy. When a promotion model is created for a project database, you assign revisions to the lowest-level promotion group. As development matures and reaches specified milestones, authorized users can promote revisions within the promotion model hierarchy. Development is considered complete when a revision reaches the highest-level promotion group, the top of the promotion model hierarchy.

The following figure is an example of a simple, but typical, promotion model.



Why use promotion groups?

Promotion groups are meant for tracking development as a revision moves through the different milestones in your development process. They help you regulate software changes by making it necessary to associate locked revisions, which are the only revisions that can be edited, with the lowest-level promotion group. You can also use promotion groups to control access to source code by integrating a promotion model with various security options.

Promotion groups are useful in development environments where formal procedures are in place for moving software from one stage to the next, and where Project Team Members have different but well defined responsibilities and tasks.

Promote permissions

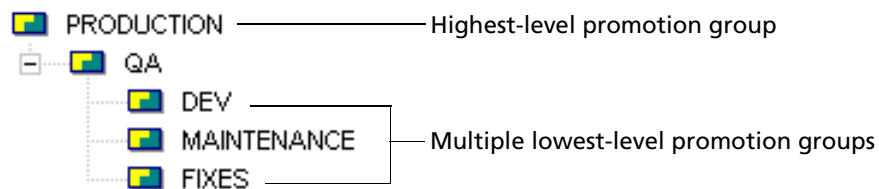
Project Leaders or Administrators are typically the only users who have the authority to promote revisions. To be able to promote revisions, you must have promote permissions assigned to you by your Administrator.

Checking Out Revisions Assigned to a Promotion Group

An important rule to remember with promotion groups: you can only check out revisions to the lowest-level promotion group, the level reserved for development work. Regardless of what promotion level a revision has reached, when you check out and lock a revision, you must assign the revision to a lowest-level promotion group to continue development.

Workspace settings may be used to define a Default Promotion Group. If a Default Promotion Group is not defined for the active workspace, Version Manager will either:

- Prompt you to select a lowest-level promotion group if more than one is defined within a promotion model, or
- Use the lowest-level promotion group if only one is defined within a promotion model.



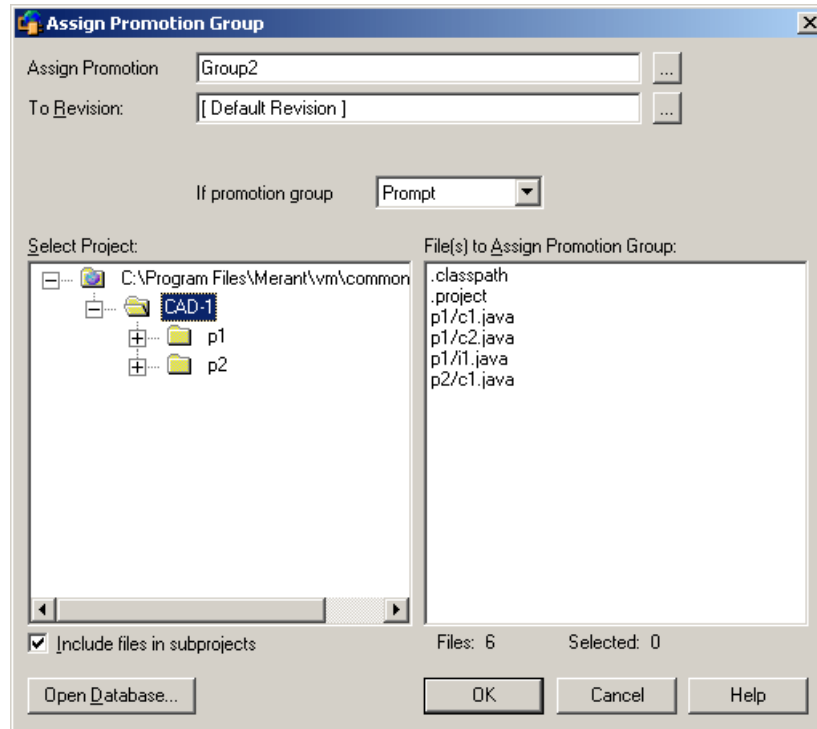
For a comprehensive list of promotion model rules, see the *Serena ChangeMan Version Manager Administrator's Guide*.

Assigning a Promotion Group to Revisions

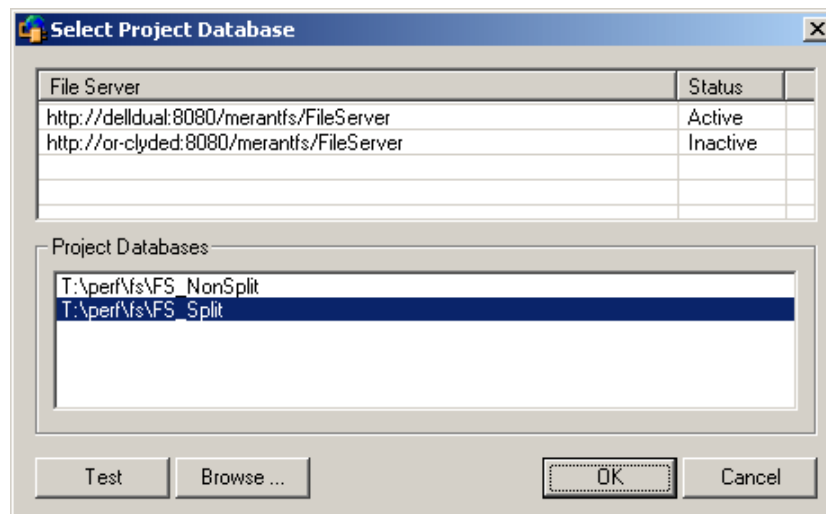
You can assign a promotion group to revisions by selecting a revision, a single versioned file, multiple versioned files, a project, a folder, or a project database.

To assign a promotion group:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.)
- 2 Select the General tab and click the **Assign** button in the Manage Promotion Groups group. The Assign Promotion Group dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (`http://SystemName:8080/serenafs/FileServer`) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the files you want to act on.
 - 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files you want to act on from under **Select Files**.



TIP To operate on all listed files, click OK without selecting any files. A prompt asks if you wish to operate on all files. Click Yes.

- 7 Specify a promotion group in the **Assign Promotion Group** field or browse to select one.
- 8 To act on a revision other than the default revision, enter it in the **To Revision** field or browse to select it.
- 9 To specify what to do if an identical promotion group is already assigned to a revision in the archive, select one of the following from the **If promotion group exists** drop-down list:
 - **Prompt:** Displays a prompt asking what you want to do if an identical promotion group exists.
 - **Reassign:** Reassigns the promotion group to the selected revision.
 - **Don't reassign:** Does not assign a promotion group to the revision.
- 10 Click **OK**.

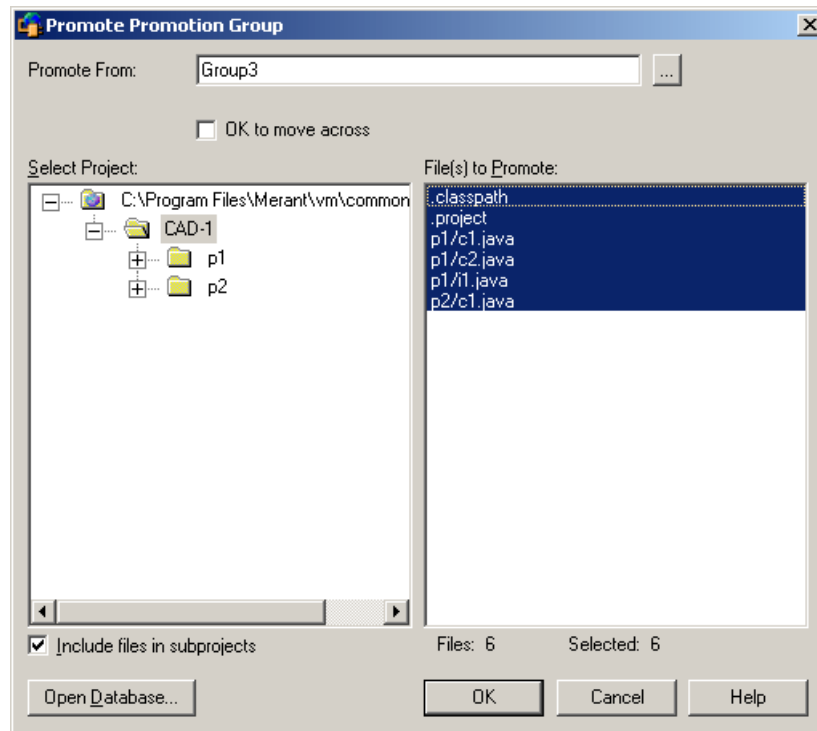
Promoting Revisions to the Next Promotion Group

You can promote revisions to the next promotion group by selecting a revision, a single versioned file, multiple versioned files, a project, a folder, or a project database.

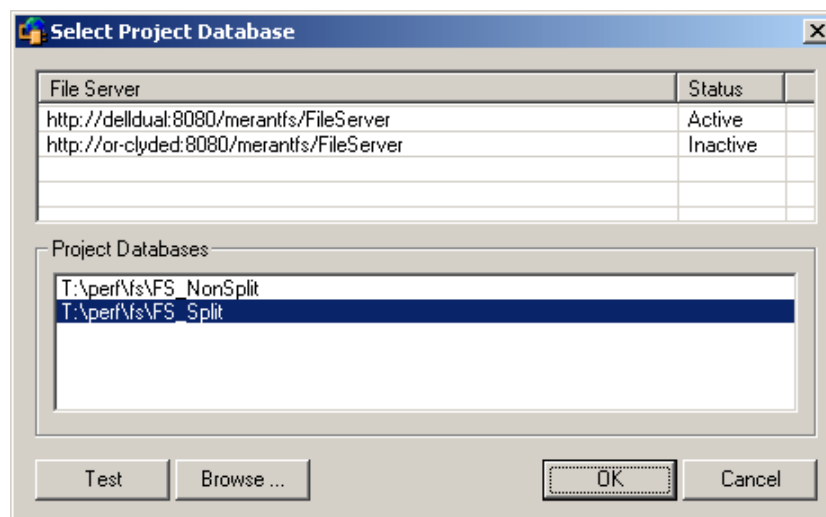
To promote revisions to the next promotion group:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83](#).)

- 2 Select the General tab and click the **Promote** button in the Manage Promotion Groups group. The Promote Promotion Group dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or

a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the files you want to act on.
 - 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files you want to act on from under **Select Files**.



TIP To operate on all listed files, click OK without selecting any files. A prompt asks if you wish to operate on all files. Click Yes.

- 7 Specify a promotion group in the **Promote From** field or browse to select one.
- 8 To allow reassignment of a promotion group across branches, select the **OK to move across branches** check box. Otherwise, the promotion will fail if a revision on another branch is already assigned the next highest promotion group.
- 9 Click **OK**.

Changing a Promotion Group

You can change promotion groups by selecting a revision, a single versioned file, multiple versioned files, a project, a folder, or a project database.

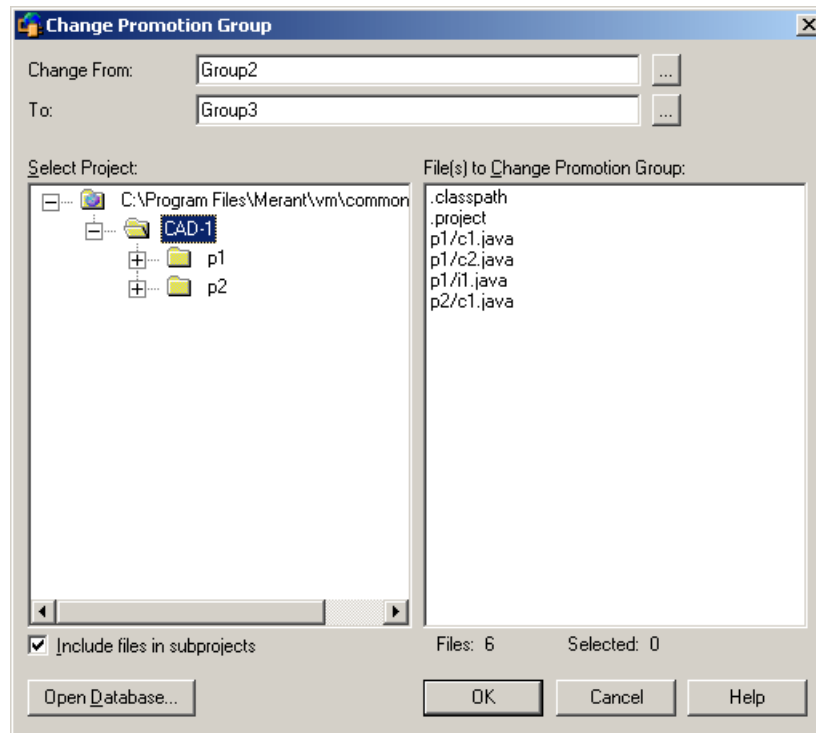


NOTE You should not use the **Change** option as a means of promoting revisions because it does not enforce the promotion model hierarchy assigned to your project database.

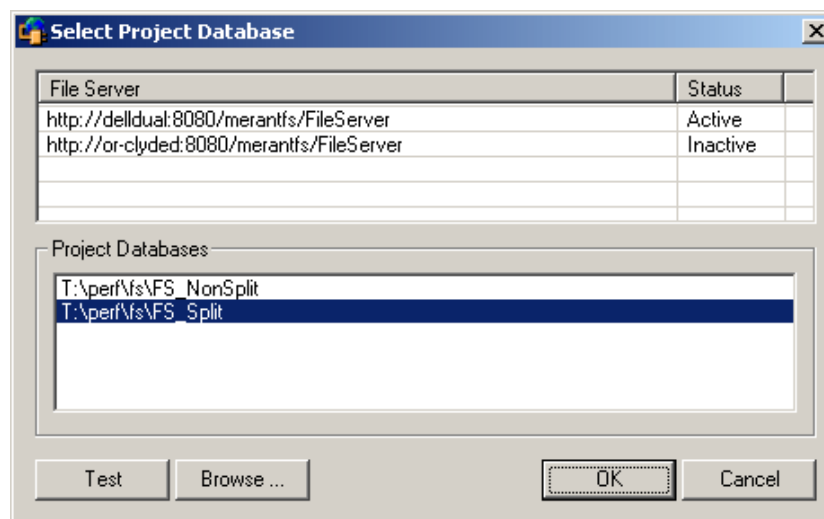
To change a promotion group:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))

- 2 Select the General tab and click the **Change** button in the Manage Promotion Groups group. The Change Promotion Group dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or

a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the files you want to act on.
 - 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files you want to act on from under **Select Files**.



TIP To operate on all listed files, click OK without selecting any files. A prompt asks if you wish to operate on all files. Click Yes.

- 7 Specify a promotion group in the **Change From** field or browse to select one.
- 8 Specify a promotion group to change to in the **To** field or browse to select one.
- 9 Click **OK**.

Removing a Promotion Group

You can remove promotion groups by selecting a revision, a single versioned file, multiple versioned files, a project, a folder, or a project database.

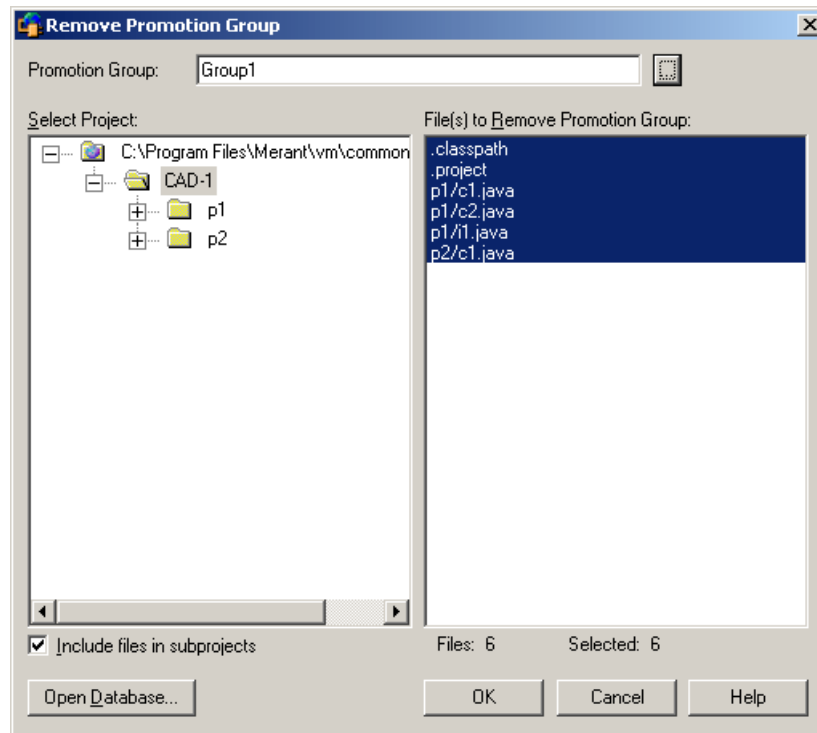


NOTE Even if you remove a promotion group from a revision, as long as a promotion model is in effect for your project database, every time you check out a revision, it will be associated with the lowest-level promotion group.

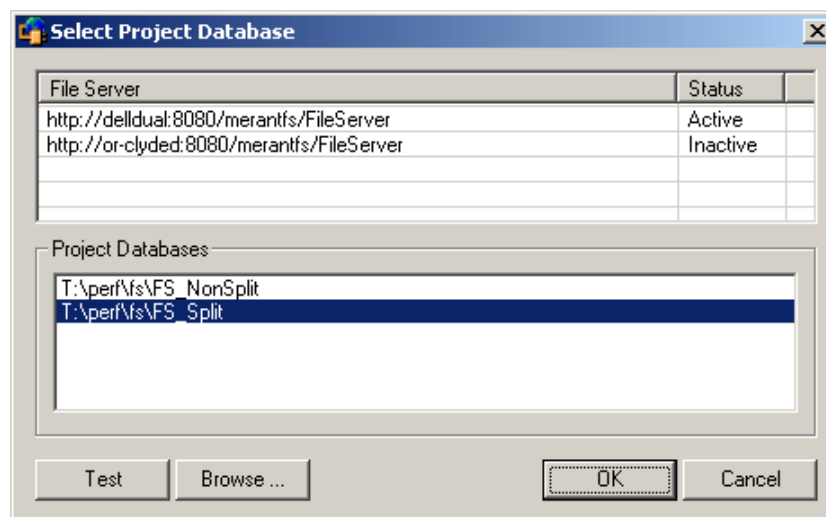
To remove a promotion group from a revision:

- 1 Open the Version Manager Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))

- 2 Select the General tab and click the **Remove** button in the Manage Promotion Groups group. The Remove Promotion Group dialog box appears.



- 3 The default project database displays under **Select Project**. If you wish to work with a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or

a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Under **Select Project**, select the project or project database that contains the files you want to act on.
 - 5 To list all of the files in a project database or in subprojects below the selected project, select the **Include files in subprojects** check box.



NOTE You must use this check box if you selected a project or project database that contains no files at the root level.

- 6 Select the files you want to act on from under **Select Files**.



TIP To operate on all listed files, click OK without selecting any files. A prompt asks if you wish to operate on all files. Click Yes.

- 7 Specify a promotion group in the **Promotion Group** field or browse to select one.
- 8 Click **OK**.

Chapter 5

Accessing Source Control Information

Introduction	72
About Properties	72
Monitoring Source Control Activity with Pulse	73
About History Reports	77
About Difference Reports	80

Introduction

Purpose	This chapter describes how to access four types of information about the files you have placed under source control: <ul style="list-style-type: none">■ The properties of archives and revisions■ The source control activity of other team members and the results of your own activity■ The history of source control activity in archives and revisions■ The differences between two files, or two revisions, or a file and a revision
IDE-specific information	Some IDEs do not support these features. For information on which features are supported by your IDE, see Part 2, "IDE Reference," on page 83 .

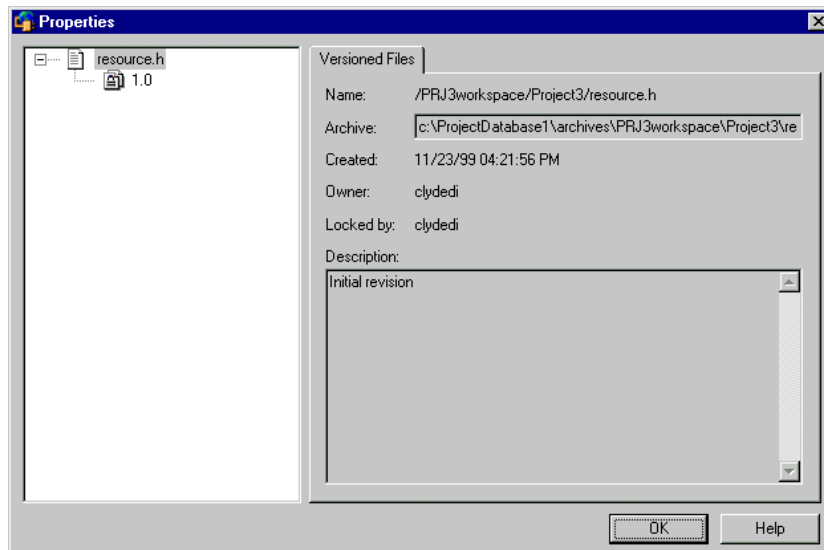
About Properties

You can review the source control properties of any file under source control.

Reviewing Properties

To review the source control properties of a file:

- 1 Select the file that corresponds to the Version Manager archive you want information about.
- 2 Open the Version Manager Properties dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83](#).) The archive appears in the left pane of the dialog box.



- 3 Click the plus sign to expand the view of the archive. All revisions, version labels, and promotion groups appear in the expanded view.

Displaying tabs	The content of the Version Manager Properties dialog box varies depending on what you select in the left pane. When the dialog box appears, the archive is selected by default, and the Versioned File tab is visible. When you select a revision in the archive, the Revision, Version Labels, and Promotion Groups tabs appear.
Versioned files tab	<ul style="list-style-type: none"> ■ Under the Versioned Files tab, the following information is provided: <ul style="list-style-type: none"> • The name of the file • The name and location of the associated Version Manager archive • The date the archive was created • The user who created the archive • The users who currently have locks on revisions in the archive • The description entered when the file was added to the project
Revision tab	<ul style="list-style-type: none"> ■ Under the Revision tab, the following information is provided: <ul style="list-style-type: none"> • The revision number • The date and time the file was last modified for the specified revision • The user who checked in the revision • The user who currently has a lock on the revision • The change description that was entered when the revision was checked in
Version Labels tab	<ul style="list-style-type: none"> ■ The Version Labels tab displays a list of all version labels applied to the selected revision.
Promotion Groups tab	<ul style="list-style-type: none"> ■ The Promotion Groups tab displays a list of all promotion groups applied to the selected revision.

Monitoring Source Control Activity with Pulse

About Pulse Pulse allows users who are logged into the same projects to monitor certain source control events. For example, Pulse notifies you when another user has added a new file or checked in changes to an existing file. If you are working with multiple Version Manager projects in multiple development environments, you can display activity in all open projects, or limit the display to activity in particular environments.

Pulse also displays results messages for all source control actions that you perform from your current development environment. For example, if you check out a file from within Visual Basic, Pulse displays the success or failure of that checkout.

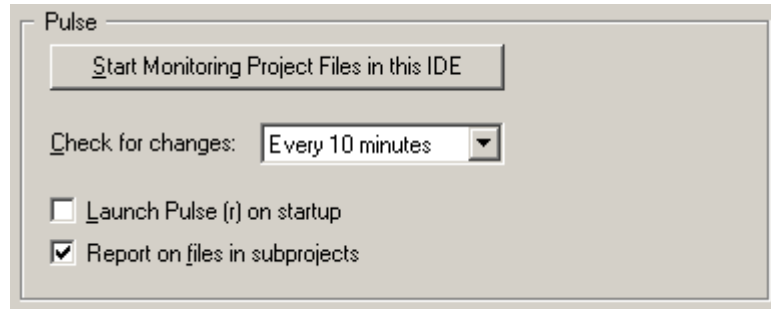
Configuring Pulse

Before you begin using Pulse, configure it in the ChangeMan Options dialog box.

To configure Pulse:

- 1 Open the ChangeMan Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))

- 2 Select the General tab. Pulse options appear in the Pulse group.



You can start and stop the display of source control activity in your IDE from the ChangeMan Options dialog box. See the next section for more information on starting and displaying Pulse.

- 3 Do any of the following:

- Select the frequency with which Pulse scans open projects for changes from the **Check for changes** drop-down list. By default, Pulse checks for changes every ten minutes. This option applies to project-wide activity monitoring only.



NOTE If you are working with very large Version Manager projects, frequent scanning for changes may impact performance.

- To automatically start Pulse when you launch the Version Manager IDE client, select the **Launch Pulse (r) on startup** check box.
- To display changes to all files in open Version Manager projects and subprojects, select the **Report on files in subprojects** check box. If this option is not selected, Pulse displays changes to files in the root Version Manager project only.



NOTE If you change the **Report on files in subprojects** check box, you must restart your IDE for the change to take effect.

About Starting Pulse

Automatic startup	Pulse begins monitoring source control activity as soon as it is launched. You can configure Pulse to start when ever you launch the Version Manager IDE client. See "Configuring Pulse" on page 73 .
One IDE	If Pulse is not running or you have stopped monitoring the source control activity of your IDE, you can start or resume monitoring from the ChangeMan Options dialog box.
Multiple IDEs	To monitor activity in multiple IDEs running on your system, start Pulse from within each IDE. Pulse displays the activity of only the IDEs from which it was started. For example, if you are working with Version Manager projects in both Visual Basic and Visual C++ but start Pulse from only Visual Basic, Pulse will display activity in Visual Basic projects only.





NOTE If you have suspended monitoring of projects across all IDEs, clicking the **Start Monitoring Project Files in this IDE** button has no effect. You must un-suspend activity monitoring to resume display. See ["Suspending Project Activity Monitoring" on page 76](#).

Starting Pulse

To start Pulse:

- 1 Open the ChangeMan Options dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))
- 2 Select the General tab.
- 3 In the Pulse group, click the **Start Monitoring Project Files in this IDE** button.

Displaying Pulse

When you start Pulse, an icon () appears in the taskbar status area of your desktop. The icon changes () to notify you when source control activity is detected. If the Pulse window is not visible when the icon changes, double-click the icon. The window appears.

Hiding Pulse

To hide the Pulse window, click the Close button. Closing the Pulse window does not suspend monitoring. To re-display the window, double-click the icon.

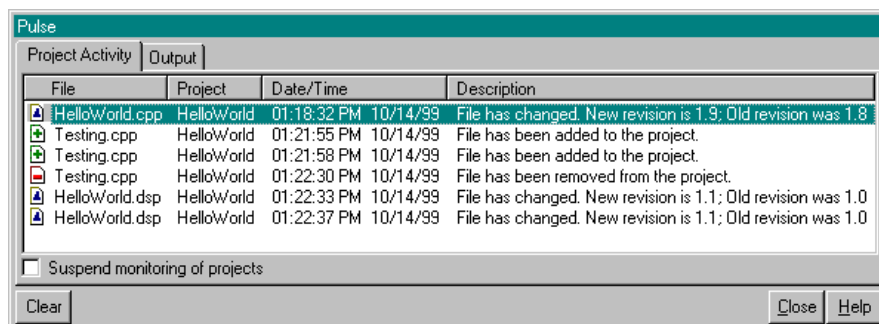
Viewing Source Control Activity

Pulse allows you to monitor two types of source control activity:




- Project-wide
 - Activity in all Version Manager projects open in IDEs from which Pulse is running. This includes actions performed from other users' workstations and from other development environments currently running on your system.
- Local
 - Actions you perform from within your current development environment.

Project-wide Activity

The Project Activity tab displays information about activity originating from instances of development environments other than the one that is currently active on your system. For example, if you are sharing a Version Manager project with a user at another workstation, and that user adds a new file to the project, Pulse notifies you. You can also monitor activity across multiple instances of the same environment on the same system.



Icons in the File column identify each event as one of the following:

This icon...	Displays when this event occurs...
	A new file is added to source control
	A file is removed from source control
	A new revision of a file is checked in as the tip, or latest, revision

Project-wide activity information For every event that occurs, the Project Activity tab displays the following information:

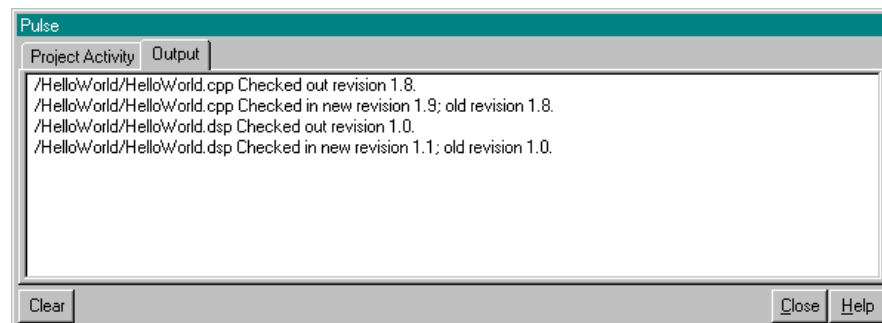
- **File:** The name of the file that has been added, removed, or modified. Click the File column header to alphabetically sort events by filename.
- **Project:** The Version Manager project that is affected by the activity. Click the Project column header to alphabetically sort events by project name.
- **Date/Time:** The date and time that the event was detected. Click the Date/Time column header to sort events by date.
- **Description:** The event that occurred. When a new revision is added, this column displays both the old revision number and the new revision number. Click the Description column header to alphabetically sort events by description.

Detailed activity information You can also view more detailed information about each event, such as the location of a file within a Version Manager project, and the development environment from which a file was added, removed, or modified.

To display detailed information about a source control event, double-click the event under the Project Activity tab. The Project Activity Details window appears.

Local Results Messages

Output tab Under the Output tab, Pulse displays results messages for all source control actions that you perform from the IDE currently active on your system.



Suspending Project Activity Monitoring

You can stop monitoring project-wide source control activity in specific IDEs, or suspend monitoring in all open development environments.



NOTE Suspending the display of project activity does not affect the display of source control results messages under the Pulse Output tab.

Specific IDEs

To stop monitoring in a specific IDE:



- 1 Open the ChangeMan Options dialog box from within the IDE. (For the IDE-specific menu command, see [Part 2, "IDE Reference," on page 83.](#))
- 2 Select the General tab.
- 3 In the Pulse group, click the **Stop/Start Monitoring Project Files in this IDE** button.

Resuming
monitoring

You can resume monitoring by clicking the **Stop/Start Monitoring Project Files in this IDE** button.

All Development Environments

To suspend monitoring in all open IDEs:

- 1 If the Pulse window is not currently visible, double-click the Pulse icon () in the Taskbar Status area of your desktop.
- 2 Select the Project Activity tab.
- 3 Select the **Suspend monitoring of projects** check box. The icon in the Taskbar Status area of your desktop reflects the suspended status ().

Resuming
monitoring

You can resume monitoring by deselecting the **Suspend monitoring of projects** check box.



TIP You can also suspend or resume project monitoring by right-clicking the Pulse taskbar icon and then selecting Suspend from the pop-up menu.

Closing Pulse

Pulse remains active when you close your IDE. If you want to close Pulse, right-click the Pulse taskbar icon and select Exit from the pop-up menu.

About History Reports

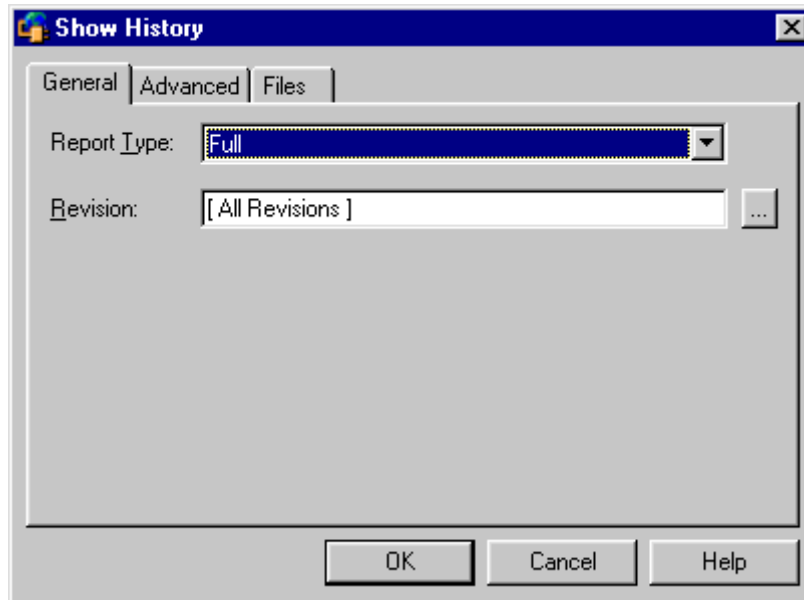
History reports summarize information about archives and/or revisions that you can use to monitor the development process, review archive histories, and check archive attributes. For more information about the content of history reports, see the *Version Manager User's Guide*.

Generating History Reports

To generate a history report:

- 1 Select a file to be included in the report.

- 2 Open the Show History dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.)



NOTE Fields shown in the Show History dialog box vary depending on which report type is selected.

General tab
options

- 3 Under the General tab, select a report type in the **Report Type** drop-down list:

Full	Comprehensive information (including file, revision, lock, and version label). To select specific revisions, enter the revision number, version label, or promotion group in the Revision field or click the Browse button to select a revision.
File information only	Only archive information (such as creation date, owner, locks, version labels). This report does not contain revision history.
Revision information only	Only revision information on all or selected revisions. To select specific revisions, enter the revision numbers (separated by commas) in the Revision field.
List locked revisions	A list of locked revisions within the selected file(s).
List revisions with version label	A list of revisions that match a specific version label. To select a version label, enter it in the Label field, or click the Browse button to select one.
List revisions in group	A list of revisions that match a specific promotion group. To select a promotion group, enter the promotion group in the Group field, or click the Browse button to select one.

List newest revisions

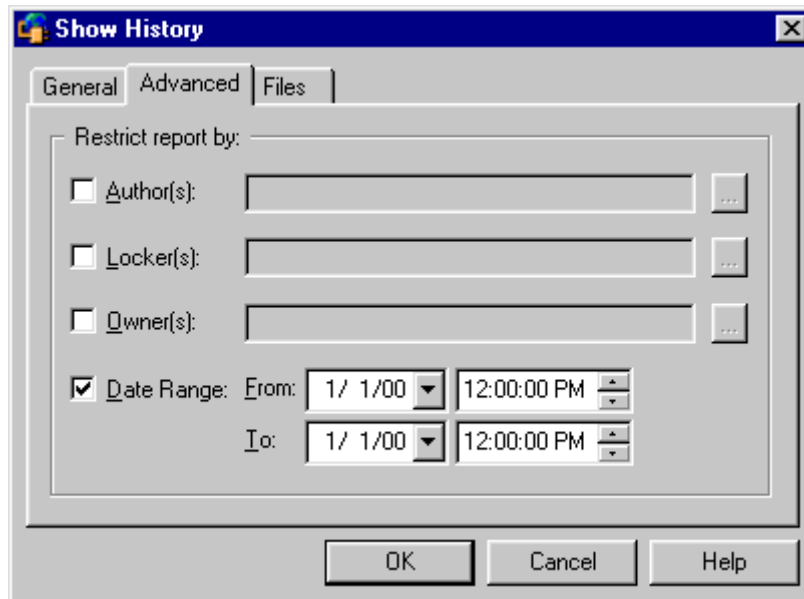
A list of the latest revisions (if you selected multiple files).

Check tips against version/revision

Information that compares the latest revision with a specified revision. To specify the revision, enter a revision number, version label, or promotion group in the **Revision** field, or click the Browse button to select one.

Advanced tab options

- 4** Under the Advanced tab, you can restrict report information by generating a report based on author, user locks, owners, date range, or a combination of these options.



Author(s)

- To generate a report based on a specific author, enter the author(s) name in the **Author(s)** field, or click the Browse button to select an author. Separate multiple authors with a comma (,).

Locker(s)

- To generate a report based on user locks, enter the user names in the **Locker(s)** field, or click the Browse button to select a user. Separate multiple users with a comma (,).

Owner(s)

- To generate a report based on a specific owner, enter the owner names in the **Owner(s)** field, or click the Browse button to select an owner. Separate multiple owners with a comma (,).

Date Range

- To generate a report based on a date range, select the **Date Range** check box, then specify dates and times in the **From** and **To** fields.

Files tab

- 5** Under the Files tab, review the files for which the history report will be generated.

The Files tab displays a list of all of the files you selected with a check beside each one. You can change your selection by checking and unchecking files in this list.

- 6** When you have chosen the options you want, click **OK**. The history report will appear. (If you are generating a report on a large number of files, it may take a few moments.)

About Difference Reports

Version Manager launches a separate utility, the Merge Tool, to compare files and generate difference reports. You can compare:

- A revision and a workfile
- Revisions in a single archive
- Revisions in two different archives
- Two workfiles

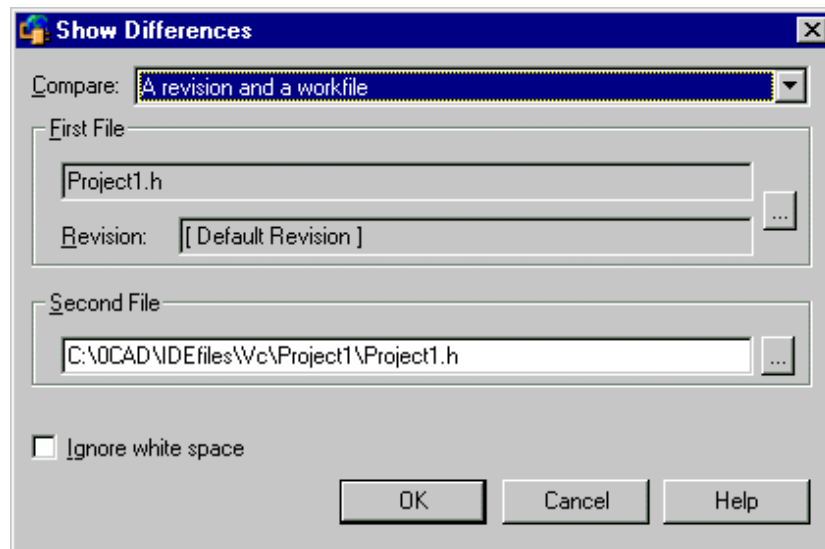
You can use difference reports to:

- Identify specific differences between files or revisions.
- Determine what changes have been made to a file before you check it in.
- Confirm which revision is newer if you are unsure of a timestamp.

Generating Difference Reports

To generate a difference report:


- 1 Select a file to be included in the report.
- 2 Open the Show Differences dialog box. (For the IDE-specific menu command, see [Part 2, "IDE Reference,"](#) on page 83.)



The appearance of the Show Differences dialog box varies depending on the files you select and the type of comparison you want.

- 3** Select the type of comparison you want to perform from the **Compare** drop-down list.

If you select this report type...	You must choose...
A revision and a workfile	A versioned file and revision number, and a workfile
Revisions in a single versioned file	A versioned file and revision number, and a second revision number
Revisions in two different versioned files	Two versioned files and two revision numbers
Two workfiles	Two workfiles

- 4** To change the selected files or revisions in the First File and Second File groups, click the Browse buttons.
- 5** Select the **Ignore white space** check box if you want to ignore trailing, intervening, and leading white spaces, tabs, and form feeds.
- 6** Click **OK**. The Merge Tool is launched in a separate window.
- 7** To view the differences, scroll through the files to compare the colored text blocks. You can also click the **Next Difference** button () from the Merge Tool window to go directly to the differences.

For information on advanced differencing features and interpreting difference reports, see the *Serena ChangeMan Version Manager User's Guide*.

Part 2

IDE Reference

ColdFusion Studio	85
FrontPage	95
PowerBuilder	103
Rational Application Developer 6 (Eclipse 3) Rich Integration	119
Rational Rose	179
TestDirector	189
Together	199
VisualAge for Java	215
Visual Basic	231
Visual C++	243
VisualCafe	255
Visual InterDev	265
Visual Studio .NET	285
Visual Studio .NET 2003 Rich Integration	299
WebSphere Studio Application Developer 5 (Eclipse 2)	345

Introduction

Contents and purpose This part of the manual contains chapters specific to setting up and using the Version Manager IDE client with supported IDEs. The purpose of this part of the manual is to help you set up and use the Version Manager IDE client with your IDE.

Additional information Use this part of the manual in conjunction with these additional sources of information:

For more information about...	See...
Source control concepts	Chapter 1, "Overview of Version Manager Source Control" on page 17
Setting up and configuring the Version Manager IDE client to work with SCC compliant IDEs	Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23
Setting up and configuring the Version Manager IDE client to work with web-based IDE projects	Chapter 3, "Setting Up Source Control with COM IDEs" on page 35
Default and advanced options	Chapter 4, "Using Source Control" on page 47
Viewing information about items under source control	Chapter 5, "Accessing Source Control Information" on page 71
Setting up and using your IDE with source control	The documentation provided by the vendor of your IDE

Chapter 6

ColdFusion Studio

Introduction	86
Accessing Supported Features	86
Setting Up Source Control Projects	87
Using Source Control	92

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Macromedia® ColdFusion® Studio 5.0 and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within ColdFusion Studio

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? ColdFusion Studio supports a subset of the source control features available through the Version Manager IDE client. Limitations specific to this IDE include the inability to:

- View archive properties
- Use advanced options
- Share archives across projects

Accessing features Access the menu commands listed below in one of two ways, depending on the type of file you are operating upon:

- To work with a ColdFusion Studio project file, right-click the project icon in the Project pane of the Projects tab.
- To work with ColdFusion Studio workfiles, select the files in the File pane of the Projects tab and right-click.

To...	Select...	For more information see...
Get revisions	Source Control Get Latest Version	"Getting Files" on page 92
Check out revisions	Source Control Check Out	"Checking Out Files" on page 93
Undo checkout of revisions	Source Control Undo Check Out	"Undoing Checkout" on page 93
Check in revisions	Source Control Check In	"Checking In Files" on page 93
Manage version labels	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
View properties of revisions or archives	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
Monitor source control activity	Source Control Run Source Control Application	"Monitoring Source Control Activity with Pulse" on page 73

To...	Select...	For more information see...
Generate a history report	Source Control Show History	"About History Reports" on page 77
Generate a difference report	Source Control Show Differences	"About Difference Reports" on page 80
Access the Version Manager Options dialog	Source Control Run Source Control Application	"About Setting Defaults for Version Manager Options" on page 28
Map (add) a project file to source control	Source Control Map Project to Source Control	"Mapping Projects to Source Control" on page 88
Remove a project file from source control	Source Control Remove Project File from Source Control	"Removing Files from Source Control" on page 92
Add workfiles to source control	Source Control Add File to Source Control	"Adding Files to Source Control" on page 91
Remove workfiles from source control	Source Control Remove File from Source Control	"Removing Files from Source Control" on page 92

Setting Up Source Control Projects

Contents	This section contains information about setting up the Version Manager IDE Client to work with ColdFusion Studio.
Prerequisites	Before proceeding, you must use the Version Manager desktop client to create a project database that will contain the source control projects associated with the ColdFusion Studio project (if you don't already have one).
For more information	See Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23 .

Setting Up Projects for Access by Multiple-Users

If multiple users will access the project, you must configure it with this in mind.

To connect multiple users to a project:

- 1 Create the ColdFusion project in a location accessible to all users.
- 2 Create the Version Manager project database in a location accessible to all users.
- 3 Add the ColdFusion project to source control. (See the following sections for details.)
- 4 Using the ColdFusion IDE, open the project from each development system.



NOTE

- Use a unique user ID to log in to each development system. If everyone uses the same O/S login, anyone can check in a file you have checked out.
- After adding a new file to the project, check in the ColdFusion project file (.apf). Each user must then reopen the project in order to see the new file.

Selecting a Source Control Provider

ColdFusion Studio allows you to select a source control provider for each project individually.

To select a source control provider:

- 1 From the Projects tab, right-click the project icon in the Projects pane and select Source Control | Choose Source Control Provider. The Choose Source Control Provider dialog box appears.
- 2 Select **ChangeMan Version Manager** from the **Providers** list.
- 3 Click **OK**.

Mapping Projects to Source Control

Once you have created and saved a ColdFusion project, you can map (add) it to an existing Version Manager project database.

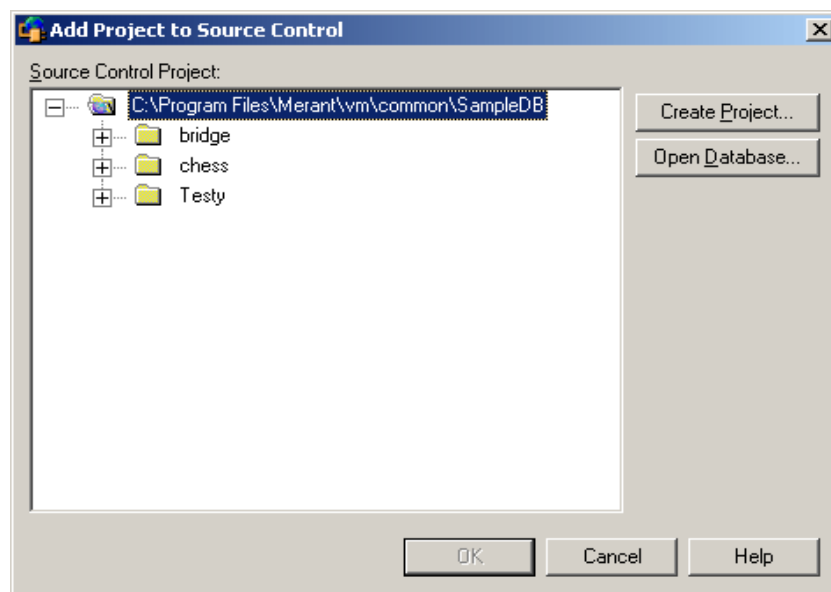


IMPORTANT!

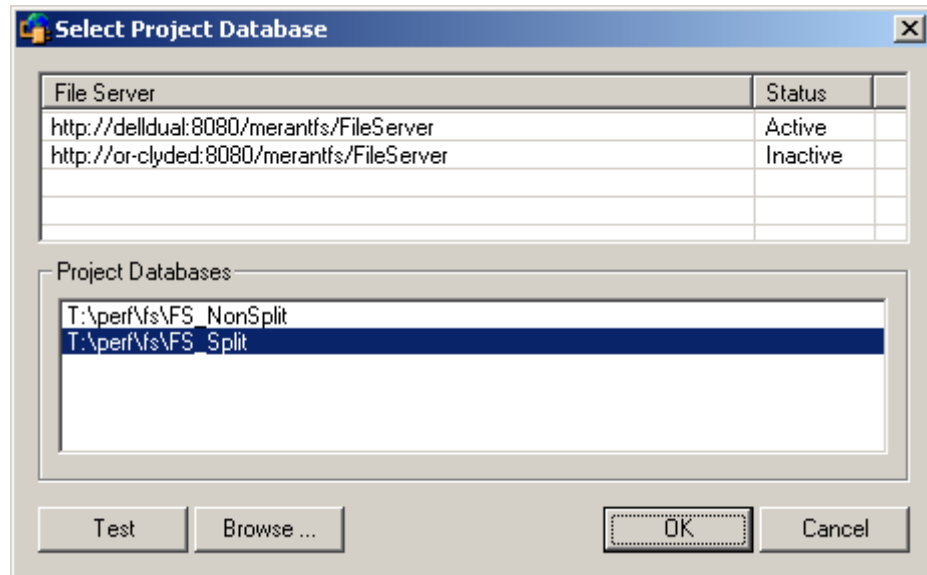
- Each ColdFusion project must reside in its own directory. If there are multiple ColdFusion projects in a single directory and you place them under source control, source control will fail.
- All files in a ColdFusion project must be located under the root project working directory--the directory containing the ColdFusion project file (.apf). Any files outside of the project directory structure will not be added to source control.

To map and add a project to source control:

- 1 From the Projects tab, right-click the project icon in the Projects pane and select Source Control | Map Project to Source Control. The Add Project to Source Control dialog box appears.



- 2 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

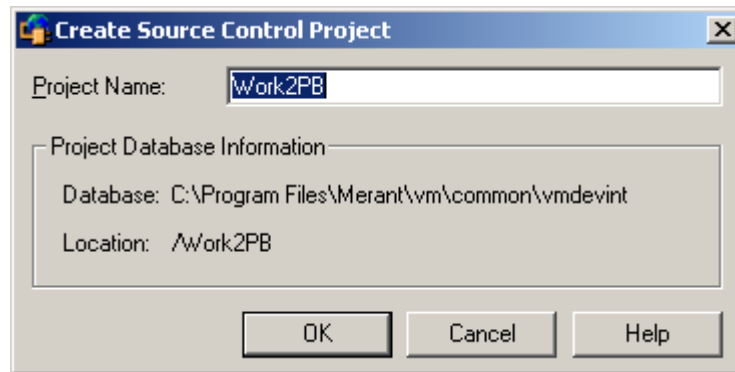
To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

- 3 Do one of the following:

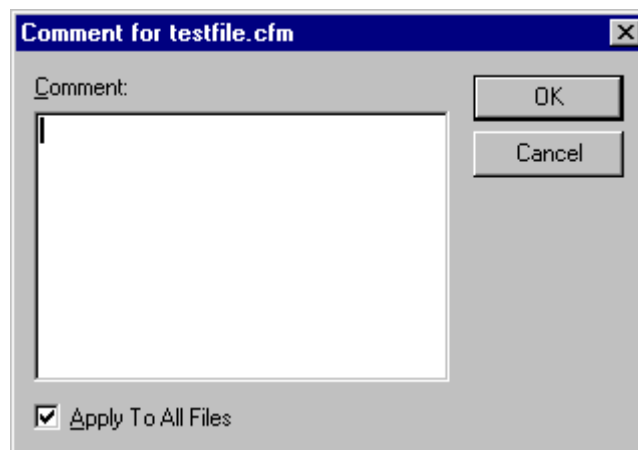
- To add to an existing source control project, select one from under **Source Control Project**. Proceed to [Step 4](#).
- **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.

- b Click the **Create Project** button. The Create Source Control Project dialog box appears.



The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.
- The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
- d Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.
- 4 Click **OK**. The project file is *mapped* to source control. Continue to the next step to *add* the project file to source control.
- 5 From the Projects tab, right-click the project icon in the Projects pane and select Source Control | Add Project File to Source Control. The Comment dialog box appears.



- 6 In the **Comment** field, enter a description of the project file.
- 7 Click **OK**.

Continue to the next section to add the files in the project to source control.



IMPORTANT! For each project that is mapped to source control, Version Manager creates a file named `projectname.cache`. This file is located in the working directory of the ColdFusion project. If this file is lost, you must remap the ColdFusion project to restore the project to source control.

Adding Files to Source Control

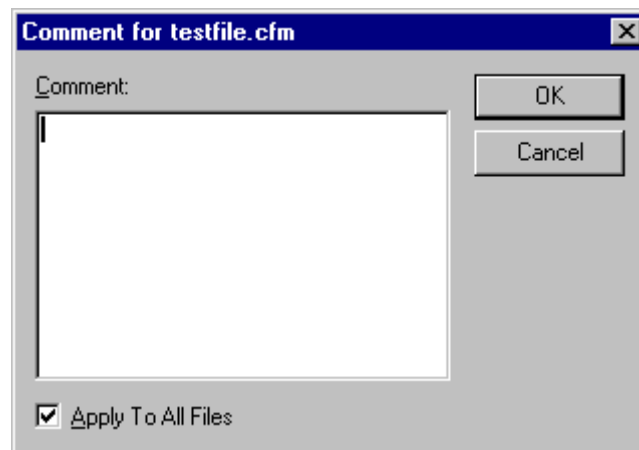


NOTE You must add the project (.apf) file to source control before you can add other files to the source control project. See ["Mapping Projects to Source Control" on page 88](#).

To add a file to a source control project:

- 1 Check out the project (.apf) file by right-clicking the project icon in the Project pane of the Projects tab and selecting Source Control | Check Out.
- 2 Do one of the following:
 - If you are adding a file to the ColdFusion Studio project, a prompt displays asking if you want to add the file to source control. Click **Yes**.
 - If the file is already part of the ColdFusion project but you have not yet added it to source control, right-click the file icon in the File pane of the Projects tab and select Source Control | Add File to Source Control.


The Comment dialog box appears.



- 3 In the **Comment** field, enter a description of the file. The description will be applied to all selected files.



TIP To use unique descriptions for each file, leave the Comment field blank and click OK. The Change Description dialog box will appear for each file in turn.

- 4 Click **OK**. A red dot () appears next to the file icon in the File pane to indicate that the file is under source control.

Removing Files from Source Control

When you remove a file from source control, Version Manager does *not* delete the workfile or Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

- | | |
|-----------------------------------|--|
| Remove workfile | <p>To remove a ColdFusion workfile file from source control:</p> <ol style="list-style-type: none"> 1 In the File pane of the Projects tab, select the file(s) you wish to remove from source control. 2 Right-click and select Source Control Remove File from Source Control. A confirmation message appears. 3 Click Yes. The selected files are removed from source control. |
| Remove project | <p>To remove a ColdFusion project (.apf) file from source control:</p> <ol style="list-style-type: none"> 1 In the Project pane of the Projects tab, select the project you wish to remove from source control. 2 Right-click and select Source Control Remove Project File from Source Control. A confirmation message appears. 3 Click Yes. The selected project file is removed from source control. |
| Returning files to source control | <p>For information on returning files to source control, see "Returning Files to Source Control" on page 31.</p> |

Using Source Control

- | | |
|----------------------|---|
| Contents | This section contains procedural information about viewing and editing files that are under source control. |
| For more information | See Chapter 4, "Using Source Control" on page 47 . |



TIP To speed your work, set the IDE and Version Manager defaults to reflect the way you usually work.

Getting Files

When you get files, read-only copies of the latest revisions are placed in the workfile location.

To get a revision:

- 1 In the File pane of the Projects tab, select the file(s) and right-click.
- 2 Select Source Control | Get Latest Version.

Checking Out Files

When you check out a file, the latest (tip) revision is locked and a writable workfile is created in the workfile location.

To check out a file:

- 1 In the File pane of the Projects tab, select the file(s) and right-click.
- 2 Select Source Control | Check Out. A green check mark (✓) appears next to the file icon in the File pane.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 In the File pane of the Projects tab, select the file(s) and right-click.
- 2 Select Source Control | Undo Check Out. The green check mark (✓) is removed from the file icon in the File pane to indicate that the file is unlocked.

Checking In Files

By default, the following occurs when you check in a file:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in a file:

- 1 Save any changes to the ColdFusion files you wish to check in.
- 2 In the File pane of the Projects tab, select the file(s) and right-click.
- 3 Select Source Control | Check In. The Comment dialog box appears.
- 4 Enter a description of the changes you made in the **Comment** field. This description will be applied to all selected files.



TIP To apply a unique description to each file, deselect the **Apply To All Files** check box.

- 5 Click **OK**. The green checkmark (✓) is removed from the file icon in the File pane.

Chapter 7

FrontPage

Introduction	96
Accessing Supported Features	96
Setting Up Source Control Projects	96
Using Source Control	100

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Microsoft® FrontPage™ 2000 and 2002, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within FrontPage

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Web-based projects

Accessing Supported Features

What is supported? FrontPage supports a subset of the source control features available through the Version Manager IDE client. Specific limitations include:

- Previous revisions cannot be checked out from within FrontPage. See ["Checking Out a Previous Revision" on page 43](#).
- Get is not supported by this IDE.
- Merge, differencing, and reporting features cannot be invoked from this IDE.
- Advanced options are not available.

To...	Select...	For more information see...
Check out revisions	Edit Check Out	"Checking Out Files" on page 101
Undo checkout of revisions	Edit Undo Check Out	"Undoing a Checkout" on page 101
Check in revisions	Edit Check In	"Checking In Files" on page 102
Add webs to source control	(Use the Microsoft Management Console)	"Adding Web Projects to Source Control" on page 97
Remove webs from source control	(Use the Microsoft Management Console)	"Removing Web Projects from Source Control" on page 99

Setting Up Source Control Projects

Contents This section contains information about setting up the Version Manager IDE client to work with FrontPage.

- Prerequisites Before proceeding, you must do the following:
- Install Version Manager, FrontPage Server Extensions, and the Version Manager IDE client to your web server. See the *Version Manager Installation Guide*.
 - Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the FrontPage project (if you don't already have one).
 - Configure web server security.
 - Enable external source control on the default web site.
- For more information See [Chapter 3, "Setting Up Source Control with COM IDEs" on page 35](#).

Adding Web Projects to Source Control

Once you have configured the default settings for new Version Manager projects, you can place your web projects under source control.



IMPORTANT! If you wish to continue working with existing Version Manager for FrontPage projects, you must upgrade them to the new Version Manager project format. See ["Upgrading 6.0 Projects" on page 99](#).

To place a FrontPage web project under source control:

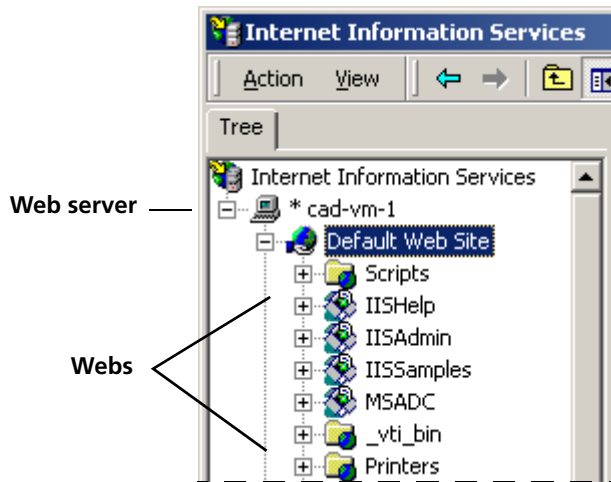
- 1 Create a web project in FrontPage.



IMPORTANT! Do not use square brackets [] in the names of your FrontPage folders, projects, or files.

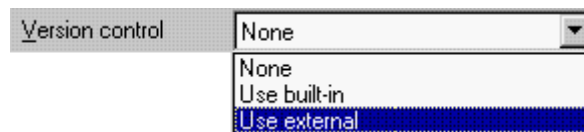
- 2 Close FrontPage.

- 3 From the web server, launch the Computer Management Console or the Internet Information Services Manager.

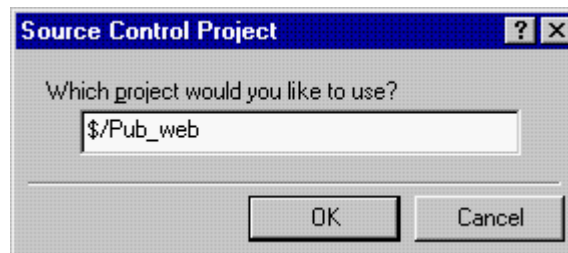


IMPORTANT! Your Windows user account must have the rights needed to launch the Computer Management Console and the Internet Information Services Manager.

- 4 Right click on the web you want to add to source control, and select Properties from the menu that appears. The Properties dialog box appears.
- 5 Select the Server Extensions tab.
- 6 Select **Use external** from the **Version control** drop-down list.



- 7 Click **OK**. The Source Control Project dialog box appears.



The web project's name appears here. To change the name of the Version Manager project, enter \$/ and the name you want to give the project.

The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/), a question mark (?), a pound sign (#), and angle brackets (< >).

- 8 Click **OK**. The new Version Manager project is created in the default project database and every file in the FrontPage project is added to source control.



NOTE If a file has a dependency upon another file, two revisions of the file may be checked in to source control.

The file icons in the Folders, All Files, and Navigation views change to indicate that the files are under source control:

No source control...

MySite1.htm
MySite2.htm
MySite3.htm

Under source control...

Green dots

MySite1.htm
MySite2.htm
MySite3.htm

Removing Web Projects from Source Control

Removing a project from source control does *not* delete the Version Manager archives. It simply removes the association with the source control project. You can always add the project back to source control later.



IMPORTANT! Re-adding web projects to source control does not re-connect files to their corresponding Version Manager archives. Instead, new archives are created with mangled names in the existing project archive directories. See ["Restoring Web Files to Source Control" on page 43](#).

To remove a FrontPage web project from source control:

- 1 Launch the Computer Management Console or the Internet Information Services Manager.
- 2 Right-click on the web, and select Properties from the contextual menu that appears.
- 3 Select the Server Extensions tab.
- 4 Select **None** from the **Version control** drop-down list.
- 5 Click the **Apply** button.
- 6 Click **OK**. The project is removed from source control.

Upgrading 6.0 Projects

Why upgrade?

The Version Manager IDE client supports Version Manager 6.5 or higher, which lets you organize your archives using project databases, projects, and subprojects to reflect the structure of your actual working directories. Configuration is now inherited from the project database instead of from the master project, which was used by Version Manager 6.0 projects.

If your FrontPage projects are currently associated with Version Manager for FrontPage 6.0 projects, you can easily upgrade them. Upgrading existing 6.0 projects creates new projects and archives in the default project database location on the web server.

If you need access to the original projects and archives, you can open the source 6.0 project root in the Version Manager desktop client.



NOTE To access 6.0 projects from within FrontPage, reinstall the Version Manager for FrontPage interface. Since web servers can be registered to only one source control provider at a time, you can use only the most recently installed interface.

When to Upgrade Projects

We recommend upgrading when your development project has reached a successful milestone. Upgrading projects at a critical point may disrupt your development workflow.

Before Upgrading Projects

Before you upgrade existing projects, back up the Version Manager 6.0 project domain and all project archives. The project domain includes the root project directory and everything within it.

Upgrading 5.3/6.0 Projects

To upgrade existing projects to the format introduced with Version Manager 6.5, complete the following steps:

- | | |
|-------------------------------------|---|
| Remove projects from source control | 1 Remove your FrontPage projects from source control. For information on removing projects from source control, see "Removing Web Projects from Source Control" on page 99 . |
| Install the IDE client | 2 Install the Version Manager IDE client to your web server (if you have not already done so). When you install the Version Manager IDE client, it is registered as the source control provider.

For information and procedures on installing the IDE client to a web server, see the <i>Version Manager Installation Guide</i> . |
| Re-add projects to source control | 3 Re-add your projects to source control. See "Adding Web Projects to Source Control" on page 97 for information on adding projects to source control. |

Your projects are upgraded to the current format.

Using Source Control

- | | |
|----------------------|---|
| Contents | This section contains procedural information about viewing and editing files that are under source control. |
| For more information | See Chapter 3, "Setting Up Source Control with COM IDEs" on page 35 . |

Checking Out Files

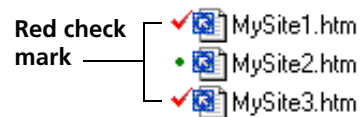
Check out the tip When you check out a file, the latest (tip) revision is locked and a writable workfile is created in the workfile location. FrontPage provides three ways to check out a file:

You can...	Then...
Select the file and select Edit Check Out	The file is checked out of source control.
Right-click on the file and select Check Out	The file is checked out of source control.
Double-click on the file	You will be prompted with a message to check out the file. Click YES. The file is checked out of source control and the application associated with the file is launched.

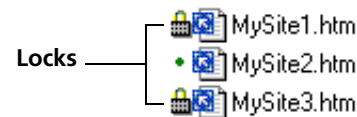
The icons in the Folders, All Files, and Navigation views change to indicate that the files are checked out.

When you check files out, this is...

What you would see:



What others would see:



A lock next to the file icon indicates that the file is currently locked by another user and cannot be checked out. To see who locked the file, right-click on the locked file icon.

Checking out a previous revision

When a file is checked out of source control, the latest revision of the file is checked out. You can check out a previous revision of a file by modifying the archive from the Version Manager desktop client. See ["Checking Out a Previous Revision" on page 43](#).

Undoing a Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- Do one of the following:
 - Select the file and select Edit | Undo Check Out.
 - Right-click on the file and select Undo Check Out.

A confirmation dialog box appears.
- Click **YES**. The file is unlocked and any changes that were saved since the file was checked out are discarded.

Checking In Files

By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in a file:

- 1 Do one of the following:
 - Select the file and select Edit | Check In
 - Right-click on the file and select Check InThe Check In dialog box appears.
- 2 Enter a description of the changes made to the file in the **Comments on version** field. You can view change descriptions in the Version Manager desktop client.
- 3 If you want to check in your changes but continue to work on the file, select the **Keep files checked out** check box.
- 4 Click **OK**. The file is checked in.



NOTE If a file has a dependency upon another file, two revisions of the file may be checked in during each check-in operation.

Chapter 8

PowerBuilder

Introduction	104
About Version Manager Project Structure	104
Accessing Supported Features in PowerBuilder	105
Setting Up Source Control Projects in PowerBuilder	106
Using Source Control with PowerBuilder	113

Introduction

Purpose	<p>This chapter has four purposes:</p> <ul style="list-style-type: none">■ List the Version Manager features available through Sybase® PowerBuilder™ 9 and 10, and provide a quick reference to accessing those features■ Note any features described in Part 1 of this manual that do not apply to this IDE■ Help administrators set up source control projects and add files to source control■ Help your development team access files that are under source control from within PowerBuilder
For more information	<p>See Part 1, "The Version Manager IDE Client," on page 15 for information about:</p> <ul style="list-style-type: none">■ Source control concepts■ Source control defaults■ Advanced source control features

About Version Manager Project Structure

Default project structure	<p>By default, when you add a project to source control, Version Manager creates a hierarchical project structure that mirrors the physical location of the files in your working directories. Because PowerBuilder stores objects in libraries rather than directories, Version Manager creates versioned files for all objects directly under the root project, rather than hierarchically based on application structure.</p>
Example	<p>If your application <i>App1</i> contains three objects, each in separate PBLs, all three objects will appear in one Version Manager project:</p> <div><div><p>PowerBuilderApplication</p><p>App1</p><ul style="list-style-type: none">—PBL1<ul style="list-style-type: none">—Object1—PBL2<ul style="list-style-type: none">—Object2—PBL3<ul style="list-style-type: none">—Object3</div><div><p>Version Manager Project</p><p>App1</p><ul style="list-style-type: none">—Object1—Object2—Object3</div></div>
Archive organization	<p>Version Manager organizes archives based on project structure. In the example above, Version Manager would place the archives associated with the three objects under the <i>App1</i> archive directory.</p>
Mirroring PBL structure	<p>If you want to organize your versioned files into subprojects based on the applications PBL structure, we recommend that you use version labels. When you add objects to source control, you can group objects by assigning version labels that correspond to PBL names.</p>

With the Version Manager desktop client, you can select versioned files based on version labels and copy them into subprojects.



NOTE PowerBuilder allows you to create each target in its own subdirectory beneath the workspace directory, but it does not do so by default. We recommend that you use this feature, as Version Manager will then automatically create subprojects for each target.

Using Version Labels to Organize Projects

You can use version labels to selectively copy your versioned files into multiple projects that mirror your application's library structure.

To organize projects based on PBLs, complete the following steps:

- 1** As you add objects to source control, assign version labels that correspond to the names of the libraries the objects belong to. To be sure that the labels are always easily visible, set the labels to *float* to the tip. Floating version labels are always associated with the latest revision in an archive.
- 2** Once all of the objects in the application have been added to source control, open the new project in the Version Manager desktop client.
- 3** Create the subprojects into which you will copy the versioned files. For example, create subprojects that correspond to each PBL in your application (PBL1, PBL2, PBL3 and so forth).
- 4** In the Project pane, select the Version Manager project you created from within PowerBuilder. All versioned files in the project appear in the File pane.
- 5** Use the Version Label Filter dialog box to customize the File pane to display only versioned files to which the specified label is assigned. For example, if you assigned the label PBL1 to all objects in PBL1, filter the File pane to display only versioned files containing the label PBL1.
- 6** Copy the selected versioned files from the file pane to the subproject that corresponds to the PBL the objects belong to.
- 7** Repeat steps 4-6 for each PBL in the application.

For information on creating projects, filtering the File pane, and copying versioned files, see the *Serena ChangeMan Version Manager User's Guide*.

Accessing Supported Features in PowerBuilder

What is supported? PowerBuilder supports the full set of source control features available through the Version Manager IDE client, except for the sharing of archives among projects. See the following table.

To...	Select...	For more information see...
Get revisions	Right-click Get Latest Version	"Getting Objects" on page 113
Check out revisions	Right-click Check Out	"Checking Out Objects" on page 113

To...	Select...	For more information see...
Undo checkout of revisions	Right-click Undo Check Out	"Undoing Checkout" on page 114
Check in revisions	Right-click Check In	"Checking In Objects" on page 115
Manage version labels	Entry Source Control Advanced Options	"About Version Labels" on page 56
View properties of revisions or archives	Entry Source Control Serena Source Control Properties	"About Properties" on page 72
Monitor source control activity	Entry Source Control Advanced Options	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Entry Source Control Show History	"About History Reports" on page 77
Generate a difference report	Entry Source Control Show Differences	"About Difference Reports" on page 80
Access the Version Manager Options dialog	Entry Source Control Advanced Options	"About Setting Defaults for Version Manager Options" on page 28
Connect workspaces to source control	Right-click Properties	"Setting Up Source Control Projects in PowerBuilder" on page 106
Add objects to source control	Right-click Add to Source Control	"Adding Objects to Source Control" on page 109
Disconnect workspaces from source control	Right-click Properties	"Disconnecting Workspaces from Source Control" on page 112
Remove objects from source control	Entry Source Control Remove from Source Control	"Removing Objects from Source Control" on page 112

Setting Up Source Control Projects in PowerBuilder

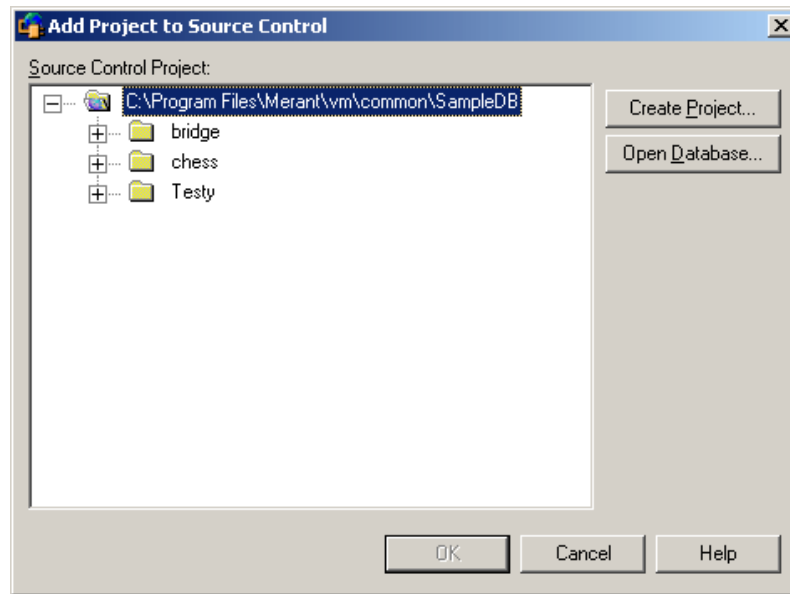
For best results, you should create a hierarchy of directories so each target is located in its own directory beneath the workspace directory. Version Manager will then create nested source control projects that reflect the structure of your workspace. This avoids problems associated with having identically named files in several targets and imposes a logical hierarchy on the otherwise flat file structure of PowerBuilder projects.

Connecting PowerBuilder Workspaces to Source Control

To connect a PowerBuilder Workspace to source control:

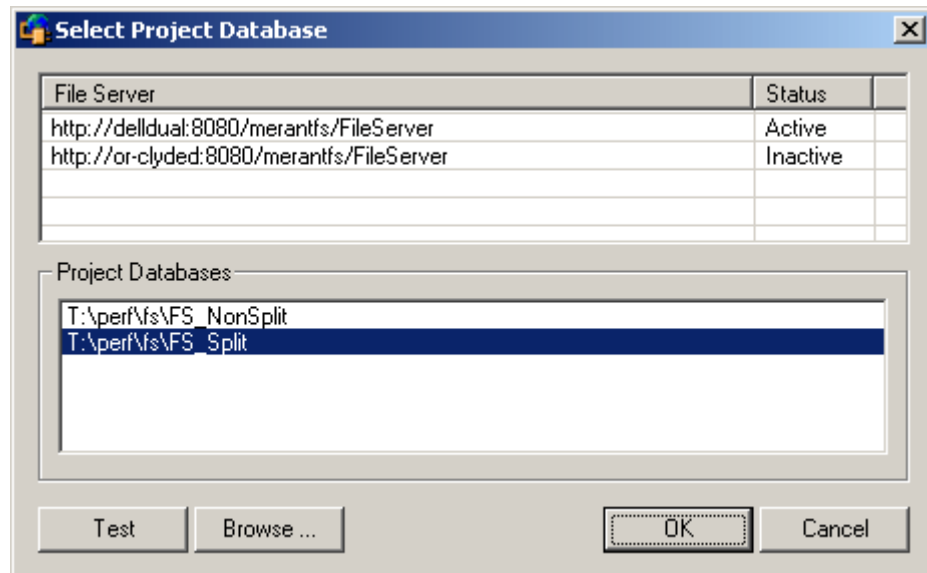
- 1 Right-click on the Workspace object in the System Tree pane. A pop-up menu appears.
- 2 Select Properties. The Properties of Workspace dialog box opens to the Source Control tab.
- 3 Select **ChangeMan Version Manager** from the **Source Control System** drop-down menu.

- 4 Click the browse button to the right of the **Project** field. The Add Project to Source Control dialog box appears.



Select a project database

- 5 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

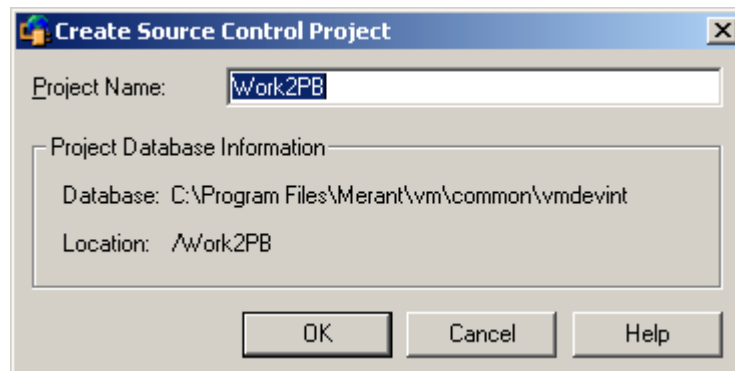
- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

Select a project **6** Do one of the following:

- To connect to an existing source control project, select one from under **Source Control Project**. Proceed to [Step 7](#).
- **To create a new Version Manager project:**
 - a In the project database tree, select the location where you want to create the new project.
 - b Click the **Create Project** button. The Create Source Control Project dialog box appears.



The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c Enter a name for the source control project in the **Project Name** field.
The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/), a question mark (?), and angle brackets (<>).
 - d Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.
- 7** Click **OK**. The Properties of Workspace dialog box reappears.
- 8** Enter the path to the root directory for this workspace in the **Local Root Directory** field or click the browse button to select it.



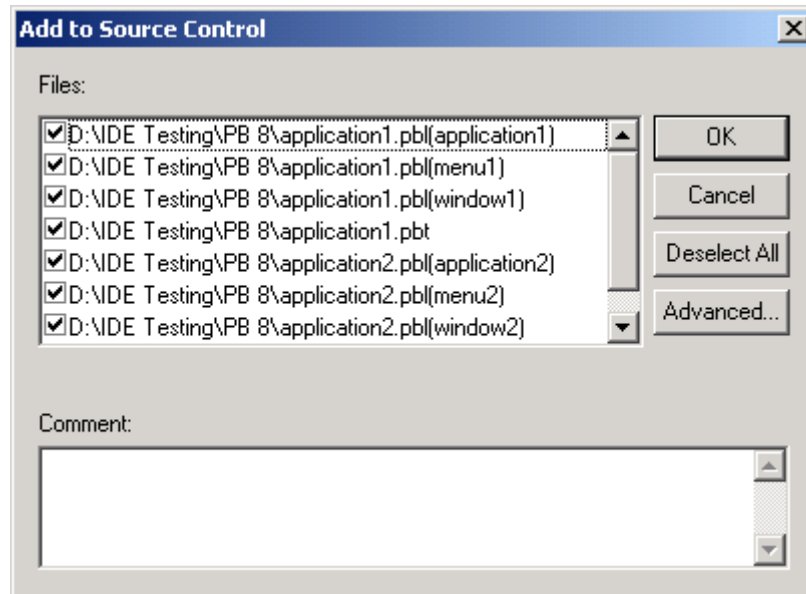
IMPORTANT! All objects that are part of the PowerBuilder workspace must be located in the local root directory or in a subdirectory beneath it.

- 9 Optionally, complete the other fields on the Properties of Workspace dialog box to configure how PowerBuilder interacts with source control. For more information on how to use these settings, see the PowerBuilder documentation.
- 10 Click **OK**. A green plus sign (+) appears to the left of each object icon to indicate that the workspace is connected to source control but the objects are not yet under source control.

Adding Objects to Source Control

To add objects to source control:

- 1 Right-click on the Workspace object in the System Tree pane. A pop-up menu appears.
- 2 Select Add to Source Control. The Add to Source Control dialog box appears.



- 3 Do any of the following:
 - Change which objects to add to source control by unchecking or checking the checkboxes next to each object name.
 - Enter a comment in the **Comment** field.
- 4 Click **OK**. The ChangeMan Advanced Add dialog box appears.
- 5 Do any of the following:
 - Under the Advanced tab, enter a version label in the **Version Label** field, or click the browse button to select one.

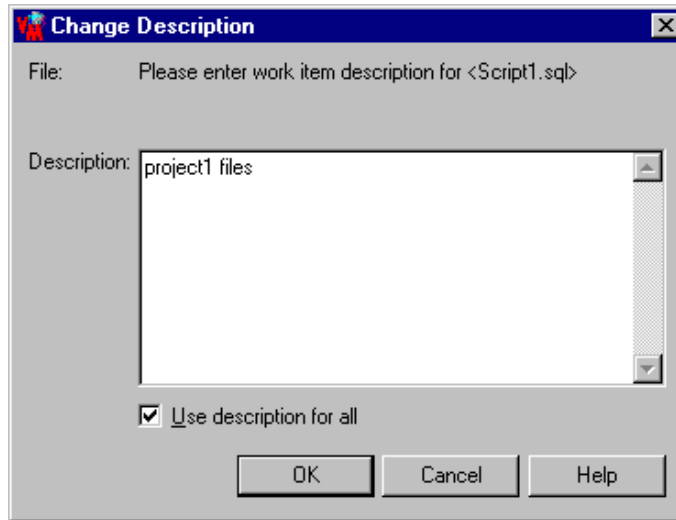
If you plan to use the Version Manager desktop client to re-organize your versioned files into individual projects based on your application's library structure, assign a version label that corresponds to the library each object belongs to. For example, if you are adding objects from a library called PBL1 to source control, enter *PBL1* in the **Version Label** field. See ["Using Version Labels to Organize Projects" on page 105](#).




TIP If you create each target in its own subdirectory beneath the workspace directory, the Version Manager IDE client will automatically create subprojects based on that directory structure.

- To cause the version label to always be associated with the latest revision in the archive, select the **Float label with tip** check box.
- Under the General tab, enter a lowest-level promotion group to associate with the initial revisions of the files, or browse to select one.

- 6 Click **OK**. If the objects you are adding to source control do not already contain workfile descriptions, the Change Description dialog box appears.



- 7 Enter a description for the current object in the **Description** field.
- 8 Click **OK**. Complete the ChangeMan Advanced Add and Change Description dialog boxes for each target you are adding to source control.

A green dot () appears to the left of each object icon to indicate the that object is under source control and is not checked out.

Configuring Workstations in a Multi-User Environment

After connecting a PowerBuilder workspace to source control and adding the objects within it to source control, you can make it available to multiple users. To do so, you must complete the following steps:

- 1 Copy the directory structure of the PowerBuilder workspace to the workstation. Include only the workspace and target directories, the PowerBuilder Library (.PBL) files, and the PowerBuilder Target (.PBT) files.



IMPORTANT!

- Do not include the workspace (.PBW) file. The .PBW file contains absolute paths.
- The directory structure of the PowerBuilder workspace must be the same on each system.

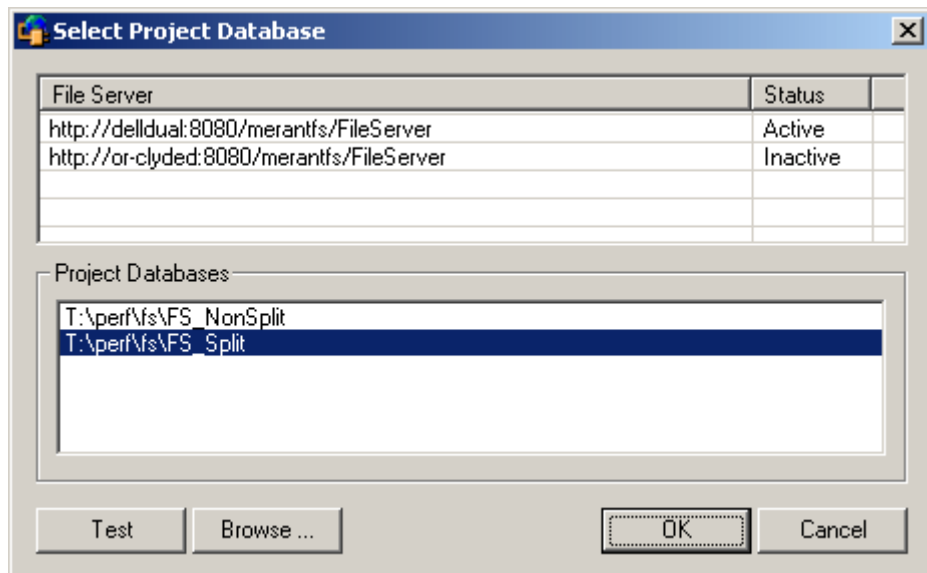
- 2 Create a new PowerBuilder workspace in the workspace directory you copied to the workstation.
- 3 Add the copied target (.PBT) files to the new workspace.
- 4 Connect the new workspace to the existing source control project. See the next section for more information on this step.

Connecting Workstations to the Existing Source Control Project

To connect a workstation to source control:

- 1 Right-click on the Workspace object in the System Tree pane. A pop-up menu appears.
- 2 Select Properties. The Properties of Workspace dialog box opens to the Source Control tab.
- 3 Select **ChangeMan Version Manager** from the **Source Control System** drop-down menu.
- 4 Click the browse button to the right of the **Project** field. The Add Project to Source Control dialog box appears.
- 5 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.

Select a project database



Do one of the following:



- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

Select a project

- 6 From under **Source Control Project**, select the source control project to which to connect the workspace.
- 7 Click **OK**. The Properties of Workspace dialog box reappears.

- 8 Enter the path to the root directory for this workspace in the **Local Root Directory** field or click the browse button to select it.
- 9 Optionally, configure how PowerBuilder interacts with source control. See the PowerBuilder documentation for more information on how to use these settings.
- 10 Click **OK**. Symbols appear to the left of each object icon to indicate that the objects are under source control:
 - A green dot () indicates that the object is checked in.
 - A red checkmark () indicates that the object is checked out by another user.

Removing Objects from Source Control

When you remove an object from source control, Version Manager does *not* delete the workfile or Version Manager archive; it simply removes the association between the object and archive. You can always add the object back to source control later.

To remove objects from source control:

- 1 In the Library Painter, select the object or objects you wish to remove from source control.
- 2 Select **Entry | Source Control | Remove from Source Control**. The Remove from Source Control dialog box appears with a list of objects to remove from source control.
- 3 Make sure the correct objects are selected and click **OK**. The selected objects are removed from source control.

Returning files to
source control

For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).



NOTE To re-add objects to source control that you have previously removed from source control, use the Workspace tree. PowerBuilder may close unexpectedly if you initiate the add operation from the Library Painter.

Disconnecting Workspaces from Source Control

Disconnecting a PowerBuilder workspace from source control does not affect the Version Manager project. You can always re-connect the workspace to the Version Manager project later.

To disconnect a workspace from source control:

- 1 Right-click the workspace object in the System Tree. A pop-up menu appears.
- 2 Select **Properties**. The Properties of Workspace dialog box appears.
- 3 Select **None** from the **Source Control System** field.
- 4 Click **OK**. The workspace is disconnected from source control.

Using Source Control with PowerBuilder

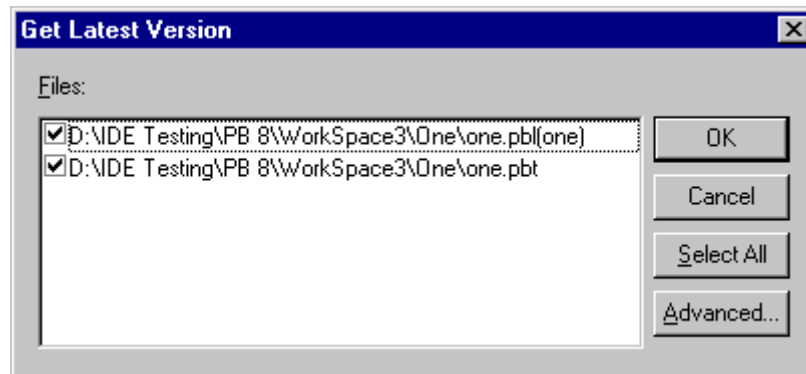
- Contents** This section contains procedural information about viewing and editing files that are under source control.
- For more information** See [Chapter 4, "Using Source Control" on page 47](#).

Getting Objects

When you get an object, a read-only copy of the selected revision is placed in the target PBL.

To get a revision:

- 1 Right-click the object and select Get Latest Version from the resulting pop-up menu. The Get Latest Version dialog box appears with a list of objects.



- 2 Select or deselect objects from the list as needed.
- 3 Do one of the following:

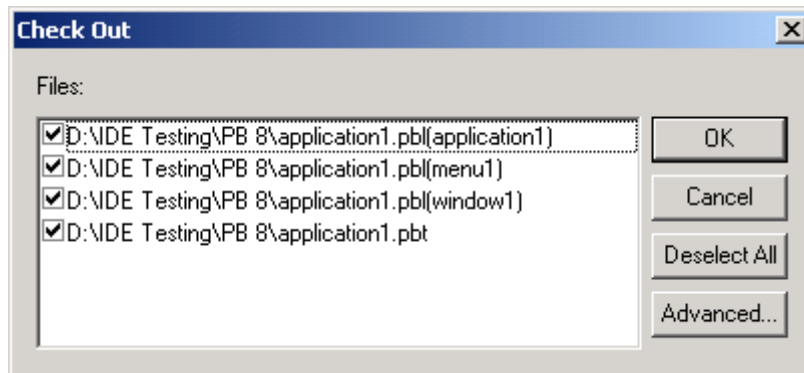
- | | |
|----------------------|--|
| Use advanced options | <ul style="list-style-type: none"> ■ To override the default get options, click the Advanced button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see "About Getting Files" on page 48.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default get options, click OK. |

Checking Out Objects

When you check out an object, the revision is locked and a writable object is created in the target PBL.

To check out an object:

- 1 Right-click the object and select Check Out from the resulting pop-up menu. The Check Out dialog box appears with a list of objects.



- 2 Select or deselect objects from the list as needed.


- 3 Do one of the following:

Use advanced
options


- To override the default checkout options, click the **Advanced** button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see ["About Checking Out Files" on page 50.](#))

Accept defaults

- To accept the default options, click **OK**.

A green checkmark () appears to the left of each object icon to indicate that the objects are checked out by you.



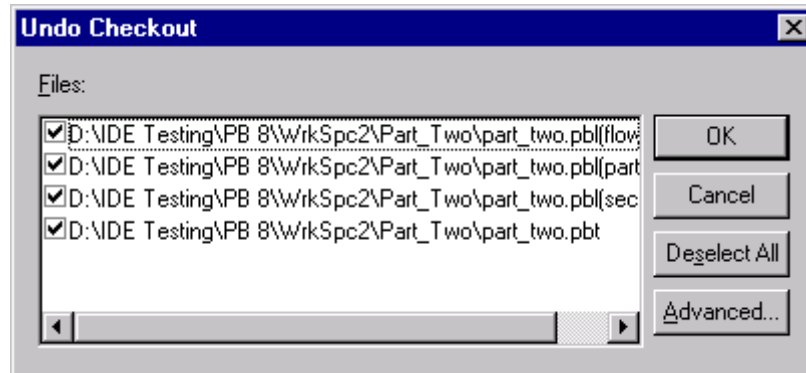
NOTE A red checkmark () indicates that the object is checked out by another user.

Undoing Checkout

By default when you undo a checkout, the revision is unlocked without updating the associated Version Manager archive with changes and your local copy of the object is replaced with the latest revision.

To undo a checkout:

- 1 Right-click the object and select Undo Check Out from the resulting pop-up menu. The Undo Check Out dialog box appears with a list of objects.



- 2 Select or deselect objects from the list as needed.

- 3 Do one of the following:

Use advanced
options

- To override the default undo checkout options, click the **Advanced** button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see ["About Undoing Checkout" on page 52.](#))

Accept defaults

- To accept the default options, click **OK**.

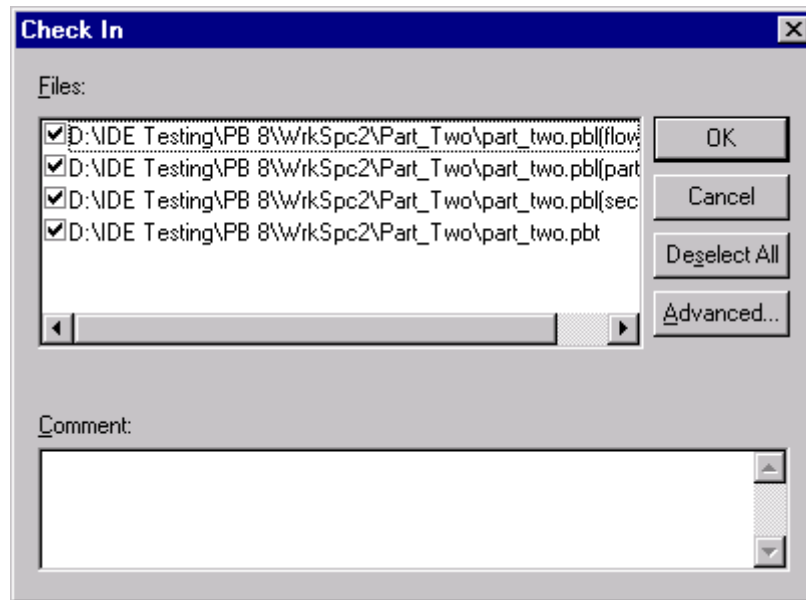
A green dot (.) appears to the left of each object icon to indicate that the objects are no longer checked out.

Checking In Objects

By default when you check in an object, the revision is unlocked and a new revision is created in the archive and assigned the next number in sequence.

To check in an object:

- 1 Right-click the object and select Check In from the resulting pop-up menu. The Check In dialog box appears with a list of objects.



- 2 Select or deselect objects from the list as needed.
- 3 In the **Comment** field, enter comments describing the changes you made to the object or objects.



NOTE To use a unique description for each object, leave the **Comment** field blank. After you complete the Check In dialog box, the Change Description dialog box will appear for each file in turn.


- 4 Do one of the following:

Use advanced options


- To override the default check-in options, click the **Advanced** button. (For information on advanced options, see ["About Checking In Files" on page 53.](#))

Accept defaults

- To accept the default options, click **OK**. The object or objects are checked in.

A green dot () appears to the left of each object icon to indicate that the objects are checked in.

Adding New Objects

When you create new objects in a source controlled workspace, a green plus sign () appears to the left of each object icon to indicate that the objects are not yet under source control. To add new objects to source control, follow the procedure ["Adding Objects to Source Control" on page 109.](#)



NOTE To re-add objects to source control that you have previously removed from source control, use the Workspace tree. PowerBuilder may close unexpectedly if you initiate the add operation from the Library Painter.

Once the objects are added to source control, other users can access them by getting or checking out the target that contains them.

Adding New Targets or PBLs

If you add a new target (.PBT) or library (.PBL) to a source controlled workspace, you must:

- 1** Add it to source control. See ["Adding Objects to Source Control" on page 109](#).
- 2** Distribute it to each workstation, as was done when the workspace was first set up for use by multiple users. See ["Configuring Workstations in a Multi-User Environment" on page 110](#).

Chapter 9

Rational Application Developer 6 (Eclipse 3) Rich Integration

Introduction	120
Accessing Supported Features	120
Integration Overview	122
Collaborative Process Overview	122
Setting Up Source Control Projects	126
Using Source Control	139
Associating and Working on TeamTrack Issues	162
Setting Default Options	169

Introduction

Purpose This chapter has the following purposes:

- List the Version Manager and TeamTrack features available through Eclipse 3 and IBM Rational Application Developer 6, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this integration



NOTE Other than the section on source control concepts, Part 1 of this manual does not apply to this integration.

- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within Eclipse
- Help your development team associate TeamTrack issues with source controlled files from within Eclipse

Accessing Supported Features

What is supported? Eclipse 3 based IDEs support the full set of source control and issue management features available through the Version Manager rich IDE integration.

To...	Select...	For more information see...
Get revisions	Right-click Team Get	"Getting Files" on page 145
Check out revisions	Right-click Team Checkout	"Checking Out Files" on page 146
Undo checkout of revisions	Right-click Team Undo Checkout	"Undoing Checkout" on page 148
Check in revisions	Right-click Team Check In	"Checking In Files" on page 148
Label the latest revision	Right-click Team Label	"Assigning Version Labels" on page 143
Label a prior revision	Right-click Team History	"Assigning Version Labels" on page 143
Promote the latest revision to the next level in the promotion hierarchy	Right-click Team Promote	NOTE You cannot promote files that are checked out.
Promote a prior revision to the next level in the promotion hierarchy	Right-click Team History	"Working in the History View" on page 141

To...	Select...	For more information see...
View revision history: - Revisions - Version labels - Promotion groups - Dates - Comments	Right-click Team History	"Working in the History View" on page 141
Compare workfiles with latest revision	Right-click Compare With Serena Revision	"Comparing with the Latest Serena Revision" on page 158
Compare workfiles with local history	Right-click Compare With Local History	"Comparing with Local History" on page 159
Compare workfiles with each other	Right-click Compare With Each Other	"Comparing Workfiles with Each Other" on page 160
Replace workfiles with local history	Right-click Replace With Local History	"Replacing with Local History" on page 161
Replace workfiles with latest revision	Right-click Replace With Latest Serena Revision	"Replacing with Latest Serena Revision" on page 162
Connect projects to source control	Right-click Team Share Project	"Adding Projects to Source Control" on page 127
Disconnect projects from source control	Right-click Team Disconnect	"Disconnecting Projects from Source Control" on page 139
Import projects from source control	Serena Import Project from Version Manager	"Connecting Additional Workstations to an Existing Source Control Project" on page 133
Rename or move objects (refactoring)	See the text.	"Using Rename or Move (Refactoring)" on page 153
Refresh all source control status	Serena Refresh All Status	"Viewing Source Control Status" on page 140
Refresh source control status for selected objects	Right-click Team Refresh Status	"Viewing Source Control Status" on page 140
Synchronize your entire workspace with source control	Serena Compare Workspace	"Comparing and Synchronizing Your Workspace with Source Control" on page 153
Synchronize the selected objects with source control	Right-click Team Compare Workspace	"Comparing and Synchronizing Your Workspace with Source Control" on page 153
Work with TeamTrack Issues	Serena Show Issues	"Associating and Working on TeamTrack Issues" on page 162
Get help	(Click in the dialog or view you want help with, and press the F1 key.)	NOTE F1 will invoke help in most dialogs and views.

Integration Overview

The Version Manager rich integration provides a powerful set of collaborative tools to help development teams manage their source code. The integration includes:

- **Workspace Comparison and Synchronization**

You can easily compare the state of all files in your local workspace with the corresponding Version Manager project. You can determine what the differences are and whether your workspace or the Version Manager repository need to be updated. With the click of a button, you can then automatically check in all of your changes to Version Manager and get all updates to your local workspace. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#).

- **Automated File Merging**

When you check in or synchronize your workspace, your changes are automatically merged with any recent changes to the same files in the Version Manager repository.

- **File Comparison and Conflict Resolution**

You can compare specific local files to the latest revision of the files in the Version Manager repository. If necessary, you can directly edit the files in order to resolve any conflicts before checking in the files. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#).

- **Pragmatic Locking**

You can check in any file, any time, without first locking it. See ["Working on Files Without Locking Them" on page 124](#).

TeamTrack Integration

If your organization uses Serena TeamTrack to track development issues, such as defects and tasks, you can submit and modify TeamTrack issues from within Eclipse, and associate issues with specific revisions of files. When you associate issues with files, the revision number is added to the issue.

For detailed information on working with TeamTrack issues, see ["Associating and Working on TeamTrack Issues" on page 162](#).

Collaborative Process Overview

The Version Manager integration supports a flexible range of collaborative development processes. You can:

- | | |
|-------------------|---|
| Workspaces | ■ Use Version Manager workspaces to precisely define which files developers will work on, and to automate the assignment of version labels in order to enforce maintenance of the workspace. Workspaces greatly simplify the process of sharing files in a development project, by ensuring that all developers working within the same branch of development see and update the same files. See "Using Workspaces" on page 123 . |
| Pragmatic locking | ■ Use an optimistic, or pragmatic, locking model to allow all users to work on common files without locking them. See "Working on Files Without Locking Them" on page 124 . |

- Pessimistic locking
- Use a pessimistic locking model to request that users check out files before they modify the files and check in their changes. This prevents other users from checking in changes until the files are unlocked. See ["Checking Out Files with Locks" on page 125](#).

Using Workspaces

The rich integration to Eclipse makes extensive use of Version Manager workspaces to simplify the collaborative process. Version Manager workspaces represent a collection of specific files, each of which shares a common default version label. Workspaces enable developers to get and work only on files associated with specific development efforts or projects, as defined by the default version label.



NOTE Version Manager workspaces also define a default workfile location, but this workfile location does not apply when using the rich integration to Eclipse. Instead, your IDE's workspace defines the workfile location. However, the Version Manager workfile location applies when using other Version Manager clients, such as the web or desktop clients.

The following is an overview of workspace setup and usage for the rich integration to Eclipse:

- 1 The Version Manager administrator sets up the workspace in Version Manager.** Unique workspaces can be set up for each project or subproject, and even for each developer. The simplest workflow is to define a common workspace that all members on a project team can share, and that defines the correct default version label for the project. If developers will use different workspaces but will work on a common project, the default version label should be set to the same value for each workspace. Because it is the default version label that determines what each developer can see and modify, it is important that the default is common for all developers who will work on the same branch of development. See the *Version Manager Administrator's Guide* for details.



IMPORTANT! If developers will work in different workspaces, it is critical to note that any changes to project structure that occur within one workspace will also be evident in another workspace. For example, if a developer working in a workspace called "Major_Releases" renames several files, then those files will also be renamed in any other workspace that includes them. When defining workspaces, it is critical to carefully evaluate such dependencies.

- 2 The administrator defines the default version label for the workspace.** The default version label will in turn determine precisely which files belong to the workspace.

For example, if the floating label "Latest" is assigned to all files in the project, and if the workspace should include the most recent versions of all files in the project, define the default version label as "Latest."

Or, if the workspace should include all files in a branch for which the branch version label is "branch_01," then the default version label for the workspace should be defined as "branch_01."

See the *Version Manager Administrator's Guide* for details.
- 3 A developer selects the appropriate workspace and adds the Eclipse project to source control.** By selecting the appropriate workspace, the default version label

for that workspace is assigned to all files that are added to Version Manager. For example, if the developer chooses a workspace for which "Latest" is the default version label, then the "Latest" label is assigned to all files.

- 4 Other developers select the appropriate workspace and import the IDE project from source control.** This choice then determines what files are copied to their local workspaces. For example, if developers choose a workspace for which "Latest" is the default version label, then only those files to which "Latest" is assigned are copied to their local workspaces.
- 5 Developers synchronize workspaces and resolve all changes, automatically checking in / getting files with the default version label.** When a developer resolves all changes:
 - Any new local files are added to the Version Manager project, and the default version label for the current workspace is assigned to them.
 - Any new files in the Version Manager project are copied to the local workspace if they have the default version label.

Working on Files Without Locking Them

Also known as *pragmatic* or *optimistic locking*, this model allows multiple users to get and modify files at the same time. Each user's modifications will be auto-merged with other users' changes when the files are checked in. If any merge conflicts result from attempting to auto-merge multiple users' changes, use the Compare Workspaces feature to evaluate and resolve the conflicts before completing check-in. The following steps illustrate this process:

- 1** At the beginning of each work day, make sure that your local workspace has all of the latest updates from the Version Manager repository. To do this, you can synchronize your local workspace with the Version Manager repository (see ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#)). If the local files already exist and are different from the latest revisions in the Version Manager repository, the revisions are merged. If any merge conflicts result from the attempt to auto-merge the different revisions, double-click to open them in the compare editor and then evaluate and resolve the merge conflicts.
- 2** Edit the files.
- 3** When you have finished your work on the files, check them in to Version Manager. You can either check in specific files (see ["Checking In Files" on page 148](#)) or synchronize your workspace with the Version Manager repository (see ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#)).



NOTE During the actual check-in operation, Version Manager briefly locks the files while adding the new revisions to the repository.

Example: Collaborative Development

A team of developers work together on files stored in a project called "Java," in a project database called "Source." Their organization allows multiple developers to work on common files at the same time. Their development workflow is as follows:

- 1 At the beginning of every day, each developer can update their local workspace with the latest changes under the "Java" project in Version Manager. The development team works from sites in multiple nations; This step ensures that all developers have all of the latest updates from all development sites. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153.](#)
- 2 At the end of each day, each developer synchronizes their workspace with the Version Manager repository. If multiple developers have modified the same files, the merge functionality will attempt to auto-merge each user's changes into the new revisions. All merged and changed files are copied to the local workspace. If merge conflicts result from the attempt to auto-merge, the developer performing the check-in must resolve the conflicts, and then synchronize again. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153.](#)

Checking Out Files with Locks

In this workflow, check out any file that you intend to modify. This locks the file in Version Manager, which prevents other users from checking in changes until you unlock the files. Once you have completed your changes, check in the files. This ensures that changes from multiple users will never result in conflicts.



IMPORTANT! Checking in local changes does not synchronize renamed, moved, or deleted objects. You must synchronize your local workspace with the Version Manager repository in order to check in refactored and deleted objects. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153.](#)

Example: Locking Files

As part of a larger development team working on a complex and interdependent code base, Joe and Carol frequently work on the same files. A typical day might go something like this:

- 1 To begin work on a set of files, Joe checks them out from source control (see ["Checking Out Files" on page 146.](#)
- 2 When Carol opens the project, she sees the padlock (🔒) glyph on the file icons, indicating that the files are checked out by someone else (see ["Viewing Source Control Status" on page 140.](#) Using the History view, she sees that Joe has the files checked out (see ["Working in the History View" on page 141.](#) She checks with Joe to see how long he plans to work with the files, then takes an early lunch.
- 3 Joe completes his work and checks in the files, associating them with the TeamTrack issues that spawned the work (["Checking In Files" on page 148.](#)
- 4 Carol comes back from lunch and refreshes her source control status. She sees that the files are now checked in. She checks them out and begins her work.

Setting Up Source Control Projects

- Contents** This section contains information about setting up the Version Manager rich integration to Eclipse-based IDEs.
- Prerequisites** Before proceeding, your administrator must use the Version Manager desktop client to create a project database that will contain the source control projects associated with the IDE project (if there isn't one already). See the *Serena ChangeMan Version Manager Administrator's Guide*.



IMPORTANT! Eclipse does not work correctly with UNC paths. Rather than UNC paths, use mapped drives for the Version Manager installation and any Version Manager file server paths that are to be used with Eclipse.

Excluding Files and Directories from Source Control

You can configure Eclipse to exclude specified files and directories from source control. This can minimize the size of the project database. For example, you could exclude all files with a `.tmp` file extension or exclude the `bin` directory and its contents.



IMPORTANT! Specify any files and directories you wish to exclude from source control before adding the project they are in to source control.

To exclude specified files and directories from source control:

- 1** Select Window | Preferences. The Preferences dialog box appears.
- 2** Click the plus sign next to **Team** and select **Ignored Resources**.
- 3** Examine the **Ignore Patterns** list for the file type or directory you wish to exclude from source control. If it is not listed, do the following:
 - a** Click the **Add** button. The Enter Ignore Pattern dialog box appears.
 - b** Enter a pattern that defines a file type or directory to ignore. Use wildcards if needed:
 - Asterisks (*) represent one or more characters.
 - Question marks (?) represent one character.
 - c** Click **OK**.
- 4** In the **Ignore Patterns** list, ensure that a check mark appears next to each file type and directory you want to exclude from source control.
- 5** Click **OK**.

Migrating Projects from the Previous Source Control Integration

If you have existing Eclipse projects under Version Manager source control and you wish to migrate them to the rich integration, do the following:

Serena-SB
integration

- 1 From the previous integration, check in any changes.
- 2 If you will be using the same IDE installation with the rich integration, you must remove the project from your local workspace:
 - a Right-click on the project and select **Delete** from the pop-up menu. The Confirm Project Delete prompt appears.



CAUTION! Say **No** to any prompt asking if you wish to delete from the repository.

- b Select the option to delete contents, and click **Yes**.
- c Confirm the deletion of any read-only resources by clicking **Yes To All**.

Rich integration

- 3 From the new integration, select Serena | Import Project from Version Manager. See ["Get Projects from Source Control" on page 134](#).
- 4 If the project was from Eclipse 1 (WebSphere Studio Application Developer 4), check in the `.project` file. This takes the place of the `.vcm_meta` file that was used with Eclipse 1.



IMPORTANT! If you migrate a project from a previous version of Eclipse, do not open it from the old version of the IDE again.

Adding Projects to Source Control

If your IDE project has not yet been added to source control, you must do so in order to use the integration to Version Manager.

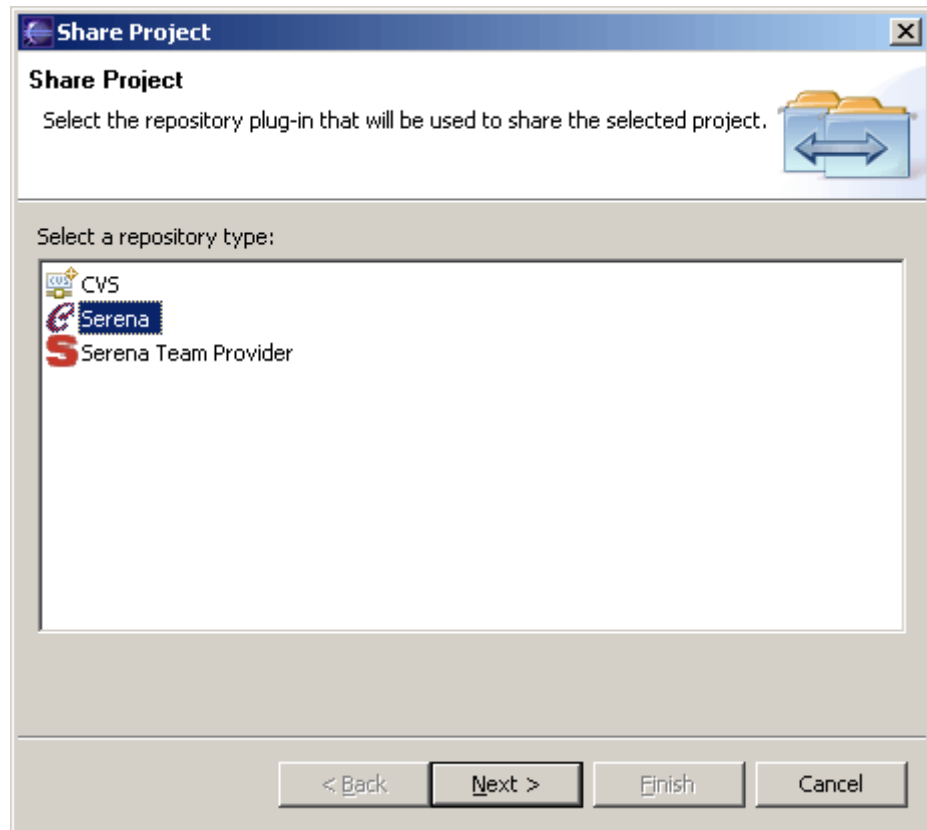


IMPORTANT! Specify any files you wish to exclude from source control before adding the project they are in to source control. See ["Excluding Files and Directories from Source Control" on page 126](#).

To add projects to source control:

- 1 Right-click the project icon in the Package Explorer or Navigator. A pop-up menu appears.

- 2 Select Team | Share Project. The Share Project dialog box appears.



- 3 Select **Serena** from the **Select a repository type** list.

- 4 Click the **Next** button. The Enter Login Information page of the Share Project wizard appears.

Share Project

Enter Login Information

Define the login and location information required to connect with a Serena repository

To obtain your login name and password, please contact your IT Administrator.

Project Database:



C:\Program Files\Serena\vm\common\vmdevint

Username:

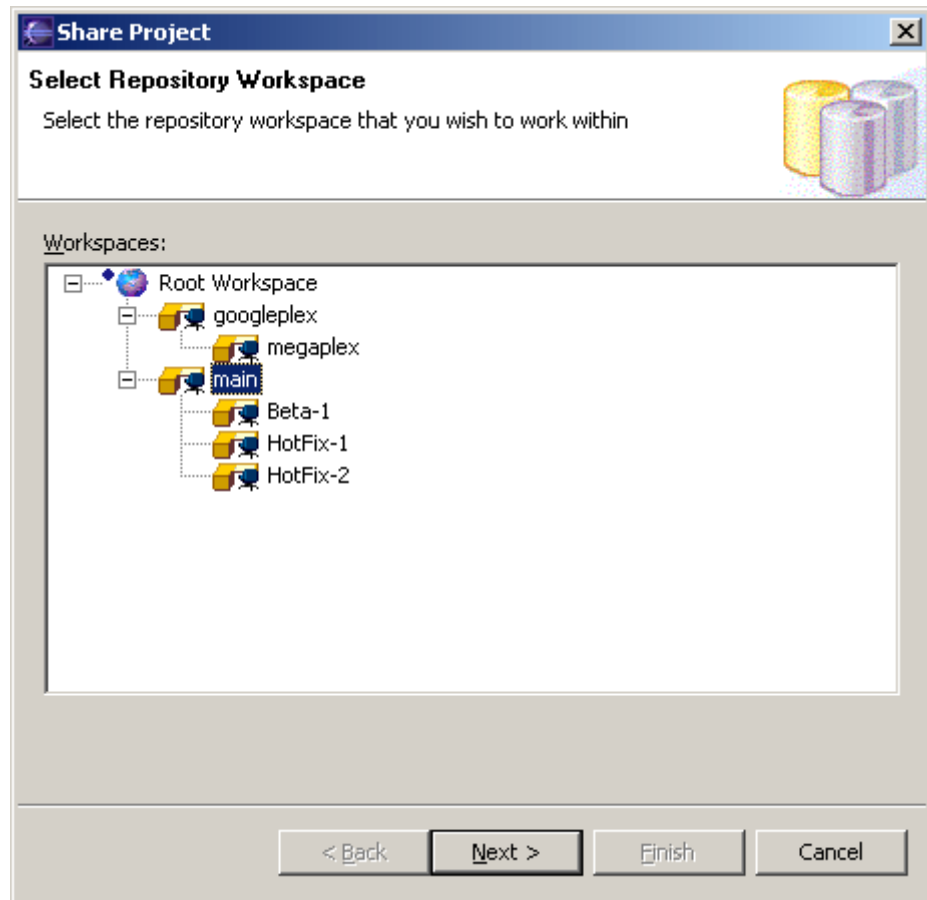
joeb

Password:

< Back Next > Finish Cancel

- 5 Do any of the following to specify a Version Manager project database:
- Enter the path to the root project database directory, or select a recent project database from the drop-down list.
 - Click the **PDB** button  to browse for a project database.
 - Click the **File Servers** button  to choose from all project databases on the Version Manager file server, if a file server is defined in Version Manager. (If no Version Manager file server is defined, ignore this button.)

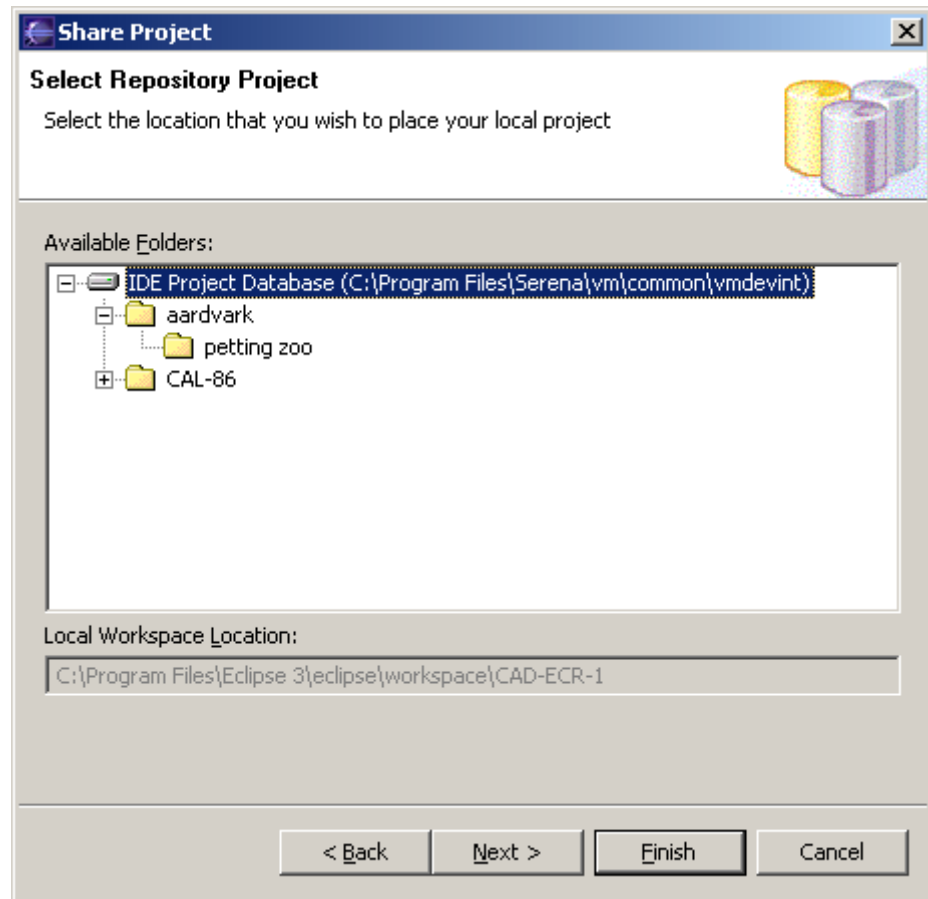
- 6 Enter your Version Manager user name and password, if one is required, and click **Next**. The Select Repository Workspace page appears.



- 7 Select the Version Manager workspace that you will use for the project, then click **Next**.

Your choice of workspace will determine the default version and promotion group for the files. This choice does not affect your workfile location setting; working copies of all of your files will be saved to the IDE workspace. This list displays all public workspaces in the project, as well as all private workspaces to which you have access.

The Select Repository Project page appears.



- 8 Select the location in the project database where Version Manager will create a new project using the name of the IDE project. You can select a project, subproject, or the root of the project database.



NOTE To add a new project folder to the tree, right-click on the folder that will be the new folder's parent, and select **Create Project** from the resulting pop-up menu.

- 9 Click **Next**. The Select TeamTrack Database page appears.



NOTE If you do not wish to connect to a TeamTrack server, click **Next** and skip to [Step 12](#).

- 10 Enter the URL to a TeamTrack server in the **Host** field or select a recent one from the **Host** drop-down list.



TIP Enter the name of the host system then tab to the next field. A default URL will be auto-entered for you in the following format:

```
http://tt_server/tmtrack/tmtrack.dll
```

Where *tt_server* is the name of the TeamTrack host.



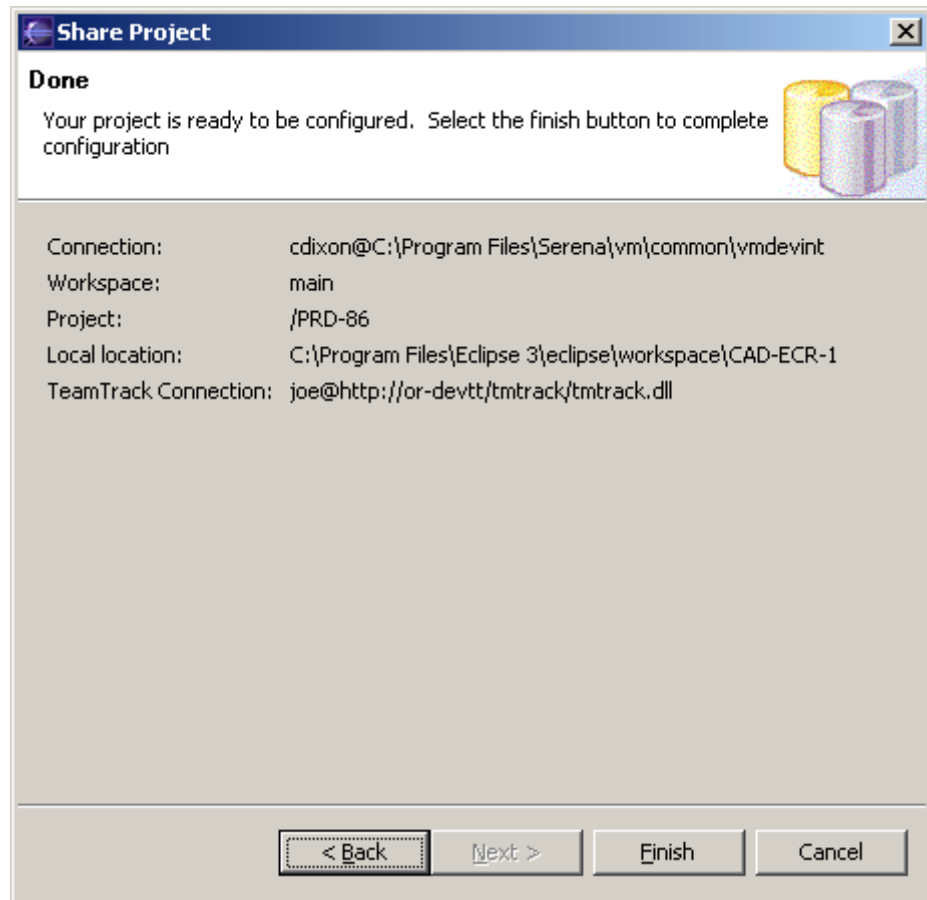
NOTE To use a non-default port number (any port other than 80), append the port number to the server name. For example, if the port number is 89:

```
http://tt_server:89/tmtrack/tmtrack.dll
```



NOTE A specific TeamTrack user privilege is required in order to run the integration to TeamTrack. See the TeamTrack SourceBridge documentation.

- 11 Enter your TeamTrack user name and password and click **Next**. The Done page appears.



- 12 Review the configuration. To change any of the settings, click the **Back** button.
- 13 Click **Finish**.

Connecting Additional Workstations to an Existing Source Control Project

Once an Eclipse project is under source control, you can open it from any workstation that has access to the Version Manager project database. There are two ways to connect additional workstations to a source control project:

- Get the project from source control. See the next section.
- Export and import a Project Set file. See ["Export/Import a Project Set File" on page 138](#).

Get Projects from Source Control

To add existing controlled projects to your workspace:

- 1 Select Serena | Import Project from Version Manager. The Get Projects from Serena wizard appears.

Get Projects from Serena

Enter Login Information

Define the login and location information required to connect with a Serena repository.

To obtain your login name and password, please contact your IT Administrator.

Project Database:



C:\Program Files\Serena\vm\common\vmdevint

Username:

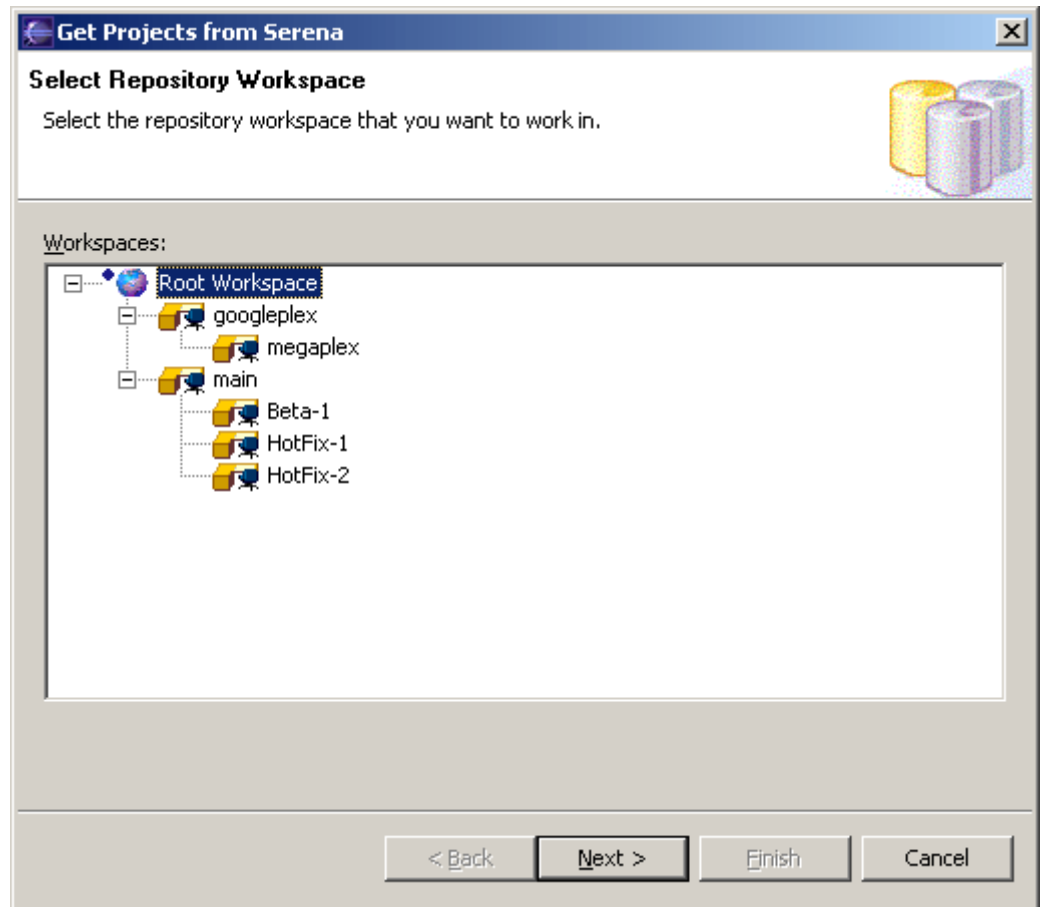
joeb

Password:

< Back Next > Finish Cancel

- 2 Do any of the following to specify a Version Manager project database:
 - Enter the path to the root project database directory, or select a recent project database from the drop-down list.
 - Click the **PDB** button  to browse for a project database.
 - Click the **File Servers** button  to choose from all project databases on the Version Manager file server, if a file server is defined in Version Manager. (If no Version Manager file server is defined, ignore this button.)

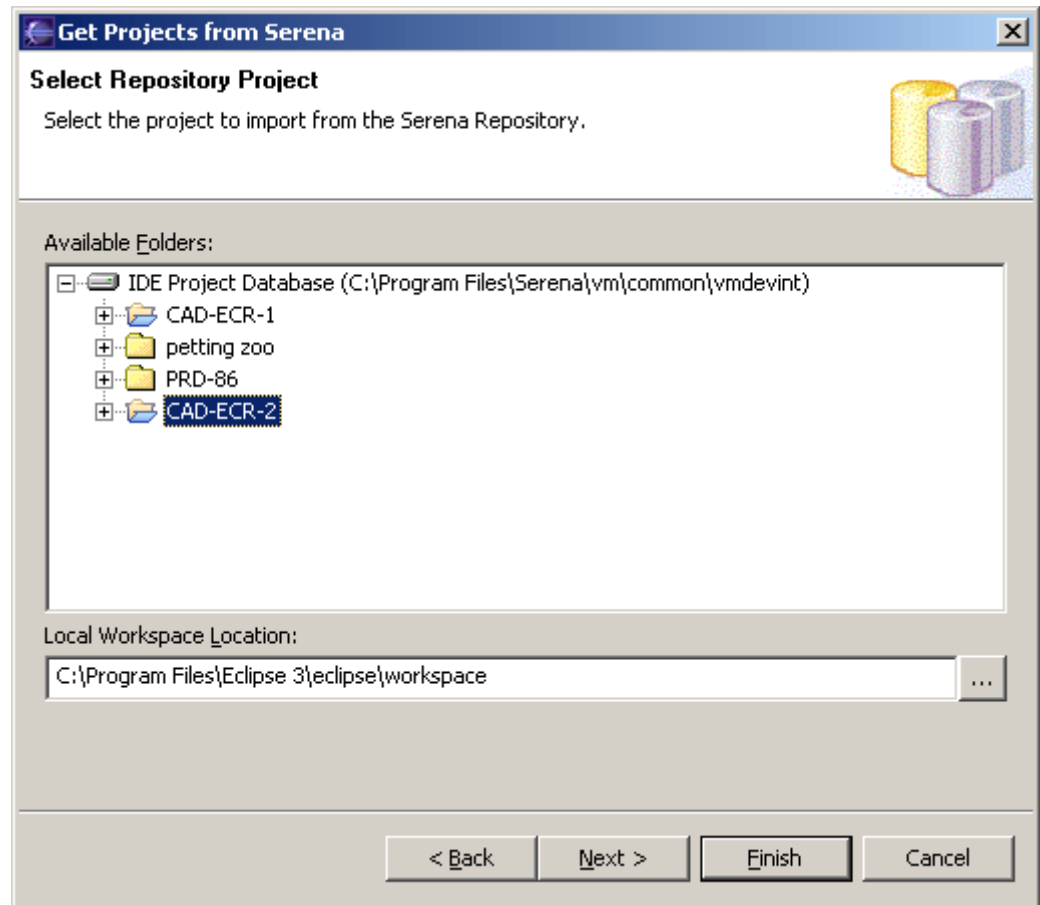
- 3 Enter your Version Manager user name and password and click **Next**. The Select Repository Workspace page appears.




- 4 Select the Version Manager workspace that you will use for the project, then click **Next**.

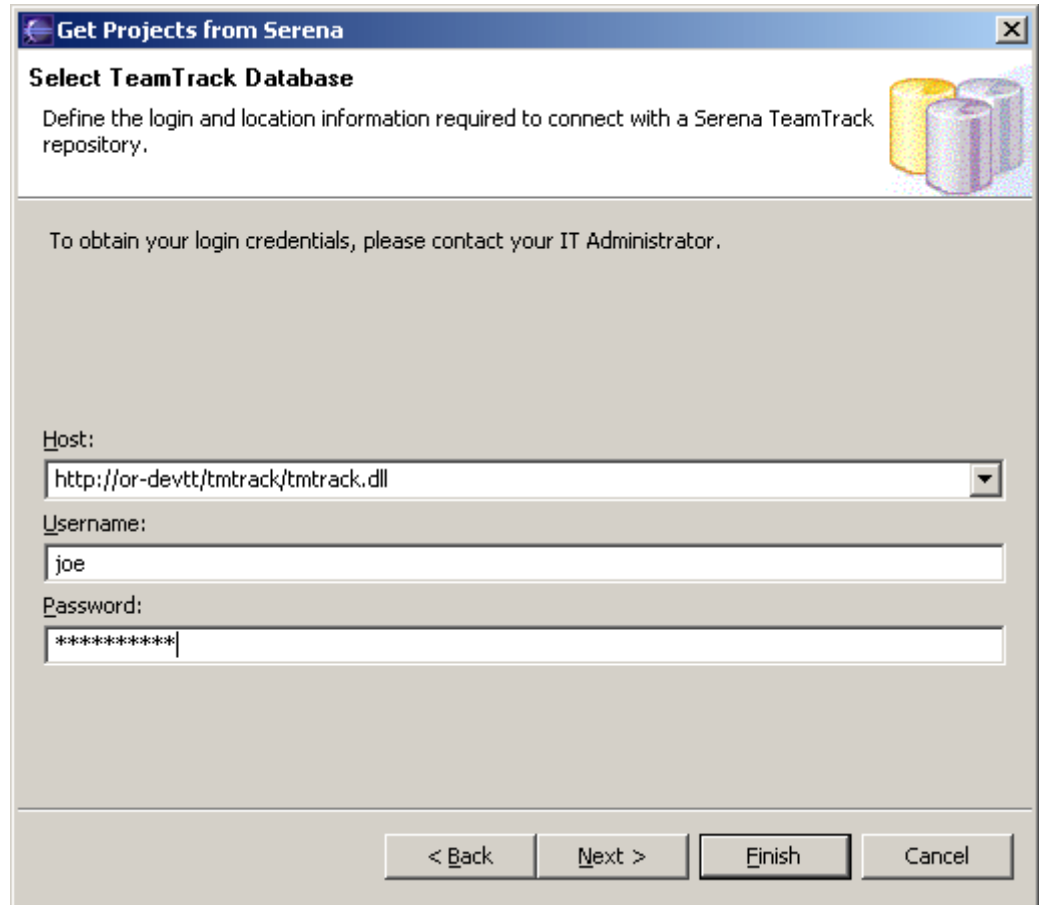
Your choice of workspace will determine the default version and promotion group for the files. This choice does not affect your workfile location setting; working copies of all of your files will be saved to the IDE workspace. This list displays all public workspaces in the project, as well as all private workspaces to which you have access.

The Select Repository Project page appears.



- 5 Browse the project database folders to find and select the specific project that you want to open in Eclipse. Eclipse projects under Version Manager source control are indicated by folders with blue covers .
- 6 In the **Local Workspace Location** field, enter or browse to select the local workspace location, then click **Next**. The local workspace is the local work directory, where your working copies of the files will be stored.

- 7 The Select TeamTrack Database page appears.



Get Projects from Serena

Select TeamTrack Database

Define the login and location information required to connect with a Serena TeamTrack repository.

To obtain your login credentials, please contact your IT Administrator.

Host:

Username:

Password:

< Back Next > Finish Cancel



NOTE If you do not wish to connect to a TeamTrack server, click **Next** and skip to [Step 10](#).

- 8 Enter the URL to a TeamTrack server in the **Host** field or select a recent one from the **Host** drop-down list.



TIP Enter the name of the host system then tab to the next field. A default URL will be auto-entered for you in the following format:

`http:// tt_server/tmtrack/tmtrack.dll`

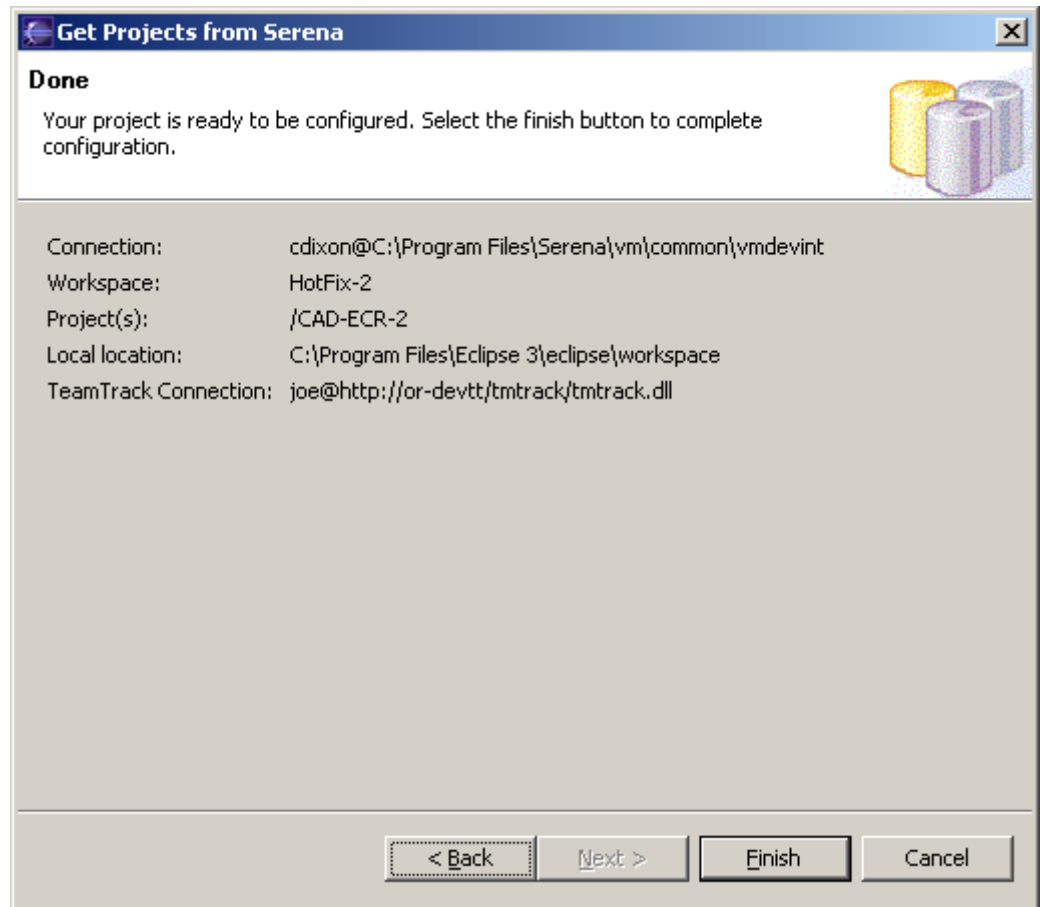
Where *tt_server* is the name of the TeamTrack host.



NOTE To use a non-default port number (any port other than 80), append the port number to the server name. For example, if the port number is 89:

`http:// tt_server:89/tmtrack/tmtrack.dll`

- 9 Enter your TeamTrack user name and password and click **Next**. The Done page appears.



- 10 Review the configuration. To change any of the settings, click the **Back** button.
- 11 Click **Finish**.

Export/Import a Project Set File

A Project Set file contains the path information needed to connect other workstations to an existing source control project.

To export a Project Set file:

- 1 Select File | Export. The Export dialog box appears.
- 2 Select **Team Project Set** from the **Select an export destination** list.
- 3 Click the **Next** button.
- 4 Select the projects to export.
- 5 Enter a path and file name in the **File name** field or browse to select an export destination.
- 6 Click the **Finish** button. A *.PSF file is created in the selected directory.
- 7 Distribute the *.PSF file to each workstation or make it available from a network location.

To import a Project Set file:

- 1 Select File | Import. The Import dialog box appears.
- 2 Select **Team Project Set** from the **Select an import source** list.
- 3 Click the **Next** button.
- 4 Enter the path and file name of the *.PSF file in the **File name** field or browse to select it.
- 5 Click the **Finish** button.

Disconnecting Projects from Source Control

When you disconnect a project from source control, Version Manager does not delete the Version Manager archives; it simply removes the association between your local IDE project and the Version Manager archives.

To disconnect a project from source control:

- 1 Right-click the project icon in the Package Explorer or Navigator. A Pop-up menu appears.
- 2 Select Team | Disconnect. A prompt appears to confirm that you wish to disconnect the project.
- 3 Click **Yes**.

Using Source Control

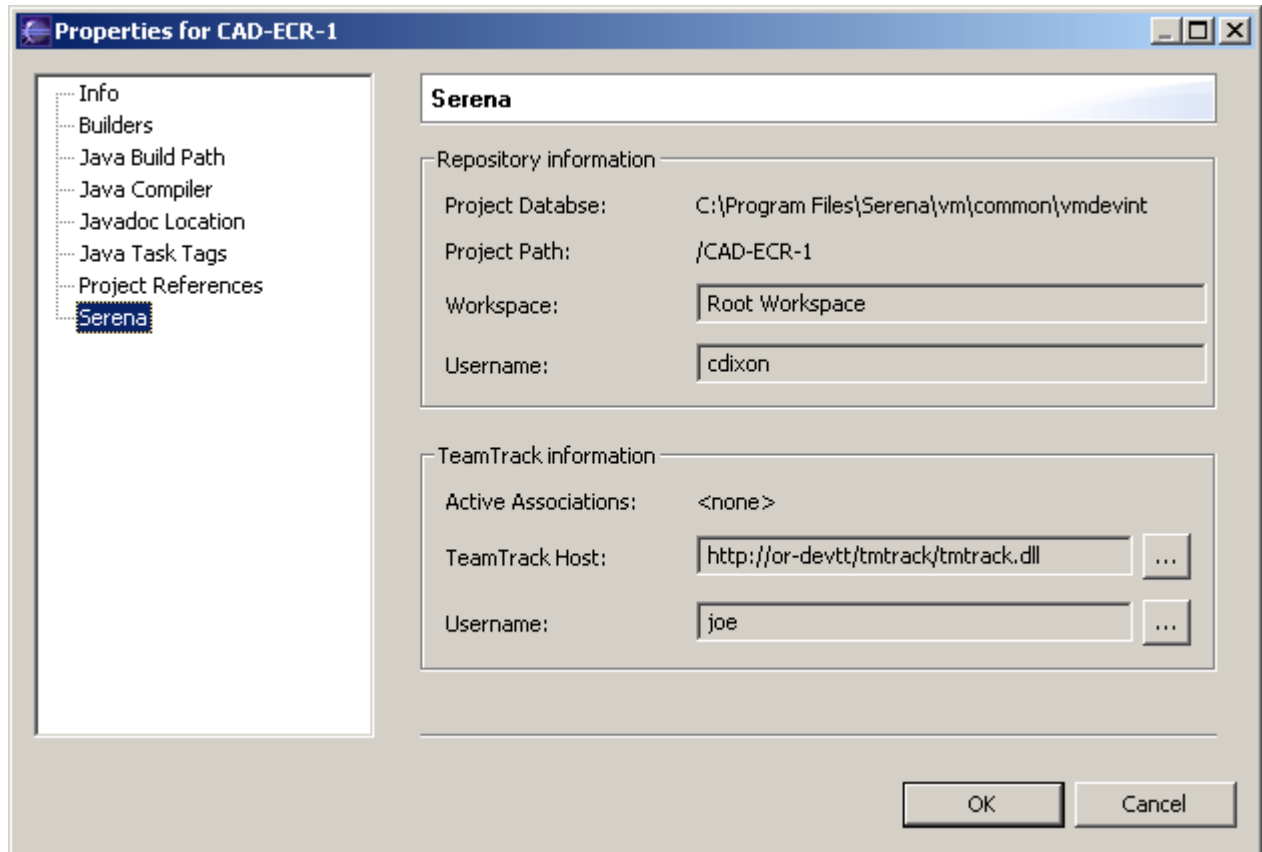
Contents This section contains procedural information about viewing and editing files that are under source control.

Viewing Connection Information

You can view the Version Manager and TeamTrack connection information for a project.

To view connection information:

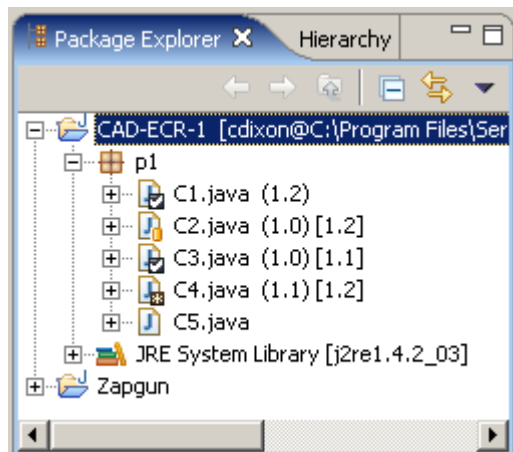
- 1 Right-click the project and select **Properties** from the resulting pop-up menu. The Properties dialog box appears.







- 2 Select **Serena** in the left pane.

Viewing Source Control Status

Version Manager indicates status and revision information by displaying graphics and text next to the object icons in the Package Explorer and Navigator, as in the following image.



The following table lists the information that can be displayed.

Icon/Text	Description	Meaning
(1.0)	A number in parentheses	This is the revision you got or checked out from source control to your workspace.
[1.2]	A number in square brackets	This is the current tip revision in the source control repository if the tip is not the revision in your workspace.
	A gold cylinder	The object is under source control and it is checked in.
	A check mark	You have the object checked out.
	A padlock	Another user has the object checked out.
	An asterisk	The object has been modified locally and is out of sync with the repository.

To refresh source control status for:

- Selected objects, right-click on the objects in the Package Explorer or Navigator and select Team | Refresh Status from the resulting pop-up menu.
- All projects, select Serena | Refresh All Status from the Eclipse menu bar.

Working in the History View

From the History view, you can:

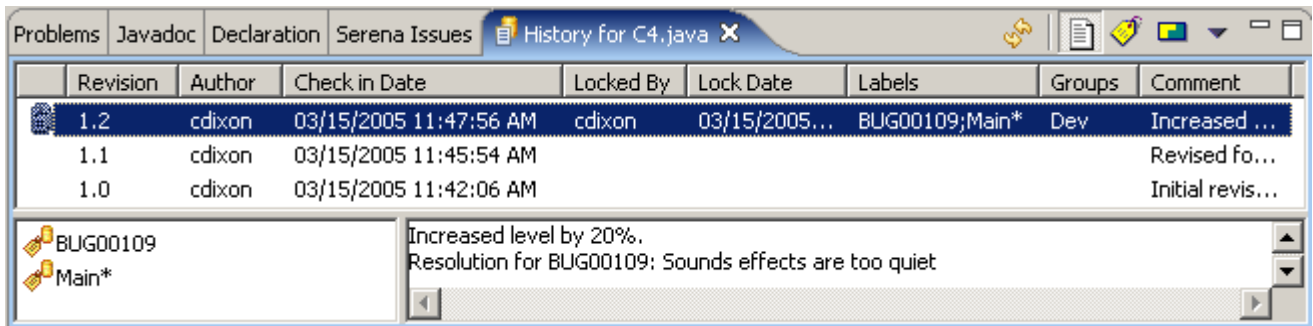
- Assign, rename, and delete version labels
- View all assigned version labels
- Promote revisions to the next promotion group
- View the promotion group hierarchy
- View the check-in comment of each revision
- View the check-in date of each revision
- Compare revisions
- Get previous revisions from the repository

Using the History View

To view revision history:

- 1 In the Package Explorer or Navigator, select the file you want to view and right-click. A pop-up menu appears.

- 2 Select Team | History. The History view opens.



TIP You can also drag files from the Package Explorer or Navigator and drop them into the History view.

- 3 Do any of the following to change the display of the History view:



- Click the **Refresh** button to refresh the History view.



- Click the **Group by Revisions** button to organize the History view by revision. This view lists every revision.



- Click the **Group by Labels** button to organize the History view by version label. This view displays only revisions that have version labels.

















- Click the **Group by Promotion Group** button to organize the History view by promotion group. This view displays only revisions that are assigned a promotion group. They are displayed as a leaves in the promotion model tree.



- Click the **Menu** button and select **Show Comment** and/or **Show Labels** to show or hide the Comment and Label panes of the History view. These panes provide an easy to read list of every version label and comment associated with the selected revision.

- 4 Do any of the following:

To ...	Select one of these modes ...	And ...
Compare a revision to the latest revision in the repository		Right-click on the revision and select Compare revisions . The revisions open in the compare editor.
Compare a revision to another revision		<ol style="list-style-type: none"> 1 Select the revisions you want to compare. 2 Right-click on the revisions and select Compare revisions. The revisions open in the compare editor.

To ...	Select one of these modes ...	And ...
View a revision	  	Right-click on the revision and select View revision . The revision opens in an editor tab.
Get a revision to your workspace	 	Right-click on the revision and select Get revision . Double-click the file in the Package Explorer or Navigator to open it in an editor tab.
Assign a version label to a revision	 	Right-click on the revision and select Add label . The Label dialog box appears. See "Assigning Version Labels" on page 143 .
Rename a version label		<ol style="list-style-type: none"> 1 Click on the version label name to enter edit mode. 2 Type the new name. 3 Press the ENTER key to save the new name and exit edit mode.
Delete a version label		Right-click on the revision (not on the label name) and press the DELETE key.
Promote a revision to the next promotion group	  	Right-click on the revision and select Promote to next .

Assigning Version Labels

To assign a version label to:

- The latest revision of a single file or multiple files, see ["Labeling the Latest Revision" on page 143](#).
- A prior revision of a single file, see ["Labeling a Previous Revision" on page 144](#).

Labeling the Latest Revision

To label the latest revision:

- 1 In the Package Explorer or Navigator, select the file, files, folders, or projects you want to label and right-click. A pop-up menu appears.
- 2 Select Team | Label. The Label dialog box appears. See ["Completing the Label Dialog Box" on page 144](#).

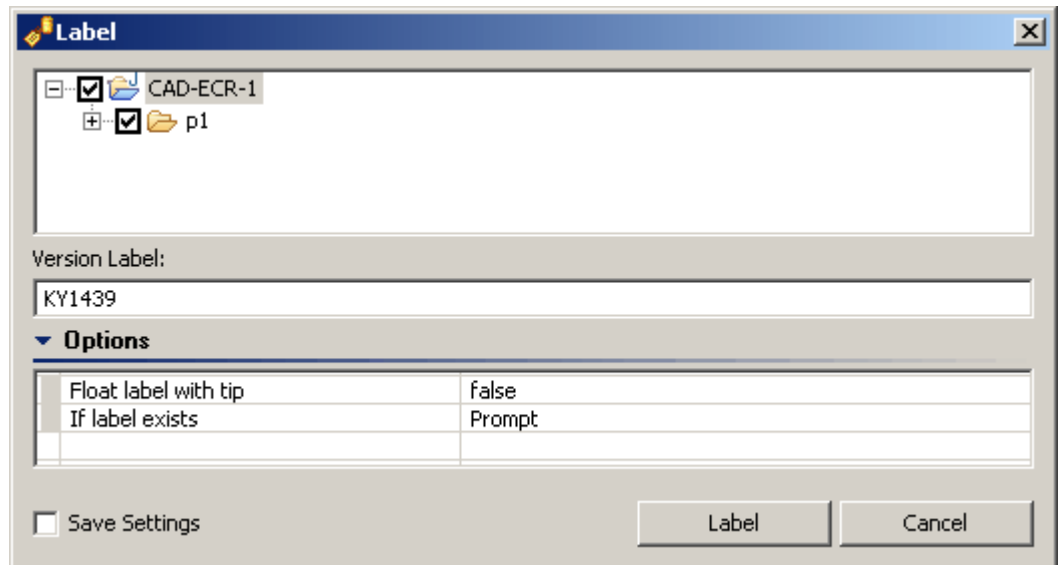
Labeling a Previous Revision

To label a previous revision:

- 1 In the Package Explorer or Navigator, select the file you want to label and right-click. A pop-up menu appears.
- 2 Select Team | History. The History view opens.
- 3 Right-click on the revision you want to label and select **Add label**. The Label dialog box appears. See the next section.

Completing the Label Dialog Box

- 1 Invoke the Label dialog box as described above. The Label dialog box appears.



- 2 Enter a name for the version label in the **Version Label** field. Version labels can be up to 254 characters. You can use alpha, numeric, and special characters except for colons (:), asterisks (*), plus signs (+), minus signs (-), and double-quotation marks (").
- Options
- 3 To modify label options, click the **Options** bar and change any of the following:
 - **Float label with tip:** Select **Yes** to always keep the label assigned to the latest revision of the file. Every time a new revision is checked in, the label will move (or float) to the latest revision. To keep the new label assigned to the revision you are assigning it to now, select **No**.
 - **If label exists:** Specify what to do if the label you are assigning is already assigned to a different revision:
 - **Prompt:** Asks what you want to do.
 - **Reassign:** Moves the label to the revision you selected.

- **Do not Reassign:** Leaves the label where it is, rather than moving it to the revision you selected.



TIP To save these options as the new default, select the **Save Settings** check box. For more information on setting default options, see ["Setting Default Options" on page 169](#).

- 4 Click **Label**.



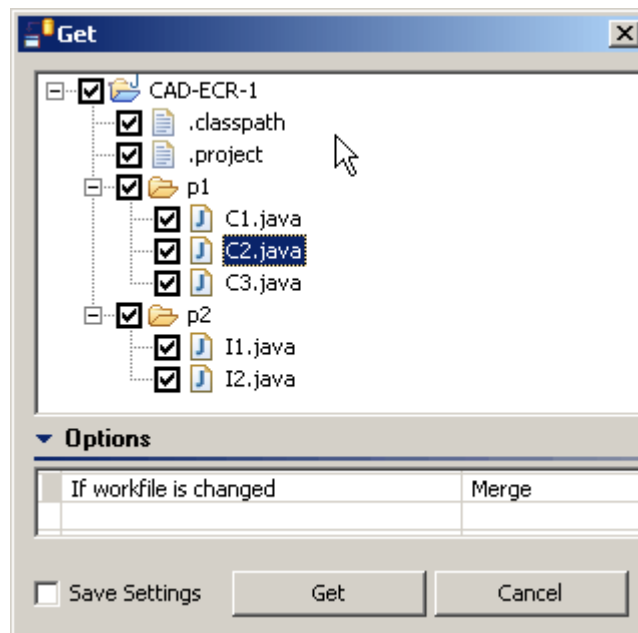
NOTE To delete version labels, see ["Working in the History View" on page 141](#).

Getting Files

When you get files, read-only copies of the latest revisions are placed in the workfile location.

To get revisions:

- 1 In the Package Explorer or Navigator, select the files you want to get and right-click. A pop-up menu appears.
- 2 Select Team | Get. The Get dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.



- Options **3** In the **If workfile is changed** option, specify what to do if your local workfile is modified:
- **Merge:** Merges the contents of the repository revision into your modified local workfile. This is the default, though you can define a new one.



IMPORTANT! If there are merge conflicts:

- An error will appear in the Console view.
- Your local workfile will remain as it was.

To get the file, you must resolve the merge conflict (see ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#)) or select **Overwrite** or **Leave as-is**.

- **Prompt:** Asks what you want to do. Select this option if you want to specify a different choice for some files.
- **Overwrite:** Replaces your modified local workfile with the revision from the repository.
- **Leave as-is:** Retains your modified local workfile.



TIP To save these options as the new default, select the **Save Settings** check box. For more information on setting default options, see ["Setting Default Options" on page 169](#).

- 4** Click **Get**.

Checking Out Files

When you check out a file, the tip (latest) revision is locked and a writable workfile is created in the workfile location.

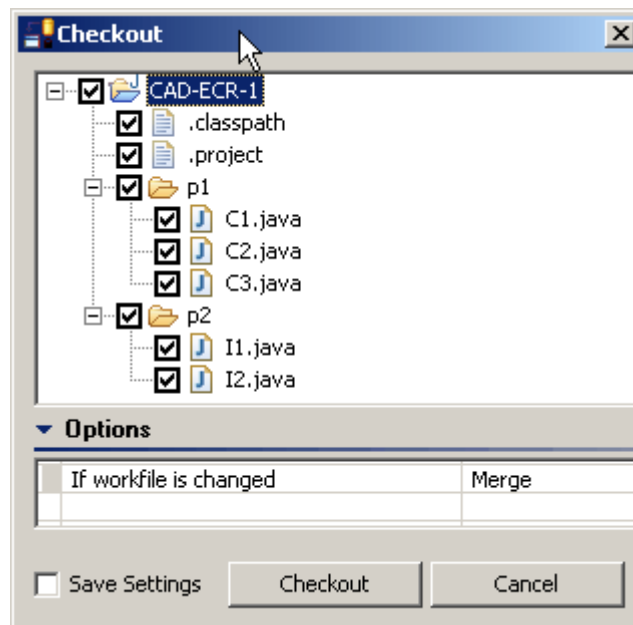


NOTE If a promotion model is in effect, you must set the tip (latest) revision to the lowest level promotion group in order to check out the files.

To check out files:

- 1** In the Package Explorer or Navigator, select the files you want to check out and right-click. A pop-up menu appears.

- 2 Select **Team | Checkout**. The Checkout dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



- Options 3 In the **If workfile is changed** option, specify what to do if your local workfile is modified:

- **Merge:** Merges the contents of the latest repository revision into your modified local workfile. This is the default, though you can define a new one.



IMPORTANT! If there are merge conflicts:

- An error will appear in the Console view.
- The repository revision will not be locked.
- Your local workfile will remain as it was.

To check out the file, you must resolve the merge conflict (see ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#)) or select **Overwrite** or **Leave as-is**.

- **Prompt:** Asks what you want to do. Select this option if you want to specify a different choice for some files.
- **Overwrite:** Replaces your modified local workfile with the latest revision from the repository.
- **Leave as-is:** Locks the file in the repository but retains your modified local workfile.



TIP To save these options as the new default, select the **Save Settings** check box. For more information on setting default options, see ["Setting Default Options" on page 169](#).

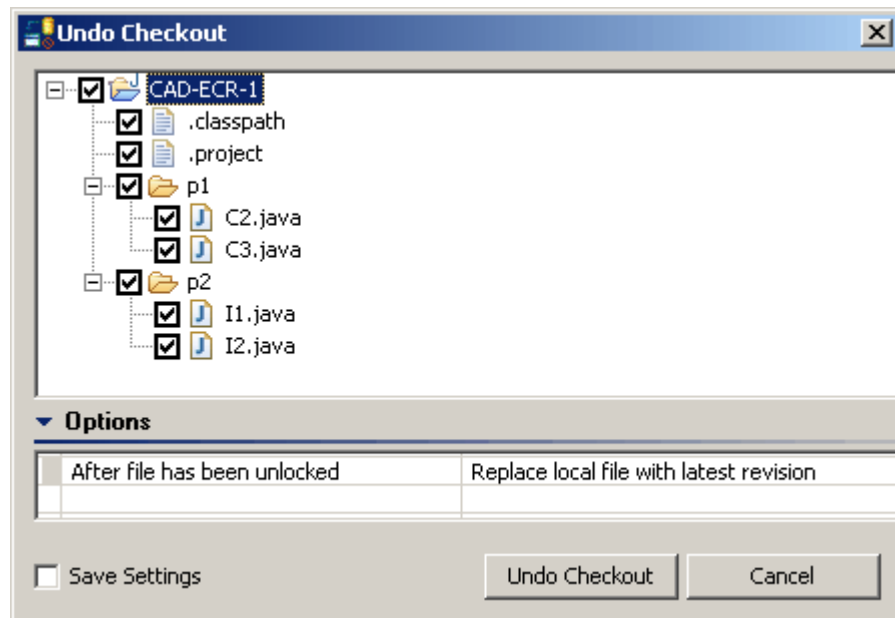
- 4 Click **Checkout**. A check mark appears next to each file icon to indicate that the files are checked out.

Undoing Checkout

When you undo a checkout, the archive is unlocked and no changes are checked into the archive.

To undo a checkout:

- 1 In the Package Explorer or Navigator, select the files you want to unlock and right-click. A pop-up menu appears.
- 2 Select Team | Undo Checkout. The Undo Checkout dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



- Options
- 3 In the **After file has been unlocked** option, specify what to do with the local workfile:
 - **Replace local file with latest revision:** Replaces your local workfile with a read-only copy of the latest revision from the repository.
 - **Leave local workspace as-is:** Retains your local workfile as it is.



TIP To save these options as the new default, select the **Save Settings** check box. For more information on setting default options, see ["Setting Default Options" on page 169](#).

- 4 Click **Undo Checkout**.

Checking In Files

Purpose When you check in your workfiles, Version Manager stores any changes you made as new revisions in the repository.

Workflow **Pessimistic Locking:** Your organization may require that you check out (lock) files before you edit them. This workflow ensures that only one person can work on a given file at a time. This is the way Version Manager has traditionally been used.

Pragmatic Locking: On the other hand, your organization may encourage a CVS-like workflow where anyone can work on any file at any time, and no one locks the files. This workflow uses the merge and synchronize features to resolve everyone's changes.

For more information on workflows, see ["Collaborative Process Overview" on page 122](#).

Merging By default, if other users have checked in changes since you last updated your local workspace from the repository, your changes and the contents of the latest revision will be merged. This ensures that no changes are lost when working in a Pragmatic Locking workflow. If your changes conflict with the changes already checked in by other users, you must resolve the conflicts in order to check in your changes. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#).

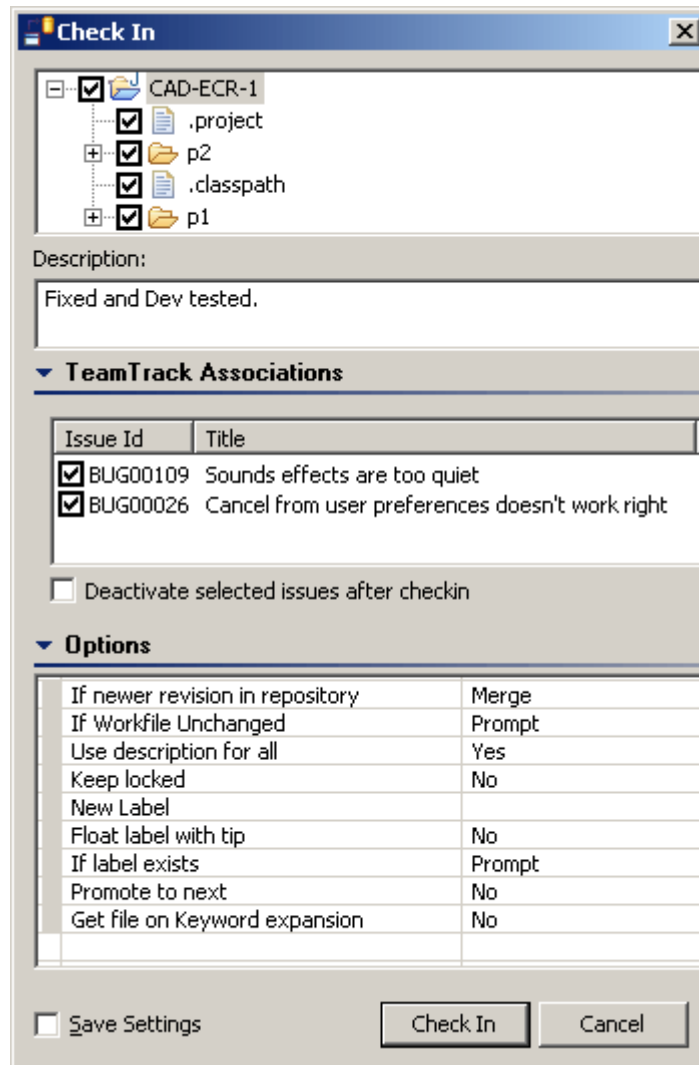


IMPORTANT! Checking in local changes does not synchronize renamed, moved, or deleted objects. You must synchronize your local workspace with the Version Manager repository in order to check in refactored and deleted objects. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#).

To check in files:

- 1 In the Package Explorer or Navigator, select the files you want to check in and right-click. A pop-up menu appears.

- 2 Select Team | Check In. The Check In dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.



- 3 Enter a description of the changes you made in the **Description** field. The description will be applied to all selected files.



TIP To specify a unique description for each file, leave the **Comment** field blank. After you complete the Check In dialog box, the Description dialog box will appear for each file in turn.

You will not be prompted for a description for unmodified files. If you force the check-in of unmodified files, they will be given a description of "No Change."



IMPORTANT! If you click the **Cancel** button on the Description dialog, the files will remain locked--**even** if they were not locked to start with. To unlock the files without overwriting your modified local workfiles, do an Undo Checkout and select the **Leave local workspace as-is** option.

- TeamTrack Associations **4** To associate TeamTrack issues with the revisions you are checking in, expand the **TeamTrack Associations** bar and select the issues you wish to associate.



NOTE Only activated issues are displayed in the Check In dialog box, and only activated issues can be associated with revisions. To activate TeamTrack issues, see ["Associating Issues" on page 168](#).

TeamTrack issues include information about the revisions they are associated with, such as the check-in date, revision number, and Version Manager user ID. For more information, see ["Associating and Working on TeamTrack Issues" on page 162](#).

- 5** To deactivate the selected issues after check-in, select the **Deactivate selected issues after checkin** check box.
- Options **6** To modify check-in options, click the **Options** bar and change any of the following:

Option	Description
If newer revision in repository	<p>Specify what to do if the revision in the repository is newer than the revision your workfile is based on:</p> <ul style="list-style-type: none"> ■ Merge: Combines the contents of the latest repository revision and your local workfile into a new revision and checks it in. This is the out-of-box default. <p>NOTE If there are merge conflicts: an error will appear in the Console view, the repository revision will remain locked, and your local workfile will remain as it was. To check in the file, you must resolve the merge conflict (see "Comparing and Synchronizing Your Workspace with Source Control" on page 153) or select Force Checkin.</p> <ul style="list-style-type: none"> ■ Skip: Do not check in the file. ■ Force Checkin: Check in the file and create a new revision, without merging.
If workfile unchanged	<p>Specify what to do if the workfile has not changed:</p> <ul style="list-style-type: none"> ■ Prompt: Asks what you want to do. Select this option if you want to specify a different choice for some files. ■ Checkin: Checks in your local workfile as a new revision. ■ Leave as-is: Does not check in your workfile. If the file is locked, it will be unlocked.

Option	Description
Use description for all	<p>To apply the Description field to all of the files you are checking in, select Yes.</p> <p>To specify a unique description for each file, select No. The Description dialog box will appear for each file in turn.</p> <p>NOTE You will not be prompted for a description for unmodified files. If you force the check-in of unmodified files, they will be given a description of "No Change."</p>
Keep locked	<p>To leave the files locked after check-in, select Yes. To leave the files unlocked after check-in, select No.</p> <p>IMPORTANT! You cannot promote locked revisions. If you want to promote the new revisions, do not choose to keep the files locked.</p>
New label	<p>Enter a version label to assign to the new revision. Labels are limited to 254 characters. Do not use a colon (:), double quotes ("), a plus sign (+), or a minus sign (-).</p>
Float label with tip	<p>If you are assigning a label to the new revision, select Yes to always keep the label assigned to the latest revision of the file. Every time a new revision is checked in, the label will move (or float) to the latest revision.</p> <p>To keep the new label assigned to the revision you are checking in now, select No.</p>
If label exists	<p>Specify what to do if the label you are assigning to the new revision is already assigned to a different revision:</p> <ul style="list-style-type: none"> ■ Prompt: Asks what you want to do. Select this option if you want to specify a different choice for some files or labels. ■ Reassign: Moves the label to the new revision. ■ Leave as-is: Leaves the label where it is, rather than moving it to the new revision.
Promote to next	<p>To promote the new revision to the next group in the promotion hierarchy, select Yes. To retain the current promotion group, select No.</p> <p>IMPORTANT! You cannot promote locked revisions. If you want to promote the new revisions, do not choose to keep the files locked.</p>
Get file on Keyword expansion	<p>If the file you are checking in includes Version Manager keywords that will be expanded during check-in, selecting Yes will copy the latest revision, with the keywords expanded, to your local workspace.</p> <p>To retain unexpanded keywords in your workfile, select No.</p>



TIP To save these options as the new default, select the **Save Settings** check box. For more information on setting default options, see ["Setting Default Options" on page 169](#).

- 7 Click **Check In**.

Using Rename or Move (Refactoring)

Special Considerations

- Once you refactor a project, you must synchronize it with the repository before you can check in those changes.
- Refactoring may cause the archive name to differ from the workfile name--which is not compatible with the Command-Line Interface (CLI), including CLI scripts called from within Configuration Builder. Since the CLI is not project aware, it requires that the names match. However, you can use the Project Command-Line Interface (PCLI), instead. (This does not impact the Version Manager desktop client or the IDE client since they resolve workfile and archive names via the project metadata.)

To use Rename or Move:

- 1 Open a perspective in which the Package Explorer is available, such as the Java Perspective.
- 2 Select the Package Explorer as the active pane.
- 3 Select the item you wish to rename or move and do one of the following:
 - Select Refactor | Rename (or Move).
 - Right-click and select Refactor | Rename (or Move).
- 4 You may be asked to confirm the action of checking in from a different location than the one to which the file is checked out. You must choose to proceed with this action.
- 5 For other users to work with the modified project, you must synchronize it with the Version Manager repository, and then they must get the updated project from source control or synchronize with source control. See ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#).

Comparing and Synchronizing Your Workspace with Source Control

Purpose In a multi-user environment, you should synchronize your workspace with source control to:

- Remove files from your local workspace that other users have removed from the Version Manager repository.
- Add files to your local workspace that other users have added to the Version Manager repository.



NOTE If a default version is defined for the Version Manager project, adding or removing the default version label to or from a file will have the same effect as adding or removing the file to or from the repository.

- Add files to the Version Manager repository that you have added to your local workspace.
- Remove files from the Version Manager repository that you have deleted from your local workspace.
- Update the content of files in your local workspace that other users have modified and checked into the Version Manager repository.
- Update the content of files in the Version Manager repository that you have modified in your local workspace.



TIP While disconnected from the Version Manager repository, you can use the compare feature to see what changes you have made since you last synchronized with the repository. A handy feature, especially if you have already seen the in-flight movie.

Overview This process consists of several steps, not all of which may apply to your workflow or a given project on a given day:

- 1 ["Comparing Your Workspace with Source Control" on page 154](#). This shows what files have changed locally and/or in the repository since you last checked out or got files from the repository.
- 2 ["Comparing and Editing the Contents of Workfiles" on page 156](#). This shows the line-by-line differences between a workfile and the latest revision in the repository. It allows you to easily edit the workfile while referencing the latest repository revision and the common ancestor of the workfile and the repository revision.
- 3 ["Resolving Your Changes" on page 157](#). This step commits the incoming and outgoing changes to your local project and the Version Manager repository.

Comparing Your Workspace with Source Control

This shows what files have changed locally and/or in the repository since you last checked out or got files from the repository.

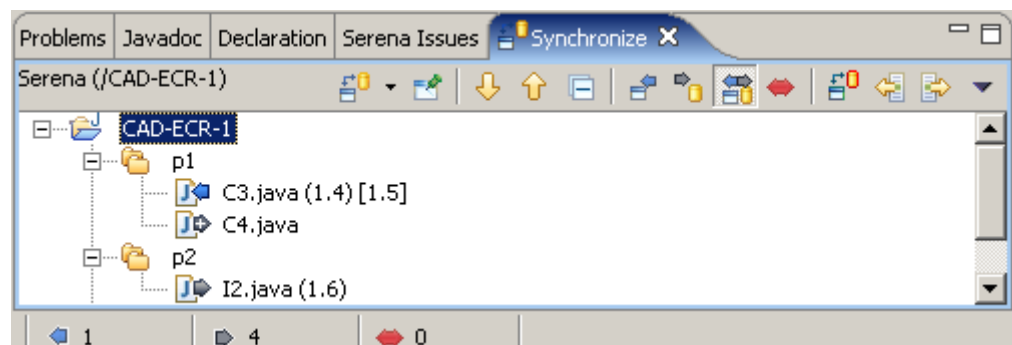
To compare your workspace with source control:

- 1 In the Package Explorer or Navigator, select the projects and/or packages you want to compare to the repository, and right-click. A pop-up menu appears.



TIP To compare all projects in your workspace, select **Serena | Compare Workspaces** from the Eclipse menu bar.

- 2 Select **Team | Compare Workspaces**. The Synchronize view appears.



- 3 Select a synchronize mode. This determines which commands are available and which changes are displayed. To display and operate on:



- Incoming changes and conflicts from the repository, select the **Incoming Mode** button.



- Outgoing changes and conflicts to the repository, select the **Outgoing Mode** button.










- Both incoming and outgoing changes and conflicts, select the **Incoming/Outgoing Mode** button.



- Only conflicts, select the **Conflicts Mode** button.

- 4 Differences between local objects and repository objects are denoted by the following:

Icon/Text	Description	Meaning
(1.0)	A number in parentheses	This is the revision you got or checked out from source control to your workspace.
[1.2]	A number in square brackets	This is the current tip revision in the Version Manager repository. It appears if the revision in your workspace is not the tip.
	Gray right arrow	Outgoing edit, rename, or move. The local workfile contains changes that are not in the repository.
	Gray right arrow with plus (+) sign	Outgoing addition. The local project contains a workfile that has not yet been added to the project in the repository.
	Gray right arrow with minus (-) sign	Outgoing deletion. The workfile has been deleted from the local project but is still in the project in the repository.
	Blue left arrow	Incoming edit, rename, or move. The file in the repository contains changes that are not in the local workfile.
	Blue left arrow with plus (+) sign	Incoming addition. The repository contains a file that has not yet been added to the project in the local workspace.
	Blue left arrow with minus (-) sign	Incoming deletion. The file has been deleted from the project in the repository but is still in the local project.
	Red double-ended arrow	Conflict. The local workfile and the repository file have both changed.



- 5 To retain the current Synchronize view, click the **Pin Current Synchronization** button. The next time you select Compare Workspaces, the pinned synchronization will be retained when the new synchronization opens.



- 6 To switch among your current Synchronize views, click the **Synchronize** drop-down button and select a synchronization from the resulting list.



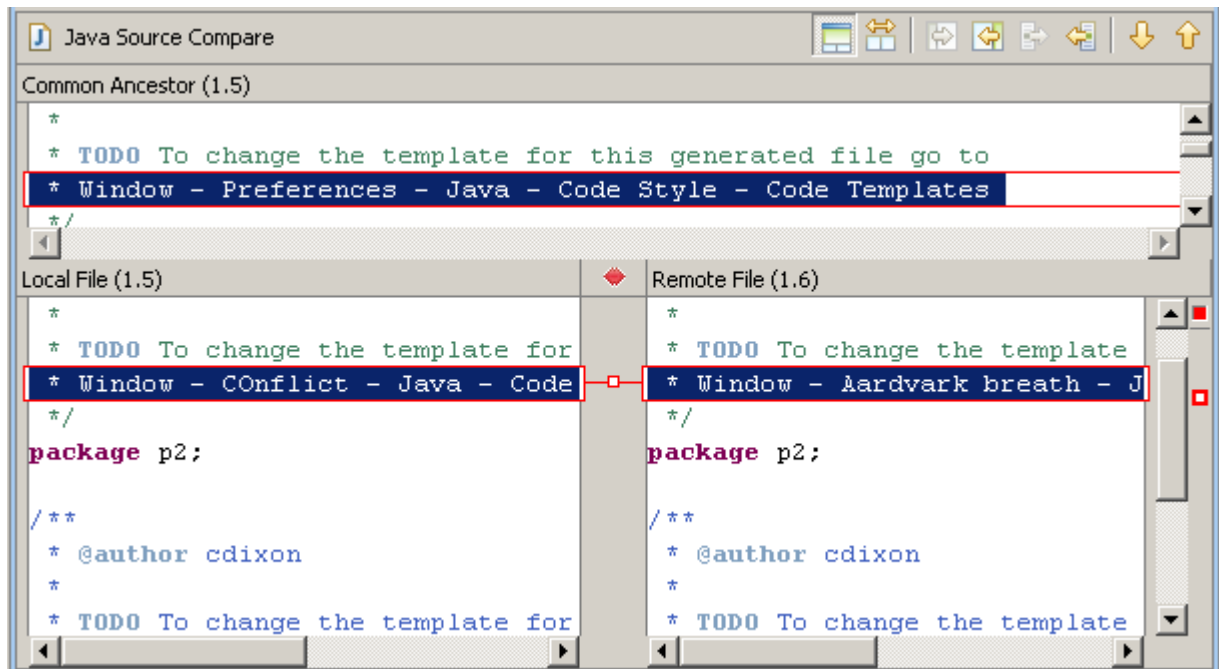
- 7 To remove the current synchronization, click the **Menu** button and select **Remove Current Synchronization**.

Comparing and Editing the Contents of Workfiles






The Compare Editor displays the line-by-line differences between your local workfile, the latest revision in the repository, and the common ancestor of the two. Use this view to edit your workfile and/or determine which changes to keep.

To compare a workfile with source control:

- 1 Right-click the file in the Synchronize view and select **Open In Compare Editor** (or double-click the file). The local workfile and the latest revision in the repository open in the compare editor.



- 2 Do any of the following:

-  ■ To display the common ancestor of the workfile and repository revision, click the **Show Ancestor Pane** button.
-  ■ To hide the common ancestor of the workfile and repository revision, click the **Two-Way Compare** button.
-  ■ To copy all non-conflicting changes from the repository revision to the local workfile, click the **Copy All Non-Conflicting Changes from Right to Left** button.
-  ■ To copy the currently selected change from the repository revision to the local workfile, click the **Copy Current Change from Right to Left** button.
-  ■ To select a different change, click the **Select Next Change** or **Select Previous Change** buttons.
- Copy content from the repository revision and the ancestor and paste it into the workfile.
- Edit the contents of the workfile.

- 3 Once you are done making changes to the workfile, right-click in the left pane and select Save from the resulting pop-up menu (or press Ctrl+S).

Resolving Your Changes

This step resolves the incoming and outgoing changes to your local project and the Version Manager repository.

To resolve changes:

- 1 Select the appropriate synchronize mode.



NOTE The synchronize mode (  ) determines which commands are available and which changes are displayed and acted upon. See ["Comparing Your Workspace with Source Control" on page 154](#).

- 2 Select the object you wish to operate on. If you select a project or folder, the objects within it will be included in the operation if they contain the type of changes that would be affected by the operation.



- 3 To view a change in the Compare Editor, right-click the change and select **Open in Compare Editor**, or double-click the file, or click the **Go to Next Difference** or **Go to Previous Difference** button. See ["Comparing and Editing the Contents of Workfiles" on page 156](#).

- 4 To resolve changes, do any of the following:



- To resolve the selected incoming and outgoing changes and conflicts, click the **Resolve All Changes** button. This button is available in all modes.



Outgoing changes will be checked into the repository, and incoming changes will be copied to your local workspace.

Conflicts will be auto-merged to your local workfile. They will then appear as outgoing changes. Click the **Resolve All Changes** button again to check the merged files into the repository.





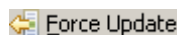
NOTE If merge conflicts are found (line-to-line conflicts), the conflicts will remain in the Synchronize view and an auto-merge failure will be noted in the Console view.



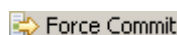
- To copy the selected incoming changes to your local workspace, select the **Update Workspace With Incoming Changes** button. This button is available only in Incoming () and Incoming/Outgoing () modes.




- To check in the selected outgoing changes, select the **Commit Outgoing Changes To Repository** button. This button is available only in Outgoing () and Incoming/Outgoing () modes.




- To overwrite your modified local workfile with the latest revision from the repository, right-click and select **Force Update**. This menu item is available only in Outgoing () mode.



- To check in your local workfile as the latest revision even though there is a newer revision in the repository, right-click and select **Force Commit**. This menu item is available only in Incoming () mode.



CAUTION! This in effect skips over the latest revision, leaving behind whatever changes it contained.

- **Mark as Merged:** This removes the conflict from the Synchronize view without making any changes to your local workspace or the repository. This menu item is available only in Conflict () mode.

You may wish to use this feature if you have already resolved the conflict by editing the workfile in the Compare Editor. See ["Comparing and Editing the Contents of Workfiles" on page 156](#).



NOTE Depending on your configuration and the resolutions chosen, any of the following may occur:

- If files will be checked in, the Description dialog box will appear. You may enter a description for each file, or use the same for all.
- If the **Association required** option is enabled, any currently active TeamTrack issues will be associated with any files that get checked in. The issues will remain active.
If there are no active issues, a message will display in the Console view, and the check-in will fail.



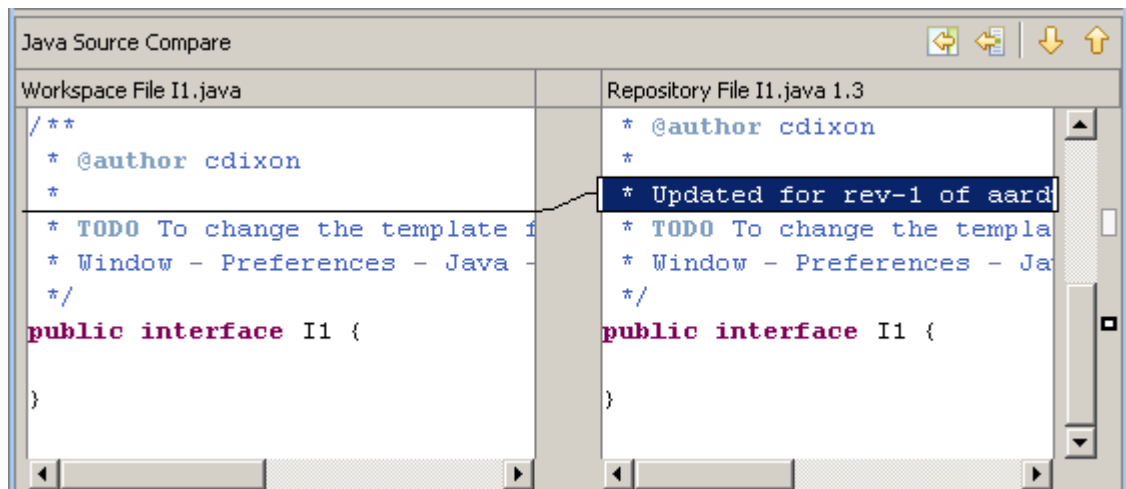
- 5 To refresh the Synchronize view, click the **Synchronize** button.

Comparing with the Latest Serena Revision

You can edit your local workfile while comparing it to the latest revision in the repository.

To compare a workfile with the latest repository revision:

- 1 In the Package Explorer or Navigator, select the file you want to compare and right-click. A pop-up menu appears.
- 2 Select Compare With | Serena Revision. The local workfile and the latest revision in the repository open in the Compare Editor.



- 3 Do any of the following:



- To copy all non-conflicting changes from the repository revision to the local workfile, click the **Copy All Non-Conflicting Changes from Right to Left** button.



- To copy the currently selected change from the repository revision to the local workfile, click the **Copy Current Change from Right to Left** button.
 - To select a different change, click the **Select Next Change** or **Select Previous Change** buttons.
 - Copy content from the repository revision and paste it into the workfile.
 - Edit the contents of the workfile.
- 4 Once you are done making changes to the workfile, right-click in the left pane and select Save from the resulting pop-up menu.

Comparing with Local History

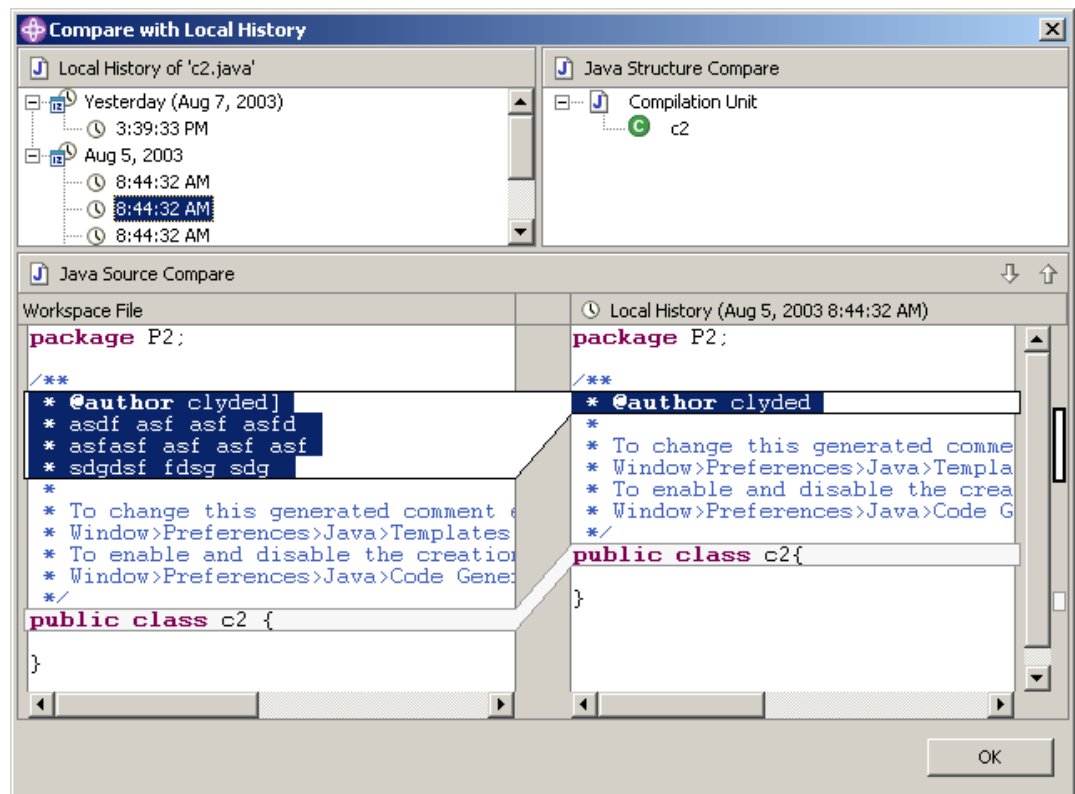
You can compare a workfile with a local history of the changes made to that workfile. A new entry is made in the local history each time you save changes to a file.





NOTE To configure how many entries are retained and for how long, select Window | Preferences then select **Local History** from under **Workbench**. For more information, see the Eclipse help.

To compare with local history:

- 1 In the Package Explorer or Navigator, select the file you want to compare and right-click. A pop-up menu appears.
- 2 Select Compare With | Local History. The Compare with Local History dialog box appears.



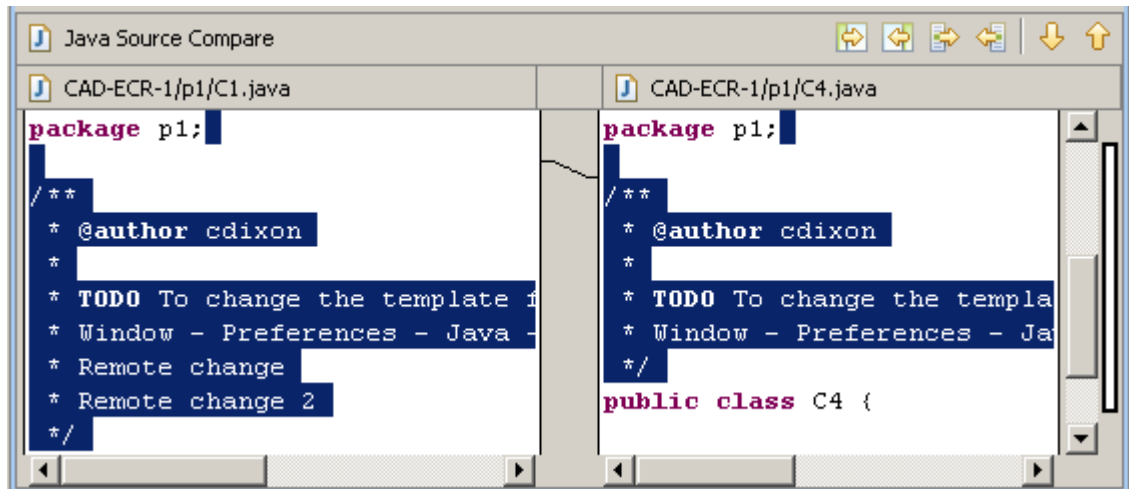
- 3 Select a local history entry from the Local History of *filename* pane.

- 4 Use the **Select Next Change** () and **Select Previous Change** () buttons to step through the changes.
- 5 Click **OK** to exit the compare.

Comparing Workfiles with Each Other

To compare two workfiles with each other:

- 1 In the Package Explorer or Navigator, CTRL-click to select the two files you want to compare, then right-click. A pop-up menu appears.
- 2 Select Compare With | Each Other. The two workfiles open in the Compare Editor.



- 3 Do any of the following:



- To copy all non-conflicting changes from the first workfile to the second workfile, click the **Copy All Non-Conflicting Changes from Left to Right** button.



- To copy all non-conflicting changes from the second workfile to the first workfile, click the **Copy All Non-Conflicting Changes from Right to Left** button.



- To copy the currently selected change from the first workfile to the second workfile, click the **Copy Current Change from Left to Right** button.



- To copy the currently selected change from the second workfile to the first workfile, click the **Copy Current Change from Right to Left** button.



- To select a different change, click the **Select Next Change** or **Select Previous Change** buttons.
- Copy content from one workfile and paste it into the other workfile.
- Edit the contents of the workfiles.

- 4 Once you are done making changes, click in the pane of the modified file and press CTRL+S.

Replacing with Local History

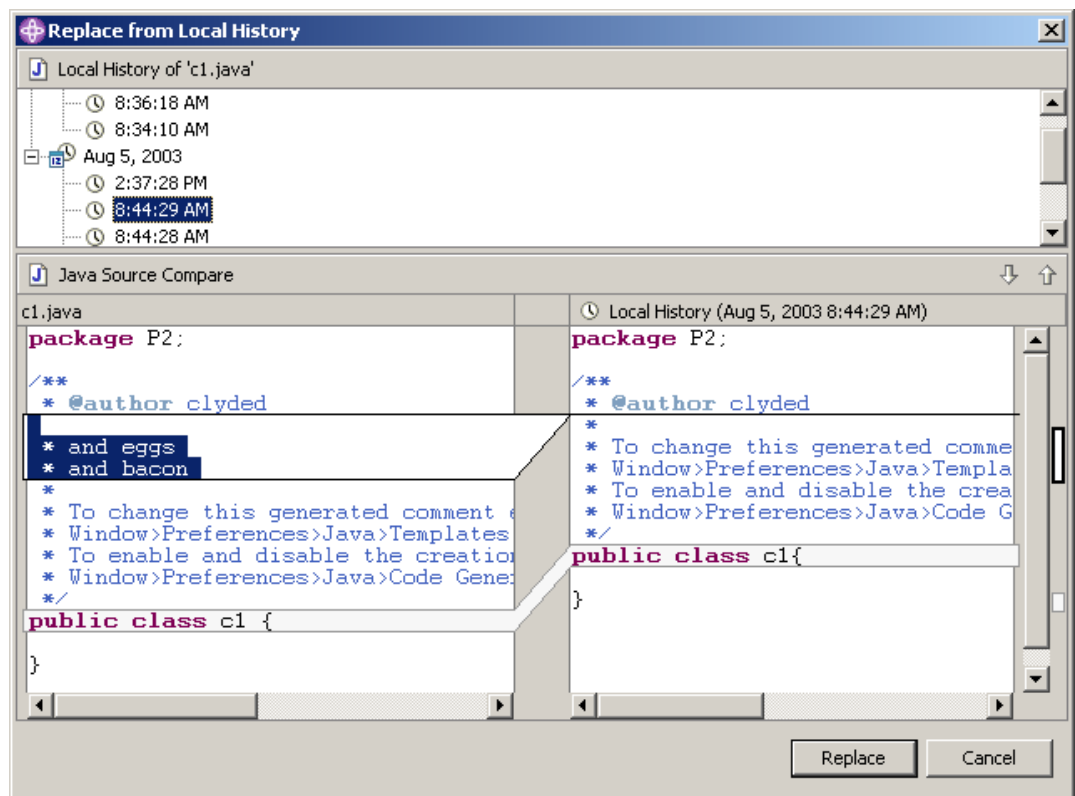
You can replace a workfile with an entry from the local history of changes made to that workfile. A new entry is made in the local history each time you save changes to a file.



NOTE To configure how many entries are retained and for how long, select Window | Preferences then select **Local History** from under **Workbench**. For more information, see the Eclipse help.

To replace with local history:

- 1 In the Package Explorer or Navigator, select the file you want to replace and right-click. A pop-up menu appears.
- 2 Select Replace With | Local History. The Replace from Local History dialog box appears.



- 3 Select a local history entry from the Local History of *filename* pane.
- 4 Use the **Select Next Change** (⬇️) and **Select Previous Change** (⬆️) buttons to step through the changes.
- 5 Do one of the following:
 - To replace the workfile with the selected history entry, click the **Replace** button.
 - To close the dialog box without replacing the workfile, click the **Cancel** button.

Replacing with Latest Serena Revision

You can replace your local workfile with the latest revision from the repository.



NOTE To replace multiple files with the latest revision, see ["Getting Files" on page 145](#).

To replace a workfile with the latest repository revision:

- 1 In the Package Explorer or Navigator, select the file you want to replace and right-click. A pop-up menu appears.
- 2 Select Replace With | Latest Serena Revision. The local workfile is overwritten with the latest revision from the repository.

Associating and Working on TeamTrack Issues

If your organization uses Serena TeamTrack to track development issues, such as defects and tasks, you can access your issues from within the Version Manager integration to Eclipse. You can submit and modify TeamTrack issues from within Eclipse, and then associate issues with specific files. When you associate issues with files, the versioned file history is added to the issue.

See the following for detailed information on the TeamTrack integration to Eclipse:

- ["Issue Management Workflow" on page 163](#)
- ["Setting Up Your IDE Personal Folder" on page 164](#)
- ["Changing TeamTrack Connection Information" on page 164](#)
- ["Displaying Reports and Issues" on page 167](#)
- ["Submitting and Modifying Issues" on page 167](#)
- ["Associating Issues" on page 168](#)
- ["Issue Management Options" on page 177](#)



NOTE A specific TeamTrack user privilege is required in order to run the integration to TeamTrack. See the TeamTrack SourceBridge documentation.

Issue Management Workflow

The following table describes the issue management workflow in Eclipse. You must follow this workflow to successfully display issues and associate them with files.

Step	Description
1	Set up IDE Personal Folder Before you can access issues from within Eclipse, you must use the TeamTrack web client to set up your IDE personal folder. The IDE personal folder is a special system folder where you must list the listing reports and issues you want to access from within Eclipse. See the <i>Serena TeamTrack User Guide</i> for detailed information on setting up personal folders.
2	Define Integration Settings In the Version Manager desktop client, you can customize settings that affect issue association in the rich integration to Eclipse, including: <ul style="list-style-type: none"> ■ Whether to apply a version label based on the issue number to all revisions associated with a TeamTrack issue ■ Whether to require issue associations on check-in ■ Whether to automatically add notes about associated issues to the check-in comments of the associated revisions See "Issue Management Options" on page 177 .
3	Connect to the TeamTrack Server When adding a project to, or importing a project from, source control, you can specify a TeamTrack server to use for issue management. If you did not specify a TeamTrack server at that time, or if you need to change the TeamTrack server connection information, See "Changing TeamTrack Connection Information" on page 164 . When you connect to a TeamTrack server, you login as a specific user. All issues and reports that are in your IDE personal folder in TeamTrack are then visible from Eclipse.

Step	Description
4	<p>Review, modify, and submit issues</p> <p>From the Issues view, you can display all issues that are available via listing reports in your IDE personal folder, or that have been added directly to your IDE personal folder. For example, this may include specific reports that list only issues that are assigned to you.</p> <p>You can then modify these issues, and even submit new issues. See "Displaying Reports and Issues" on page 167 and "Submitting and Modifying Issues" on page 167.</p>
5	<p>Associate issues with file revisions</p> <p>The TeamTrack integration to Version Manager also allows you to <i>associate</i> issues with specific revisions of files. By default when you associate issues with files, a Version Control History section is added to the issues to track information about the file revisions, and a version label is assigned to the associated file revisions to identify the issue. See "Associating Issues" on page 168.</p> <p>To associate issues:</p> <ol style="list-style-type: none"> 1 <i>Activate the issue.</i> This places the issue in a queue of issues that you can optionally choose to associate with files during check-in. 2 <i>Work on the files that are affected by the issue.</i> For example, you may need to edit specific source code files to resolve a problem described in a specific issue. 3 <i>Check in the files.</i> When you check in, you have the option to <i>associate</i> the files with any (or all) of the currently activated issues. At check-in, you can choose specifically which issues the files will be associated with. If the files you are checking in effectively end your portion of the work to address the issues, you can also choose to remove the issues from the activated issues list.

Setting Up Your IDE Personal Folder

In the TeamTrack Web client, specify which issues you will have access to from Eclipse by doing any of the following:

- Add specific issues directly to your IDE personal folder.
- Add listing reports to your IDE personal folder.



IMPORTANT! You can access only specific issues and listing reports from within Eclipse. You cannot access other types of reports, or other types of items, such as URLs.

See the *Serena TeamTrack User's Guide* for details on setting up personal folders.

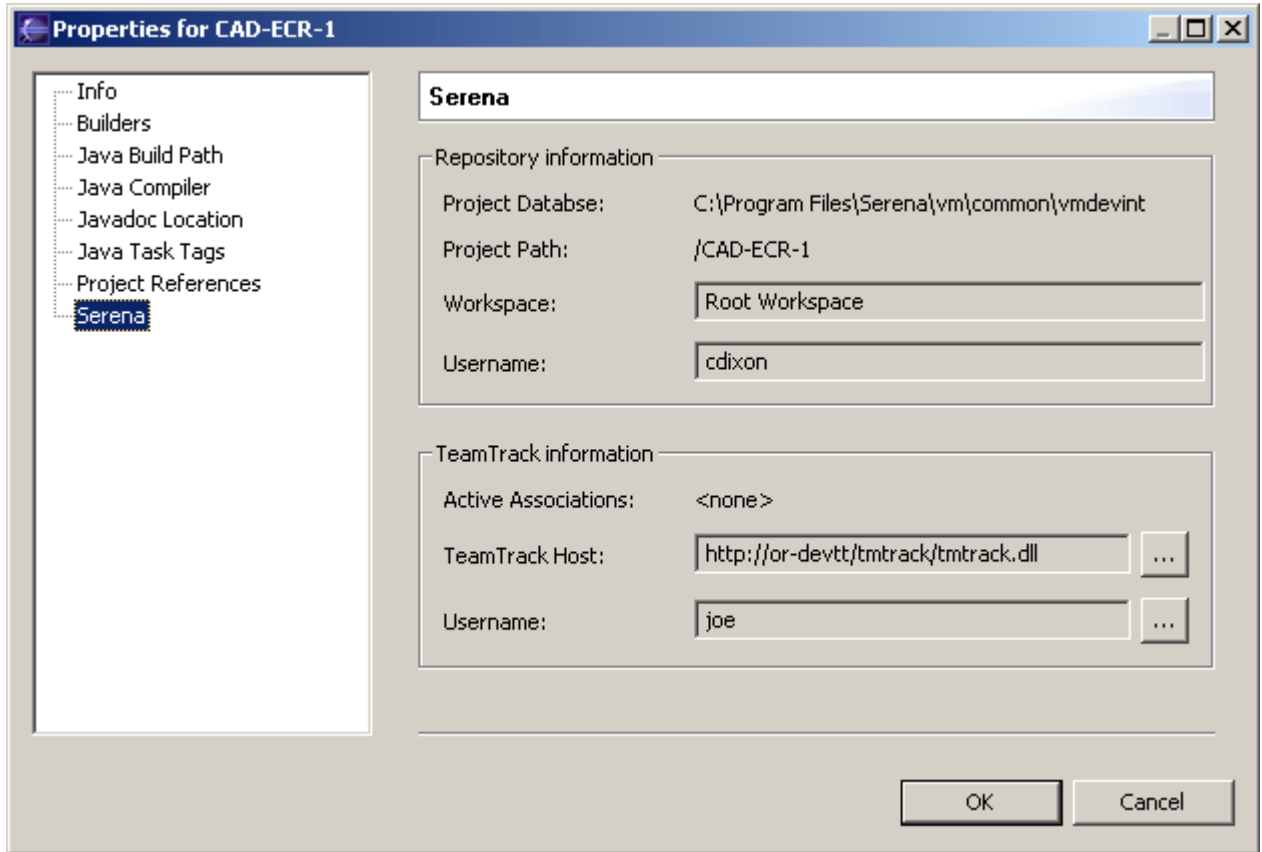
Changing TeamTrack Connection Information

When adding a project to, or importing a project from, source control, you can specify a TeamTrack server to enable issue management. If you did not specify a TeamTrack server at that time, or if you need to change the TeamTrack server connection information, complete the following procedure. When you connect to a TeamTrack server, you are

logged in as a specific user. All issues and reports that are in your IDE personal folder in TeamTrack are then visible from Eclipse.

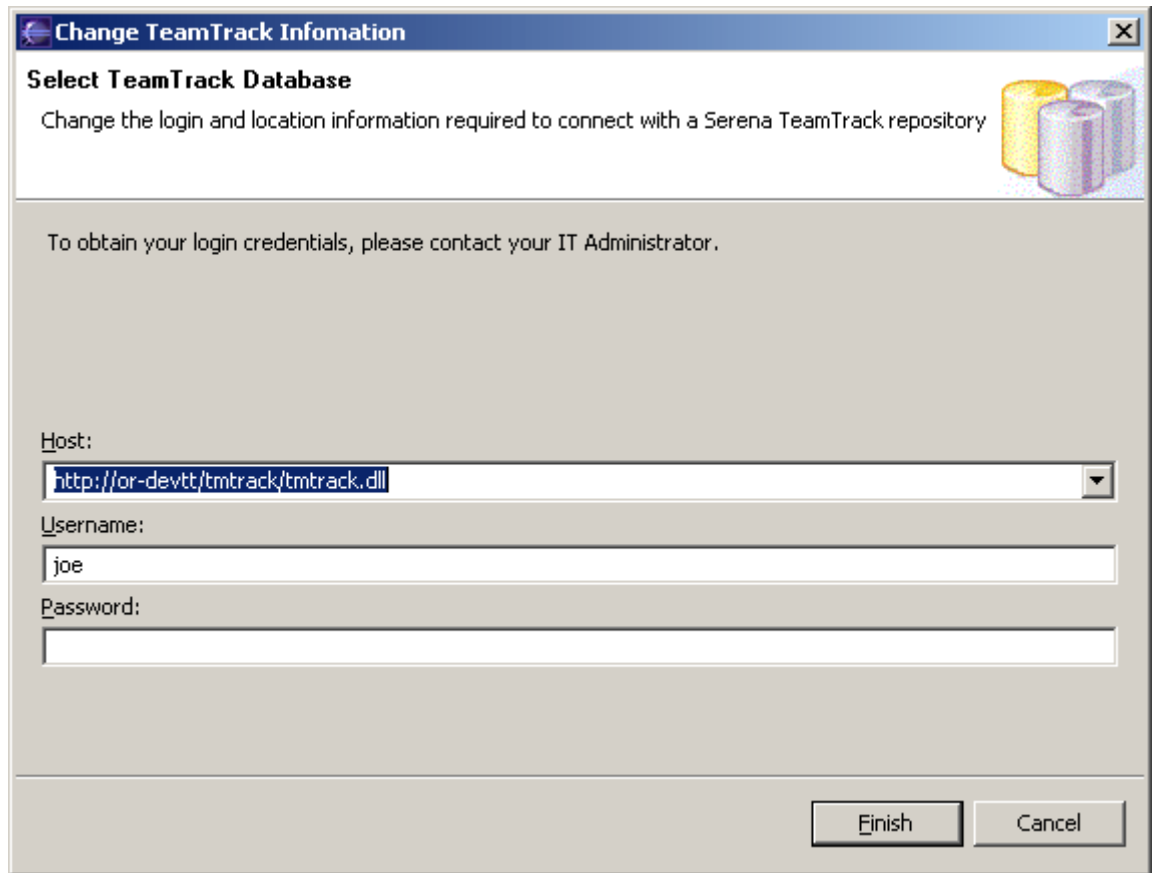
To connect to a TeamTrack server:

- 1 Right-click the project and select **Properties** from the resulting pop-up menu. The Properties dialog box appears.



- 2 Select **Serena** in the left pane.

- 3 In the TeamTrack Information frame, click one of the browse buttons. The Change TeamTrack Information dialog box appears.



The dialog box is titled "Change TeamTrack Information" and contains a section "Select TeamTrack Database". Below this, it says "Change the login and location information required to connect with a Serena TeamTrack repository". There is a note: "To obtain your login credentials, please contact your IT Administrator." The form has three input fields: "Host:" with a dropdown menu showing "http://or-devtt/tmtrack/tmtrack.dll", "Username:" with the text "joe", and "Password:" which is empty. At the bottom right are "Finish" and "Cancel" buttons.

- 4 Enter the URL to a TeamTrack server in the **Host** field or select a recent one from the **Host** drop-down list.



TIP Enter the name of the host system then tab to the next field. A default URL will be auto-entered for you in the following format:

`http:// tt_server/tmtrack/tmtrack.dll`

Where *tt_server* is the name of the TeamTrack host.



NOTE To use a non-default port number (any port other than 80), append the port number to the server name. For example, if the port number is 89:

`http:// tt_server:89/tmtrack/tmtrack.dll`

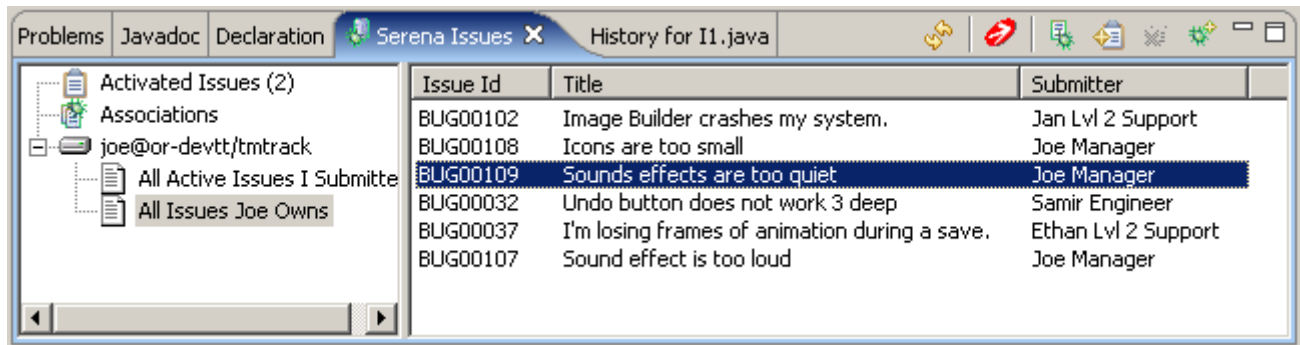
- 5 Enter your TeamTrack user name.
- 6 Click **Finish**.
- 7 Click **OK**.

Displaying Reports and Issues

From the Issues view, you can display all issues that are available via listing reports in your IDE personal folder, or that have been added directly to your IDE personal folder. For example, this may include specific reports that list only the issues that are assigned to you.

To display reports and issues:

- 1 Select **Serena | Show Issues**. The Serena Issues view appears.



- 2 To review your issues:

- Select your user name in the left pane to list any issues that have been added to your IDE personal folder.

joe@or-devtt/tmtrack

- Expand your user name to display all reports that are available to you. Any listing reports that have been added to your IDE personal folder appear here. You can then click any of the reports to display issues.
- Select **Activated Issues** to display any currently activated issues. These are the issues that you will be able to associate with revisions during check-in.



NOTE The **Associations** list displays all issues that are associated with a particular file. See ["Associating Issues" on page 168](#) for information on using this list.



- 3 To view the contents of an issue, select the issue and click the **View Issue** button .

Submitting and Modifying Issues



Submit and modify TeamTrack issues to track the status and details of the tasks that you are completing in Eclipse. You can submit new issues for tasks, defects, or other work that needs to be completed, or modify issues to provide input into your work assignments. Depending on the workflow for your organization, you may modify issues in order to move them to another state, for example if you have completed your portion of the task and need to mark it as ready to test.

To submit an issue:

- 1 Select **Serena | Issues**. The Issues view appears.

- 2 Click the **Submit Issue** button . The Submit Issue tab appears. For more information, see the *Serena TeamTrack User's Guide* or click the **Help**  button to invoke help for this page.

To modify an issue:

- 1 Locate the issue you want to update. See ["Displaying Reports and Issues" on page 167](#).
- 2 Select the issue and click the **View Issue** button . The issue opens in a new tab.
- 3 Update the issue as needed. For more information, see the *Serena TeamTrack User's Guide* or click the **Help**  button to invoke help for this page.

Associating Issues

In addition to providing access to specific issues and reports, The TeamTrack integration to Version Manager also allows you to *associate* issues with specific revisions of files. By default, when you associate an issue with a file:

- A Version Control History section is added to the issue, that tracks the:
 - Name of the associated file
 - Revision number of the associated revision
 - check-in date
 - User who checked in the revision
 - Change description that the user entered when checking in

For example, if Joe associated an issue with a file called test.cs, something like the following might appear in the issue after check-in:

Version Control History

/Application/app 1/test.cs

Revision 1.3 Checked In by Joe Manager 2/4/2005 3:54:49 AM

Revision 1.2 Checked Out 2/4/2005 3:54:49 AM

minor change




IMPORTANT! In order to see the Version Control History section in TeamTrack issues, you must enable the Version Control History display option from the User Profile dialog box in TeamTrack.

- A version label is assigned to the revision of the file that is associated with the issue. The version label includes information about the issue, such as the issue number.
- Information about the associated issue(s) is added to the check-in comment for the new revision.


See ["Issue Management Options" on page 177](#) for information on setting the association options.


To associate issues:

- 1 Locate the issues that you will work on and eventually associate to file revisions. See ["Displaying Reports and Issues" on page 167](#).

- 2 Select the issue and click the **Add to Activated Issues** button . The issue is added to your **Activated Issues** list.

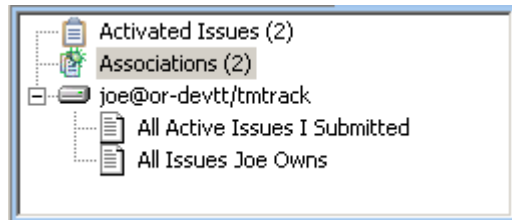


TIP To remove an issue from the Activated Issues list, select the issue in the list and click the **Remove from Activated Issues** button .

- 3 At any point, you can review the details of an issue by selecting it and clicking the **View Issue** button .
- 4 Complete the work required to resolve the issue, or your portion of it.
- 5 Check in the file or files that resolve the issue. On the Check In dialog box, under TeamTrack Associations, select the issue that you want to associate with the file or files. Only issues that are currently activated can be associated during check-in. See ["Checking In Files" on page 148](#).

To display all issues associated with a particular file:

In the Package Explorer or Navigator, right-click the file and select Team | Related Issues. The Serena Issues view appears with the Associations list selected in the left pane.



All issues associated with the selected file, appear in the right pane of the Serena Issues view.

Associated TeamTrack Item	File Name	Initiating Revision	Closing Revision	Log Message	Associated Item Table
BUG00107: Sound effect is too loud	/CAD-ECR-1/p1/C3.java	1.3	1.4	For Bob in Denver.	Issues
BUG00108: Icons are too small	/CAD-ECR-1/p1/C3.java	1.3	1.4	For Bob in Denver.	Issues

Setting Default Options

You can configure the behavior of the source control integration to Version Manager and the issue management integration to TeamTrack. See ["Source Control Options" on page 169](#) and ["Issue Management Options" on page 177](#).

Source Control Options

You can configure the behavior of the source control dialogs (["Setting Local Source Control Options" on page 170](#)), the status glyphs (["Configuring Serena Icon Glyphs" on page 173](#)), the colors used for Serena console output (["Configuring Serena Console Text Colors" on page 174](#)), and the Synchronize view (["Setting Local Synchronization Options" on page 174](#), and ["Scheduling Synchronization Updates" on page 176](#)).

Setting Local Source Control Options

You can configure the default behavior of the source control integration.

To configure source control:

- 1 Select Window | Preferences. The Preferences dialog box appears.
- 2 Expand the following node in the Preferences tree: Team | Serena | Versioning.



IMPORTANT! If the Team | Serena node does not appear in the Preferences dialog box, you must enable Core Team Support. In the left pane, select Workbench | Capabilities. In the right pane, select Team | Core Team Support.

- Assign Label 3 Click **Assign Label** and change any of the following:

Option	Description
Float label with tip	<p>Select Yes to always keep the label assigned to the latest revision of the file. Every time a new revision is checked in, the label will move (or float) to the latest revision.</p> <p>To keep the label assigned to the revision you assign it to, select No.</p>
If label exists	<p>Specify what to do if the label you are assigning to the revision is already assigned to a different revision:</p> <ul style="list-style-type: none"> ■ Prompt: Asks what you want to do. ■ Reassign: Moves the label to the revision you selected. ■ Do not Reassign: Leaves the label where it is, rather than moving it to the revision you selected.

CheckIn 4 Click **CheckIn** and change any of the following:

Option	Description
If newer revision in repository	<p>Specify what to do if the revision in the repository is newer than the revision your workfile is based on:</p> <ul style="list-style-type: none"> ■ Merge: Combines the contents of the latest repository revision and your local workfile into a new revision and checks it in. This is the out-of-box default. <p>NOTE If there are merge conflicts: an error will appear in the Console view, the repository revision will remain locked, and your local workfile will remain as it was. To check in the file, you must resolve the merge conflict (see "Comparing and Synchronizing Your Workspace with Source Control" on page 153) or select Force Checkin.</p> <ul style="list-style-type: none"> ■ Skip: Do not check in the file. ■ Force Checkin: Check in the file and create a new revision, without merging.
If workfile unchanged	<p>Specify what to do if the workfile has not changed:</p> <ul style="list-style-type: none"> ■ Prompt: Asks what you want to do. Select this option if you want to specify a different choice for some files. ■ Checkin: Checks in your local workfile as a new revision. ■ Leave as-is: Does not check in your workfile. If the file is locked, it will be unlocked.
Use description for all	<p>To apply the Description field to all of the files you are checking in, select Yes.</p> <p>To specify a unique description for each file, select No. The Description dialog box will appear for each file in turn.</p> <p>Note, you will not be prompted for a description for unmodified files. Unmodified files will be given a description of "No Change."</p>
Keep locked	<p>To leave the files locked after check-in, select Yes. To leave the files unlocked after check-in, select No.</p> <p>IMPORTANT! You cannot promote locked revisions. If you want to promote the new revisions, do not choose to keep the files locked.</p>
New label	<p>Enter a version label to assign to the new revision. Labels are limited to 254 characters. Do not use a colon (:), double quotes ("), a plus sign (+), or a minus sign (-).</p>

Option	Description
Float label with tip	<p>Select Yes to always keep the label assigned to the latest revision of the file. Every time a new revision is checked in, the label will move (or float) to the latest revision.</p> <p>To keep the label assigned to the revision you assigned it to, select No.</p>
If label exists	<p>Specify what to do if the label you are assigning to the new revision is already assigned to a different revision:</p> <ul style="list-style-type: none"> ■ Prompt: Asks what you want to do. Select this option if you want to specify a different choice for some files or labels. ■ Reassign: Moves the label to the new revision. ■ Leave as-is: Leaves the label where it is, rather than moving it to the new revision.
Promote to next	<p>To promote the new revision to the next group in the promotion hierarchy, select Yes.</p> <p>To retain the current promotion group, select No.</p> <p>IMPORTANT! You cannot promote locked revisions. If you want to promote the new revisions, do not choose to keep the files locked.</p>
Get file on Keyword expansion	<p>If the file you are checking in includes Version Manager keywords that will be expanded during check-in, selecting Yes will copy the latest revision, with the keywords expanded, to your local workspace.</p> <p>To retain unexpanded keywords in your workfile, select No.</p>

Checkout **5** Click **Checkout** to specify what to do if your local workfile is modified:

- **Merge:** Merges the contents of the latest repository revision into your modified local workfile. This is the out-of-box default.



IMPORTANT! If there are merge conflicts:

- An error will appear in the Console view.
- The repository revision will not be locked.
- Your local workfile will remain as it was.

To check out the file, you must resolve the merge conflict (see ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#)) or select **Overwrite** or **Leave as-is**.

- **Prompt:** Asks what you want to do. Select this option if you want to specify a different choice for some files.
- **Overwrite:** Replaces your modified local workfile with the latest revision from the repository.

- **Leave as-is:** Locks the file in the repository but retains your modified local workfile

Get **6** Click **Get** to specify what to do if your local workfile is modified:

- **Merge:** Merges the contents of the repository revision into your modified local workfile. This is the out-of-box default.



IMPORTANT! If there are merge conflicts:

- An error will appear in the Console view.
- Your local workfile will remain as it was.

To Get the file, you must resolve the merge conflict (see ["Comparing and Synchronizing Your Workspace with Source Control" on page 153](#)) or select **Overwrite** or **Leave as-is**.

- **Prompt:** Asks what you want to do. Select this option if you want to specify a different choice for some files.
- **Overwrite:** Replaces your modified local workfile with the revision from the repository.
- **Leave as-is:** Retains your modified local workfile.

Undo Checkout **7** Click **Undo Checkout** to specify what to do with the local workfile:

- **Replace local file with latest revision:** Replaces your local workfile with a read-only copy of the latest revision from the repository.
- **Leave local workspace as-is:** Retains your local workfile as it is.

Configuring Serena Icon Glyphs

By default, Serena icon glyphs show the status of an individual item. In the case of a Package or Project, the icon reflects the actual status of the object rather than that of any objects it may contain. You can configure Serena icon glyphs so that objects, such as Packages and Projects, reflect the status of the objects they contain. However, this additional information comes at the cost of some performance.

To configure Serena icon glyphs:

- 1 Select Window | Preferences. The Preferences dialog box appears.
- 2 Select the following node in the Preferences tree: Team | Serena | Label Decorations.



IMPORTANT! If the Team | Serena node does not appear in the Preferences dialog box, you must enable Core Team Support. In the left pane, select Workbench | Capabilities. In the right pane, select Team | Core Team Support.

- 3 Select the **Compute deep folder status** check box to cause objects such as Packages and Projects to display the status of the objects they contain. Or de-select the check box to disable this feature.



NOTE Enabling **Compute deep folder status** will slow performance.

- 4 Click **OK**.

Configuring Serena Console Text Colors

You can choose which colors to use for various types of Serena output into the Console view.

To configure Serena console colors:

- 1 Select Window | Preferences. The Preferences dialog box appears.
- 2 Select the following node in the Preferences tree: Team | Serena | Console.



IMPORTANT! If the Team | Serena node does not appear in the Preferences dialog box, you must enable Core Team Support. In the left pane, select Workbench | Capabilities. In the right pane, select Team | Core Team Support.

- 3 Click on the colored button next to a text type to select a new color for that type. You can select colors for the following types of Serena console text:
 - Commands (default is black)
 - Messages (default is blue)
 - Errors (default is red)
 - Warnings (default is gold)
- 4 Click **Apply**.

Setting Local Synchronization Options

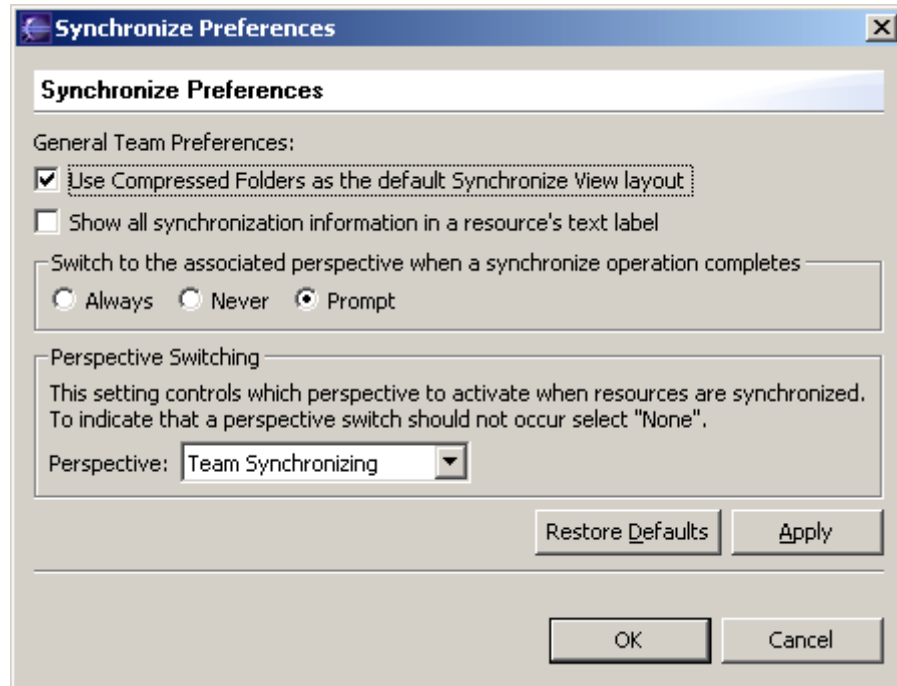
You can configure the default behavior of the Synchronize view.

To set synchronization options:

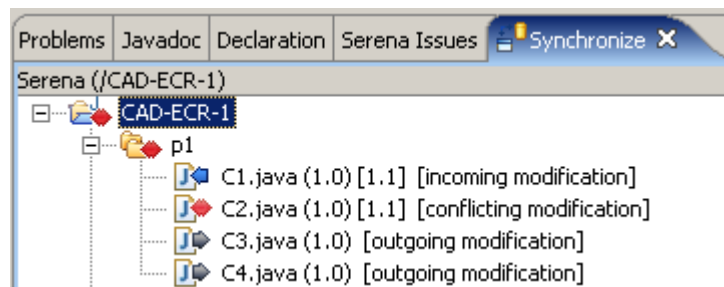


- 1 Select the **Menu** button in the Synchronize view. A pop-up menu appears.

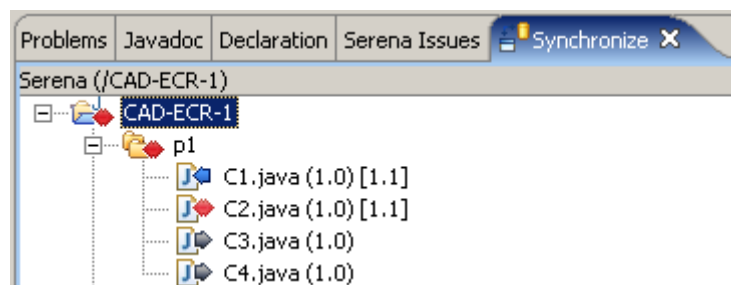
- 2 Select **Preferences**. The Synchronize Preferences dialog box appears.



- 3 To change whether folders are expanded or collapsed when the Synchronize view opens, select or deselect the **Use Compressed Folders as default Synchronize View layout** check box.
- 4 To display descriptive text for each change type, select the **Show all synchronization information in a resource's text label** check box. If this feature is enabled, the display looks like this:



If it is disabled, the display looks like this:



- 5 To specify whether a different perspective is opened when you synchronize, select one of the following options:
 - **Always:** The perspective specified in the **Perspective** field will open when you synchronize.
 - **Never:** You will remain in whatever perspective you were in at the time you invoked the synchronization.
 - **Prompt:** A dialog will appear asking if you would like to switch to the perspective specified in the **Perspective** field.
- 6 To specify the perspective to open when you synchronize, select one from the **Perspective** field.
- 7 Click **OK**.



Scheduling Synchronization Updates

You can schedule automatic refreshes of a synchronization. This updates the information displayed in the Synchronize view; it does not commit or resolve changes.

To schedule synchronization updates:

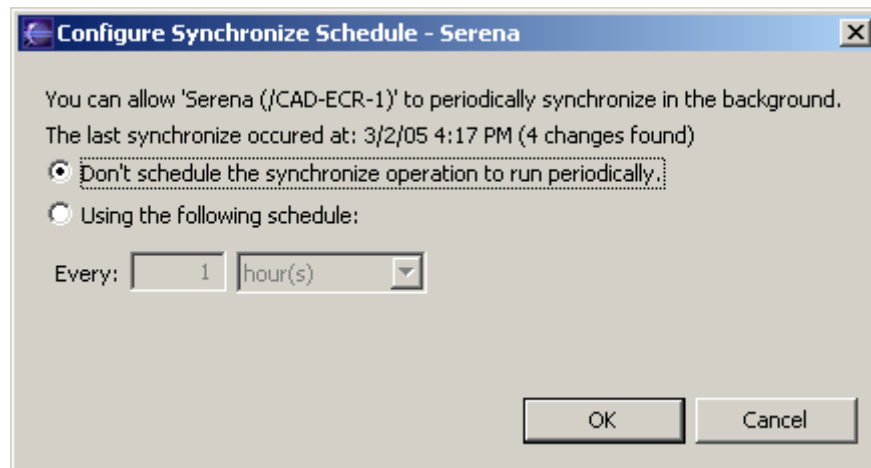
- 1 Open the synchronization you want to schedule.



TIP To switch among pinned () Synchronize views, click the **Synchronize** drop-down () button and select a synchronization from the resulting list.



- 2 Select the **Menu** button in the Synchronize view. A pop-up menu appears.
- 3 Select **Schedule**. The Configure Synchronize Schedule dialog box appears.



- 4 To enable automatic updates for the current synchronization, select the **Using the following schedule** option.
- 5 To specify a time interval between updates, select **hour(s)** or **minute(s)** and enter the value you desire.
- 6 Click **OK**.

Issue Management Options

You can configure aspects of the global and local behavior of the integration to TeamTrack. See ["Setting Global Issue Management Options" on page 177](#) and ["Setting Local Issue Management Options" on page 178](#).

Setting Global Issue Management Options

From the Version Manager desktop client, the administrator can define settings for rich IDE integrations to TeamTrack, including:

- Whether to apply a version label with the issue number to all associated revisions
- Whether to require issue associations on check-in
- Whether to automatically add notes about associated issues to the check-in comments for new revisions

To define integration settings:

- 1 Select the Project Database to which you will apply the settings.
- 2 From the Version Manager desktop client, select Admin | SourceBridge settings. The SourceBridge Settings dialog box appears.
- 3 Set the following options:

Field	Description
Show Issue association dialog on checkin / Association required	Select to require that issues be associated with files at check-in. If you select this option, users will be unable to complete checkins if no issues are currently active. The Show Issue association dialog on checkin option has no effect within the rich integration to Eclipse, but you must select it in order to be able to select the Association required option.
Tag workfile comment with association	Select to add information about the associated issue(s) to the check-in comments for files as they are checked in. Select Before existing comment or After existing comment to determine the placement of this information within the comment. In the Tag field, enter the text that you want to add to the check-in comments. This can include any of a number of keywords that will automatically enter information about the associated issues. These include: <ul style="list-style-type: none"> ■ \$id -- Expands to the issue ID number ■ \$ownid -- Expands to the user ID of the issue owner ■ \$owner -- Expands to the name of the issue owner ■ \$project -- Expands to the name of the current project ■ \$title -- Expands to the title of the issue
Use version labels on checkin	Select to apply a version label consisting of the issue number when checking in a file.

- 4 Click **OK**.

Setting Local Issue Management Options

To configure issue management:

- 1** Select Window | Preferences. The Preferences dialog box appears.
- 2** Select the following node in the Preferences tree: Team | Serena | Issuing | Associations.



IMPORTANT! If the Team | Serena node does not appear in the Preferences dialog box, you must enable Core Team Support. In the left pane, select Workbench | Capabilities. In the right pane, select Team | Core Team Support.

- 3** Select or deselect the **Deactivate selected issues after checkin** check box. By default, issues are not deactivated after check-in.
- 4** Click **OK**.

Chapter 10

Rational Rose

Introduction	180
Accessing Supported Features	180
Setting Up Source Control Projects	181
Using Source Control	185

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Rational Rose® Enterprise 2002, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within Rational Rose

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? Rational Rose supports a subset of the source control features available through the Version Manager IDE client. See the following table.



NOTE Rational Rose does not support the monitoring of project-wide activity normally available through the Project Activity tab of Pulse.

To...	Select...	For more information see...
Get revisions	Tools Version Control Get Latest	"Getting Files" on page 185
Check out revisions	Tools Version Control Check Out	"Checking Out Files" on page 186
Undo checkout of revisions	Tools Version Control Undo Check Out	"Undoing Checkout" on page 186
Check in revisions	Tools Version Control Check In	"Checking In Files" on page 186
Manage version labels	Tools Version Control Start Version Control Explorer	"About Version Labels" on page 56
View properties of revisions or archives	Tools Version Control File Properties	"About Properties" on page 72
Monitor local source control activity	Tools Version Control Start Version Control Explorer	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Tools Version Control File History	"About History Reports" on page 77
Generate a difference report	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
Access the Version Manager Options dialog	Tools Version Control Start Version Control Explorer	"About Setting Defaults for Version Manager Options" on page 28

To...	Select...	For more information see...
Add files to source control	Tools Version Control Add to Version Control	"Adding Files to Source Control" on page 181
Remove files from source control	Tools Version Control Remove From Version Control	"Removing Files from Source Control" on page 185
Share an archive across projects	N/A	N/A

Setting Up Source Control Projects

Contents	This section contains information about setting up the Version Manager IDE client to work with Rational Rose.
Prerequisites	<p>Before proceeding, you must do the following:</p> <ul style="list-style-type: none"> ■ Select Version Manager as your source control provider (if you have multiple Serena IDE clients installed). See "Selecting an SCC Provider" on page 25. ■ Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Rational Rose project (if you don't already have one). ■ Install the Version Control Add-In component of Rational Rose.
For more information	See Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23 .

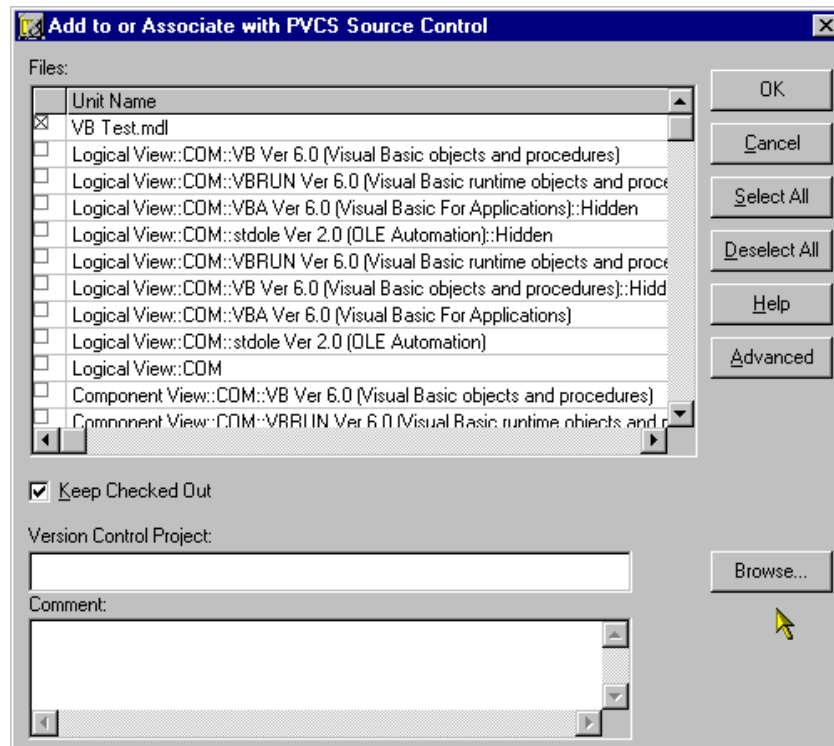
Adding Files to Source Control

Before you can perform source control operations on your Rational Rose files, you must add them to a new or existing Version Manager project.

To add files/units to source control:

- 1 Check out the model that the files or units are a part of, unless it is the model file (.mdl) that you are adding.

- 2 Select Tools | Version Control | Add to Version Control. The Add to or Associate with Serena Source Control dialog box appears.

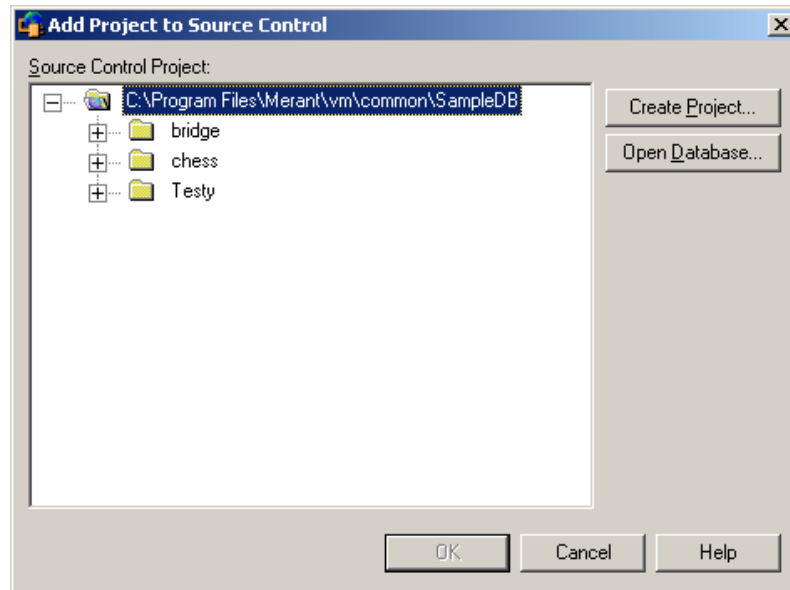


- 3 Check the boxes next to the units/files you wish to add. Files located outside of the root project working directory (the directory containing the .mdl file) or its subdirectories will not be added to source control.

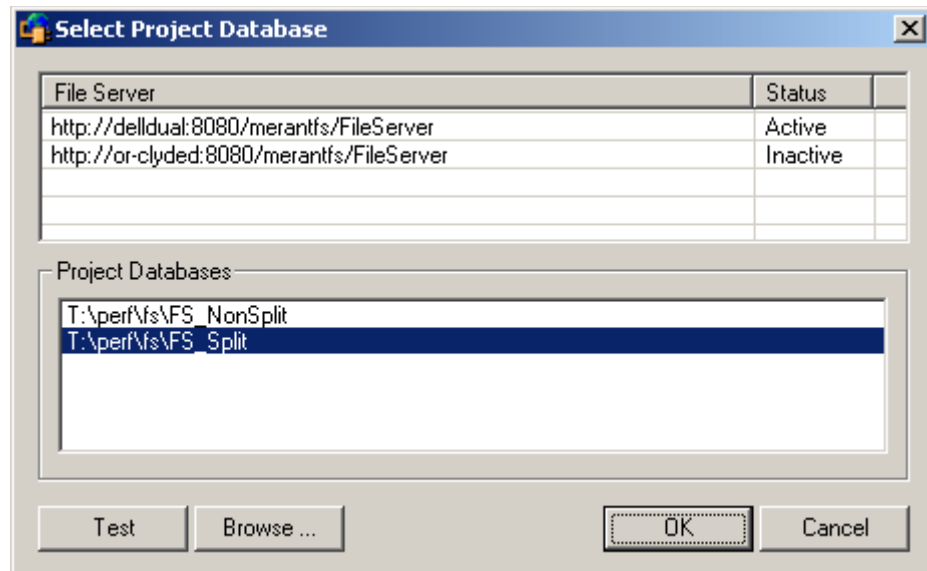


IMPORTANT! You must place the model (.mdl) under source control and check it out before you can add units to source control.

- 4 If the **Version Control Project** field does not contain the path to the desired Version Manager project, click the **Browse** button. The Add Project to Source Control dialog box appears.



- 5 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.

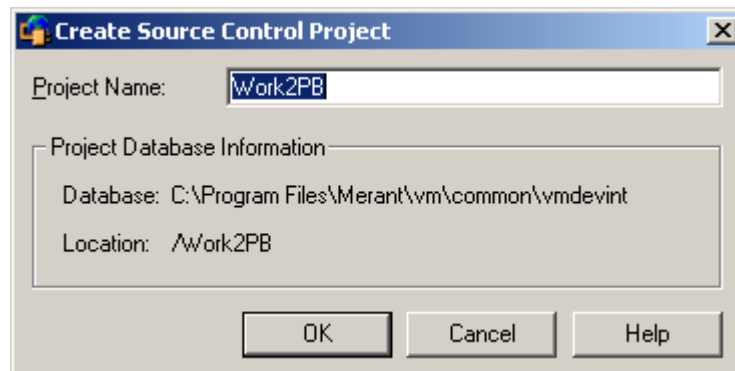


Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (`http://SystemName:8080/serenafs/FileServer`) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 6 Do one of the following:
- To add to an existing source control project, select one from under **Source Control Project**. Proceed to [Step 7](#).
 - **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.
 - b Click the **Create Project** button. The Create Source Control Project dialog box appears.



The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.
The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
 - d Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.
- 7 Click **OK**. The Add to or Associate with Serena Source Control dialog box reappears.
- 8 If you want to assign a version label or promotion group to the initial revision, click the **Advanced** button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32](#).)



IMPORTANT! If you browse to a version control project after setting the advanced options, the options will be cleared. Browse to the project before setting advanced options.

- 9 Enter a comment in the **Comment** field. The description will be applied to all selected files.



TIP To use a unique description for each file, leave the Comment field blank. After you complete the Add or Associate with Serena Source Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

- 10 Click **OK**.
- 11 If you selected elements of the model in Step 3 that have yet to be partitioned into controlled units, the Save As dialog box appears. Name each element and save it in the directory that contains the model (.mdl) file or in a subdirectory below that directory.

You can now perform source control operations on your files.

Removing Files from Source Control

When you remove a file from source control, Version Manager does *not* delete the workfile or Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

To remove a file from source control:

- 1 Select the file you want to remove.
- 2 Select Tools | Version Control | Remove From Version Control. The **Remove from Serena Source Control** dialog box appears with a list of files. You can change which files to remove by selecting or deselecting the files in this list.
- 3 Click **OK**.

Returning files to
source control

For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).

Using Source Control

Contents This section contains procedural information about viewing and editing files that are under source control.

For more information See [Chapter 4, "Using Source Control" on page 47](#).

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get files from source control:

- 1 Select Tools | Version Control | Get Latest. The Get Latest from Serena Source Control dialog box appears.
- 2 Do one of the following:

Use advanced options ■ To override the default get options, click the **Advanced** button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48](#).)

Accept defaults ■ To accept the default get options:

- a Click the **Get** button. The selected revisions are copied and read-only workfiles are placed in the workfile location.

- b** Click **OK**.

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

To check out a file:

- 1 Select Tools | Version Control | Check Out. The Check-out from Serena Source Control dialog box appears with a list of available files. You can change your selection by selecting and deselecting the files in this list.
- 2 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | ■ To override the default checkout options, click the Advanced button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see "About Checking Out Files" on page 50.) |
| Accept defaults | ■ To accept the default checkout options, click OK . Writable copies of the selected revisions are checked out to the workfile location and the revisions are locked. |

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 Select Tools | Version Control | Undo Check Out. The Undo Check Out dialog box appears with a list of available files. You can change your selection by selecting and deselecting the files in this list.
- 2 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | ■ To override the default undo checkout options, click the Advanced button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see "About Undoing Checkout" on page 52.) |
| Accept defaults | ■ To accept the default undo checkout options, click OK . The archive is unlocked and a read-only workfile is left in the workfile location. |

Checking In Files

By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in a file:

- 1 Select Tools | Version Control | Check In. The Check-in to Serena Source Control dialog box appears with a list of available files. You can change your selection by selecting and deselecting the files in this list.

- 2 Enter a description of the changes you made in the **Comment** field. The description will be applied to all selected files.



TIP To use unique descriptions for each file, leave the **Comment** field blank. After you complete the The Check-in to Serena Source Control dialog box, the Change Description dialog box will appear for each file in turn.

- 3 Do one of the following:

Use advanced options

- To change the default check-in options, click the **Advanced** button. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53.](#))

Accept defaults

- To accept the default check-in options, click **OK**. The file is checked in.

Chapter 11

TestDirector

Introduction	190
Accessing Supported Features	190
Setting Up Source Control Projects	191
Using Source Control	193

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Mercury Interactive TestDirector™ 7.6 and 8, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within TestDirector

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Web-based projects

Accessing Supported Features

What is supported? TestDirector supports a subset of the source control features available through the Version Manager IDE client. Specific limitations include:

- Merge, differencing, and reporting features cannot be invoked from this IDE.
- Advanced options are not available.

To...	Select...	For more information see...
Get latest revision	Versions Get Latest Version	"Getting the Latest Revision" on page 193
Get previous revision	Versions Versions Get version	"Getting a Previous Revision" on page 193
Check out latest revision	Versions Check Out	"Checking Out the Latest Revision" on page 194
Check out previous revision	Versions Versions Check out	"Checking Out a Previous Revision" on page 195
Undo checkout of revision	Versions Undo Check Out	"Undoing Checkout" on page 196
Check in revision	Versions Check In	"Checking In Tests" on page 196
View version history	Versions Versions	"Viewing Version History" on page 197
Add projects to source control	(See text.)	"Adding Projects to Source Control" on page 191
Remove projects from source control	(See text.)	"Removing Projects from Source Control" on page 192
Refresh source control status	Versions Refresh	n/a

Setting Up Source Control Projects

Contents	This section contains information about setting up the Version Manager IDE client to work with TestDirector.
Prerequisites	<p>Before proceeding, you must do the following:</p> <ul style="list-style-type: none"> ■ Install Version Manager and the Version Manager IDE client to your web server. See the <i>Serena ChangeMan Version Manager Installation Guide</i>. ■ Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the TestDirector project (if you don't already have one). ■ Configure web server security. ■ Install TestDirector Enterprise 7.6 and TestDirector Enterprise Service Pack 3 or TestDirector Enterprise 8. Also, run the TestDirector Checker utility and resolve any problems with the server. See the TestDirector documentation.
For more information	See Chapter 3, "Setting Up Source Control with COM IDEs" on page 35 .

Enabling Source Control

Before you can place projects under source control, you must enable the TestDirector Version Control Add-in.

To enable source control:

- 1 Launch the TestDirector Site Administrator (Start | TestDirector | Site Administrator).
- 2 Log in as a site administrator.
- 3 Select the Site Config tab.
- 4 Select the **VC** parameter.
- 5 Click the **Edit** button. The Edit Parameter dialog box appears.
- 6 Enter Y in the **Value** field and click **OK**.

Adding Projects to Source Control

Once source control is enabled, there are two ways to place TestDirector projects under source control:

- Add an existing TestDirector project to source control.
- Create a new TestDirector project and add it to source control.

Adding an Existing Project to Source Control

To add an existing project to source control:

- 1 Launch the TestDirector Site Administrator (Start | TestDirector | Site Administrator).
- 2 Log in as a site administrator.

- 3 From the Projects tab, select a project in the left pane.
- 4 If the project is active, click the **Deactivate** button and then click **Yes** to confirm the action.
- 5 Click the **Enable VC** button and then click **Yes** to confirm this action.



NOTE This step may take a moment or two.

- 6 Click the **Activate** button.

Adding a New Project to Source Control

To create and add a new project to source control:

- 1 Launch the TestDirector Site Administrator (Start | TestDirector | Site Administrator).
- 2 Log in as a site administrator.



- 3 From the Projects tab, click the **Create Project** button. The **Create Project** wizard appears.
- 4 Specify a project name, domain, and database type then click the **Next** button. The second page of the **Create Project** wizard appears.
- 5 Select the **Create A Version Control DataBase** check box and click the **Create** button.
- 6 A message appears stating that version control has been enabled. Click **OK** to dismiss it.
- 7 A second message appears stating that the project has been created. Click **OK** to dismiss it.

Removing Projects from Source Control

Removing a TestDirector project from source control does not delete the Version Manager archives. It simply removes the association with the source control project. You may reconnect to the Version Manager archives at a later time.



IMPORTANT! Before removing a project from source control, check in all tests in the project or you will be unable to check them in if you reconnect them to source control later.

To remove a project from source control:

- 1 Launch the TestDirector Site Administrator (Start | TestDirector | Site Administrator).
- 2 Log in as a site administrator.
- 3 From the Projects tab, select a project in the left pane.
- 4 If the project is active, click the **Deactivate** button and then click **Yes** to confirm the action.

- 5 Click the **Disable VC** button.
- 6 Click **OK** at the **Warning** dialog box.
- 7 Click **Yes** at the **Confirmation** dialog box.
- 8 A success message appears. Click **OK** to dismiss it.

Reconnecting to source control To reconnect a project to source control, see ["Adding an Existing Project to Source Control" on page 191](#).

Using Source Control

Contents This section contains procedural information about viewing and editing tests that are under source control.

For more information See [Chapter 4, "Using Source Control" on page 47](#).

Getting Tests

When you get a test, a read-only copy of the test is placed in the workfile location. You can get the latest revision or a previous revision.

Getting the Latest Revision

To get a test:

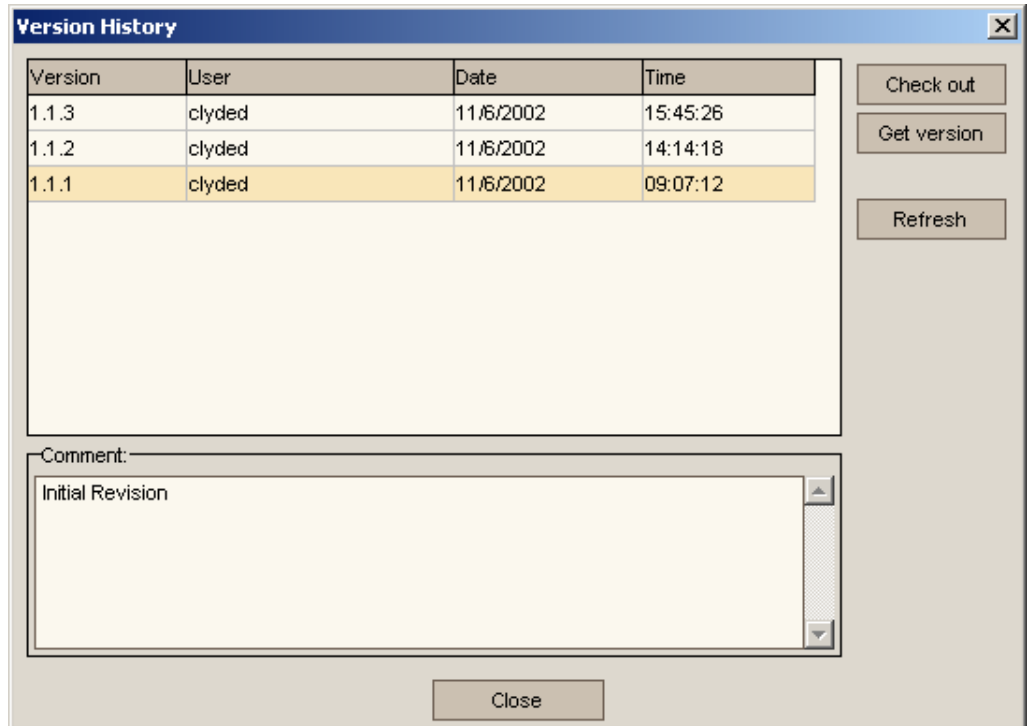
- 1 From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.
- 2 Select Versions | Get Latest Version.

Getting a Previous Revision

To get a test:

- 1 From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.

- 2 Select Versions | Versions. The Version History dialog box appears.



- 3 Select the version you wish to get.
- 4 Click the **Get version** button. A gold file cabinet (📁) appears next to the test's icon to indicate that this is not the latest revision.



NOTE If you get a previous revision of a test, you must get the latest revision before you are allowed to check out the test.

Checking Out Tests

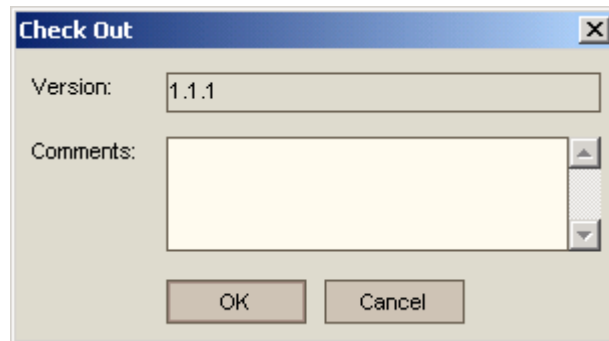
When you check out a test, the selected revision is locked and a writable workfile is created in the workfile location. You can check out the latest revision or a previous revision.

Checking Out the Latest Revision

To check out a test:

- 1 From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.

- 2 Select Versions | Check Out. The Check Out dialog box appears.

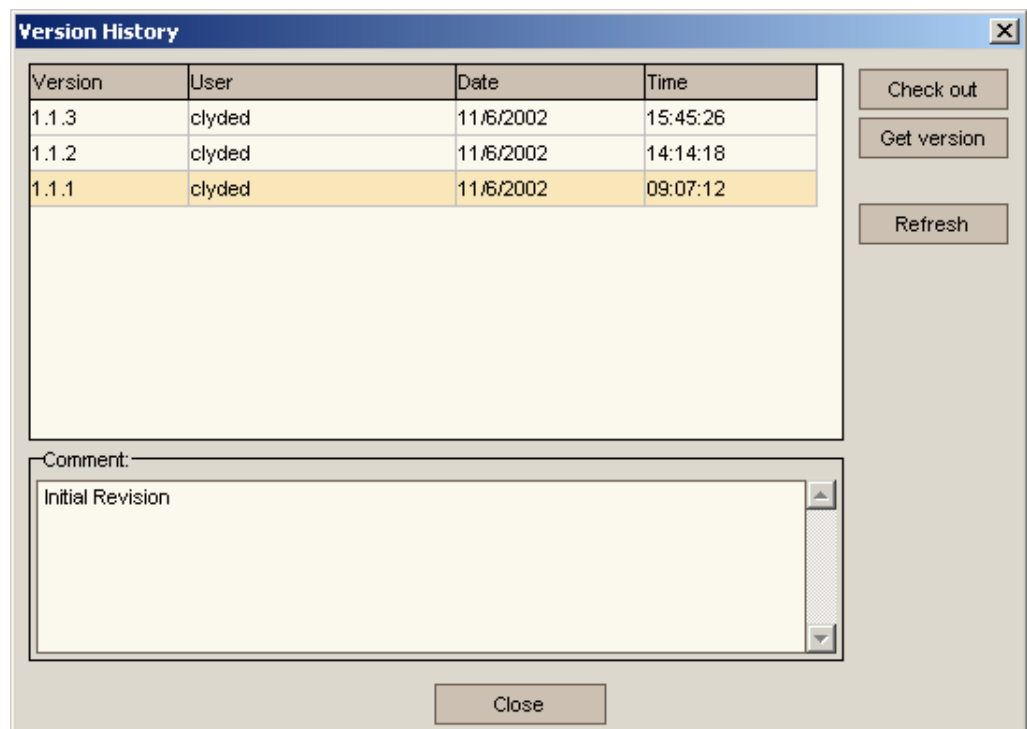


- 3 Click the **OK** button. A red padlock (🔒) appears next to the test's icon.

Checking Out a Previous Revision

To check out a test:

- 1 From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.
- 2 Select Versions | Versions. The Version History dialog box appears.



- 3 Select the version you wish to check out.
- 4 Click the **Check out** button. A confirmation dialog box appears.
- 5 Click the **OK** button. The Check Out dialog box appears.
- 6 Click the **OK** button. A red padlock (🔒) appears next to the test's icon.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

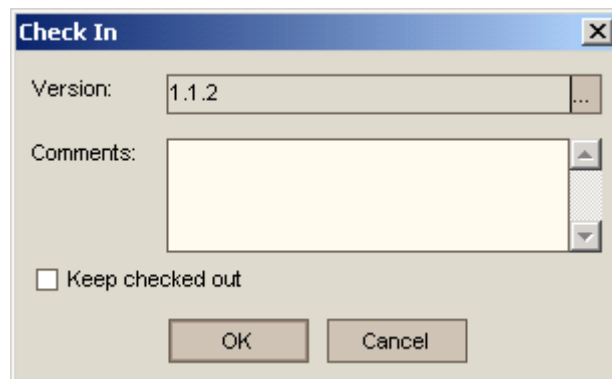
- 1 From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.
- 2 Select Versions | Undo Check Out. A confirmation dialog box appears.
- 3 Click OK.

Checking In Tests

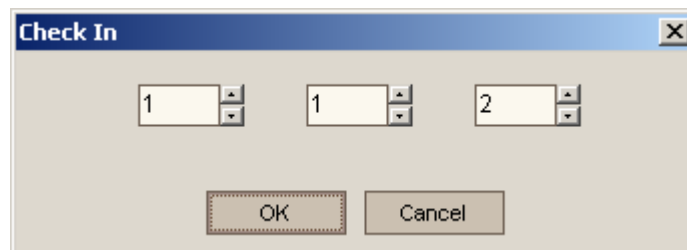
When you check in a test a new revision is created and assigned the next number in sequence, a read-only workfile is left in the workfile location, and the archive is unlocked.

To check in a test:

- 1 From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.
- 2 Select Versions | Check In. The Check In dialog box appears.



- 3 Do any of the following:
 - To override the value shown in the **Version** field, click the browse button. Another Check In dialog box appears.



- a Change the values as need.

b Click the **OK** button.



NOTE In TestDirector, this value is referred to as the **Vc Version**. Version Manager uses this value to apply a label to the revision. The Version Manager revision numbering scheme is unaffected by this field.

- To retain the lock on the test after it is checked in, select the **Keep checked out** check box.

4 Enter a description of the changes you made in the **Comments** field.



IMPORTANT! You must enter a comment for the check-in operation to succeed.

5 Click the **OK** button.

Adding New Tests

If a TestDirector project is under source control, any new test you create within the project is automatically added to source control.

Viewing Version History

The TestDirector Version History dialog box displays the following information:

- **Version:** A number TestDirector uses to uniquely identify each version of a test. Version Manager uses this value to assign a version label to each revision, but this value is not related to the Version Manager revision number.
- **User:** The ID of the user who created the version.
- **Date:** The date the version was created.
- **Time:** The time the version was created.
- **Comment:** The description that was associated with the version when it was created.

To view history information:

- 1** From the TEST PLAN tab of the TestDirector client, right-click a plan. A pop-up menu appears.
- 2** Select Versions | Versions. The Version History dialog box appears.

Chapter 12

Together

Introduction	200
Accessing Supported Features	200
Setting Up Source Control Projects	201
Using Source Control	209

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through TogetherSoft™ **Together®** 6.0, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within Together

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? Together supports a subset of the source control features available through the Version Manager IDE client. Limitations specific to this IDE include the inability to:

- Monitor source control activity through Pulse
- Access the Version Manager Options dialog
- Use advanced options
- Share archives across projects

To...	Select...	For more information see...
Get revisions	Right-click Version Control Get	"Getting Files" on page 209
Check out revisions	Right-click Version Control Check Out	"Checking Out Files" on page 210
Undo checkout of revisions	Right-click Version Control UnCheck out	"Undoing Checkout" on page 211
Check in revisions	Right-click Version Control Check In	"Checking In Files" on page 211
View properties of revisions or archives	Right-click Version Control Details	"About Properties" on page 72
Generate a history report	Right-click Version Control History	"About History Reports" on page 77
Generate a difference report	Right-click Version Control Diff	"About Difference Reports" on page 80
Add projects to source control	Project Version Control Setup for this project	"Connecting Projects to Source Control" on page 202
Remove files from source control	Project Version Control System	"Removing Files from Source Control" on page 208

Setting Up Source Control Projects

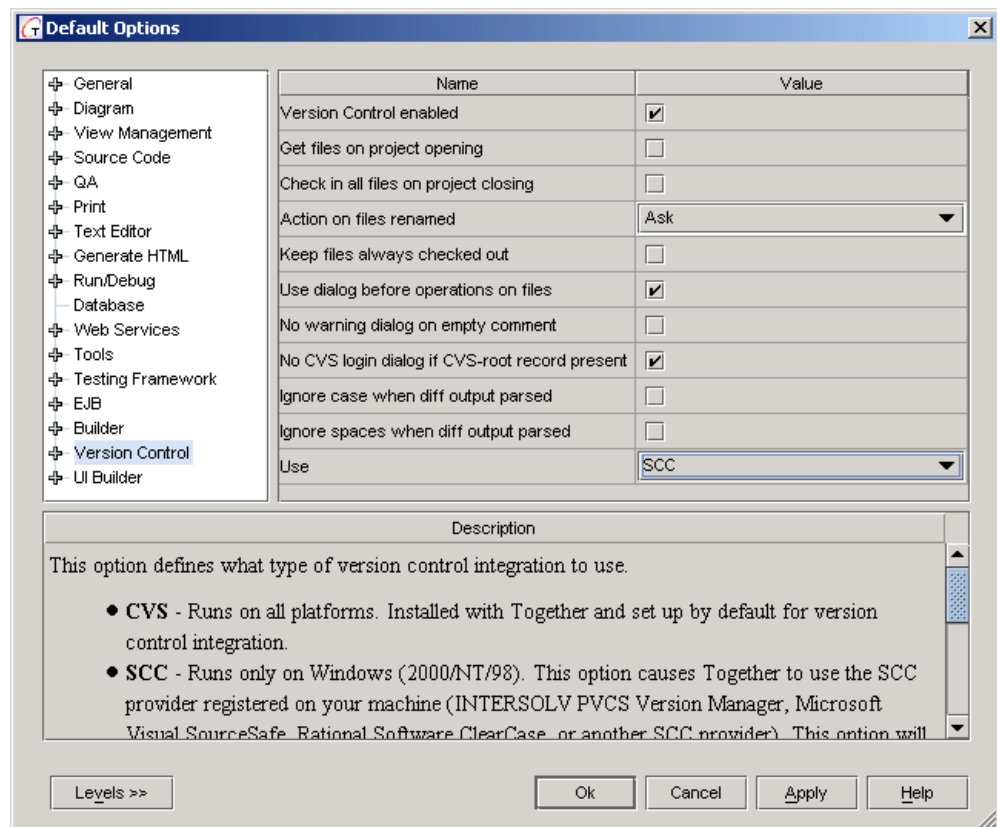
- Contents** This section contains information about setting up the Version Manager IDE client to work with Together.
- Prerequisites** Before proceeding, you must do the following:
- Select Version Manager as your source control provider (if you have multiple Serena IDE clients installed). See ["Selecting an SCC Provider" on page 25](#).
 - Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Together project (if you don't already have one).
- For more information** See [Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23](#).

Enabling Source Control

Before you can use source control with Together, you must enable source control in Together.

To enable source control:

- 1 Select Tools | Options | Default Level. The Default Options dialog box appears.



- 2 Select **Version Control** in the left pane.
- 3 Select the **Version Control enabled** checkbox.

- 4 If multiple users are working on the same projects, you may want to deselect the **Keep files always checked out** checkbox.
- 5 Select **SCC** from the **Use** drop-down list.



IMPORTANT! Version Manager must already be configured as your active SCC provider. See ["Selecting an SCC Provider" on page 25](#).

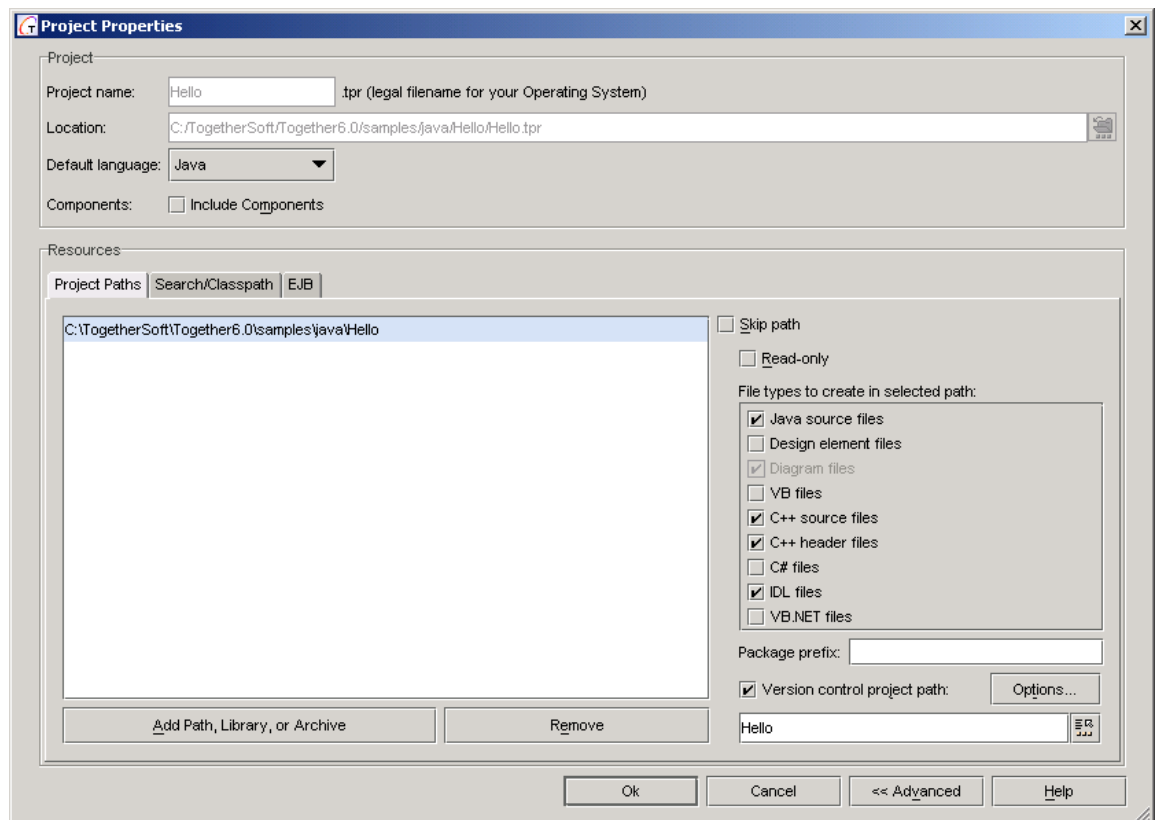
- 6 Click **OK**.

Connecting Projects to Source Control

Once you have created and saved a Together project, you can add it to an existing Version Manager project database.

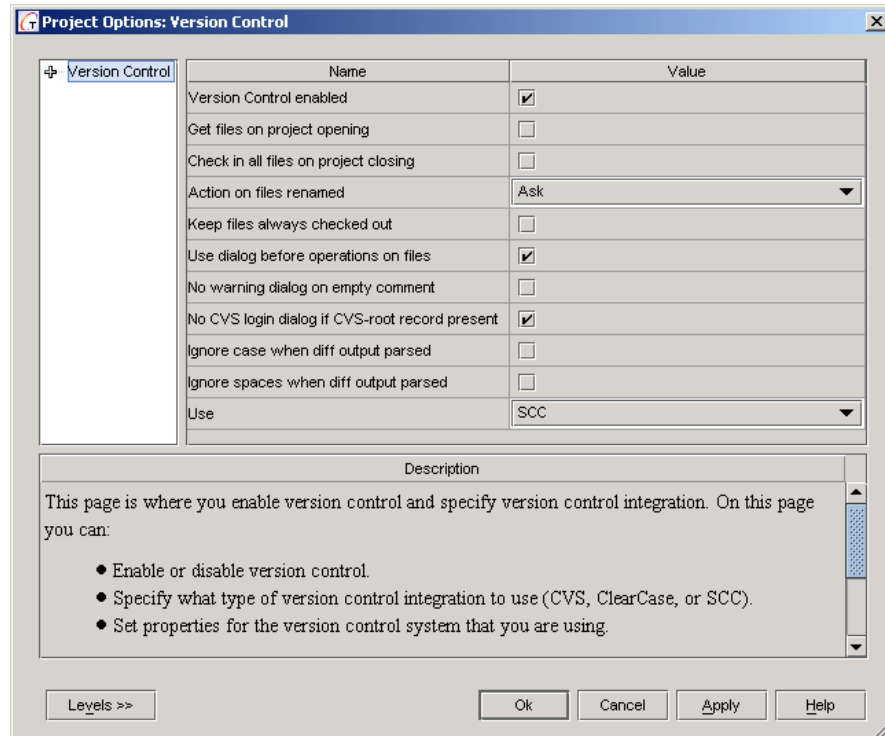
To add a project to source control:


- 1 Open the Together project if it is not already open.
- 2 Select Project | Version Control | Setup for this Project. The Project Properties dialog box appears.

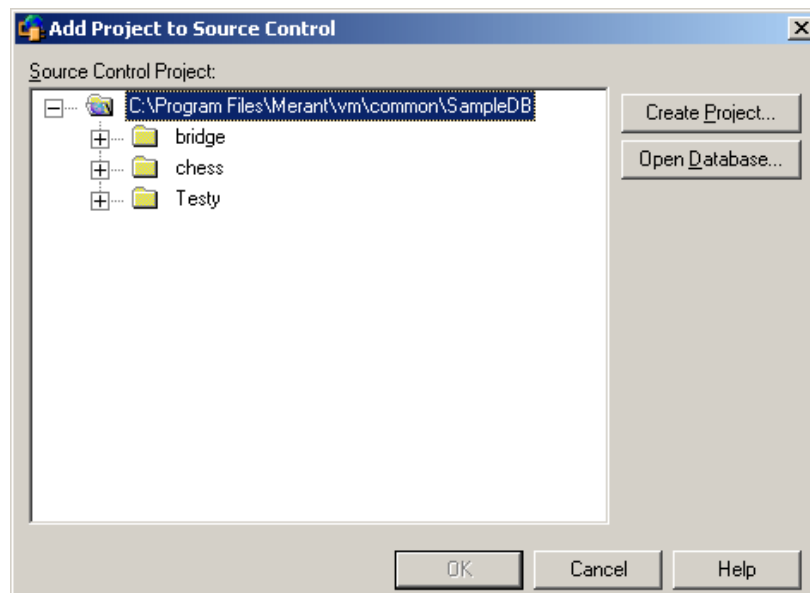


- 3 Select the **Version control project path** checkbox.

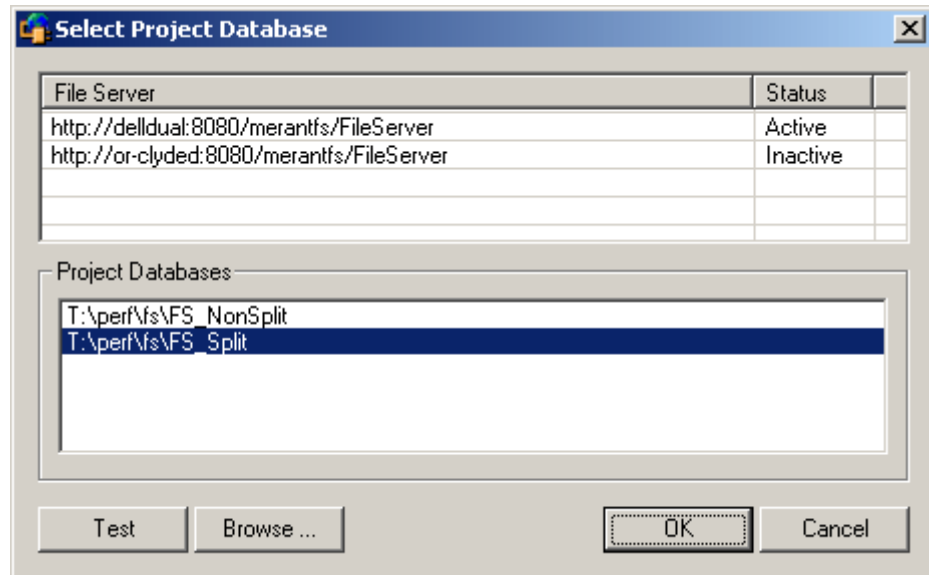
- 4 Click the **Options** button. The Project Options: Version Control dialog box appears.



- 5 Select **SCC** from the **Use** drop-down list.
- 6 Set any other options as needed and click **OK**.
- 7 Click the () button. The Add Project to Source Control dialog box appears. (If the dialog box does not appear, click on its icon in the Windows Taskbar.)



- 8 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

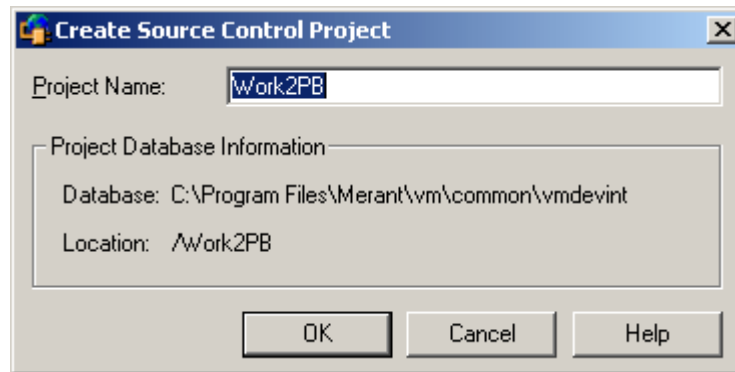
To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

- 9 Do one of the following:

- To add to an existing source control project, select one from under **Source Control Project**. Proceed to [Step 10](#).
- **To create a new Version Manager project:**
 - a Under Source Control Project, select the location in the project database where you want to create the new project.

- b** Click the **Create Project** button. The Create Source Control Project dialog box appears.



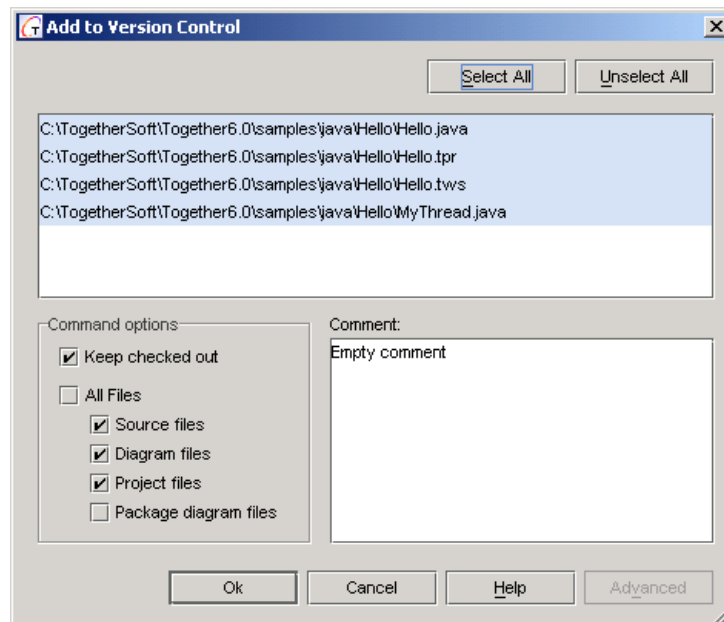
The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c** By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.

The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).

- d** Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.

- 10** Click **OK** in the Add Project to Source Control dialog box.
- 11** Click **OK** in the Project Properties dialog box.
- 12** Right-click the project icon in the Explorer pane and select Version Control | Add from the resulting pop-up menu. The Add to Version Control dialog box appears with a list of selected files to be added.





- 13** Select or deselect files as needed using the command options and the selection pane.

- 14** If you wish to check out and lock the files immediately after they are added to source control, select the **Keep checked out** check box.



IMPORTANT! Keep the files checked out if your project contains folders or packages.

- 15** Enter a description of the file(s) in the **Comment** field. The description will be applied to all selected files.
- 16** Click **OK**. The selected files are added to source control, creating archives in the specified archive directory.
- 17** If your project contains subfolders or packages, do the following:
- a** Check out the project file if you did not select the **Keep checked out** check box in [Step 14](#). For more information, see "[Checking Out Files](#)" on page 210.
 - b** Expand the Explorer tree so you can see all folder () or package () icons.
 - c** Select all folder or package icons by CTRL-clicking on them.
 - d** Right-click and select Version Control | Add from the resulting pop-up menu. The Add to Version Control dialog box appears with a list of selected files to be added.
 - e** Select or deselect files as needed using the command options and the selection pane.
 - f** If you wish to check out and lock the files immediately after they are added to source control, select the **Keep checked out** check box.
 - g** Enter a description of the file(s) in the **Comment** field. The description will be applied to all selected files.
 - h** Click **OK**. The selected files are added to source control, creating archives in the specified archive directory.

Connecting Additional Workstations to a Source Control Project

After a project has been created and added to source control, you can set up each developer's workstation so they can access the project from source control.

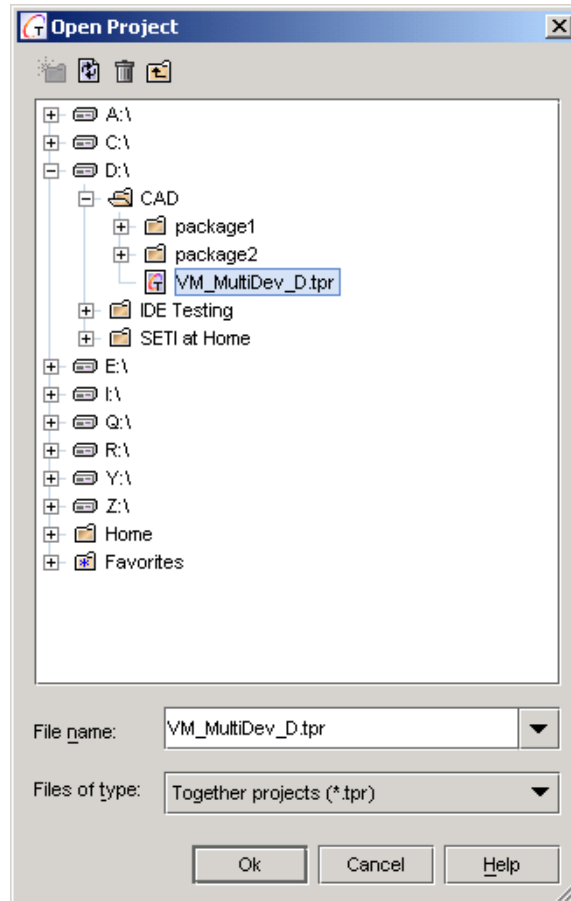
To connect an additional workstation:

- 1** Make sure the Together project (.tpr) file is saved and checked into source control.
- 2** Do one of the following:
 - Use the Version Manager desktop client to get a copy of the Together project file and copy it to a local directory on the new workstation.
 - Copy the Together project file via your network, e-mail, floppy disk, or other means to a local directory on the new workstation.

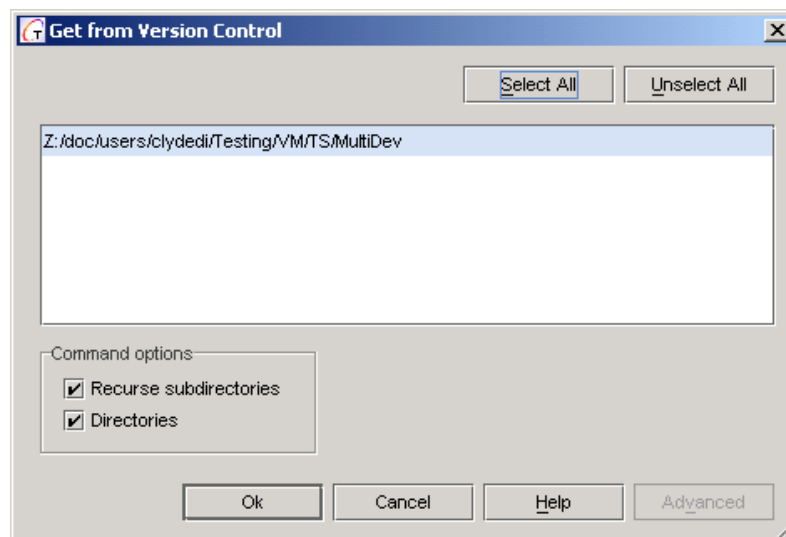


IMPORTANT! Make sure that the copy of the Together project (.tpr) file is writable.

- 3 Select File | Open Project. The Open Project dialog box appears.



- 4 Navigate to the local directory to which you copied the Together project (.tpr) file, and select the file.
- 5 Click **OK**. The project opens as an empty project.
- 6 Right-click the project icon in the Explorer pane and select Version Control | Get from the resulting pop-up menu. The Get from Version Control dialog box appears with a list of selected files.



- 7 Select both the **Recurse subdirectories** and the **Directories** check boxes.
- 8 Click **OK**.



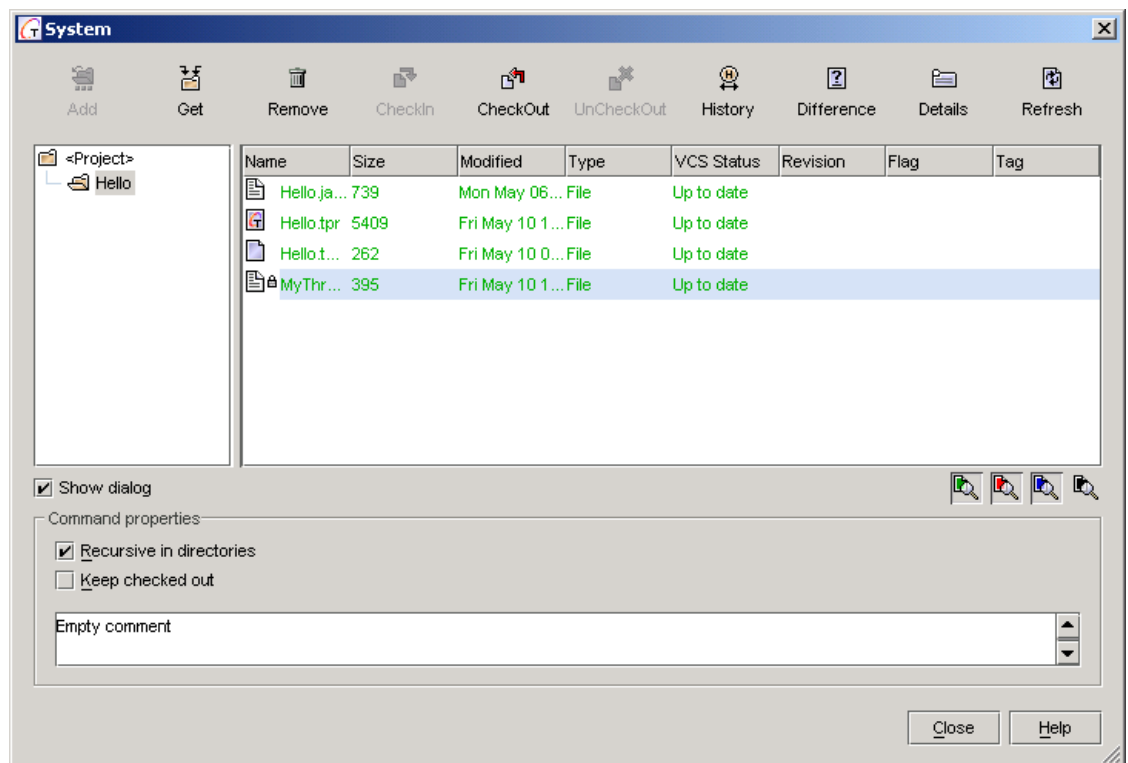
NOTE If prompted to confirm the overwrite of a workfile, click **No**.

Removing Files from Source Control

When you remove a file from source control, Version Manager does *not* delete the Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

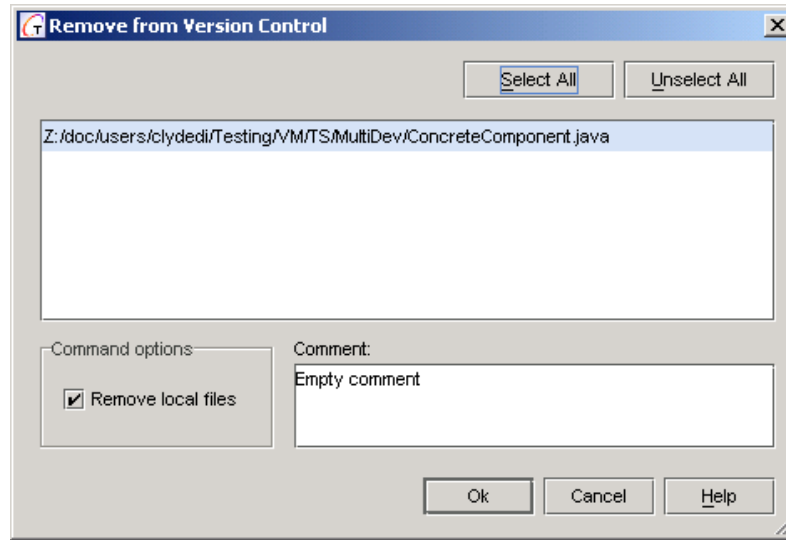
To remove a file from source control:

- 1 Select Project | Version Control | System. The System dialog box appears with a list of the files contained in the project.



- 2 Select the files you want to remove from source control.

- 3 Click the **Remove** button. The Remove from Version Control dialog box appears.



- 4 To also remove the local workfile, select the **Remove local files** option.
- 5 Enter a comment in the **Comment** field. (This is required by Together, though the comment will not be used.)
- 6 Click **OK**. The selected files are removed from source control.

Returning files to
source control

For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).

Using Source Control

Contents This section contains procedural information about viewing and editing files that are under source control.

For more information See [Chapter 4, "Using Source Control" on page 47](#).

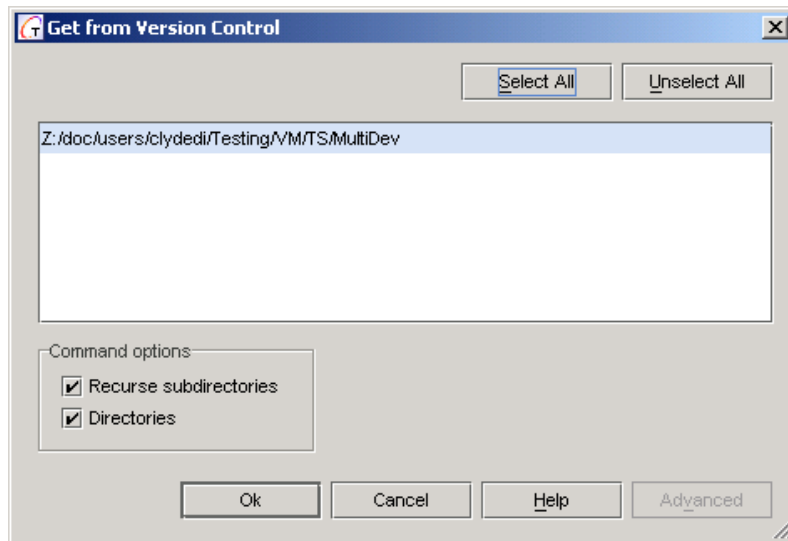
Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get a revision:

- 1 In the Explorer pane, select the files you want to get.

- 2 Right-click and select Version Control | Get from the resulting pop-up menu. The Get from Version Control dialog box appears with a list of selected files.



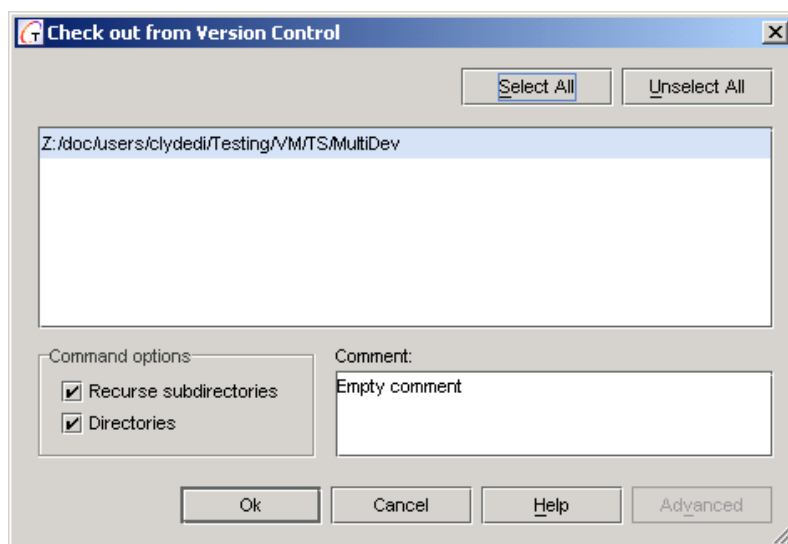
- 3 Select or deselect files as needed using the command options and the selection pane.
- 4 Click **OK**.

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

To check out a file:

- 1 In the Explorer pane, select the files you want to check out.
- 2 Right-click and select Version Control | Check Out from the resulting pop-up menu. The Check out from Version Control dialog box appears with a list of selected files.



- 3 Select or deselect files as needed using the command options and the selection pane.

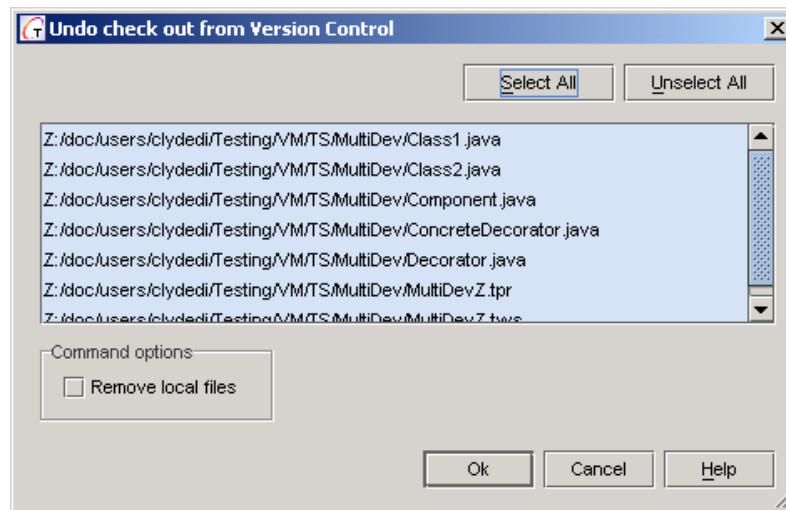
- 4 Click **OK**.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 Select Project | Version Control | System. The System dialog box appears.
- 2 Select the files you want to unlock.
- 3 Click the **UnCheckOut** button. The Undo check out from Version Control dialog box appears with a list of selected files.



- 4 Do any of the following:

- | | |
|------------------|--|
| Remove workfiles | <ul style="list-style-type: none"> ■ To also remove the local workfiles, select the Remove local files option. |
| Select files | <ul style="list-style-type: none"> ■ Select or deselect files as needed using the command options and the selection pane. |

- 5 Click **OK**.

Checking In Files

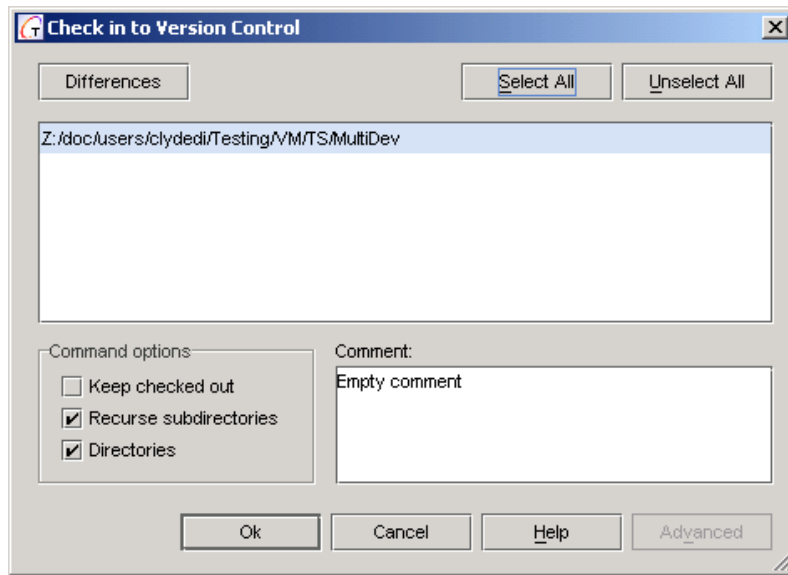
By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in a file:

- 1 In the Explorer pane, select the files you want to check in.

- 2 Right-click and select Version Control | Check In from the resulting pop-up menu. The Check in to Version Control dialog box appears with a list of selected files.



- 3 Do any of the following:

Retain lock

- To retain the lock on the files after they are checked in, select the **Keep checked out** checkbox.

- Select or deselect files as needed using the command options and the selection pane.

Compare files

- To compare two revisions in an archive, revisions in two archives, two workfiles, or a revision and a workfile, click the **Differences** button. The Show Differences dialog box appears. For more information see ["About Difference Reports" on page 80](#).



NOTE After doing a difference, re-select the files to check in.

- 4 Enter a description of the changes you made in the **Comment** field. The description will be applied to all selected files.
- 5 Click **OK**.

Adding New Files

To add new files to a source control project:

- 1 Check out the Together project (.tpr) file before adding new files to the project. For more information, see ["Checking Out Files" on page 210](#).
- 2 In the Explorer pane, select the files, packages, or folders you want to add to source control.
- 3 Right-click and select Add from the resulting pop-up menu. The Add to Version Control dialog box appears.

- 4 Select or deselect files as needed using the command options and the selection pane.
- 5 If you wish to check out and lock the file immediately after it is added to source control, select the **Keep checked out** check box.
- 6 Enter a description of the file(s) in the **Comment** field. The description will be applied to all selected files.
- 7 Click **OK**. The selected files are added to source control, creating archives in the specified archive directory.



IMPORTANT! Check in the Together project (.tpr) file so other users can access the changes you made. For more information, see ["Checking In Files" on page 211](#).

Chapter 13

VisualAge for Java

Introduction	216
Accessing Supported Features	216
Setting Up Source Control Projects	217
Using Source Control	224

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through IBM® VisualAge® for Java™ 4, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within VisualAge for Java

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults

Accessing Supported Features

What is supported? VisualAge for Java supports a subset of the source control features available through the Version Manager IDE client. Limitations specific to this IDE include the inability to:

- Generate history or difference reports
- View properties
- Share archives across projects

Accessing features To access the menu commands listed below:

- 1 In the VisualAge for Java Workbench window, select the items you will operate on.
- 2 Right-click. A pop-up menu appears.

To...	Select...	For more information see...
Get revisions	Tools External Version Control Refresh Project	"Refreshing (Getting) a Project" on page 224
Check out revisions	Tools External Version Control Check Out	"Checking Out Files" on page 225
Undo checkout of revisions	Tools External Version Control Undo Check Out	"Undoing Checkout" on page 226
Check in revisions	Tools External Version Control Check In	"Checking In Files" on page 227
Manage version labels	Tools External Version Control Open Version Control	"About Version Labels" on page 56
View properties of revisions or archives	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
Monitor source control activity	Tools External Version Control Open Version Control	"Monitoring Source Control Activity with Pulse" on page 73

To...	Select...	For more information see...
Generate a history report	(Use the Version Manager desktop client)	The <i>Version Manager User's Guide</i>
Generate a difference report	(Use the Version Manager desktop client)	The <i>Version Manager User's Guide</i>
Access the Version Manager Options dialog	Tools External Version Control Open Version Control	"About Setting Defaults for Version Manager Options" on page 28
Connect a project to source control	Tools External Version Control Add to Version Control	"Before Connecting Projects to Source Control" on page 217
Remove a project from source control	Tools External Version Control Remove from Version Control	"Removing Projects from Source Control" on page 223
Add new files to source control	Tools External Version Control Add	"Adding New Files to Source Control" on page 228
Delete files from source control	Tools External Version Control Delete	"Deleting Files from Source Control" on page 228

Setting Up Source Control Projects

Contents This section contains information about setting up the Version Manager IDE client to work with VisualAge for Java.

Prerequisites Before proceeding, you must do the following:

- Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the VisualAge for Java project (if you don't already have one).
- Install VisualAge for Java.



IMPORTANT!

- You must include the External Version Control feature as part of the install.
- You must install IBM EVC Patch 1.

For more information See [Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23](#) and the *Version Manager Administrator's Guide*.

Before Connecting Projects to Source Control

This section explains how to configure VisualAge for Java to work with Version Manager. See the prerequisites listed in the previous section.

Starting the Remote Access Server

Before you can connect to source control, the Remote Access server must be running.

To start the Remote Access server:

- 1 From the VisualAge for Java Workbench, select Window | Options. The Options window appears.
- 2 Select **Remote Access To Tool API** from the left pane.
- 3 Click the Start Remote Access To Tool API button. If this button is not available, the server is already running.
- 4 Select the **Start Remote Access To Tool API on VisualAge startup** check box.
- 5 Click the **OK** button.

The Remote Access server will now start every time you launch VisualAge for Java.

About Visual Composition Information

The visual composition information contained in the VisualAge for Java repository is not placed under source control unless you configure VisualAge for Java to export it as meta data.

To generate visual composition information as meta data:

- 1 Select Window | Options. The Options dialog box appears.
- 2 Select Visual Composition | Code generation from the left pane.
- 3 Select the **Generate meta data method** check box.
- 4 Click **OK**.

Connecting Projects to Source Control

Before you can perform source control operations on your VisualAge for Java projects, you must connect them to source control. This involves the following steps:

- 1 Select Version Manager as the source control provider for the project. Perform this procedure on the initial IDE project and, after first completing Step 2, on an empty project on each developer's workstation.
- 2 Connect the initial IDE project to an empty source control project. This populates the source control project with the contents of the IDE project.
- 3 Connect each developer's workstation to the source control project. This populates an empty IDE project on each workstation with the contents of the source control project.

Step 1: Selecting Version Manager as the Source Control Provider

Perform this procedure on the initial IDE project and, after first completing Step 2, on an empty project on each developer's workstation.

To select a source control provider:

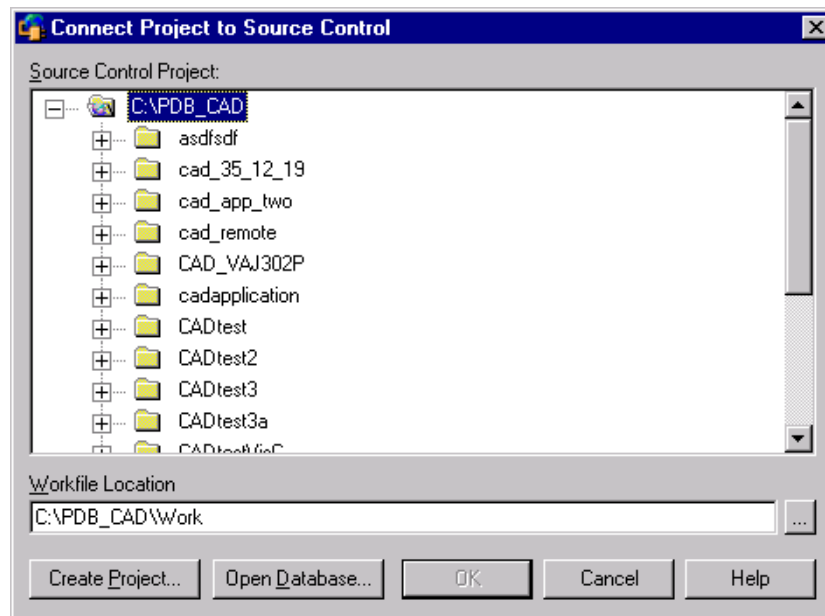
- 1 From the Workbench, select a project and right-click on it. A pop-up menu appears.
- 2 Select Tools | External Version Control | Add to Version Control. The Add to Version Control dialog box appears.

- 3 Select Microsoft SCCI, and click the **OK** button.
- 4 If you have more than one SCC compliant source control system installed, the Select SCM System dialog box appears. Select **ChangeMan Version Manager**, and click the **OK** button.



NOTE To set defaults for Version Manager options, select the **Show advanced options if available** option. See ["About Setting Defaults for Version Manager Options"](#) on page 28.

- 5 The Connect Project to Source Control dialog box appears with the default project database displayed under **Source Control Project**. To add the VisualAge for Java project to a different project database, click the **Open Database** button and browse to select one.



- 6 Do one of the following:
 - To connect the initial IDE project to source control for the first time, proceed to the next section.
 - To connect an IDE project to an existing Version Manager project, proceed to ["Step 3: Connecting each Developer's Workstation to the Source Control Project"](#) on page 222.

Step 2: Connecting the Initial IDE Project to an Empty Source Control Project

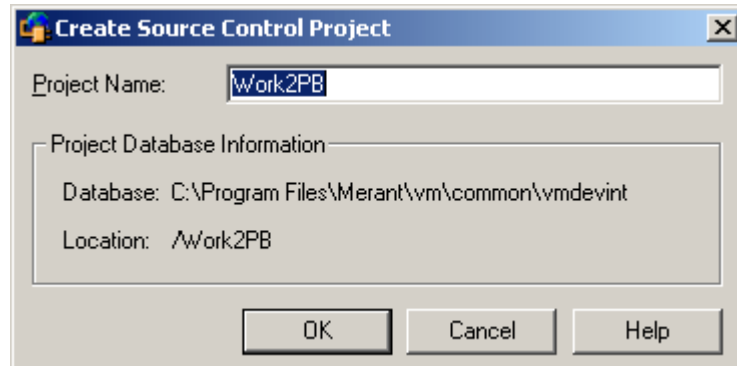
When you connect an existing IDE project to an empty Version Manager project, Version Manager creates archives for the files that are in the IDE project. Perform this procedure only on the initial IDE project, **not** on the workstations you subsequently connect to the source control project.



IMPORTANT! Before proceeding, you must complete the steps in the previous procedure.

To connect an IDE project to source control:

- 1 Do one of the following:
 - To connect to an existing source control project, select an empty one from under **Source Control Project**. Proceed to [Step 2](#).
 - **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.
 - b Click the **Create Project** button. The Create Source Control Project dialog box appears.

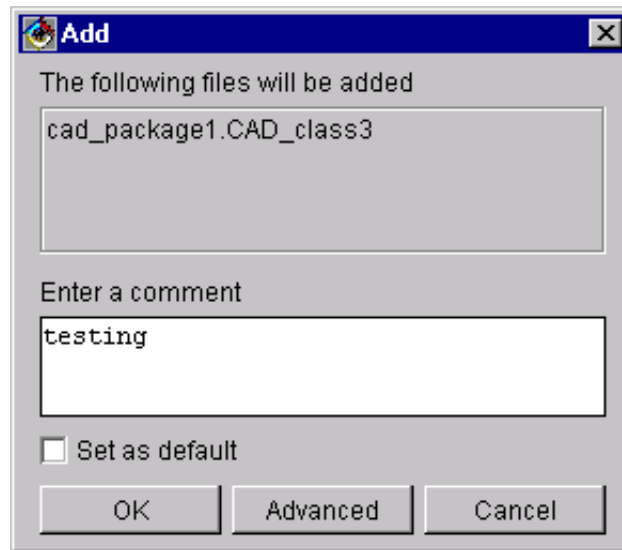


The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.

The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
 - d Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.
- 2 Click **OK**. If you are prompted to create a new directory, click **OK**.
- 3 The Unable to Detect Files dialog box appears. Click the **Continue** button.
- 4 The Add to Version Control Smart Guide appears. Select the types to add to source control, and click the **Next** button.

- 5 Select any resource files to place under source control and click the Finish button. The Add dialog box appears with a list of the files to be added.



- 6 Enter a description of the file(s) in the **Enter a comment** field. The description will be applied to all listed files.

If you select the **Set as default** check box, the comment you enter this time will appear by default during future add operations.




NOTE To use a unique description for each file, leave the **Enter a comment** field blank. After you complete the Add dialog box, the Change Description dialog box will appear for each file in turn.

- 7 Do one of the following:

- | | |
|----------------------|--|
| Use advanced options | <ul style="list-style-type: none"> ■ To assign a version label or promotion group to the initial revision, click the Advanced button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see "Advanced Add Options" on page 32.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default add options, click OK. |

- 8 The Progress Information dialog box appears. Click **OK**.

The project is added to source control, creating archives in the specified archive directory. A green-arrow icon () appears to the right of the objects in the project, except for packages, to indicate that they are under source control.

- 9 Proceed to ["Configuring VisualAge for Java Projects" on page 222](#) to configure your project for use with Version Manager.

Step 3: Connecting each Developer's Workstation to the Source Control Project

When you connect an empty IDE project to an existing Version Manager project, Version Manager does a get operation to copy files from the archives into the IDE project. Repeat this procedure on each workstation.



IMPORTANT! Before proceeding, you must complete the procedure, ["Step 1: Selecting Version Manager as the Source Control Provider" on page 218](#).

To connect to existing source control archives:

- 1 Select the source control project that contains the archives to import into VisualAge for Java.
- 2 Click **OK**.
- 3 If there are already files in the IDE project, you are prompted to *replace* them with the contents of the archives. Click **Yes**.



CAUTION! The existing contents of the IDE project will be removed from the workspace, but not from the repository.

- 4 The Select files to Import dialog box appears with a list of files contained in the Version Manager project.
- 5 Select the files to import and click **OK**. The Import Files dialog box appears with a list of the files you selected.
- 6 Do one of the following:


Use advanced options

- To override the default get options, click the **Advanced** button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["Advanced Get Options" on page 49](#).)

Accept defaults

- To accept the default get options, click **OK**.

- 7 The Progress Information dialog box appears. Click **OK**.

The files in the Version Manager project are added to the IDE project. A green-arrow icon () appears to the right of the objects in the IDE project, except for packages, to indicate that they are under source control.

- 8 Proceed to the next section to configure your project for use with Version Manager.

Configuring VisualAge for Java Projects

Once you have connected your IDE project to source control, you should make sure it is properly configured. Failure to do so could result in unexpected behavior and data loss.

Setting Refresh Options

What refresh does Refreshing a project replaces workspace files with files from one of two sources:

- The working directory (Version Manager workfile directory)

- The Version Manager archives

Refreshing from the working directory could introduce changes to your workspace that have not been checked into the archives.

Recommended configuration

We suggest that you refresh from the archives. This will ensure that your workspace files match the archives. It also allows you to access the advanced options, so you can refresh your files with a specific revision rather than the tip revision.

Setting options

To set refresh options:

- 1 From the Workbench, select the project to configure and right-click. A pop-up menu appears.
- 2 Select Tools | External Version Control | Properties. The Properties for (*ProjectName*) dialog box appears.
- 3 Select the Microsoft SCCI tab.
- 4 Do one of the following:
 - Select the **Refresh project from SCM server** option. This is the recommended setting.
 - Select the **Refresh project from working directory** option.



IMPORTANT! Refreshing from the working directory could introduce changes to your workspace that have not been checked into the archives.

- 5 Click **OK**.

Removing Projects from Source Control

When you remove a project from source control, the association between the IDE project and the Version Manager project is removed. The archives still exist so you can reconnect to them later, or access them through the Version Manager desktop client.



IMPORTANT! See "[Returning Projects to Source Control](#)" on page 224 for important considerations when returning a project to source control.

To remove a project from source control:

- 1 From the Workbench, select the project you want to remove from source control and right-click. A pop-up menu appears.
- 2 Select Tools | External Version Control | Remove from Version Control.
- 3 A dialog appears asking if you are sure you want to remove the project from source control. Click **Yes**.
- 4 The Information dialog box appears confirming that the project has been removed from source control. Click **OK**.

Returning Projects to Source Control

When you remove a project from source control, the Version Manager archives are retained so you can reconnect to them later. If you don't want to reconnect to the existing archives, you can connect the project to a new source control project and create new archives.

What Happens when a Project is Reconnected to Its Archives?

The following occurs when you reconnect a VisualAge for Java project to its source control archives:

- The current contents of the IDE project are replaced by the contents of the source control archives.
- Any changes made to the IDE project since it was removed from source control are removed from the workspace.
- Any changes made to the IDE project since it was removed from source control are retained in the repository.

Returning a Project to Source Control

To return a project to source control, follow the procedure, ["Connecting Projects to Source Control" on page 218](#), but with the following in mind:

- To retain any changes you have made to the IDE project since it was removed from source control, connect the IDE project to an empty source control project. This will create a new set of archives based on the current contents of the IDE project.
- To replace the current contents of the IDE project with the contents of the source control archives, reconnect the IDE project to the existing source control archives.

Using Source Control

Contents	This section contains procedural information about viewing and editing files that are under source control.
For more information	See Chapter 4, "Using Source Control" on page 47 .

Refreshing (Getting) a Project

Refreshing a project replaces workspace files with files from one of two sources:

- The Version Manager archives
- The working directory (Version Manager workfile directory)



IMPORTANT! Refreshing from the working directory could introduce changes to your workspace that have not been checked into the archives. See ["Setting Refresh Options" on page 222](#).

You can also use refresh to replace a file in your workspace with a previous revision from the archive. By default, the latest revision is used.

To refresh (get) a project:

- 1 From the VisualAge for Java Workbench window, select a project to refresh and right-click. A pop-up menu appears.
- 2 Select Tools | External Version Control | Refresh Project. The Refresh Project dialog box appears.
- 3 Select files to refresh from the following tabs (tabs are available only as needed):
 - **Refresh Items** lists the files available for refreshing.
 - **Modified Files** lists the files that you have modified on your system and not checked in. Select the files to refresh and click the **Add** button.
 - **Checked Out** lists files that you have checked out, but that someone else has updated in the archives (possible only if Version Manager has been configured to allow multiple locks through the Version Manager desktop client).
 - **Different Version** lists files that have changed in both your workspace and the archives since you last checked in changes.
 - **Removed** lists files that have been removed from the archives but are still in the VisualAge for Java project.
- 4 Click **OK**. The Import Files dialog box appears.
- 5 Do one of the following:
 - To override the default get options, click the **Advanced** button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48.](#))
 - To accept the default options, click **OK**.
- 6 The Progress Information dialog box appears. Click **OK**.

Use advanced options

Accept defaults

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

The procedure for checking out objects from source control varies, depending on the type of object you are checking out.

To check out files from source control:

- 1 Do one of the following:
 - **To check out classes and interfaces:**
 - a Select the classes and interfaces to check out, or select the project or packages that contain them, and right-click. A pop-up menu appears.
 - b Select Tools | External Version Control | Check Out.
 - **To check out resource files:**
 - a Select the Resources tab.
 - b Select the resources to check out and right-click. A pop-up menu appears.

Classes and interfaces

Resources

c Select Tools | External Version Control | Check Out.

2 The Check Out dialog box appears.

3 Do one of the following:

Use advanced options ■ To override the default checkout options, click the **Advanced** button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see ["About Checking Out Files" on page 50.](#))

Accept defaults ■ To accept the default checkout options, click **OK**.


4 If you have modified any of the selected files since you last checked them in, the Check Out - Modified Files dialog box appears.

a To replace a modified file with a copy checked out from source control, select the file(s) from the **Keep the modified items** list.

b Click the **Add** button to move the files to the **Refresh from the SCM server** list.

c Click **OK**.

5 The Summary dialog box appears. Click **OK**.

A padlock icon () appears to the right of each object to indicate that the object is checked out from source control.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

The procedure for undoing a checkout varies, depending on the type of object you are working with.

To undo a checkout:

1 Do one of the following:

Classes and interfaces

■ **For classes and interfaces:**

a Select the classes and interfaces to unlock, or select the project or packages that contain them, and right-click. A pop-up menu appears.

b Select Tools | External Version Control | Undo Check Out.

Resources

■ **For resource files:**

a Select the Resources tab.

b Select the resources to unlock and right-click. A pop-up menu appears.

c Select Tools | External Version Control | Undo Checkout.

2 The Undo Checkout dialog box appears.


3 Do one of the following:

Use advanced options ■ To override the default undo checkout options, click the **Advanced** button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see ["About Undoing Checkout" on page 52.](#))

Accept defaults

- To accept the default undo checkout options, click **OK**.

4 The Summary dialog box appears. Click **OK**.

The padlock icons disappear, leaving green-arrow icons () to indicate that the objects are under source control and checked in.

Checking In Files

By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

The procedure for checking in objects varies, depending on the type of object you are checking in.

To check in files:

1 Do one of the following:

Classes and
interfaces

- **To check in classes and interfaces:**

- Select the classes and interfaces to check in, or select the project or packages that contain them, and right-click. A pop-up menu appears.
- Select Tools | External Version Control | Check In.

Resources

- **To check in resource files:**

- Select the Resources tab.
- Select the resources to check in and right-click. A pop-up menu appears.
- Select Tools | External Version Control | Check In.

2 The Check In dialog box appears. Enter a description of the file(s) in the **Enter a comment** field. The description will be applied to all listed files.

If you select the **Set as default** check box, the comment you enter this time will appear by default during future check-in operations.



NOTE To use a unique description for each file, leave the **Enter a comment** field blank. After you complete the Check In dialog box, the Change Description dialog box will appear for each file in turn.

3 Do one of the following:


Use advanced
options

- To override the default check-in options, click the **Advanced** button. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53.](#))


Accept defaults

- To accept the default check-in options, click **OK**.

4 The Summary dialog box appears. Click **OK**.

The padlock icons disappear, leaving the green-arrow icons () to indicate that the objects are under source control and checked in.

Adding New Files to Source Control

Before you can perform source control operations on new objects, you must add them to source control. New objects that have not yet been added to source control are marked with a green arrow and a yellow plus sign ().

The procedure for adding objects to source control varies, depending on the type of object you are adding.

To add new files to source control:

- 1 Do one of the following:

Classes and
interfaces

- **To add classes and interfaces:**

- a Select the classes and interfaces to add, or select the project or packages that contain them, and right-click. A pop-up menu appears.
- b Select Tools | External Version Control | Add.

Resources

- **To add resource files:**

- a Select the Resources tab.
- b Select the resources to add and right-click. A pop-up menu appears.
- c Select Tools | External Version Control | Add.

- 2 The Add dialog box appears. Enter a description of the file(s) in the **Enter a comment** field. The description will be applied to all listed files.

If you select the **Set as default** check box, the comment you enter this time will appear by default during future add operations.



NOTE To use a unique description for each file, leave the **Enter a comment** field blank. After you complete the Add dialog box, the Change Description dialog box will appear for each file in turn.

- 3 Do one of the following:


Use advanced
options

- To assign a version label or promotion group to the initial revision, click the **Advanced** button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))

Accept defaults

- To accept the default add options, click **OK**.

- 4 The Summary dialog box appears. Click **OK**.

The files are added to source control, creating archives in the project's archive directory. The yellow plus-sign icons disappear, leaving the green-arrow icons () to indicate that the objects are under source control.

You can now perform source control operations on the files.

Deleting Files from Source Control

By default, when you delete an object from source control:

- The Version Manager archive remains, but it is disconnected from the VisualAge for Java project.

- The object remains in the VisualAge for Java project.



NOTE You can configure VisualAge for Java to automatically delete objects from projects when you delete them from source control. See the VisualAge for Java documentation.

The procedure for deleting objects from source control varies, depending on the type of object being deleted and the version of VisualAge for Java being used.

To delete files from source control:

- 1 Do one of the following:

Classes and
interfaces


- **To delete classes and interfaces:**

- a Select the classes and interfaces to delete, or select the project or packages that contain them, and right-click. A pop-up menu appears.
- b Select Tools | External Version Control | Delete.

Resources

- **To delete resource files:**

- a Select the Resources tab.
- b Select the resources to delete and right-click. A pop-up menu appears.
- c Select Tools | External Version Control | Delete.

- 2 The Delete dialog box appears with a list of files to be deleted. Click **OK**.
- 3 The Summary dialog box appears. Click **OK**. The files are deleted from source control. A yellow plus sign icon () appears to the right of each object to indicate that it is no longer under source control.



NOTE VisualAge for Java sometimes fails to change the icon after a delete operation. View the results in the Summary dialog box to confirm that the operation was successful.

Returning files to
source control

To return files to source control, see ["Returning Files to Source Control" on page 31](#), and then follow the procedure, ["Adding New Files to Source Control" on page 228](#).

Chapter 14

Visual Basic

Introduction	232
Accessing Supported Features	232
About Visual Basic Files	233
Setting Up Source Control Projects	234
Using Source Control	239

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Microsoft® Visual Basic™ 6.0, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within Visual Basic

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? Visual Basic supports the full set of source control features available through the Version Manager IDE client. See the following table.

To...	Select...	For more information see...
Get revisions	Tools Serena Get Latest Version	"Getting Files" on page 239
Check out revisions	Tools Serena Check Out	"Checking Out Files" on page 239
Undo checkout of revisions	Tools Serena Undo Check Out	"Undoing Checkout" on page 240
Check in revisions	Tools Serena Check In	"Checking In Files" on page 240
Manage version labels	Tools Serena Run Serena	"About Version Labels" on page 56
View properties of revisions or archives	Tools Serena Serena Properties	"About Properties" on page 72
Monitor source control activity	Tools Serena Run Serena	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Tools Serena Show History	"About History Reports" on page 77
Generate a difference report	Tools Serena Show Differences	"About Difference Reports" on page 80
Access the Version Manager Options dialog	Tools Serena Run Serena	"About Setting Defaults for Version Manager Options" on page 28
Add files to source control	Tools Serena Add Project to Serena	"Adding Files to Source Control" on page 234

To...	Select...	For more information see...
Remove files from source control	(See text.)	"Removing Files from Source Control" on page 238
Share an archive across projects	Tools Serena Share Files	"About Sharing Files Across Projects" on page 33

About Visual Basic Files

- Binary and text files Visual Basic pairs certain text files with binary files, but the Visual Basic interface does not display the binary files. Though the binary files remain unseen while you work in the Visual Basic interface, they are kept in sync with the source control actions you apply to the visible files. For example, if you check out a text file named `my_project.frm`, the binary file `my_project.frx` is also checked out.
- Revision numbers out of sync However, it is possible for the revision numbers of the files to get out of sync. This occurs because some programming changes that affect text files do not affect binary files. By default when you check in your project after such a change, both files are checked in even if no changes were made to the binary file. However, if you change the default check-in behavior, only the text file will be checked into a new revision and the files will be out of sync.



IMPORTANT!

- By default, the IDE client will check in a file even if it is unmodified or older than the latest revision. You should not change this default. If the default has been changed, see ["Setting Defaults" on page 29](#) for information on setting it back.
- If you use the Version Manager desktop client to apply source control actions to Visual Basic files, be sure to select both the text files and the binary files or they will become out of sync. You must also choose to check in files that are unchanged.

- TrackerLink users If you use TrackerLink to associate a Visual Basic file pair with an SCR, it is possible that only the text file will receive the resolution description from Tracker. In this case, the binary file will receive the default change description. This occurs because some programming changes that affect text files do not affect binary files.

Visual Basic pairs the following files:

These text files	are paired with these binary files
*.ctl	*.ctx
*.dob	*.dox
*.dsr	*.dsx
*.frm	*.frx
*.pag	*.pgx

Setting Up Source Control Projects

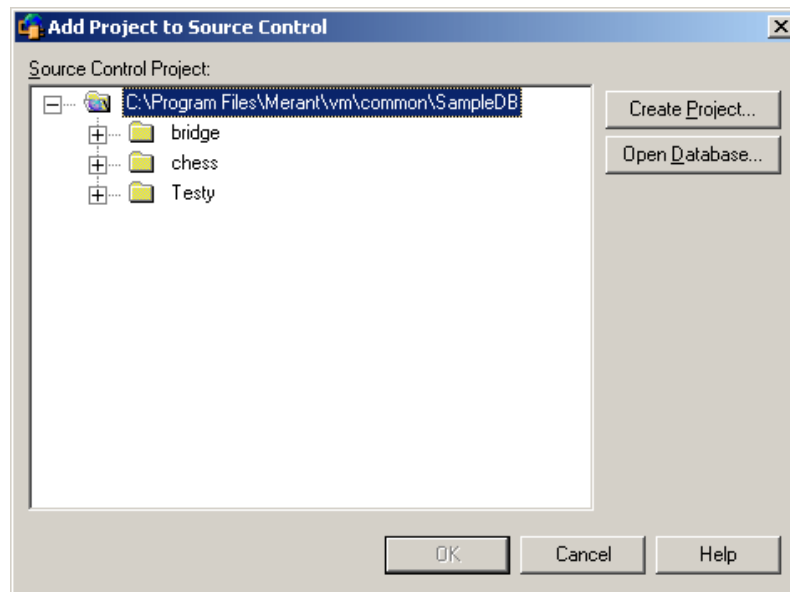
Contents	This section contains information about setting up the Version Manager IDE client to work with Visual Basic.
Prerequisites	Before proceeding, you must do the following: <ul style="list-style-type: none">■ Select Version Manager as your source control provider (if you have multiple Serena IDE clients installed). See "Selecting an SCC Provider" on page 25.■ Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Visual Basic project (if you don't already have one).
For more information	See Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23 .

Adding Files to Source Control

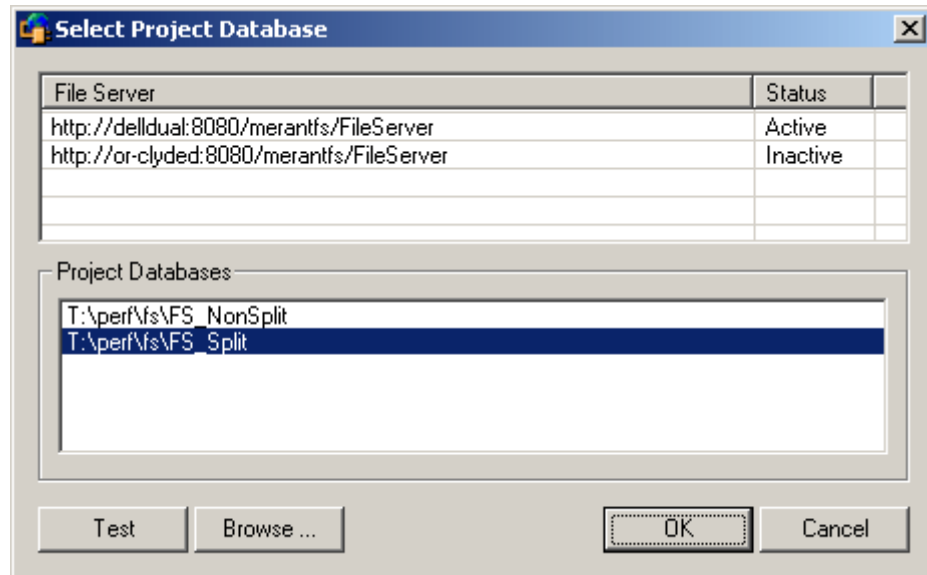
Once you have created and saved a Visual Basic project, you can add it to an existing Version Manager project database.

To add a project to source control:

- 1 Make sure that the Visual Basic project has been saved. If you are adding to an existing source control project, check out the Visual Basic project (.vbp) file.
- 2 Select Tools | Serena | Add Project to Serena. The Add Project to Source Control dialog box appears.



- 3 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

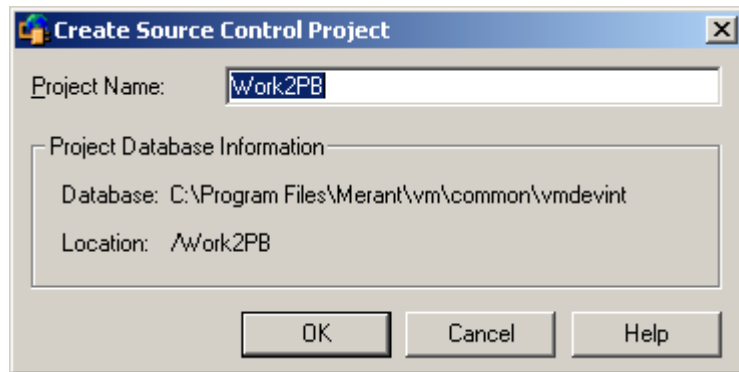
To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

- 4 Do one of the following:

- To add to an existing source control project, select one from under **Source Control Project** and click **OK**. Proceed to [Step 5](#).
- **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.

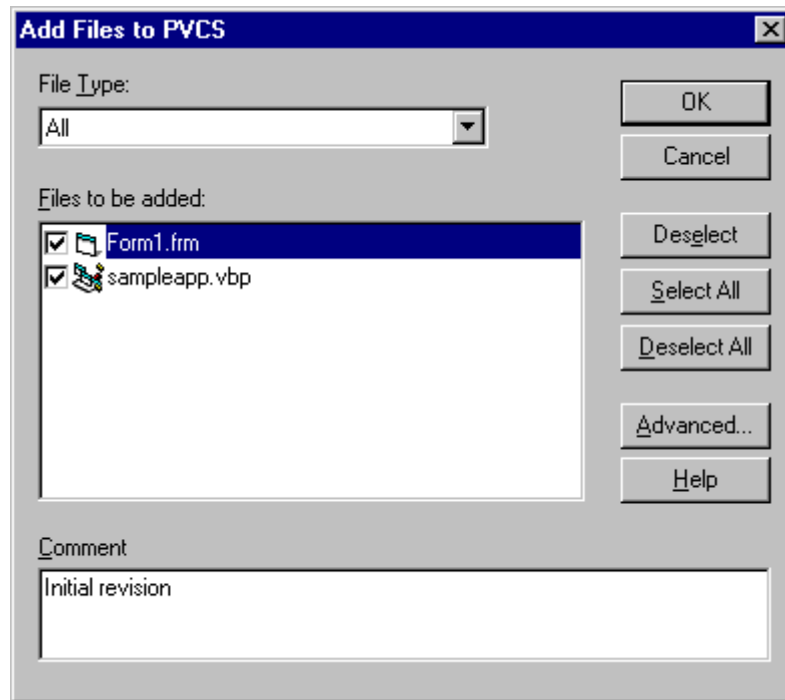
- b** Click the **Create Project** button. The Create Source Control Project dialog box appears.



The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c** By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.
- The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
- d** Click **OK**. The Add Project to Source Control dialog box reappears with the new project under **Source Control Project**.

- 5 Click **OK**. The Add Files to Serena dialog box appears with a list of selected files to be added, including any project files such as .vbp files.



IMPORTANT! If the Visual Basic project contains files that are located outside of the root project working directory and its subdirectories, you will be asked if you wish to copy them into the root project directory. If you do not copy the files into the root project directory, they will not be added to source control.

Locate all files in project directories

- 6 Verify your selection by looking for a check mark beside the files you selected. You can change your selection by selecting and deselecting files in this list.
- 7 Enter a description of the file(s) in the **Comments** field. The description will be applied to all selected files.



TIP To use unique descriptions for each file, leave the Comment field blank. After you complete the Add Files to Serena dialog box, the Change Description dialog box will appear for each file in turn.

You will be prompted to enter descriptions for both the text files and the binary files in your project, though Visual Basic normally hides the binary files from view.


- 8 Do one of the following:

Use advanced options

- To assign a version label or promotion group to the initial revision, click the **Advanced** button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))

Accept defaults

- To accept the default add options, click **OK**. The selected files are added to source control, creating archives in the specified archive directory.

For each file added, a page symbol () appears to the left of the file icon in the Project Explorer to indicate that the file is under source control. A lock symbol indicates that the file is read-only. When you check out the file, the lock changes to a red checkmark.

Sharing files If an archive will be shared by multiple Version Manager projects, see ["About Sharing Files Across Projects" on page 33](#) for more information.

Connecting Additional Workstations to a Source Control Project

After a project has been created and added to source control, each developer can access it by opening it from source control, which creates a copy of the project on the developer's system. Once a developer has a local copy of a project, he can perform normal source control operations on it.

To connect a workstation:

- 1 Select Tools | Serena | Create Project from Serena. The Get Project from Source Control dialog box appears.

The default database appears under Source Control Project. If the database containing the project you wish to get is not displayed, click the **Open Database** button and browse to select it.
- 2 Select the project you wish to get from the project database.
- 3 Enter a location for all of your project files in the **Workfile Location** field, or click the Browse button to select a location.
- 4 Click **OK**. The project files are copied to the workfile location you specified, and the project appears in Visual Basic.



NOTE Any non Visual Basic files that are under source control and located below the selected project will also be copied to the workfile location. But they will not appear in the Visual Basic interface.

Removing Files from Source Control

With the IDE By default, when you remove files from a Visual Basic project, you are asked if you wish to remove them from source control. Removing files from source control does not delete the workfiles or the Version Manager archives; it simply removes the association between the IDE files and archives. You can always add the files back to source control later.

Setting options You can change what source control action occurs when you remove a file from a Visual Basic project (ask, remove, do nothing). See the Visual Basic documentation for more information on setting the default IDE behavior.

With the Version Manager desktop client To remove a file from source control without removing it from the Visual Basic project, use the Version Manager desktop client. See the *Version Manager User's Guide* for information on the Delete command.

Returning files to source control For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).

Using Source Control

Contents	This section contains procedural information about viewing and editing files that are under source control.
For more information	See Chapter 4, "Using Source Control" on page 47 .

Tips

Consider these ideas to speed your work:

- Set the IDE and Version Manager defaults to reflect the way you usually work.
- Right-click selected files to access a pop-up menu from which you can quickly perform source control operations using the default settings.

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.



NOTE To get all files in a project, accept the prompt to get all files when you open a project in Visual Basic, or select all files in the project from the Project Explorer and proceed with the following get procedure. Also, see ["Connecting Additional Workstations to a Source Control Project" on page 238](#).

To get one or more revisions:

- 1 In the Project Explorer, select the file(s) you want to get.
- 2 Select Tools | Serena | Get Latest Version. The Get Latest Version dialog box appears with a list of project files. A check mark appears beside the files you selected. You can change your selection by selecting and deselecting the files in this list.
- 3 Do one of the following:

Use advanced options

- To override the default get options, click the **Advanced** button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48](#).)

Accept defaults

- To accept the default get options, click **OK**. The selected revisions are copied and read-only workfiles are placed in the workfile location.


Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

To check out a file:

- 1 In the Project Explorer, select the file(s) you want to check out.
- 2 Select Tools | Serena | Check Out. The Check Out File(s) dialog box appears with a list of available files. You can change your selection by selecting and deselecting the files in this list.

3 Do one of the following:

- | | |
|----------------------|--|
| Use advanced options | ■ To override the default checkout options, click the Advanced button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see "About Checking Out Files" on page 50.) |
| Accept defaults | ■ To accept the default checkout options, click OK . A red checkmark () appears next to the file icon in the Project Explorer indicating that the file is checked out. |

Undoing Checkout

When you undo a check, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 In the Project Explorer, select the file(s) you want to unlock.
- 2 Select Tools | Serena | Undo Check Out. The Undo Check Out dialog box appears with a list of available files. You can change your selection by selecting and deselecting the files in this list.

3 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | ■ To override the default undo checkout options, click the Advanced button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see "About Undoing Checkout" on page 52.) |
| Accept defaults | ■ To accept the default undo checkout options, click OK . The archive is unlocked and a read-only workfile is left in the workfile location. |

Checking In Files

By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

If the file is paired with a binary file, the binary file is also checked in. For more information on Visual Basic file pairs, see ["About Visual Basic Files" on page 233.](#)

To check in a file:

- 1 In the Project Explorer, select the file(s) you want to check in.
- 2 Select Tools | Serena | Check In. The Check In Files to Serena dialog box appears with a list of available files. You can change your selection by selecting and deselecting the files in this list.
- 3 To retain the lock on the files after they are checked in, select the **Keep Checked Out** check box.
- 4 To compare two revisions in an archive, revisions in two archives, two workfiles, or a revision and a workfile, click the **Differences** button. The Show Differences dialog box will appear. For more information see ["About Difference Reports" on page 80.](#)

- 5 Enter a description of the changes you made in the **Comment** field. The description will be applied to all selected files. (This description displays in the Version Manager Properties dialog box. See ["About Properties" on page 72.](#))



TIP To use unique descriptions for each file, leave the Comment field blank. After you complete the Check In Files to Serena dialog box, the Change Description dialog box will appear for each file in turn.

You will be prompted to enter descriptions for both the text files and the binary files in your project, though Visual Basic normally hides the binary files from view.

- 6 Do one of the following:

Use advanced options

- To override the default check-in options, click the **Advanced** button. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53.](#))

Accept defaults

- To accept the default check-in options:
 - a Click **OK**. The Check In Files to Serena dialog box redisplay.
 - b Click **OK**. The red checkmark (🚩) is removed from the file icon in the Project Explorer to indicate that the file is checked in.

Adding New Files

The Visual Basic project (.vbp) file must be checked out before you can add new files to it; otherwise, a prompt displays asking you to check out the .vbp file.

By default when you add a file to a Visual Basic project, a prompt displays asking if you wish to add the file to source control. If you click the Yes button, the Add to Source Control dialog box displays. Follow the procedure in ["Adding Files to Source Control" on page 234](#), starting with [Step 6](#).

Chapter 15

Visual C++

Introduction	244
Accessing Supported Features	244
Setting Up Source Control Projects	245
Using Source Control	251

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Microsoft® Visual C++™ 6.0, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within Visual C++

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? Visual C++ supports the full set of source control features available through the Version Manager IDE client. See the following table.

To...	Select...	For more information see...
Get revisions	Project Source Control Get Latest Version	"Getting Files" on page 251
Check out revisions	Project Source Control Check Out	"Checking Out Files" on page 252
Undo checkout of revisions	Project Source Control Undo Check Out	"Undoing Checkout" on page 252
Check in revisions	Project Source Control Check In	"Checking In Files" on page 252
Manage version labels	Project Source Control Serena	"About Version Labels" on page 56
View properties of revisions or archives	Project Source Control Serena Properties	"About Properties" on page 72
Monitor source control activity	Project Source Control Serena	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Project Source Control Show History	"About History Reports" on page 77
Generate a difference report	Project Source Control Show Differences	"About Difference Reports" on page 80
Access the Version Manager Options dialog	Project Source Control Serena	"About Setting Defaults for Version Manager Options" on page 28
Add files to source control	Project Source Control Add to Source Control	"Adding Files to Source Control" on page 245

To...	Select...	For more information see...
Remove files from source control	Project Source Control Remove from Source Control	"Removing Files from Source Control" on page 250
Share an archive across projects	Project Source Control Share from Serena	"About Sharing Files Across Projects" on page 33

Setting Up Source Control Projects

Contents	This section contains information about setting up the Version Manager IDE client to work with Visual C++.
Prerequisites	<p>Before proceeding, you must do the following:</p> <ul style="list-style-type: none"> ■ Select Version Manager as your source control provider (if you have multiple Serena IDE clients installed). See "Selecting an SCC Provider" on page 25. ■ Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Visual C++ project (if you don't already have one).
For more information	See Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23 .

Adding Files to Source Control

Once you have created and saved a Visual C++ project, you can add it to an existing Version Manager project database.



NOTE All projects in a given Visual C++ workspace must use the same source control provider.

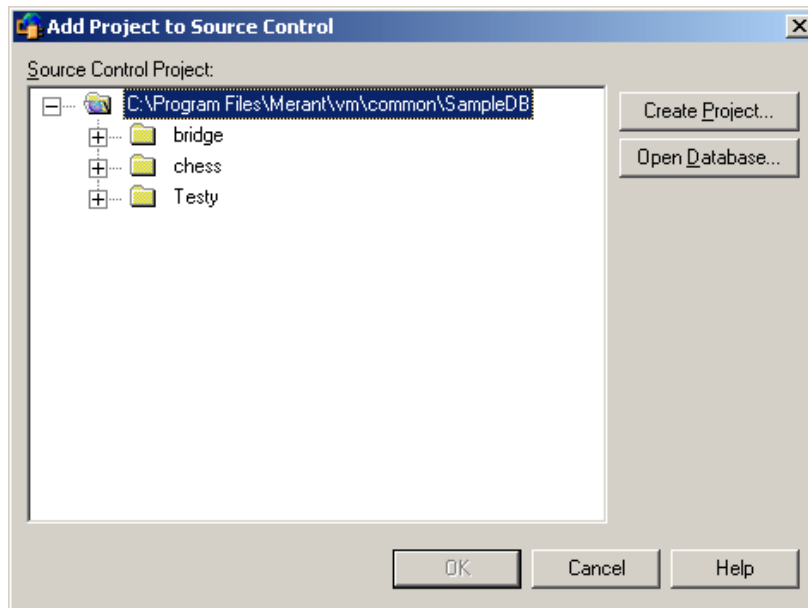
To add files to source control:

- 1 Make sure that the Visual C++ workspace and project have been saved.

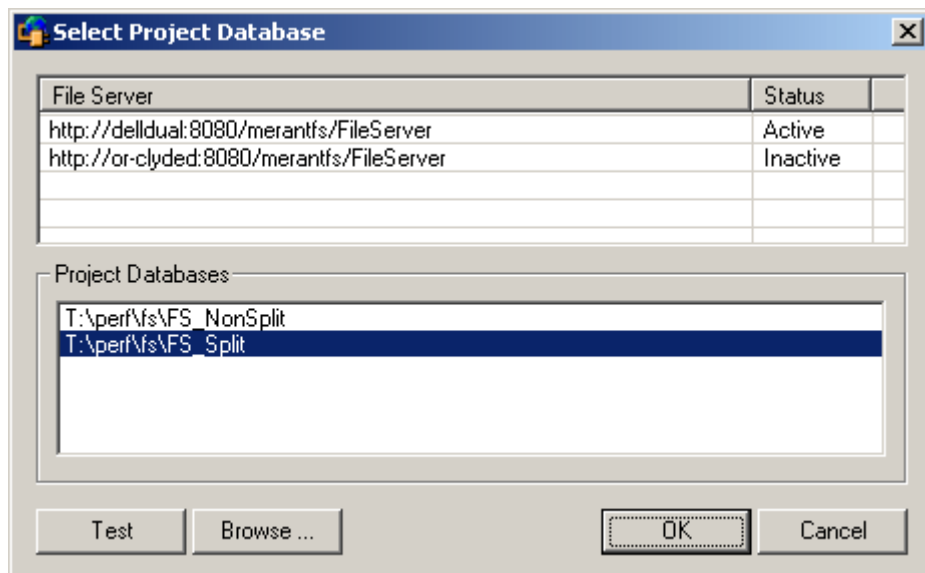


IMPORTANT! If the Visual C++ workspace (.dsw) file is under source control, check it out before adding a project to source control. Otherwise, the workspace file will not be updated with new source control associations.

- 2 Select Project | Source Control | Add to Source Control. The Add Project to Source Control dialog box appears.



- 3 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.

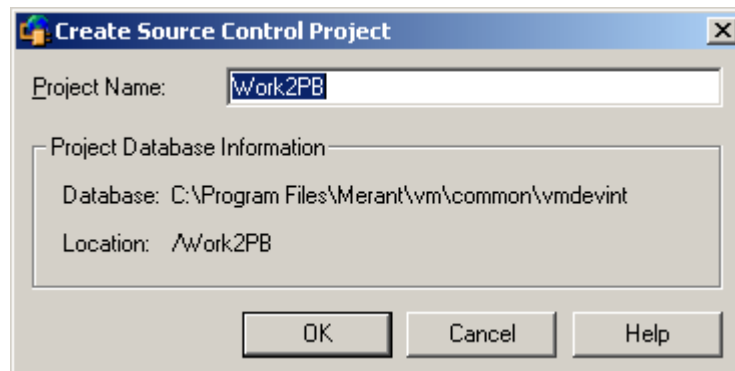


Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (`http://SystemName:8080/serenafs/FileServer`) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 4 Do one of the following:
- To add to an existing source control project, select one from under **Source Control Project**. Proceed to [Step 5](#).
 - **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.
 - b Click the **Create Project** button. The Create Source Control Project dialog box appears.

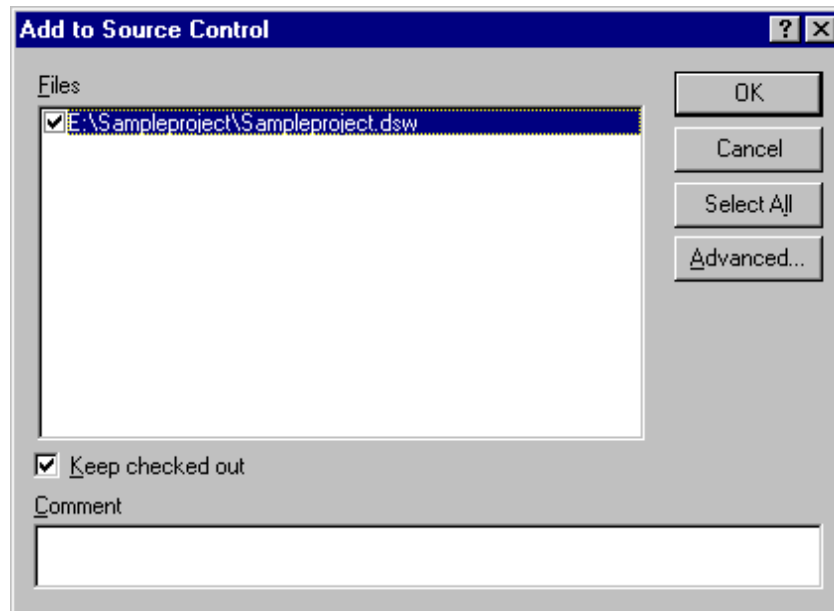


The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.

The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
- d Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.

- 5 Click **OK**. The Add to Source Control dialog box appears with a list of selected files to be added, including any project files such as .dsp and .dsw files.



IMPORTANT! If the Visual C++ project contains files that are located outside of the root project working directory and its subdirectories, you will be asked if you wish to copy them into the root project directory. If you do not copy the files into the root project directory, they will not be added to source control

- 6 Verify your selection by looking for a check mark beside the files you selected. You can change your selection by selecting and deselecting files in this list.
- 7 If you wish to check out and lock the file immediately after it is added to source control, select the **Keep checked out** check box.
- 8 Enter a description of the file(s) in the **Comment** field. The description will be applied to all selected files.




NOTE To use a unique description for each file, leave the Comment field blank. After you complete the Add to Source Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

- 9 Do one of the following:

Use advanced options

- To assign a version label or promotion group to the initial revision, click the **Advanced** button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))

Accept defaults

- To accept the default add options, click **OK**. The selected files are added to source control, creating archives in the specified archive directory. For each file added, the file icon in the FileView pane turns gray () to indicate that the file is under source control.

Sharing files

If an archive will be shared by multiple Version Manager projects, see ["About Sharing Files Across Projects" on page 33](#) for more information.

Connecting Additional Workstations to a Source Control Project

After a project or workspace has been created and added to source control, each developer can access it by opening it from source control, which creates a copy of the project or workspace on the developer's system. Once a developer has a local copy, he can perform normal source control operations on it.

Do one of the following:

- To get an entire workspace from source control, see the following procedure.
- To get an individual project from source control, see ["Getting Individual Projects" on page 250](#).

Getting a Visual C++ Workspace

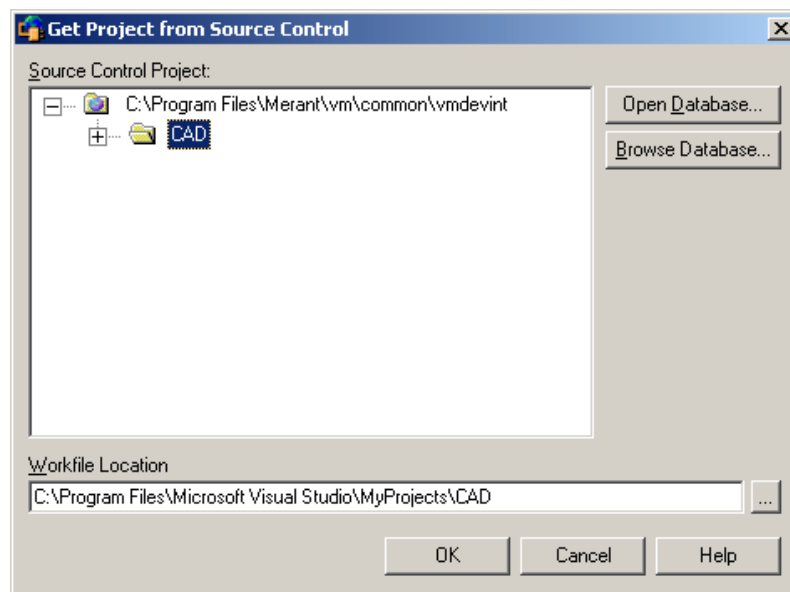
When you get a Visual C++ workspace, read-only copies of all files within the workspace's projects are placed in the workfile location.



NOTE To open multiple projects in a Visual C++ workspace, the projects must use the same source control provider.

To get all projects in a workspace:

- 1 Select File | Open Workspace. The Open Workspace dialog box appears.
- 2 Click the **Source Control** button. The Get Project from Source Control dialog box appears with a list of projects in the current project database.



If you wish to open a different project database that is located on:

- The network or local file system, click the **Open Database** button.
 - A Version Manager File Server, click the **Browse** button.
- 3 Select the source control project that contains the workspace (.dsw) file.

- 4 If the Version Manager Login dialog box displays, enter your user ID and password.
- 5 Enter a location for all of your project files in the **Workfile Location** field, or click the Browse button to select a location.
- 6 Click **OK**. The Open Workspace dialog box redisplay with the workspace selected.
- 7 Click **Open**. The Get Latest Version dialog box appears with all of the project (.dsp) files contained in the workspace selected.
- 8 Click **OK**. All files within the projects are copied to the workfile location.

**NOTE** Entity could not be loaded:

If you receive an error message from Visual C++ stating that the entity could not be loaded, the workspace (.dsw) file may be missing a reference to one of the project (.dsp) files. When adding a Visual C++ project to source control, make sure the workspace file is checked out. The workspace file cannot be updated to reference the new project unless the workspace file is checked out. See ["Adding Files to Source Control" on page 245](#).

Getting Individual Projects

When you get a project, read-only copies of all files in the selected project are placed in the workfile location.

To get a project:

- 1 Open an existing Visual C++ workspace or create a new one.
- 2 Select Project | Insert Projects into Workspace. The Insert Projects into Workspace dialog box appears.
- 3 Click the **Source Control** button. The Get Project from Source Control dialog box appears with a list of projects in the current project database.

If the database containing the project you wish to open is not displayed, click the **Open Database** button to browse for the correct database.
- 4 Select the project you wish to open.
- 5 If the Version Manager Login dialog box displays, enter your user ID and password.
- 6 Enter a location for all of your project files in the **Workfile Location** field, or click the Browse button to select a location.
- 7 Click **OK**. The Insert Projects into Workspace dialog box redisplay with the project file selected.
- 8 Click **Open**. All files in the selected project are copied to the workfile location.

Removing Files from Source Control

When you remove a file from source control, Version Manager does *not* delete the workfile or Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

To remove a file from source control:

- 1 In the FileView pane, select the file(s) you wish to remove from source control. To remove an entire project from source control, select all files in the project (including the project .dsp file).
- 2 Select Project | Source Control | Remove from Source Control. The Remove from Source Code Control dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.
- 3 Click **OK**. The selected files are removed from source control.

Returning files to
source control

For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).

Using Source Control

Contents This section contains procedural information about viewing and editing files that are under source control.

For more
information See [Chapter 4, "Using Source Control" on page 47](#).

Tips

Consider these ideas to speed your work:

- Set the IDE and Version Manager defaults to reflect the way you usually work.
- Right-click selected files to access a pop-up menu from which you can quickly perform source control operations using the default settings.

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get a revision:

- 1 In the FileView pane, select the file(s) you want to get.
- 2 Select Project | Source Control | Get Latest Version. The Get Latest Version dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 Do one of the following:

Use advanced
options

- To override the default get options, click the **Advanced** button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48](#).)

Accept defaults


- To accept the default get options, click **OK**. Read-only copies of the selected revisions are placed in the workfile location.

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

To check out a file:

- 1 In the FileView pane, select the file(s) you want to check out.
- 2 Select Project | Source Control | Check Out. The Check Out File(s) dialog box appears with a list of selected file(s). You can change your selection by selecting and deselecting the files in this list.
- 3 Do one of the following:


- | | |
|----------------------|---|
| Use advanced options | ■ To override the default checkout options, click the Advanced button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see "About Checking Out Files" on page 50.) |
| Accept defaults | ■ To accept the default checkout options, click OK . A red checkmark (✓ ) appears next to the file icon in the FileView pane to indicate that the file is checked out. |

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 In the FileView pane, select the file(s) you want to unlock.
- 2 Select Project | Source Control | Undo Check Out. The Undo Check Out dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | ■ To override the default undo checkout options, click the Advanced button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see "About Undoing Checkout" on page 52.) |
| Accept defaults | ■ To accept the default undo checkout options, click OK . The red checkmark (✓ ) is removed from the file icon in the FileView pane to indicate that the file is unlocked. |

Checking In Files

By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in a file:

- 1 In the FileView pane, select the file(s) you want to check in.

- 2 Select Project | Source Control | Check In. The Check In File(s) dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.

- 3 Do any of the following:

Retain lock ■ To retain the lock on the files after they are checked in, select the **Keep Checked Out** check box.

Compare files ■ To compare two revisions in an archive, revisions in two archives, two workfiles, or a revision and a workfile, click the **Differences** button. The Show Differences dialog box appears. For more information see ["About Difference Reports" on page 80](#).

- 4 Enter a description of the changes you made in the **Comment** field. The description will be applied to all selected files.



TIP To use unique descriptions for each file, leave the Comment field blank. After you complete the Check In File(s) dialog box, the Change Description dialog box will appear for each file in turn.

- 5 Do one of the following:

Use advanced options ■ To override the default check-in options, click the **Advanced** button. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53](#).)

Accept defaults ■ To accept the default check-in options, click **OK**. The red checkmark (✓) is removed from the file icon in the FileView pane to indicate that the file is checked in.

Adding New Files

By default when you add a file to a Visual C++ project, a prompt displays asking if you wish to add the file to source control. If you click the Yes button, the Add to Source Control dialog box displays; follow the procedure in ["Adding Files to Source Control" on page 245](#) starting with [Step 6](#).



NOTE The Visual C++ project (.dsp) file must be checked out before you can add new files to it; otherwise, a prompt displays asking you to check out the .dsp file.

Chapter 16

VisualCafe

Introduction	256
Accessing Supported Features	256
Setting Up Source Control Projects	257
Using Source Control	262

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through WebGain® VisualCafe™ 4.5, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within VisualCafe

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? VisualCafe supports the full set of source control features available through the Version Manager IDE client, except for the sharing of archives. See the following table.

To...	Select...	For more information see...
Get revisions	Tools Version Control Get Latest Version	"Getting Files" on page 262
Check out revisions	Tools Version Control Check Out	"Checking Out Files" on page 263
Undo checkout of revisions	Tools Version Control Undo Check Out	"Undoing Checkout" on page 263
Check in revisions	Tools Version Control Check In	"Checking In Files" on page 263
Manage version labels	Tools Version Control Serena	"About Version Labels" on page 56
View properties of revisions or archives	Tools Version Control Serena Properties The Version Manager Properties dialog box appears. Select a file and click Show.	"About Properties" on page 72
Monitor source control activity	Tools Version Control Serena	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Tools Version Control Show History The History dialog box appears. Select a file and click Show. NOTE A file must be checked out first.	"About History Reports" on page 77
Generate a difference report	Tools Version Control Show Differences The Differences dialog box appears. Select a file and click Show.	"About Difference Reports" on page 80

To...	Select...	For more information see...
Access the Version Manager Options dialog	Tools Version Control Serena	"About Setting Defaults for Version Manager Options" on page 28
Add files to source control	Tools Version Control Add to Version Control	"Adding Files to Source Control" on page 257
Remove files from source control	Tools Version Control Remove from Version Control	"Removing Files From Source Control" on page 262

Setting Up Source Control Projects

Contents	This section contains information about setting up the Version Manager IDE client to work with VisualCafe.
Prerequisites	Before proceeding, you must use the Version Manager desktop client to create a project database that will contain the source control projects associated with the VisualCafe project (if you don't already have one).
For more information	See Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23 .

Adding Files to Source Control

Once you have created and saved a VisualCafe project, you can add it to an existing Version Manager project database.

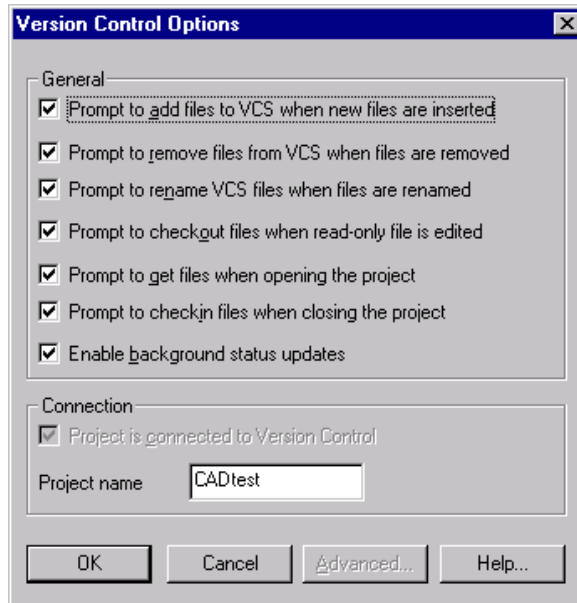


NOTE Once a project is under source control, any new files you add to it will automatically display the Add to Version Control dialog box. See [Step 10](#).

To add files to source control:

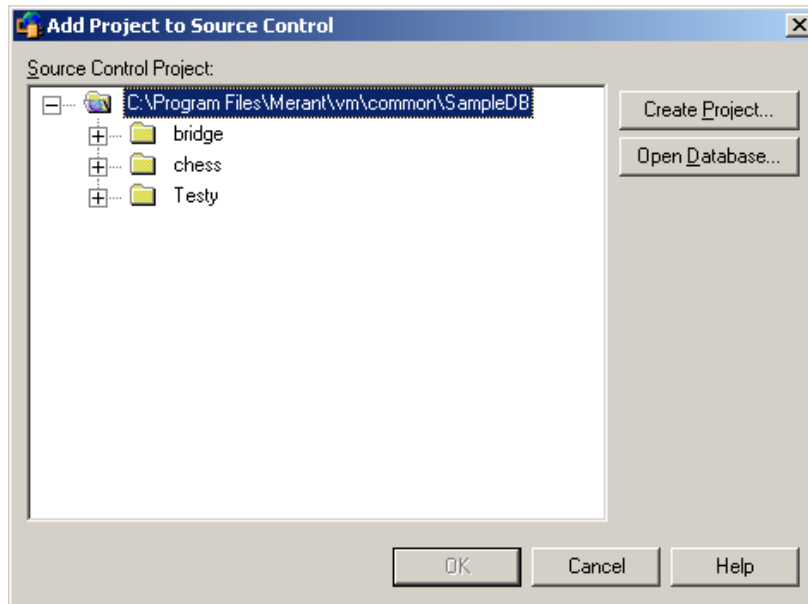
- 1 Make sure that the VisualCafe project has been saved.
- 2 Select Project | Options. The Project Options dialog box appears.
- 3 Select the Version Control tab.
- 4 Select **SCC Provider: ChangeMan Version Manager** from the **Version control providers** drop-down list.

- 5 Click **OK**. The Version Control Options dialog box appears.

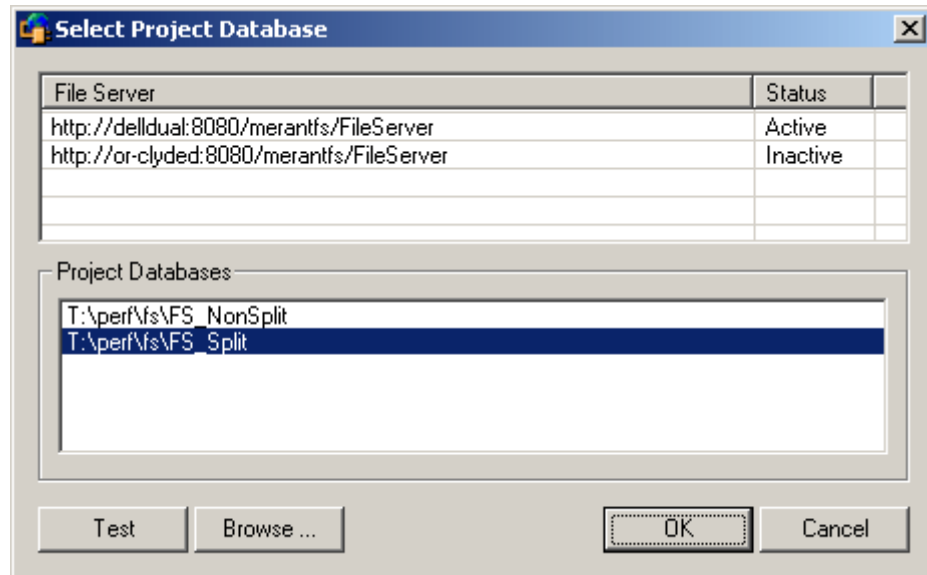


- 6 Change any of the default behaviors for the project and click **OK**. (For information on setting defaults, see the VisualCafe documentation.)

The Add Project to Source Control dialog box appears.



- 7 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

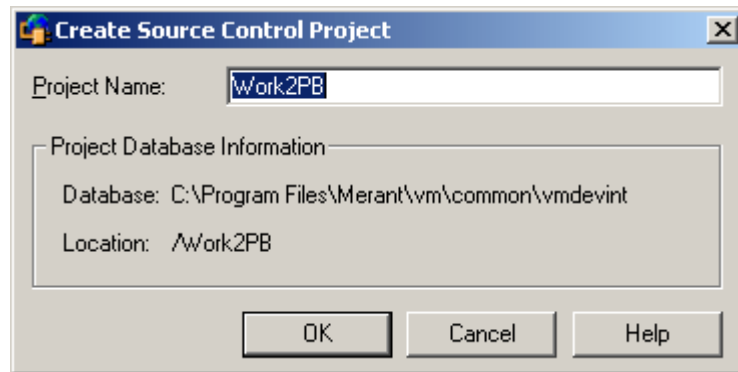
To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

- 8 Do one of the following:

- To add to an existing source control project, select one from under **Source Control Project**. Proceed to [Step 9](#).
- **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.

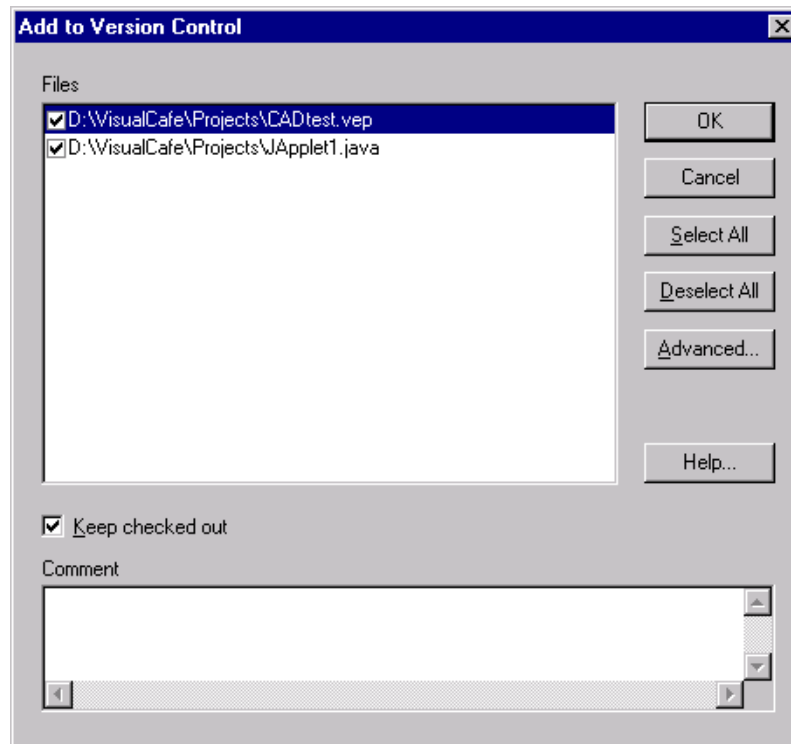
- b** Click the **Create Project** button. The Create Source Control Project dialog box appears.



The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c** By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.
- The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
- d** Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.

- 9 Click **OK**. The Add to Version Control dialog box appears with a list of files to be added.



NOTE

- The VisualCafe project (.vep) file is included in the list, but it is not selected. To add the .vep file to source control, you must select it.
- If the VisualCafe project contains files that are located outside of the root project working directory and its subdirectories, they will not be added to source control.

- 10 Do any of the following:
- a Change which files to add by selecting and deselecting files in the list.
 - b If you do not wish to check out and lock the file immediately after it is added to source control, deselect the **Keep checked out** check box.
- 11 Enter a description of the file(s) in the **Comment** field. The description will be applied to all selected files.



NOTE To use a unique description for each file, leave the Comment field blank. After you complete the Add to Version Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

- 12 Do one of the following:

Use advanced options

- To assign a version label or promotion group to the initial revision, click the **Advanced** button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))

Accept defaults

- To accept the default add options, click **OK**. The selected files are added to source control, creating archives in the specified archive directory.



NOTE If you are adding any unsaved files, you will be prompted to save them now. Click **Save Now**.

Removing Files From Source Control

When you remove a file from source control, Version Manager does *not* delete the workfile or Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

To remove a file from source control:

- 1 Select Tools | Version Control | Remove from Version Control. The Remove from Version Control dialog box appears.
- 2 Select the files you wish to remove from under Files.
- 3 Click **OK**. The selected files are removed from source control.

Returning files to source control

For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).

Using Source Control

Contents

This section contains procedural information about viewing and editing files that are under source control.

For more information

See [Chapter 4, "Using Source Control" on page 47](#).



IMPORTANT! If the project (.vep) file is under source control, always check it out before modifying the project.

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get a revision:

- 1 Select Tools | Version Control | Get Latest Version. The Get Latest Version dialog box appears.
- 2 Select the files you want to get from under Files.
- 3 Do one of the following:

- | | |
|----------------------|--|
| Use advanced options | <ul style="list-style-type: none"> ■ To override the default get options, click the Advanced button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see "About Getting Files" on page 48.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default get options, click OK. The selected revisions are copied and read-only workfiles are placed in the workfile location. |

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

To check out a file:

- 1 Select Tools | Version Control | Check Out. The Check Out Files dialog box appears.
- 2 Select the files you want to check out from under Files.
- 3 Do one of the following:

- | | |
|----------------------|--|
| Use advanced options | <ul style="list-style-type: none"> ■ To override the default checkout options, click the Advanced button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see "About Checking Out Files" on page 50.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default checkout options, click OK. The files are checked out. |

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 Select Tools | Version Control | Undo Check Out. The Undo Check Out Files dialog box appears.
- 2 Select the files you want to unlock from under Files.
- 3 Do one of the following:

- | | |
|----------------------|--|
| Use advanced options | <ul style="list-style-type: none"> ■ To override the default undo checkout options, click the Advanced button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see "About Undoing Checkout" on page 52.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default undo checkout options, click OK. The file is unlocked. |

Checking In Files

By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in a file:

- 1 Select Tools | Version Control | Check In. The Check In Files dialog box appears.
- 2 Select the files you wish to check in from under Files.
- 3 Do any of the following:

Retain lock ■ To retain the lock on the files after they are checked in, select the **Keep checked out** check box.

Compare files ■ To compare two revisions in an archive, revisions in two archives, two workfiles, or a revision and a workfile, click the **Differences** button. The Show Differences dialog box will appear. For more information see ["About Difference Reports" on page 80](#).

- 4 Enter a description of the changes you made in the **Comment** field. The description will be applied to all selected files. (This description displays in the Version Manager Properties dialog box.)



NOTE To use unique descriptions for each file, leave the Comment field blank. After you complete the Check In Files dialog box, the Change Description dialog box will appear for each file that has been modified. Enter a description for each file in turn.

- 5 Do one of the following:

Use advanced options ■ To override the default check-in options, click the **Advanced** button. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53](#).)

Accept defaults ■ To accept the default check-in options, click **OK**. The file is checked in.

Adding New Files

Default By default, when you add a file to a VisualCafe project that is under source control, the Add to Version Control dialog box displays; follow the procedure in ["Adding Files to Source Control" on page 257](#) starting with [Step 10](#).



IMPORTANT! If the VisualCafe project (.vep) file is under source control, you must check it out before you can add new files to it.

Manually If you have disabled the prompt to automatically add files to version control when they are added to an IDE project, you can manually add files by selecting Tools | Version Control | Add to Version Control.

Set Default To enable or disable the automatic prompt to add files to source control, select Tools | Version Control | Options and change the settings on the resulting dialog box.

Chapter 17

Visual InterDev

Introduction	266
About Web Projects	266
Accessing Supported Features from Web Projects	266
Setting Up Web Projects	267
Using Source Control with Web Projects	270
About Non-Web Projects	273
Accessing Supported Features in Non-Web Projects	273
Setting Up Non-Web Projects	274
Using Source Control with Non-Web Projects	279

Introduction

About Visual InterDev	Visual InterDev connects to and functions with source control features in two different ways depending on which type of project you are working with, web-based or non-web. This chapter is divided into web and non-web sections.
Purpose	<p>This chapter has four purposes:</p> <ul style="list-style-type: none">■ List the Version Manager features available through Microsoft® Visual InterDev™ 6.0, and provide a quick reference to accessing those features■ Note any features described in Part 1 of this manual that do not apply to this IDE■ Help administrators set up source control projects and add files to source control■ Help your development team access files that are under source control from within Visual InterDev
For more information	<p>See Part 1, "The Version Manager IDE Client," on page 15 for information about:</p> <ul style="list-style-type: none">■ Source control concepts■ Source control defaults■ Advanced source control features

About Web Projects

Visual InterDev stores web-based projects on a web server. These web projects access Version Manager features via the Component Object Model (COM) interface which supports a subset of the features available in Version Manager. See the next section for a quick reference of available features.

For more information	See Chapter 3, "Setting Up Source Control with COM IDEs" on page 35 .
----------------------	---

Accessing Supported Features from Web Projects

What is supported?	When working with web-based projects, Visual InterDev supports a subset of the source control features available through the Version Manager IDE client. See the following table.
--------------------	---

Advanced options	Visual InterDev does not support advanced options with web-based projects.
------------------	--

To...	Select...	For more information see...
Get individual files	Project Source Control Get Latest Version	"Getting Individual Files" on page 270
Refresh (get) all changed files in project	Project Web Project Refresh Project View	"Project-wide Get Options" on page 270
Synchronize (get) copies of local project files that have changed	Project Web Project Synchronize Files	"Project-wide Get Options" on page 270

To...	Select...	For more information see...
Check out files	Project Source Control Check Out	"Checking Out Files" on page 271
Undo checkout of files	Project Source Control Undo Check Out	"Undoing Checkout" on page 271
Check in files	Project Source Control Check In	"Checking In Files" on page 271
Manage version labels	Project Source Control Serena	"About Version Labels" on page 56
View properties of revisions or archives	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
Monitor source control activity	N/A	N/A
Generate a history report	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
Generate a difference report	(Use the Version Manager desktop client)	<i>The Version Manager User's Guide</i>
Access the Version Manager Options dialog	Project Source Control Serena	"About Setting Defaults for Version Manager Options" on page 28
Add web project to source control	Project Source Control Add to Source Control	"Adding Web Projects to Source Control" on page 268
Remove web project from source control	Project Source Control Disconnect Web Project	"Removing Web Projects from Source Control" on page 269
Delete files from Visual InterDev and source control	Edit Delete	"Deleting Files from Visual InterDev and Source Control" on page 269
Share an archive across projects	N/A	N/A

Setting Up Web Projects

Contents This section contains information about setting up the Version Manager IDE client to work with web-based Visual InterDev projects.



Prerequisites Before proceeding, you must do the following:

- Install Version Manager, the FrontPage Server Extensions, and the Version Manager IDE client to your web server.
- Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Visual InterDev project (if you don't already have one).
- Configure web server security.
- Configure default settings for new source control projects.

For more information See [Chapter 3, "Setting Up Source Control with COM IDEs" on page 35](#).

About Visual InterDev Web Projects

With Visual InterDev, developers may work with web files in one of two ways from their local workstations:

- **Master Mode** (): When working in Master Mode, developers directly modify files in the web application on the web server (the *master* application).
- **Local Mode** (): When working in Local Mode, developers modify local copies of the web application files. Saving changes to the files does not automatically update the master application. Developers can check in, or *release*, the local copies to the server to update the master copies with changes.

Single developer	If your web project is maintained by a single developer, it may be unnecessary to maintain separate local copies of the master web application.
Multi-developer	In a multi-developer environment, Microsoft recommends that each developer create and maintain individual working copies of the web application. In this scenario, developers work in Local Mode only. The implementation of source control in a multi-developer web project ensures that only one developer at a time can modify a file.


Adding Web Projects to Source Control

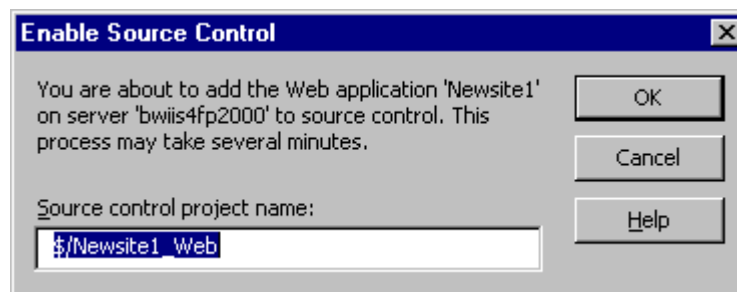
Adding a project to source control creates archives in the corresponding archive directory in the Version Manager project.



IMPORTANT! Do not use the Version Manager desktop client to add files to a web-based project. Add all files from within the Version Manager IDE client.


To place a web project under source control:

- 1 Create or open a web project in Visual InterDev. You must locate the project on the web server.
- 2 Select the project icon () in the Project Explorer.
- 3 Select Source Control | Add to Source Control from the Project menu. The Enable Source Control dialog box appears.



- 4 By default, the source control project is named after the web project. You can enter a new name in the **Source control project name** field. You must precede the name with a dollar sign (\$) and a forward slash (/).

The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/), a question mark (?), a pound sign (#), and angle brackets (<>).

- 5 Click **OK**. A lock symbol () appears next to the project icon in the Visual InterDev Project Explorer to indicate that the project is under source control.



NOTE If a file has a dependency upon another file, two revisions of the file may be checked in to source control.


Removing Web Projects from Source Control

When you remove a project from source control, Version Manager does *not* delete the workfiles or Version Manager archives; it simply removes the association between the IDE files and archives. You can always add the project back to source control later.



IMPORTANT! Re-adding web projects to source control does not re-connect files to their corresponding Version Manager archives. Instead, new archives with mangled names are created in the existing project archive directories. See ["Restoring Web Files to Source Control" on page 43](#).

To remove a web project from source control:

- 1 Select the web project icon () in the Project Explorer.
- 2 Select Project | Source Control | Disconnect Web Project.
- 3 In the prompt that appears, click **Yes**. The project is removed from source control.

Deleting Files from Visual InterDev and Source Control

When you delete a file it is deleted from the Visual InterDev project and you are prompted to delete it from the Version Manager project. This operation is permanent.

To delete a file:

- 1 Select the file you want to delete in the Project Explorer.
- 2 Select Edit | Delete.
- 3 You are prompted to confirm the delete operation. Click **Yes**. The Push Remove to Server dialog box appears.
- 4 Select one of the following options:
 - **Remove Now:** To delete the file's archive from Version Manager.
 - **Remind later:** To be prompted again the next time you work with this project.
 - **Do nothing:** The file is not deleted from source control and you are not reminded to do so again.
- 5 Click **OK**.

Using Source Control with Web Projects

Contents	This section contains procedural information about viewing and editing web-based files that are under source control.
For more information	See the Help and documentation that came with your IDE for more information on using source control with your IDE.

Getting Individual Files

When you get a file, Visual InterDev creates a copy of the master file in your local workfile directory. This updates your local copy with the most recent modifications to the master copy. Other users may still check out and edit the master file.

To get the latest versions of individual files:

- 1 Select the file(s) from the Project Explorer.
- 2 Select Source Control | Get Latest Version from the Project menu. The Get Latest Version dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.

To get all items in the project subdirectories, select the **Directories** check box, then select the **Get items from subdirectories** check box.



TIP To bypass the Get Latest Version dialog box in the future, select the **Don't show any more get dialogs** check box.

- 3 Click **OK**. The local copies of the web files are updated.

Project-wide Get Options

To update a local copy of a project, you can either *refresh* or *synchronize* it.

Refreshing a Local Project

Refresh copies all new and changed files in the master project to your local project, with the exception of any local files that are writable. To update writable files, synchronize your project.

To refresh a local project:

- 1 In the Project Explorer, select the project.
- 2 Select Project | Web Project | Refresh Project View.

Synchronizing a Local Project

Synchronize updates all local files with the changes that have been made to the master files. To get files not currently in your local project, refresh your project.

To synchronize a local project:

- 1 In the Project Explorer, select the project you want to synchronize.

- 2 Select Project | Web Project | Synchronize Files.

Checking Out Files

When you check out a file, it is the latest revision of the file that is checked out. To check out a previous revision of a file, you must modify the archive from the Version Manager desktop client. See ["Checking Out a Previous Revision" on page 43](#).

To check out a file:

- 1 Select the file(s) in the Project Explorer.
- 2 Select Project | Source Control | Check Out. The Check out item(s) dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



TIP To bypass the Check out item(s) dialog box in the future, select the **Don't show any more check out dialogs** check box.

- 3 Click **OK**. A red checkmark (✓) appears next to the file icon indicating that the file is checked out.

Open the file To open a file you have checked out in an editor, select the file in the Project Explorer, then select View | Open.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 Select the file(s) in the Project Explorer.
- 2 Select Project | Source Control | Undo Check Out. The Undo Check Out dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



TIP To bypass the Undo Check Out dialog box in the future, select the **Don't show this dialog again** check box.

- 3 Click **OK**. A confirmation dialog box appears.
- 4 Click **YES**. The file is unlocked and any changes that were saved since the file was checked out are discarded.

Checking In Files

By default, when you check a file in, Version Manager:

- Creates a new revision and assigns it the next number in sequence
- Leaves a read-only copy of the file in the work library

- Unlocks the archive so other users can check out the file

To check in files:

- 1 Select the file(s) in the Project Explorer.
- 2 Select Source Control | Check In from the Project menu. The Check in item(s) dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.
- 3 Do any of the following:
 - To bypass the Check in item(s) dialog box in the future, select the **Don't show any more check in dialogs** check box.
 - Click the **Differences** button to compare the files you are checking in to the latest versions of the files in the master project.
- 4 In the **Comment** field, enter a description of the changes you made to the file. You can view change descriptions in the Version Manager desktop client.
- 5 If you want to check in your changes but continue to work on the file, select the **Keep checked out** check box.
- 6 Click **OK**. The file is checked in.



NOTE If a file has a dependency upon another file, two revisions of the file may be checked in during each check-in operation.

Adding New Files

When you add a file to a master web application that is under source control, the file is automatically added to the source control project. If you add a file to your local project, add it to the master project to place it under source control.

To add a file to the master project:

- 1 In Local Mode, select the file in the Project Explorer.
- 2 Select Project | Web Files | Add to Master Web.

The file is copied to the master web and placed under source control. A corresponding Version Manager archive is created in the project archive directory.

Checking Out a Previous Revision

By design, Visual InterDev 6.0 allows you to check out only the latest (tip) revision of a file. However, you can get a previous revision in Version Manager, then check it back in as the tip revision. The previous revision is then available to check out from within Visual InterDev. See ["Checking Out a Previous Revision" on page 43](#).

About Non-Web Projects

Non-web Visual Studio projects, such as database and utility projects, integrate with Version Manager via the Source Code Control (SCC) interface. Through this interface you can access Version Manager features that are not available with Visual InterDev web projects. See the next section for a quick reference of available features.

Accessing Supported Features in Non-Web Projects

What is supported? When working with non-web projects, Visual InterDev supports the full set of source control features available through the Version Manager IDE client, except for the sharing of archives. See the following table.



IMPORTANT! Do not rename projects that are under source control. If you rename a project, you must restore its original name before you can work with it.

To...	Select...	For more information see...
Get a project	Project Source Control Open Project	"Getting Projects or Solutions" on page 279
Get revisions	Project Source Control Get Latest Version	"Getting Files" on page 279
Check out revisions	Project Source Control Check Out	"Checking Out Files" on page 280
Undo checkout of revisions	Project Source Control Undo Check Out	"Undoing Checkout" on page 280
Check in revisions	Project Source Control Check In	"Checking In Files" on page 281
Manage version labels	Project Source Control Serena	"About Version Labels" on page 56
View properties of revisions or archives	Project Source Control Serena Properties	"About Properties" on page 72
Monitor source control activity	Project Source Control Serena	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Project Source Control History	"About History Reports" on page 77
Generate a difference report	Project Source Control Compare Versions	"About Difference Reports" on page 80
Access the Version Manager Options dialog	Project Source Control Serena	"About Setting Defaults for Version Manager Options" on page 28
Add project to source control	Project Source Control Add	"Adding Non-Web Projects to Source Control" on page 274
Remove project from source control	Project Source Control Change Connection	"Removing Non-Web Projects from Source Control" on page 277
Remove files from source control	Project Source Control Remove from Source Control	"Removing Non-Web Files from Source Control" on page 278

To...	Select...	For more information see...
Delete files from Visual InterDev and source control	Edit Delete	"Deleting Files from Visual InterDev and Source Control" on page 278
Share an archive across projects	N/A	N/A

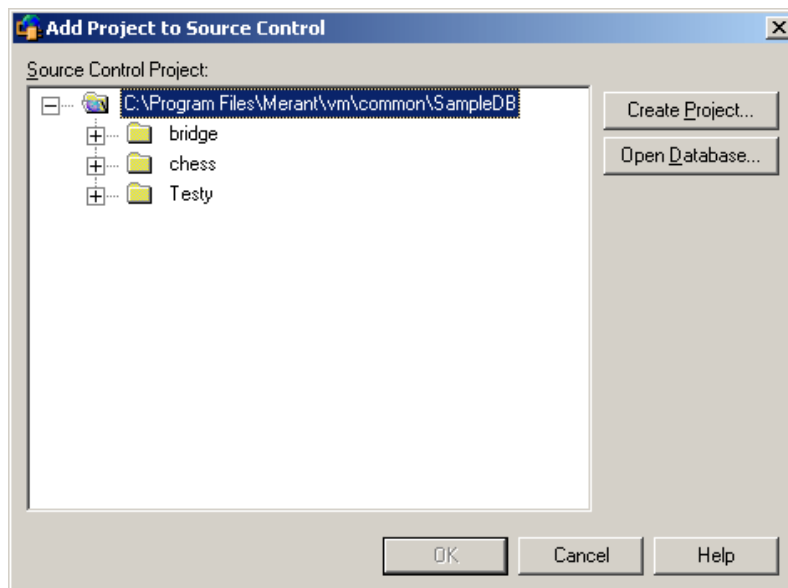
Setting Up Non-Web Projects

Contents	This section contains information about setting up the Version Manager IDE client to work with non-web Visual InterDev projects.
Prerequisites	Before proceeding, you must do the following: <ul style="list-style-type: none"> ■ Select Version Manager as your source control provider (if you have multiple Serena IDE clients installed). See "Selecting an SCC Provider" on page 25. ■ Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Visual InterDev project (if you don't already have one).
For more information	See Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23 .

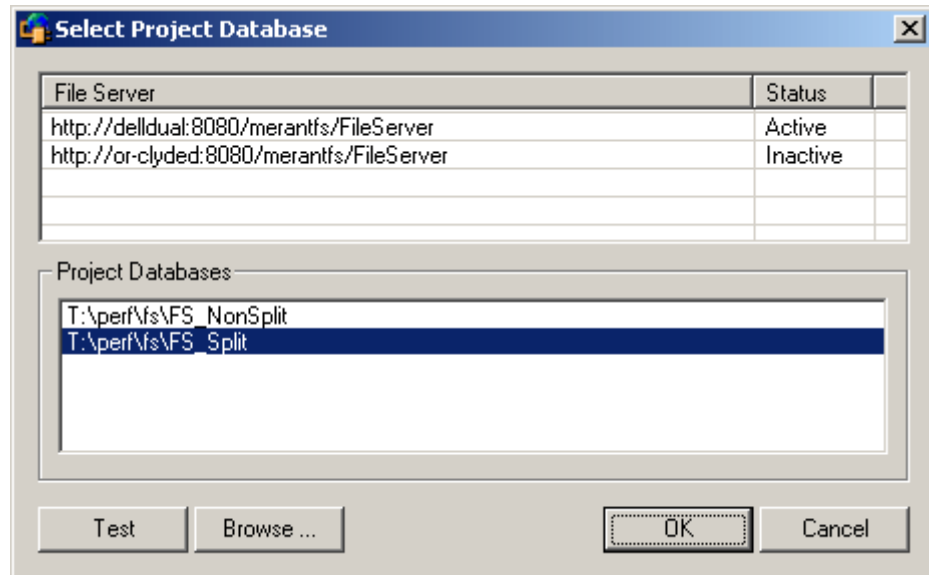
Adding Non-Web Projects to Source Control

To add a Visual InterDev project to source control:

- 1 Open or create the non-web project in Visual InterDev.
- 2 Select the project in the Project Explorer.
- 3 Select Project | Source Control | Add to source control. The Add Project to Source Control dialog box appears.



- 4 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.



Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

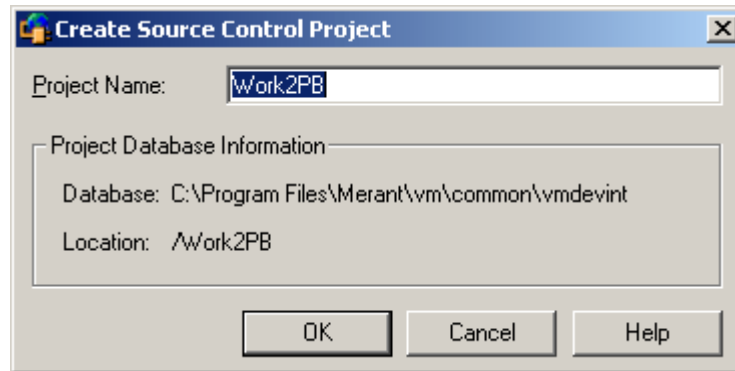
To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.

- 5 Do one of the following:

- To add to an existing Version Manager project, select one from under Source Control Project. Proceed to [Step 6](#).
- To create a new Version Manager project:
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.

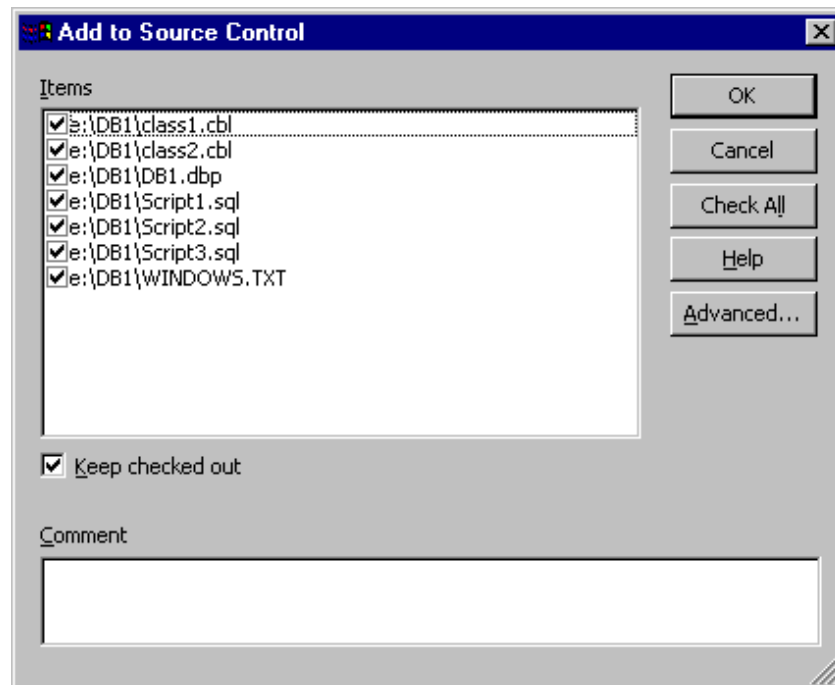
- b** Click the **Create Project** button. The Create Source Control Project dialog box appears with the name and location of the current project database, and the location of the new project within the database.



- c** Enter a name for the new project in the **Project Name** field. The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
- d** Click **OK**. The Add Project to Source Control dialog box reappears with the new project under **Source Control Project**.

- 6** Click **OK**.

The Add to Source Control dialog box appears with a list of selected files.



IMPORTANT! If the Visual InterDev project contains files that are located outside of the root project working directory and its subdirectories, you will be asked if you wish to copy them into the root project directory. If you do not copy the files into the root project directory, they will not be added to source control.

7 Do any of the following:



- Change selection
 - Change your selection of files to add to source control by checking and unchecking files in the list. By default, every file in the project is selected.
- Retain lock
 - If you wish to check out and lock the file after it is added to source control, select the **Keep checked out** check box.

8 Enter a description of the file(s) in the **Comment** field. The description will be applied to all selected files.

TIP To use unique descriptions for each file, leave the **Comment** field blank. After you complete the Add to Source Control dialog box, the Change Description dialog box will appear for each file in turn.

9 Click **OK**. The selected files are added to source control, creating archives in the specified archive directory.

For each file added, the file icon in the FileView pane changes to indicate that the file is under source control:

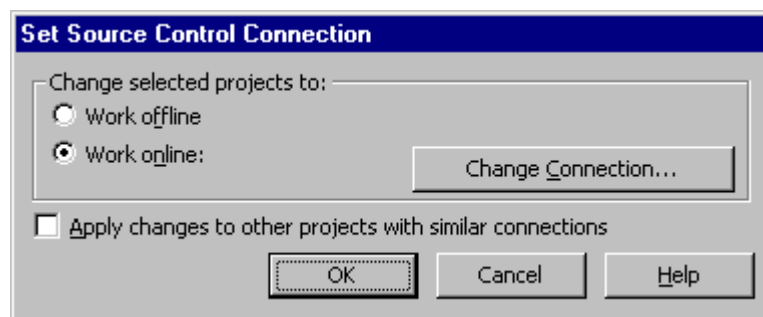
- | | | |
|-------------|---|--|
| Checked in |  | A blue lock indicates that a file is under source control and is currently checked in. |
| Checked out |  | A red checkmark indicates that a file is under source control and is currently checked out and locked. |

Removing Non-Web Projects from Source Control

When you remove a project from source control, Version Manager does *not* delete the workfiles or Version Manager archives; it simply removes the association between the IDE files and archives. You can always add the project back to source control later.

To remove a project from source control:

- 1** Select the project in the Project Explorer.
- 2** Select Project | Source Control | Change Connection. The Set Source Control Connection dialog box appears.



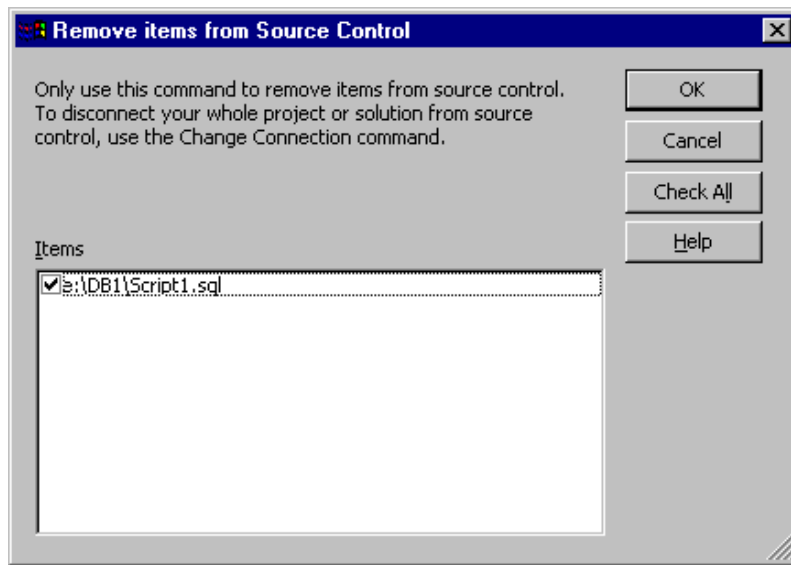
- 3** Select the **Work offline** option.
- 4** Click **OK**. The project is removed from source control.

Removing Non-Web Files from Source Control

When you remove a file from source control, Version Manager does *not* delete the workfile or Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

To remove files from source control:

- 1 Select the files or objects you wish to remove from source control in the Project Explorer.
- 2 Select Project | Source Control | Remove from Source Control. The Remove items from Source Control dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



- 3 Click **OK**. The selected files are removed from source control.

Deleting Files from Visual InterDev and Source Control

When you delete a file it is deleted from the Visual InterDev project and you are prompted to delete it from the Version Manager project. This operation is permanent.

To delete a file:

- 1 Select the file you want to delete in the Project Explorer.
- 2 Select Edit | Delete.
- 3 You are prompted to confirm the delete operation. Click **Yes**. The Push Remove to Server dialog box appears.
- 4 Select one of the following options:
 - **Remove Now:** To delete the file's archive from Version Manager.
 - **Remind later:** To be prompted again the next time you work with this project.

- **Do nothing:** The file is not deleted from source control and you are not reminded to do so again.

5 Click **OK**.

Using Source Control with Non-Web Projects

Contents	This section contains procedural information about viewing and editing non-web files that are under source control.
For more information	See Chapter 4, "Using Source Control" on page 47 .

Getting Projects or Solutions

When you get a Visual InterDev project or solution, read-only copies of all files within the project or solution are placed in the workfile location.

To get a project from source control:

- 1 Select File | Open Project. The Open Project dialog box appears.



NOTE The Open Project dialog box may also appear when you first launch Visual InterDev.

- 2 Select the Existing tab.
- 3 Click the **Source Control** button. The Get Project from Source Control dialog box appears with the default database under **Source Control Project**. If you wish to get projects from a different project database, click the **Open Database** button and browse to select one.
- 4 Select the Version Manager project you wish to open from the project database.
- 5 Enter a location for all of your project files in the **Workfile Location** field, or click the Browse button to select a location.
- 6 Click **OK**. All solutions and projects in the selected Version Manager project appear in the Open Project dialog box, in the selected workfile location.
- 7 Select the Visual InterDev project or solution you want to open. If you open a project, it will appear under a new solution.
- 8 In the Open Project dialog box, click **OK**.

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get a revision:

- 1 Select the file or files from the Project Explorer.

- 2 Select Project | Source Control | Get Latest Version. The Get Latest Version dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.

- 3 Do any of the following:

- To get all items in the project, select the **Directories** check box, then select the **Get items from subdirectories** check box.
- To bypass the Get Latest Version dialog box in the future, select the **Don't show any more get dialogs** check box.

- 4 Do one of the following:

Use advanced options

- To override the default get options, click the **Advanced** button. The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48.](#))

Accept defaults

- To accept the default get options, click **OK**. The selected revisions are copied and read-only workfiles are placed in the workfile location.

Checking Out Files

When you check out a file, Version Manager locks the file and creates a writable workfile in the workfile location.

To check out a file:

- 1 Select the file(s) you wish to check out in the Project Explorer.
- 2 Select Project | Source Control | Check Out. The Check out items dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



TIP To bypass the Check out item(s) dialog box in the future, select the **Don't show any more check out dialogs** check box.

- 3 Do one of the following:

Use advanced options

- To override the default checkout options, click the **Advanced** button. The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see ["About Checking Out Files" on page 50.](#))

Accept defaults

- To accept the default checkout options, click **OK**. A red checkmark (✓) appears next to the file icon in the Project Explorer to indicate that the file is checked out.

Edit the file

To edit a file that is checked out from source control, double click the file or right-click the file and select Edit from the contextual menu.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 Select the file(s) in the Project Explorer.
- 2 Select Project | Source Control | Undo Check Out. The Undo Check Out dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.




TIP To bypass the Undo Check Out dialog box in the future, select the **Don't show this dialog again** check box.

- 3 Do one of the following:

Use advanced options

- To override the default undo checkout options, click the **Advanced** button. The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see ["About Undoing Checkout" on page 52.](#))

Accept defaults

- To accept the default undo checkout options, click **OK**. The red checkmark () is removed from the file icon in the Project Explorer to indicate that the file is unlocked.

Checking In Files

By default the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only copy of the object is left in the work library.
- The archive is unlocked.

To check in a file:

- 1 Select the file(s) you wish to check in from the Project Explorer.
- 2 Select Project | Source Control | Check In. The Check in item(s) dialog box appears with a list of selected files. You can change your selection by selecting and deselecting files in this list.



TIP To bypass the Check in item(s) dialog box in the future, select the **Don't show any more check in dialogs** check box.

- 3 Do any of the following:

Retain lock

- To retain the lock on the files after they are checked in, select the **Keep Checked Out** check box.

Compare files

- To compare two revisions in an archive, revisions in two archives, two workfiles, or a revision and a workfile, click the **Differences** button. The Show Differences dialog box will appear. For more information see ["About Difference Reports" on page 80.](#)

- 4 Enter a description of the changes you made in the **Comment** field. This description will be applied to all selected files.



NOTE To use unique descriptions for each file, leave the **Comment** field blank. After you complete the Check In File(s) dialog box, the Change Description dialog box will appear for each file in turn.

- 5 Do one of the following:

Use advanced options

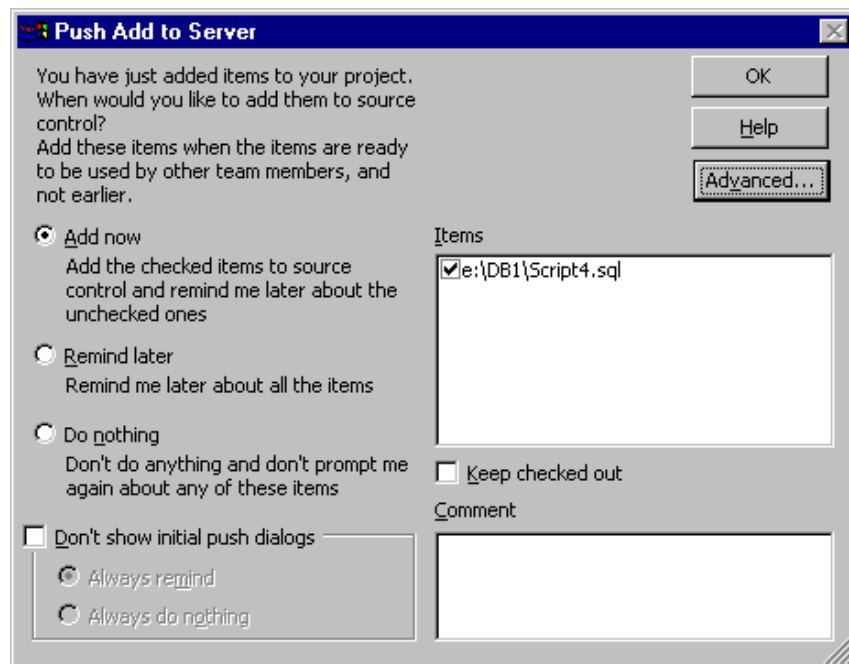
- To override the default check in options, click the **Advanced** button. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53.](#))

Accept defaults

- To accept the default check in options, click **OK**. The red checkmark (✓) is removed from the file icon in the Project Explorer to indicate that the file is checked in.

Adding New Files

When you add new files to a Visual InterDev project, the Push Add to Server dialog box appears.



Do one of the following:

- | | |
|--------------|--|
| Add now | ■ To add the new files to source control, select Add now . Continue to the next section, "Add to Source Control Now." |
| Remind later | ■ To be reminded about the files next time you check in files or add files to source control, select Remind later and click OK . |
| Do nothing | ■ To add the files to the Visual InterDev project without creating corresponding archives in the Version Manager project, select Do nothing and click OK . You will not be reminded later. |

Add to Source Control Now

After you have selected the **Add now** option in the Push Add to Server dialog box, complete the following procedure to add the new files to source control.

- 1** Do any of the following:
 - To change which files are selected, select and deselect the files listed under Items.
 - To retain a lock on the files after they are added, select the **Keep checked out** check box.
- 2** Enter a description of the files in the **Comment** field. The description will be applied to all selected files.
- 3** Do one of the following:

Use advanced
options

- To override the default add options, click the **Advanced** button. The ChangeMan Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))

Accept defaults

- To accept the default options, click **OK**.

Chapter 18

Visual Studio .NET

Introduction	286
Accessing Supported Features	286
About Visual Basic Files	287
Setting Up Source Control Projects	287
Using Source Control	294

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Microsoft® Visual Studio .NET 2002 and 2003, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help you set up source control projects and add files to source control
- Help you access files that are under source control from within the IDE

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? Visual Studio .NET supports the full set of source control features available through the Version Manager IDE client. See the following table.

To...	Select...	For more information see...
Get revisions	File Source Control Get	"Getting Files" on page 294
Open a project from source control	File Source Control Open From Source Control	"Connecting Additional Workstations to a Source Control Project" on page 293
Check out revisions	File Source Control Check Out	"Checking Out Files" on page 295
Undo checkout of revisions	File Source Control Undo Checkout	"Undoing Checkout" on page 296
Check in revisions	File Source Control Check In	"Checking In Files" on page 296
Manage version labels	File Source Control Serena Source Control	"About Version Labels" on page 56
View properties of revisions or archives	File Source Control Serena Properties	"About Properties" on page 72
Monitor source control activity	File Source Control Serena Source Control	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	File Source Control History	"About History Reports" on page 77
Generate a difference report	File Source Control Compare Versions	"About Difference Reports" on page 80
Access the Version Manager Options dialog	File Source Control Serena Source Control	"About Setting Defaults for Version Manager Options" on page 28
Add non-web solutions to source control	File Source Control Add Solution to Source Control	"Adding Visual Studio Files to Source Control" on page 289

To...	Select...	For more information see...
Add web and non-web projects to source control	File Source Control Add Selected Projects to Source Control	"Adding Visual Studio Files to Source Control" on page 289
Exclude or remove files from source control	File Source Control Exclude Selection from Source Control	"Excluding or Removing Files from Source Control" on page 289
Set SCC options for Visual Studio	Tools Options	"Configuring Source Control Behavior" on page 288
Share an archive across projects	File Source Control Share	"About Sharing Files Across Projects" on page 33

About Visual Basic Files

- Binary and text files** Visual Basic projects include text files that are paired with binary files, but normally the Visual Studio interface does not display the binary files. Though the binary files remain unseen while you work in the IDE, they are kept in sync with the source control actions you apply to the visible files. For example, if you check out the file `Form2.vb`, the binary file `Form2.resx` is also checked out.
- Revision numbers out of sync** However, it is possible for the revision numbers of the files to get out of sync. This occurs because some programming changes that affect text files do not affect binary files. By default when you check in your project after such a change, both files are checked in even if no changes were made to the binary file. However, if you change the default check-in behavior, only the text file will be checked into a new revision and the files will be out of sync.



IMPORTANT!

- By default, the IDE client will check in a file even if it is unmodified or older than the latest revision. You should not change this default. If the default has been changed, see ["Setting Defaults" on page 29](#) for information on setting it back.
- If you use the Version Manager desktop client to apply source control actions to Visual Basic files, be sure to select both the text files and the binary files or they will become out of sync. You must also choose to check in files that are unchanged.

- TrackerLink users** If you use TrackerLink to associate a Visual Basic file pair with an SCR, it is possible that only the text file will receive the resolution description from Tracker. In this case, the binary file will receive the default change description. This occurs because some programming changes that affect text files do not affect binary files.



NOTE To view binary files, click the **Show All Files** button in the Solution Explorer.

Setting Up Source Control Projects

- Contents** This section contains information about setting up the Version Manager IDE client to work with Visual Studio .NET.

Prerequisites Before proceeding, you must do the following:

- Select Version Manager as your source control provider (if you have multiple Serena IDE clients installed). See ["Selecting an SCC Provider" on page 25](#).
- Use the Version Manager desktop client to create a project database that will contain the source control projects associated with the Visual Studio .NET projects (if you don't already have one).

For more information

See [Chapter 2, "Setting Up Source Control with SCC IDEs" on page 23](#).

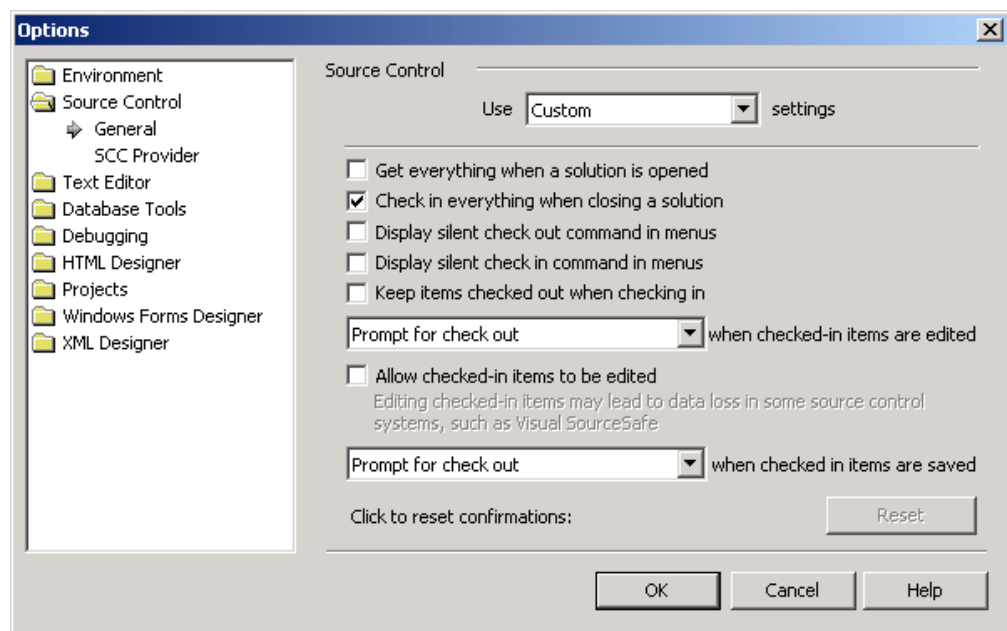
Configuring Source Control Behavior

You can configure Visual Studio so that actions you take in Visual Studio:

- Automatically invoke source control operations
- Do not invoke source control operations
- Prompt for permission to invoke source control operations

To configure the source control behavior of Visual Studio:

- 1 Select Tools | Options. The Options dialog box appears.



- 2 Select the Source Control folder in the left pane.
- 3 Select or deselect the features you wish to activate or deactivate. For detailed information on each feature, see the Visual Studio documentation.
- 4 Click **OK**.

Configuring Web Projects

By default, Visual Studio .NET is configured to use the SCC interface (File share) for both web and non-web projects. This is the recommended configuration, but may be unfamiliar

to you since Visual InterDev 6 used the COM interface (FrontPage Extensions) for web projects.

To configure web project access:

- 1 Select Tools | Options. The Options dialog box appears.
- 2 Open the **Projects** folder and select **Web Settings**.
- 3 Select the **File share** option.
- 4 Click **OK**.

For more information on working with web projects, see the Visual Studio .NET documentation.

Excluding or Removing Files from Source Control

You can use the Exclude from Source Control feature in two ways:


- Used before a project is under source control, it will prevent Version Manager from creating archive files for the selected workspace files.
- Used after a project is under source control, it will retain the existing archive files but will prevent the addition of new revisions until the exclusion is removed.

To exclude files from source control:

- 1 Select the files in the Project Explorer pane.
- 2 Select File | Source Control | Exclude Selection from Source Control.



NOTE If the project file is not already checked out, you are prompted to check it out.

A red circle (e ) appears to the left of each file icon, if the project is under source control.



NOTE To remove an exclusion, repeat the procedure shown above.

Adding Visual Studio Files to Source Control

To add files to source control:

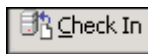
- 1 Do one of the following:
 - To add a web project to source control:
 - a Select the project in the Solution Explorer pane.

- b** Select Add Selected Projects to Source Control.



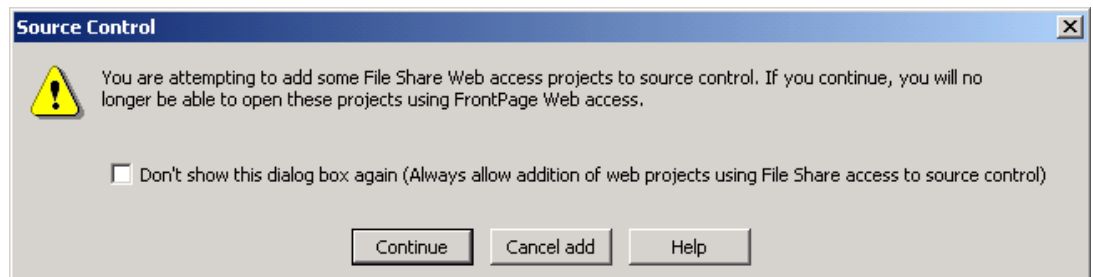
IMPORTANT! Do not add web solutions to source control. Select the web project instead.

- To add a non-web solution and the projects within it to source control, select File | Source Control | Add Solution to Source Control.
- To add a project to source control without placing the solution under source control:
 - a** Right-click the project in the Solution Explorer pane. A pop-up menu appears.
 - b** Select Add Project to Source Control.
- To add a new project to source control when the solution is already under source control:
 - a** Create the new project in a directory below the initial project in the solution. The files of the new project appear in the Pending Checkins pane.
 - b** Click the **Check In** button.

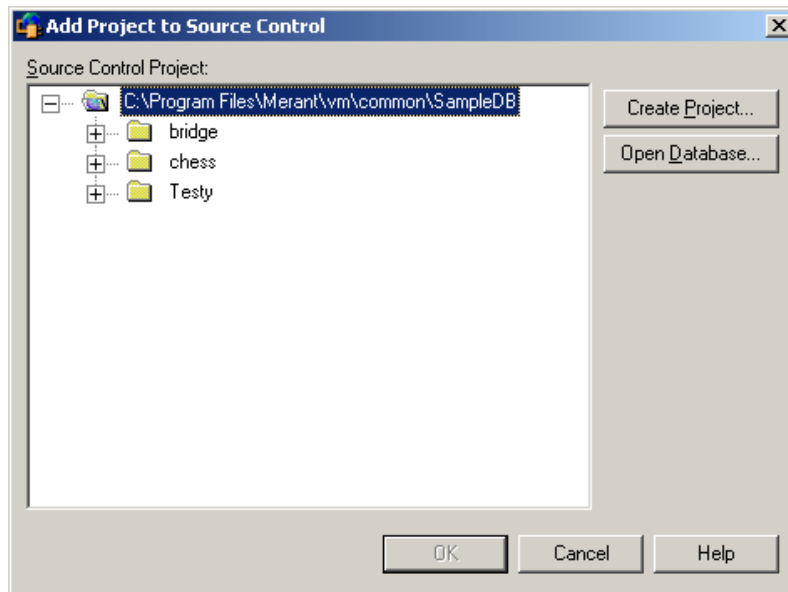


IMPORTANT! To add a project or file to an existing solution or project that is already under source control, you must first check out the solution or project.

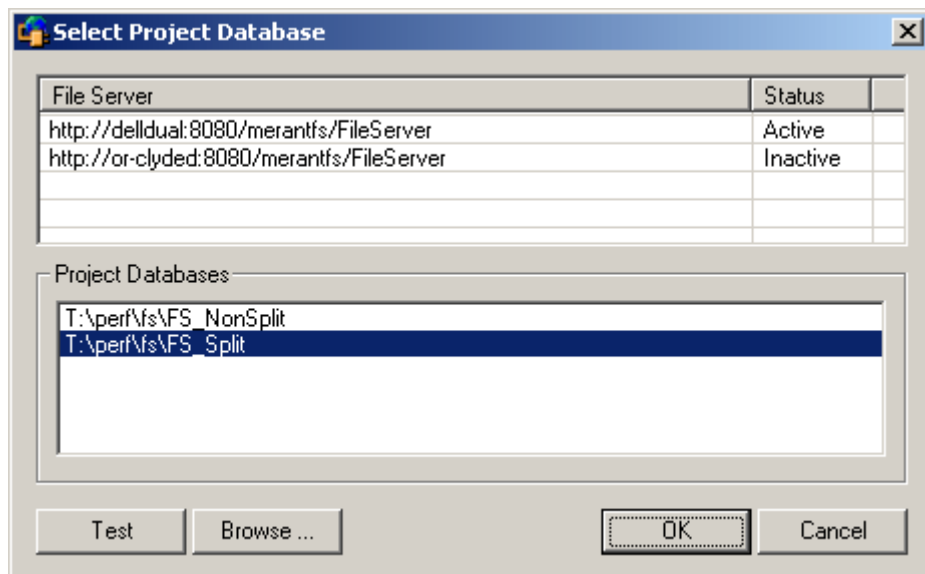
- 2** If you are adding a web project, the following dialog may appear. Click the **Continue** button. For more information, see ["Configuring Web Projects" on page 288](#).



- 3 Select Tools | Serena | Add Project to Serena. The Add Project to Source Control dialog box appears.



- 4 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button. The Select Project Database dialog box appears.

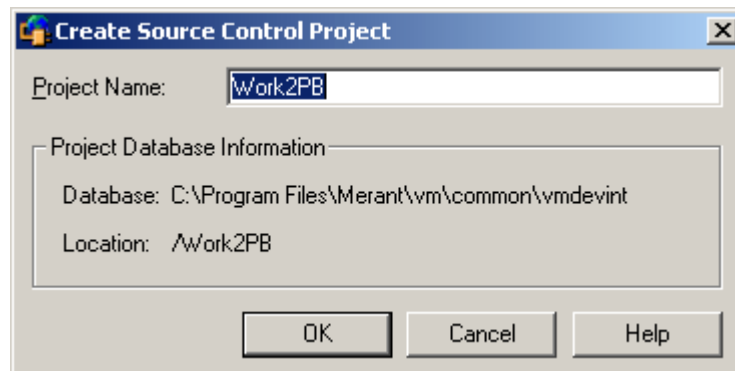


Do one of the following:

- To open a project database located on a listed Version Manager File Server, select it from the **Project Databases** list and click **OK**.

To add a Version Manager File Server to the list, double-click an empty cell in the **File Server** list and type the name of the system that hosts the file server. Once you press the ENTER key, the entry will be auto-completed (http://SystemName:8080/serenafs/FileServer) and tested. To specify an https server or a non-standard port, double-click on the auto-completed entry, edit it appropriately, and press the ENTER key.

- To open a project database located on your local file system or the network, click the **Browse** button and navigate to the location via the resulting dialog box.
- 5 Do one of the following:
- To add to an existing source control project, select one from under **Source Control Project** and click **OK**. Proceed to [Step 6](#).
 - **To create a new Version Manager project:**
 - a Under Select Source Control Project, select the location in the project database where you want to create the new project.
 - b Click the **Create Project** button. The Create Source Control Project dialog box appears.




The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

- c By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.
- The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).
- d Click **OK**. The Add Project to Source Control dialog box reappears with the new project under **Source Control Project**.
- 6 Click **OK**. The Change Description dialog box appears.
- 7 Do any of the following:
- Enter a description of the files in the **Description** field.
 - To use the same description for every file, select the **Use description for all** checkbox.
 - To use a unique description for each file, do *not* select the **Use description for all** checkbox. The Change Description dialog box will appear for each file in turn.



NOTE Visual Basic:

You will be prompted to enter descriptions for both the text files and the binary files in Visual Basic projects, though Visual Studio normally hides the binary files from view.

- 8 Click **OK**. A blue padlock () appears to the left of each file icon to indicate that the files are checked in to source control.

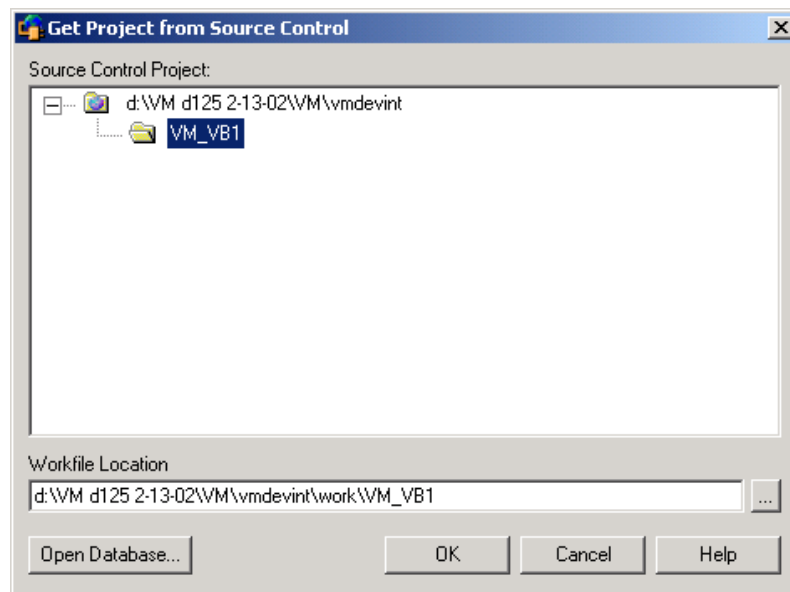
Sharing files If an archive will be shared by multiple Version Manager projects, see ["About Sharing Files Across Projects" on page 33](#) for more information.

Connecting Additional Workstations to a Source Control Project

After a project has been created and added to source control, each developer can access it by opening it from source control, which creates a copy of the project on the developer's system. Once a developer has a local copy of a project, he can perform normal source control operations on it.

To open a solution or project from source control:

- 1 Select File | Source Control | Open From Source Control. The Get Project from Source Control dialog box appears.



The default database appears under Source Control Project. If the database containing the project you wish to get is not displayed, click the **Open Database** button and browse to select it.

- 2 Select the project you wish to get from the project database.
- 3 Enter a location for all of your project files in the **Workfile Location** field, or click the browse button to select a location.
- 4 Click **OK**. The Open Solution dialog box appears.
- 5 Select the solution or project file you want to open and click **Open**.

Using Source Control

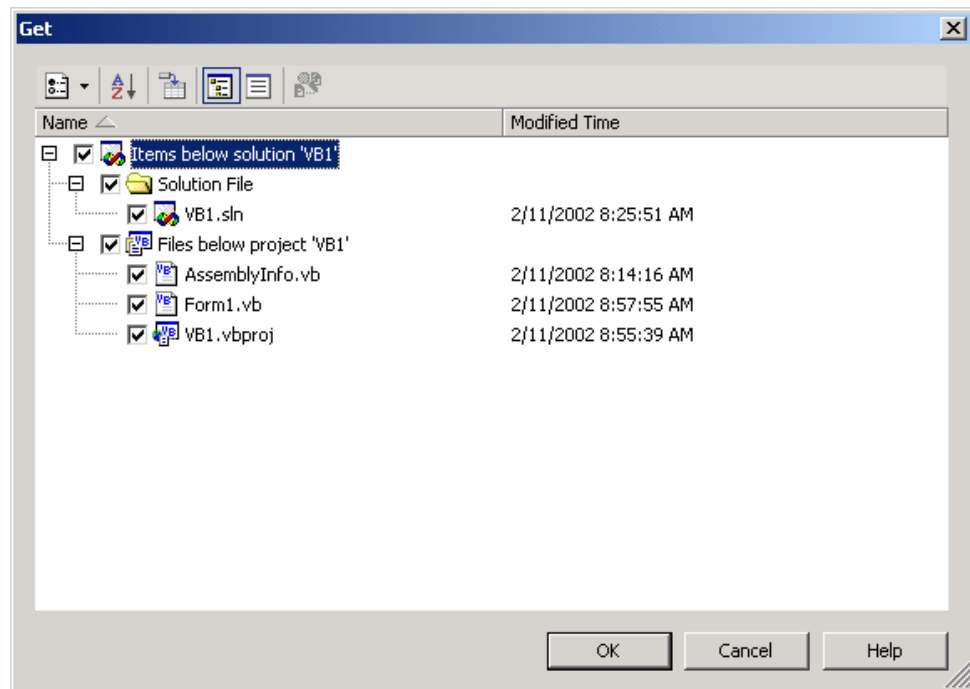
- Contents** This section contains procedural information about viewing and editing files that are under source control.
- For more information** See [Chapter 4, "Using Source Control" on page 47](#).

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get files:

- 1 Select the solution, project, or files you want to get in the Solution Explorer.
- 2 Select File | Source Control | Get. The Get dialog box appears.



- 3 Do any of the following:
 - Select or deselect files in the **Name** list.
 - To invoke the Merge Tool, select a file and click the **Compare Versions** button. For information on differencing, see ["Generating Difference Reports" on page 80](#).
- 4 Do one of the following:
 - To override the default get options, click the **Options** button (Options icon). The ChangeMan Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48](#).)

Use advanced options

Accept defaults

- To accept the default get options, click **OK**. The selected revisions are copied and read-only workfiles are placed in the workfile location.



NOTE To get files without invoking the Get dialog box, select File | Source Control | Get Latest Version.

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

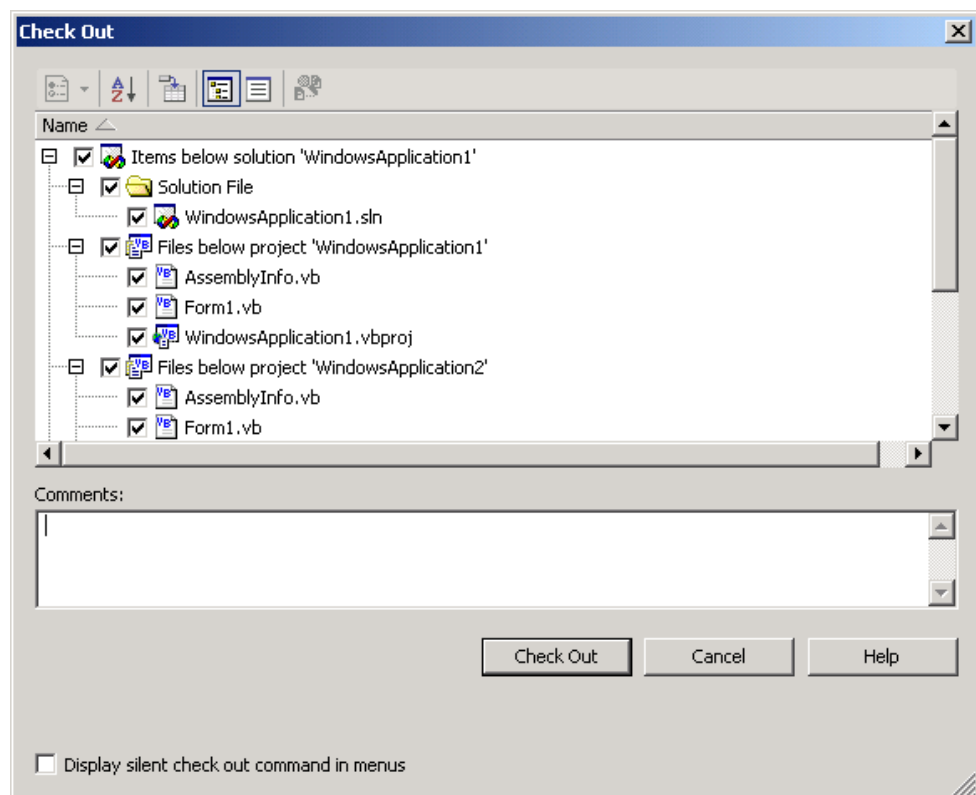
To check out files:

- 1 In the Solution Explorer pane, select the files, projects, or solution you want to check out and right-click. A pop-up menu appears.



IMPORTANT! Check out the solution and project files if they are under source control and your changes will affect them. Otherwise, your changes may be lost.

- 2 Select Check Out. The Check Out dialog box appears.





- 3 Do any of the following:

- Select or deselect files in the **Name** list.



- To invoke the Merge Tool, select a file and click the **Compare Versions** button. For information on differencing, see ["Generating Difference Reports" on page 80](#).

4 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | <ul style="list-style-type: none"> ■ To override the default checkout options, click the Options button (). The ChangeMan Advanced Check Out dialog box appears. (For information on advanced options, see "About Checking Out Files" on page 50.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default checkout options, click the Check Out button. A red checkmark () appears next to each file icon. |





NOTE Ignore the **Comments** field during checkout. You can add a comment during check-in.

Undoing Checkout

When you undo a check, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 In the Solution Explorer pane, select the files, projects, or solution you want to undo a checkout on and right-click. A pop-up menu appears.
- 2 Select Undo Checkout. The Undo Checkout dialog box appears.
- 3 Select or deselect files in the **Name** list as needed.
- 4 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | <ul style="list-style-type: none"> ■ To override the default undo checkout options, click the Options button (). The ChangeMan Advanced Undo Check Out dialog box appears. (For information on advanced options, see "About Undoing Checkout" on page 52.) |
| Accept defaults | <ul style="list-style-type: none"> ■ To accept the default undo checkout options, click the Undo Checkout button. A blue padlock () appears next to each file icon. |

Checking In Files

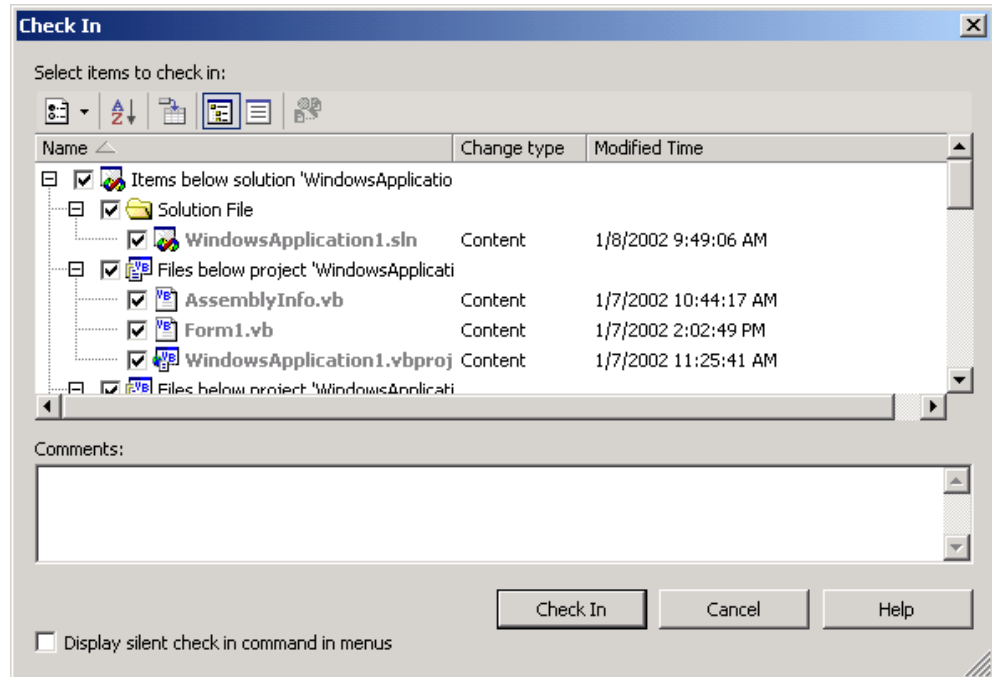
By default, the following occurs when you check in a workfile:

- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in files:

- 1 In the Solution Explorer pane, select the files, projects, or solution you want to check in and right-click. A pop-up menu appears.

- 2 Select Check In. The Check In dialog box appears.



- 3 Do any of the following:

- Select or deselect files in the **Name** list.
- Enter a description of the changes you made to the files in the **Comments** field.



TIP To use unique descriptions for each file, leave the **Comments** field blank. After you complete the Check In dialog box, the Change Description dialog box will appear for each modified file in turn.

For Visual Basic projects, you will be prompted to enter descriptions for both the text files and the binary files, though Visual Studio normally hides the binary files from view.



- To invoke the Merge Tool, select a file and click the **Compare Versions** button. For information on differencing, see ["Generating Difference Reports" on page 80](#).



- To automatically check the files out again after the check-in operation, click the **Options** button and select Keep Checked Out.

- 4 Do one of the following:

Use advanced options

- To override the default check-in options, click the **Options** button (Options icon) and select Advanced. The ChangeMan Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53](#).)

Accept defaults

- To accept the default check-in options, click the **Check In** button. A blue padlock (Lock icon) appears next to each file icon (unless you chose to keep the files checked out).

Chapter 19

Visual Studio .NET 2003 Rich Integration

See the following for detailed information on using the Version Manager integration to Microsoft Visual Studio 2003:

Visual Studio 2003 Integration Overview	300
Collaborative Process Overview	300
Migrating SCC Interface Projects	304
Working with Web, CAB, and Database Projects	305
Setting Up Source Control Projects	305
Editing Files	310
Setting Default Options for Dialog Boxes	322
Comparing and Synchronizing Workspaces	324
Comparing Files and Resolving Conflicts	331
Associating and Working on TeamTrack Issues	337

Visual Studio 2003 Integration Overview

The Version Manager rich integration to Microsoft Visual Studio .NET 2003 provides a powerful set of collaborative tools to help development teams manage their source code. The integration includes:

- **Workspace Comparison and Synchronization**

You can easily compare the state of all files in your local workspace with the corresponding Version Manager project's workspace. You can determine what the differences are, and whether your workspace or Version Manager need to be updated. With the click of a button, you can then automatically check in all of your changes to Version Manager, and get all updates to your local workspace. See ["Comparing and Synchronizing Workspaces" on page 324](#).

- **Automated File Merging**

When you check in or synchronize your local workspace, your changes are automatically merged with any recent changes to the same files in Version Manager.

- **File Comparison and Conflict Resolution**

You can compare specific local files to the latest revision of the files in Version Manager. If necessary, you can directly edit the files in order to resolve any conflicts before checking files in. See ["Comparing Files and Resolving Conflicts" on page 331](#).

- **Pragmatic Locking**

You can check in any file, any time, without first locking it. This allows you to edit any file without explicitly reserving a lock for the file. When you then check in the file, the file is temporarily locked while your local changes are merged with the latest revision in Version Manager (if necessary). Once the new revision is created, the file is then immediately unlocked again, allowing other users to check in their changes.

However, if your organization requests that developers first lock files before editing them, you can also check any file out with a lock before making changes to it.

TeamTrack Integration

If your organization uses Serena TeamTrack to track development issues, such as defects and tasks, you can access your issues from within the Version Manager integration to Visual Studio 2003. You can submit and modify TeamTrack issues from within Visual Studio, and then associate issues with specific files. When you associate issues with revisions of files, information about the associated revisions is added to the issues.

For detailed information on the TeamTrack integration to Version Manager, see ["Associating and Working on TeamTrack Issues" on page 337](#).

Collaborative Process Overview

The Version Manager integration supports a flexible range of collaborative development processes. You can:

- Use Version Manager workspaces to precisely define which files developers will work on, and to automate assignment of version labels in order to enforce maintenance

of the workspaces. Workspaces greatly simplify the process of sharing files in a development project, by ensuring that all developers working within the project see and update the same files. See ["Using Workspaces" on page 301](#).

- Use an optimistic, or pragmatic, locking model to allow all users to work on common files without locking them. See ["Working on Files Without Locking Them" on page 302](#).
- Prevent multiple users from modifying the same files by using checkout, with locks. See ["Checking Files Out with Locks" on page 303](#).

Using Workspaces

The rich integration to Visual Studio .NET makes extensive use of Version Manager workspaces to simplify the collaborative process. Version Manager workspaces represent a collection of specific files, each of which shares a common default version label. Workspaces enable developers to get and work only on files associated with specific development efforts or projects, as defined by the default version label.



NOTE Workspaces also define a default workfile location. However, this workfile location does not apply when using the rich integration to Visual Studio .NET. With Visual Studio, your solution workspace defines the workfile location. The workspace setting does apply when using other Version Manager clients, such as the web or desktop clients.

The following steps provide an overview of workspace setup and usage, with the rich integration to Visual Studio .NET:

- 1 The Version Manager administrator sets up the workspace in Version Manager.** Unique workspaces can be set up for each project or subproject, and even for each developer. The simplest workflow is to define a common workspace that all members on a project team can share, and that defines the correct default version label for the project. If developers will use different workspaces but will work on a common project, the default version label should be set to the same value for each workspace. Because it is the version label that determines what each developer can see and modify, it is important that the default is common for all developers who will work on the same branch of development. See the *Version Manager Administrator's Guide* for details.



IMPORTANT! If developers will work in different workspaces, it is critical to note that any changes to project structure that occur within one workspace will also be evident in another workspace. For example, if a developer working in a workspace called "Major_Releases" renames several files, then those files will also be renamed in any other workspace that includes them. When defining workspaces, it is critical to carefully evaluate such dependencies.

- 2 The administrator defines the default version label for the workspace.** The default version label will in turn determine precisely which files should belong to the workspace.

For example, if the floating label "Latest" is assigned to all files in the project, and if the workspace should include the most recent versions of all files in the project, define the default version label as "Latest."

Or, if the workspace should include all files in a branch for which the branch version label is "branch_01," then the default version label for the workspace should be defined as "branch_01."

See the *Version Manager Administrator's Guide* for details.

- 3 A developer adds the Visual Studio .NET solution or project to source control, and selects the appropriate workspace.** By selecting the appropriate workspace, the default version label for that workspace is assigned to all files that are added to Version Manager. For example, if the developer chooses a workspace for which "Latest" is the default version label, then the "Latest" label is assigned to all files.
- 4 Other developers open the solution or project from source control, and also select the appropriate workspace.** This choice then determines what files are copied to the local workspaces. For example, if developers choose a workspace for which "Latest" is the default version label, then only those files to which "Latest" is assigned are copied to the local workspaces.
- 5 Developers synchronize workspaces, automatically checking in / getting files with the default version label.** When a developer synchronizes a local workspace with the Version Manager project:
 - Any new local files are added to the Version Manager project, and the default version for the current workspace is assigned to them.
 - Any new files in Version Manager to which the default version label is assigned is copied to the local workspace.

Working on Files Without Locking Them

In this workflow, files are only locked during check-in. Also known as *optimistic locking*, this model enables multiple users to get and modify files at one time. Each user's modifications will be merged with other users' changes when the files are checked in. If any conflicts result from attempting to merge multiple users' changes, use the merge feature to evaluate and resolve the conflicts before completing check-in. The following steps illustrate this process:

- 1** At the beginning of each work day, make sure that your local workspace has all of the latest updates from the corresponding Version Manager project. To do this, you can either update your local workspace with changes in the Version Manager project (see ["Getting All Updates from Version Manager" on page 327](#)) or synchronize your local workspace with the corresponding project (see ["Comparing and Synchronizing Workspaces" on page 324](#)). If the local files already exist and are different from the latest revisions in Version Manager, the different revisions are merged. If any conflicts result from the attempt to merge the different revisions, use the conflict resolution feature to evaluate and resolve the conflicts before completing the synchronization.
- 2** Edit the files.
- 3** When you have finished your work on the files, commit all local changes to Version Manager (["Committing Local Changes to Version Manager" on page 329](#)), or synchronize your workspace with the corresponding Version Manager workspace.



NOTE By default, when you get files from source control, they are set to read-only in your local workspace. In order to make changes to them, you must either make them writable from Windows Explorer before you start work on them, or you must choose to overwrite the file when attempting to save in Visual Studio.

Example: Collaborative Development

A team of developers work together on files stored in a project called "Patch2," in a project database called "Source." Their project allows multiple developers to work on common files at one time. Their development workflow is:

- 1 At the beginning of every day, each developer can update the local workspace with the latest changes under the "Patch2" project in Version Manager. Because the development team works from sites in multiple nations, this synchronization ensures that all developers have all of the latest updates from all development sites. See ["Synchronizing Workspaces" on page 330](#).
- 2 At the end of each day, each developer synchronizes their workspace with the corresponding Version Manager project, in order to check in all changes to files in the local workspace. If multiple developers have modified the same files, the merge functionality will attempt to merge each user's changes into the new revisions. All merged and changed files are copied to the local workspace. If conflicts result from the attempt to merge, the developer performing the check-in must resolve the conflicts, and then synchronize again. See ["Synchronizing Workspaces" on page 330](#).

Checking Files Out with Locks

In this workflow, check out any file that you intend to modify. This locks the file in Version Manager, which prevents other users from checking in changes until you unlock the files. Once you have completed your changes, check in the files. This ensures that changes from multiple users will never result in conflicts.



IMPORTANT! Checking in local changes does not synchronize such changes as renamed and moved files. To do this, commit all local changes to Version Manager (["Committing Local Changes to Version Manager" on page 329](#)), or synchronize your workspace with the corresponding Version Manager workspace

Example: Locking Files

As part of a larger development team working on a complex and interdependent code base, Joe and Carol frequently work on the same files. A typical day might include the following:

- 1 To begin work on a set of files, Joe checks them out from Version Manager (see ["Checking Out Files" on page 313](#)).
- 2 When Carol opens the project, she displays the Compare Workspace view to check whether the files that she needs are currently checked out (see ["Comparing Workspaces" on page 326](#)). She sees that they are. Using the History view, she sees that Joe has the files checked out (see ["Reviewing File History" on page 310](#)).
- 3 Joe completes his work and checks in the files, associating them with the TeamTrack issues that spawned the work (see ["Checking In Files" on page 316](#)).
- 4 Carol comes back from lunch and checks the Compare Workspace view to see what the current file status is. She sees that the files are checked in, so she checks them out and begins her work.

Migrating SCC Interface Projects

If you currently use Visual Studio .NET solutions and projects with the SCC (Source Code Control) interface to Version Manager, complete these steps to migrate to the rich integration.



TIP You can also migrate Visual SourceSafe projects. For details, see the document Migrating Visual SourceSafe SCC Projects in Visual Studio .NET, available from the product download page on the Serena support Web site (<http://support.serena.com>).

Important Migration Considerations

Consider the following before you migrate:

- **Do not mix integrations.** All users who work on a common project must use the same integration (SCC or rich). Once you migrate a project to the rich integration, all users must open the project via the rich integration.
- The SCC and rich integrations are both accessible, simultaneously, from within Visual Studio. Once a project is migrated, take care to access all Version Manager features from the Serena or File | Serena menus. You can also access key Version Manager features, in a solution or project that is managed by the rich integration, by right-clicking on files.
- Do **not** migrate your SCC projects to the rich integration if you use TrackerLink, and will continue to use it. The rich integration supports TeamTrack. Do not migrate to the rich integration until you have successfully migrated your Tracker projects to TeamTrack. You can then use the rich integration to TeamTrack from within Visual Studio.
- With the SCC integration, file status is indicated by specific icons in the Solution Explorer. With the rich integration, you can display file status from the File Status and Compare Workspace views.

Migrating Solutions and Projects from SCC

To migrate solutions and projects to the rich integration:

- 1 Open the solution that is currently managed via the SCC interface to Version Manager.
- 2 Select File | Source Control | Change Source Control. The Change Source Control dialog box appears.
- 3 Click the **Unbind** button, and click **Unbind** when prompted to confirm. As a result, the **Status** column indicates that the solution projects are no longer controlled.
- 4 In the Change Source Control dialog box, click **OK**.
- 5 Select File | Save All, and exit Visual Studio .NET.
- 6 Open Windows Explorer.
- 7 Locate the working directory for your solutions and projects, and delete all files with the following file extensions:
 - **.vsscc**: you will find one *.vsscc file under each root solution directory

- **.vspssc**
 - **.scc** (such as MSSCCPRJ.SCC): you will find one *.scc file under each root solution and project directory
 - Any other files for which the file type concludes with **scc**
- 8 You must next check in the Visual Studio solution (*.sln) and project files, from the VM desktop client. To do this:
 - a Launch the Version Manager desktop client, and open the project that corresponds to the Visual Studio project that you just removed from SCC source control.
 - b If they aren't already locked, select all Visual Studio solution (*.sln) and project files and click the **Lock** button. The Lock File dialog box appears.
 - c Click **OK**.
 - d Select the solution and project files and click the **Check In** button. The Check In File dialog box appears.
 - e If necessary, enter or browse to select the correct check-in location, in the **Check In From** field.
 - f Enter a description in the **Description** field and click **OK**.
 - 9 Also from the Version Manager desktop client, delete all ***.vsssc** and ***.vspssc** files, and any other file types that end with **scc**.
 - 10 Each user of the rich integration to Visual Studio must now open the solution from source control. This will ensure that each user has the version that you just checked in, that is no longer bound to the SCC integration. See ["Opening Solutions and Projects from Version Manager" on page 308](#) for details.

Working with Web, CAB, and Database Projects

The rich integration supports Web, DAB, and Database application projects. However, you must complete some specific steps in order to use these types of projects with the rich integration to Version Manager. To learn how to use the rich integration with Web, CAB, and Database application projects, consult the product download area on the Serena support site (<http://support.serena.com>) for a document on the subject. Complete the steps in this document.

Setting Up Source Control Projects

In order to use the Version Manager integration to Visual Studio 2003, each developer on the project must associate their local Visual Studio projects with a corresponding Version Manager project. Once they have done this, all developers working on the project can get all recent updates to the files, and check in new changes to the files. They can synchronize their local workspace with the Version Manager project, which acts as a central repository for every developer's changes. You can do this in one of two ways:

- If your solution or project does not yet exist in Version Manager, add your solution or project to source control. This creates a corresponding project, and adds all of the

folders and files in the project to Version Manager. See ["Adding Solutions and Projects to Version Manager" on page 306](#).

- If your solution or project already exists in Version Manager, add it to your local workspace. This adds copies of all files from the Version Manager project to your Visual Studio solution, and establishes a relationship between local solution and the corresponding Version Manager project. See ["Opening Solutions and Projects from Version Manager" on page 308](#).

Working with Uncontrolled Solutions

With the rich integration to Version Manager, you have the option of working with projects that are under source control, within solutions that are not, themselves, under source control. This may be necessary in certain cases. However, when working within uncontrolled solutions, **you do not have access to the Compare Workspace view**, and the synchronization features that it provides. You may check files and folders in and out from the Solution Explorer, and access other rich integration features. For this reason, we recommend working within solutions that have been added to source control, unless it is absolutely necessary not to.

Adding Solutions and Projects to Version Manager

If your solution or project has not yet been added to Version Manager, you must do so in order to use the integration to Version Manager. You can choose whether to:

- **Add your entire solution to Version Manager.** By adding the entire solution, you can store all projects and files in the solution within a single project database in Version Manager. Depending on your development scenario, this may simplify the collaborative process for members of your organization, as developers will only need to get and work within the single project database.
- **Add one project in a solution to Version Manager.** You can add just one project within a solution to source control, if you don't want to add the entire solution. However, please see ["Working with Uncontrolled Solutions" on page 306](#).



IMPORTANT!

- All projects within a Visual Studio solution that will use the Version Manager integration must physically reside under the root solution directory. You cannot store projects in locations outside of the root solution directory.
- You can store just one solution or project file within each Version Manager project or subproject. For example, do not attempt to store more than one solution file within the same project in Version Manager. When adding solutions and projects to source control, select destination projects in Version Manager that are distinct from each other.

When you add a solution or project to source control:

- All files in the solution or project are added to the target Version Manager project database.
- For each project or folder within the solution or project that you add, a corresponding Version Manager subproject is created. For example, if you add a solution that contains four projects, four subprojects will be created in the Version Manager project database.



- The default version label for the workspace that you choose is assigned to all files as they are added to source control. The default label is assigned as a *floating* label, so that it is always associated with the latest revision. This ensures that other users who will use this workspace see and work on the same set of files. See ["Using Workspaces" on page 301](#).

To add a solution or project to Version Manager:

- 1 If necessary, from the Version Manager desktop client, create the Version Manager project database that you will add the solution or project to. See the *Version Manager Administrator's Guide* for more information.
- 2 In Visual Studio, open the Solution that you want to add to Version Manager, or that contains the projects you want to add to source control.
- 3 Save the solution and all projects within before adding it to Version Manager.
- 4 Do one of the following:

If	Then
You will add the solution to source control	<ol style="list-style-type: none"> a Select the solution root in the Solution Explorer. b Select File Serena Add Solution to Version Manager.
You will add a specific project to source control	<ol style="list-style-type: none"> a Select the project in the Solution Explorer. b Select File Serena Add Project to Version Manager.

The Add to Source Control dialog box appears.

- 5 On the Connect to Version manager Project Database page, specify the project database to which you will add the solution or project. Do any of the following to specify a project database:
 - Enter the path to the root project database directory, or select a recent project database from the drop-down list.
 - Click the **Browse for PDB** button  to browse for a project database. In this case, you must select any of the .ser files located directly under the root PDB directory.
 - Click the **Browse File Servers** button  to choose from all project databases on the Version Manager file server, if a file server is defined in Version Manager. File servers must be defined from the Version Manager desktop client. *If no Version Manager file server is defined, ignore this button.*
- 6 Enter your Version Manager user name and password and click **Next**.
- 7 On the Select Workspace page, select the Version Manager workspace that you will use for the solution or project, then click **Next**. This displays all public workspaces in the project, and any private workspaces to which you have access. Note the following:
 - Your workspace choice determines the default version label for the files. This label is assigned to all files as they are added to Version Manager. This ensures that any other user that will use this workspace (for example, by opening the solution or project from source control) will work on the same set of files.
 - The choice of workspace does not affect your workfile location setting; working copies of all of your files will be saved to the Visual Studio workspace.

- 8 On the Select Remote Folder page, choose the project or subproject, within the project database, to which you will add your solution or project.

If necessary, to create a new project or subproject within the project database, select the project to which you want to add the project and click **Create Remote Folder**. Enter the folder name in the **Project Name** field and click **Create**.



NOTE You can store just one solution file within each Version Manager project or subproject. Do not attempt to store more than one solution file within the same project in Version Manager. When adding solutions and projects to source control, select destination projects in Version Manager that are distinct from each other.

- 9 Click **Next**.
- 10 On the Connect to TeamTrack Server page, enter the TeamTrack server name in the **TeamTrack Server** field. If the TeamTrack server uses a non-default port number (any port except 80), append the port number to the server name. For example, if the port number is 89:

`tt_server:89`
- 11 Enter your TeamTrack username and password and click **Next**.
- 12 On the Done page, review all of the choices. Click the **Back** button to change any of the settings. When you are finished, click the **Finish** button.

Opening Solutions and Projects from Version Manager

If the development project you will work on has already been added to Version Manager, you must open it in your local workspace in order to start work on it. When you open a solution or project from source control, all of the files within the Version Manager workspace that you select are retrieved to your local workspace, including all Visual Studio solution or project files. When you open a project from source control, it is added to the current solution in Visual Studio.





IMPORTANT! If you add a project from Version Manager to a solution that is already under source control, **you must save your solution and then check your solution in to Version Manager after you have added the project to it**. This ensures that the version of the solution that includes the new project is stored in Version Manager, and that all users can get this update. One fast way to do this is to commit all local changes to Version Manager. See "[Committing Local Changes to Version Manager](#)" on page 329.

To open a solution or a project from Version Manager:

- 1 If you are opening a project from source control, open or create the Solution to which you will add the project.

2 Do one of the following:

If	Then
You are opening a solution from source control	Select Serena Open Solution From Version Manager. The Open from Source Control wizard appears.
You are opening a project from source control and adding it to the current solution	Select File Serena Add Project From Version Manager. The Open From Source Control wizard appears.

- 3 On the Connect to Version manager Project Database page, specify the project database that contains the solution or project you are opening. Note that **you cannot add projects from multiple Version Manager project databases**. Do any of the following to specify a project database:
- Enter the path to the root project database directory, or select a recent project database from the drop-down list.
 - Click the **Browse for PDB** button  to browse for a project database. In this case, you must select any of the .ser files located directly under the root PDB directory.
 - Click the **Browse File Servers** button  to choose from all project databases on the Version Manager file server. File servers must be defined from the Version Manager desktop client. *If no Version Manager file server is defined, ignore this button.*
- 4 Enter your Version Manager user name and password and click **Next**.
- 5 On the Select Workspace tab, select the workspace that you will use for all projects within that solution, then click **Next**:
- Your choice of workspace will determine the default version label and promotion group for the files. Only those files to which the default version label is assigned will be opened to your local workspace. Later on, when synchronizing your local workspace with Version Manager, the default version label will be assigned to any new files that you add. See ["Using Workspaces" on page 301](#).
 - The choice of workspace also determines which solution or project files you can open. You can open solutions or projects to which the default version label is assigned. For example, if the default version label is "branch," you will only be able to open a solution or project file to which the "branch" version label is assigned.
- 6 From the Select Solution File tab, browse the project database folders to find and select the specific solution (.sln) or project file that you want to open locally. All solution and project files to which your default version label is assigned are displayed under the **Solution** column. If your default version label, as determined by your workspace selection, is not assigned to the latest revision of any solution or project files, then no solution or project files will be visible to you.

- 7 In the **Local Workspace Location** field, enter or browse to select the local workspace location, then click **Next**. The local workspace is the local work directory, where your working copies of the files in the solution will be stored.



IMPORTANT! If you are adding a project to a solution that is already under source control, you must define this path as relative to the root solution workspace directory. For example, to place the files in a sub-directory called "vb_project," enter: \vb_project.

- 8 On the Connect to TeamTrack Server page, enter the TeamTrack server name in the **TeamTrack Server** field. If the TeamTrack server uses a non-default port number (any port except 80), append the port number to the server name. For example, if the port number is 89:

`tt_server:89`
- 9 Enter your TeamTrack username and password and click **Next**.
- 10 On the Done tab, review all of the choices. Click the **Back** button to change any of the settings. When you are finished, click the **Finish** button.
- 11 If you have added a project to your local solution, save the solution before you start work on any files. If you have added a project to a solution that is under source control, you should also check in the solution after saving it, to make sure that other users of the same solution will get the version of the solution with the project in it. One fast way to do this is to commit all local changes to Version Manager. See ["Committing Local Changes to Version Manager" on page 329](#).

You can now start working on the files in the project.

Editing Files

Complete the procedures in this section to:

- Review file history. See ["Reviewing File History" on page 310](#).
- Get files and folders. See ["Getting Specific Files or Folders" on page 312](#).
- Check specific files and folders out. See ["Checking Out Files" on page 313](#).
- Undo checkout. See ["Undoing Checkout" on page 314](#).
- Edit files. See ["Editing Files" on page 315](#).
- Review local changes. See ["Reviewing Local Changes" on page 315](#).
- Check specific files in. See ["Checking In Files" on page 316](#).
- Label files. See ["Labeling Revisions" on page 320](#).
- Promote files. See ["Promoting Revisions" on page 321](#).

Reviewing File History

Review file history to display information about a file's revisions, including check-in date and comment, author, and assigned version labels and promotion groups.

Workspace Determines Revision History View

Depending on how your Version Manager workspace is configured, you will see one of the following:

- If the default version label for the workspace is a label assigned to revisions that reside on the main line of development (or *trunk*), then you will see just the revisions on the trunk (for example, 1.1, 1.2, 1.3).
- If the default version label for the workspace is a branch label, then you will see just the revisions belonging to the branch (for example, 1.3.1, 1.3.2, 1.3.3).

Updating Revisions



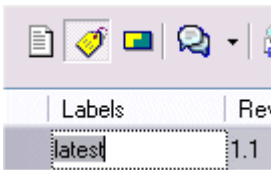



From this view, you can:

- Assign, rename, and delete version labels
- Promote revisions
- View previous revisions
- Compare two revisions






Reviewing File History

To review file history:

- 1 Select the file in the Solution Explorer.
- 2 Select Serena | Show History.
- 3 From this view, you can do any of the following:

Icon	Description
	Group by revision Lists all revisions.
	Group by label Separately lists each version label. You can click on specific label names in order to delete or rename them.  See "Labeling Revisions" on page 320 .
	Group by promotion group Displays all promotion groups in the promotion model, if a promotion model is defined. See "Promoting Revisions" on page 321 .
	Show Comments / Labels Click the drop-down arrow and choose whether to show / hide check-in comments and version labels for the selected revision. Comments appear in the bottom right pane, labels in the bottom left pane.
	Refresh Refreshes the history view.

- 4 You can also right-click on a revision to do any of the following:

Icon	Description
	Compare Revisions Compares two selected revisions, or compares your local file to the latest revision in Version Manager. To compare two revisions, CTRL+click the two revisions, then right-click on either revision and select this option. See "Comparing Files" on page 333 .
	View Selected Revision Copies the revision to a temporary location and opens it in Visual Studio. You cannot edit the file, only view it.
	Add Label Assigns a new version label to the selected revision. See "Assigning Labels" on page 320 .
	Promote to Next Promote the selected revision to the next promotion group. See "Promoting Revisions" on page 321 .
	Get Selected Revision Get a copy of the selected revision, which you can then work on and, if you use a pragmatic locking model, check in. See "Getting Specific Files or Folders" on page 312 .

Getting Specific Files or Folders

Get files to copy any files that you need to work on to your local workspace. You can get the latest revisions of files, or specific revisions if you need to revert to and work on previous revisions of files.

Once you have gotten the files, you can edit them and check them in (unless your organization requires checkout with locks in order to edit files; see ["Collaborative Process Overview" on page 300](#)). The local copies of the files are set to read-only; if you will edit them, you must either set them to be writable, or accept the prompts in Visual Studio to overwrite the existing files when you save.



NOTE From the Compare Workspaces view, you can also update your local workspaces with all new revisions of files, as well as new files and other changes to the Version Manager project. See ["Getting All Updates from Version Manager" on page 327](#).

Getting Latest Revisions

If you already have local copies of the files, you can optionally merge the latest revisions you are getting with your existing local copies. This ensures that any changes you have made locally are preserved. If any conflicts result from the attempt to merge the latest revisions with your local copies, the get will fail, and you must resolve those conflicts and get the files again. See ["Reviewing and Resolving Conflicts" on page 335](#).

To get the latest revisions of files:

- 1 In the Solution Explorer, select the files or folders that you want to get.
- 2 Select File | Serena | Get Latest Revision. The Get dialog box appears.

- 3 Verify that the file selection is correct, and modify it if necessary.
- 4 Optionally click the **Options** bar to display additional settings. You can choose what to do if the latest revision is different from your local working copy of the file. You can choose to automatically merge the latest revision with your local copy, overwrite the local copy, leave the local copy as is, or be prompted to choose an option on a file by file basis.
- 5 Select the **Save Settings** option to use your choice of options as the default, every time you get files.



TIP You can also define default options for all dialog boxes from the Tools | Options dialog. See ["Setting Default Options for Dialog Boxes" on page 322](#).

- 6 Click **Get**.
- 7 If you are prompted to choose what to do in case the latest revision is different than your local copy, select the appropriate option and click **OK**.




IMPORTANT! If conflicts result from attempting to merge files, you must resolve the conflicts before completing the get. See ["Reviewing and Resolving Conflicts" on page 335](#).

Getting Previous Revisions



IMPORTANT! When you get previous revisions, local copies of the files are over-written and any changes you have made are lost.

To get a previous revision of a file:

- 1 Select the file in the Solution Explorer, and select Serena | Show History.
- 2 Click the **Group by Revision** button  to display all revisions.
- 3 right-click the revision you want to get and select Get Selected Revision. The revision you selected is copied to your local workspace. If the file already exists, it is over-written.

Checking Out Files

Check out files to lock the latest revisions of specific files in Version Manager, and copy the files to your local workspace. When you check out files with locks:

- The working copies of the files are set to be writable, so that you can edit and save changes to them.
- No other user may modify that file until you check it in with your changes, or undo the checkout. This prevents other users from making changes to the file that might conflict with your changes.
- If you already have local copies of the files, you can optionally merge the latest revisions with your local copies. This ensures that any changes you have made locally are preserved. If any conflicts result from the merge attempt, the checkout will fail,

and you must resolve those conflicts and check the files out again. See ["Reviewing and Resolving Conflicts" on page 335](#).

To check out a file:

- 1 From the Solution Explorer, select one of the following:

Select	To
A project or folder	Check out the latest revisions of all files stored in the associated project in Version Manager
Individual files	Check out the latest revisions of specific files

- 2 Select File | Serena | Check Out.
- 3 Verify that the file selection is correct, and modify it if necessary.
- 4 Optionally click the **Options** bar to display additional settings. You can modify the choice of what to do if your local working copy of the file is different from the latest revision. You can choose to automatically merge the latest revision with your local copy, overwrite the local copy, leave the local copy as is, or be prompted to choose an option on a file by file basis.
- 5 Select the **Save Settings** option to use your choice of options as the default, every time you get files.



TIP You can also define default options for all dialog boxes from the Tools | Options dialog box. See ["Setting Default Options for Dialog Boxes" on page 322](#).

- 6 Click **OK**.
- 7 If you are prompted to choose what to do in case the latest revision is different than your local copy, select the appropriate option and click **OK**.



IMPORTANT! If conflicts result from attempting to merge files, you must resolve the conflicts before completing the checkout. See ["Reviewing and Resolving Conflicts" on page 335](#).

Undoing Checkout

Undo checkout to remove the lock on files that you have checked out, in order to make them available to other users to check out. You can optionally restore your local copy of the file to the state it was in before you checked it out, replace it with the latest revision from Version Manager, or leave it as it is.

To undo checkout:

- 1 From the Solution Explorer, select one of the following:

Select	To
A project or folder	Undo checkout of all files stored in the associated project in Version Manager
Individual files	Undo checkout of specific files

- 2 Select File | Serena | Undo Checkout. The Undo Checkout dialog box appears.



NOTE You can also undo checkout by right clicking files from the Serena | Show File Status view.

- 3 Verify that the file selection is correct, and modify it if necessary.
- 4 Optionally click the **Options** bar to display additional settings. You can choose to either leave your local copy of the file as is, or replace it with the latest revision from Version Manager.
- 5 Select the **Save Settings** option to use your choice of options as the default, every time you undo checkout.



TIP You can also define default options for all dialog boxes from the Tools | Options dialog. See ["Setting Default Options for Dialog Boxes" on page 322](#).

- 6 Click **OK**.

Editing Files

Once you have gotten or checked out the files you want to work on, you can edit them locally. Depending on the workflow in your organization, you must do one of the following to edit the files:

- | | |
|--------------------|--|
| Required locks | <ul style="list-style-type: none"> ■ If your organizational workflow is to check files out and lock them before editing them, then any files you have checked out are already writable and you can start work on them. If there are any files that you need to work on that you have not yet checked out, you must do so. |
| Optimistic locking | <ul style="list-style-type: none"> ■ If your organization supports an optimistic locking model, allowing multiple developers to work on the same files simultaneously without requiring the files to be locked, then you do not need to check the files out before editing them. You just need to get them. However, getting files does not make the local copies of the files writable. In order to work on the files, you must either: <ul style="list-style-type: none"> • Make sure, from Windows Explorer, that the files are not set to read-only, or • Choose to overwrite existing files every time you save in Visual Studio. |

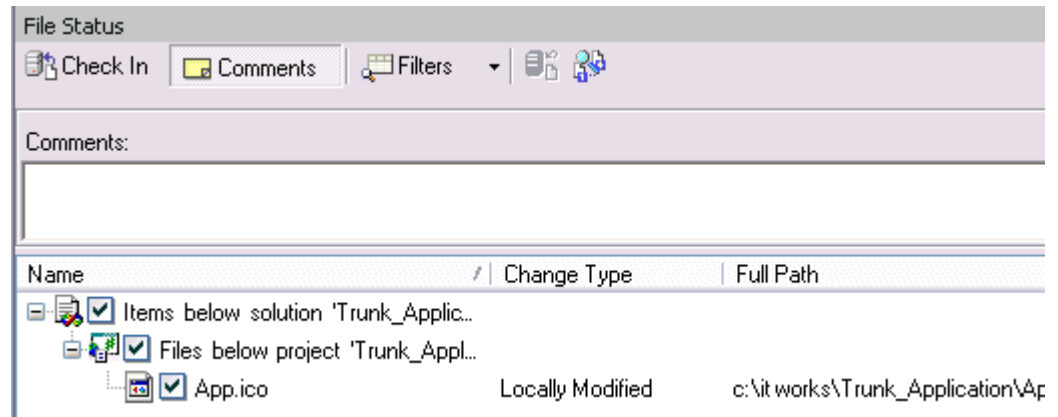
Reviewing Local Changes

Review local changes to:

- Display a list of all changes that you have made to local copies of files, and to list any files that you have added or removed. This is an ideal way to quickly review the status of files in your workspace.
- Quickly check in all files that you have changed since you last checked in. See ["Checking In All Local Changes" on page 319](#).

To display local file status:

- 1 Select Serena | Show File Status. The File Status view appears.



This view lists all files that you have modified or added.

- 2 Optionally, click the **Filter** button to choose whether or not to display file that are currently checked out, that have been locally modified, or that are new.



- 3 You can also check in changes and compare revisions from here. See ["Checking In All Local Changes" on page 319](#) and ["Comparing Files" on page 333](#).

Checking In Files

Purpose Check in files to store any changes you have made in new revisions. If your workflow is to check out all files with a lock in order to edit them, then you must do so before checking them in. Otherwise, you can check in any local files, regardless whether you first checked them out.

To check in, you can either:

- Select specific files and folders, and complete the Check In dialog box. This provides you with a full range of check-in options, including the ability to customize TeamTrack issue associations. See ["Checking In with the Check In Dialog Box" on page 317](#).
- Check in locally modified files from the File Status view, and bypass the Check In dialog box. In this case, all default settings for check-in will apply. This method is faster, but less flexible. See ["Checking In All Local Changes" on page 319](#).



IMPORTANT! Checking in local changes does not synchronize such changes as renamed and moved files. To do this, commit all local changes to Version Manager (["Committing Local Changes to Version Manager" on page 329](#)), or synchronize your workspace with the corresponding Version Manager workspace.

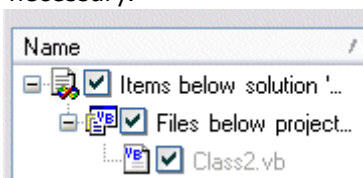
About Checking In and Merging

If other users have checked in changes to the files since you last updated your local workspace with the latest revisions, by default your changes will be automatically merged with the latest revisions. This ensures that no changes are lost. If your changes conflict with changes that other users have checked in, you must resolve the conflicts before completing check-in. The Compare Workspaces view simplifies this process, by listing all of the files that conflict with files in Version Manager. You can then resolve conflicts from this view. See ["Reviewing and Resolving Conflicts" on page 335](#).

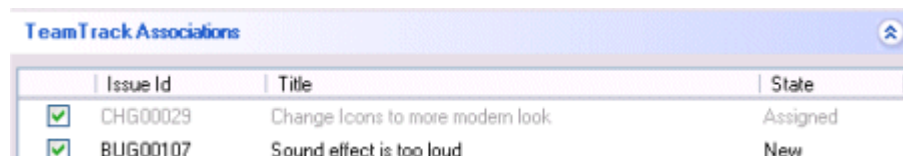
Checking In with the Check In Dialog Box

To check in specific files or folders using the Check In dialog box:

- 1 Save all of the files that you are checking in, including any project or solution files.
- 2 Select the files or folders that you want to check in from the Solution Explorer.
- 3 Select File | Serena | Check In. The Check In dialog box appears.
- 4 In the Check In dialog box, verify that the file selection is correct, and modify it if necessary.



- 5 Enter a description of the changes in the **Description** field. If you are checking in multiple files, you can enter separate descriptions for each file by selecting **No** from the **Use description for all** option. In this case, you will be prompted to enter unique descriptions for each file.
- 6 If you are using the TeamTrack integration to Version Manager, expand the **TeamTrack Associations** bar to display all currently activated issues.



Issues selected here will be associated with the files that you are checking in. De-select any issues that you do not want to associate. For more information on the TeamTrack issue association and setup, see ["Associating and Working on TeamTrack Issues" on page 337](#).

- 7 By default, any issues that you associate with files at check-in will be deactivated, so that they are no longer in your activated issues list. If you want to leave the selected issues in your activated issues list, de-select the **Deactivate selected issues after checkin** option.

- 8 To modify check-in options, click the **Options** bar and update any of the following:

Option	Description
If newer revision in repository	<p>Choose what to do if a new revision of the file has been checked in to Version Manager since you last got the file. Select from the following:</p> <ul style="list-style-type: none"> ■ Merge: Merge your changes with changes in the latest revision in Version Manager. If conflicts results from attempting to merge files, you must resolve the conflicts before completing the check-in. See "Reviewing and Resolving Conflicts" on page 335. ■ Skip: Do not check in the file. ■ Force Checkin: Check in the file and create a new revision, without merging.
If Workfile Unchanged	<p>Choose what to do if the local working version of the file is no different than the latest revision in Version Manager:</p> <ul style="list-style-type: none"> ■ Prompt: Display a prompt allowing you to choose a different option for each file. ■ Checkin: Check in all files that are unchanged. ■ Leave as-is: Do not check in all files that are unchanged.
Use description for all	Select Yes to apply the description from the Description field to all files you are checking in. If you choose No , you will be prompted to enter descriptions for each file.
Keep locked	If you have checked out the files and you currently have them locked in Version Manager, choose whether to keep them locked. If you select Yes , the files will remain locked and no other users may check them out.
New label	Enter a version label to assign to the new revisions. Labels are limited to 254 characters. Do not use a colon (:), double quotes ("), a plus sign (+), or a minus sign (-).
Float label with tip	If you are assigning a label to the new revisions, select Yes to make sure that the label is always assigned to the latest revisions of the files. Every time a new revision is checked in, the label will move (or float) to the new revision.
If label exists	<p>Choose what to do if the label you are assigning to the new revisions is already assigned to different revisions. Select from the following:</p> <ul style="list-style-type: none"> ■ Prompt to be prompted to resolve this issue if it occurs during check-in ■ Reassign to move the label to the new revision ■ Leave as-is to leave the label assignment as is, without moving it to the new revision

Option	Description
Promote to next	Select Yes to promote the new revision to the next group in the promotion hierarchy. IMPORTANT! You cannot simultaneously keep the files locked and promote the new revisions during check-in. This is because you cannot promote a locked revision. If you want to promote the new revisions, then do not choose to keep the files locked.
Update local file on keyword expansion	If the file you are checking in includes Version Manager keywords that will be expanded during check-in, setting this option to Yes will then copy the latest revision, with the expanded keywords, to your local workspace.

- 9 Optionally select the **Save Settings** check-box to store the current options as the default for future checkins.



TIP You can also define default options for all dialog boxes from the Tools | Options dialog. See ["Setting Default Options for Dialog Boxes" on page 322](#).


- 10 Click **Check In**.



IMPORTANT! If conflicts result from attempting to merge files, you must resolve the conflicts before completing the check-in. See ["Reviewing and Resolving Conflicts" on page 335](#).


Checking In All Local Changes

To quickly check in all local changes:

- 1 Select **Serena | Show File Status** to display a list of all files that you have modified locally.
- 2 Click the **Comments** button  **Comments** to enter comments about the local updates.

Comments:
I corrected defect 4762, but it needs peer review.

These comments will be applied to the files when you check them in.

- 3 Verify that the selection of files that you want to check in is correct.
- 4 Click the **Check In** button  **Check In**. The following occurs:
 - If you entered a comment in the **Comments** field, the comment is applied to each file. Otherwise, you are prompted to enter a comment.
 - If TeamTrack issue associations are required for all checkins, and there are currently active issues, then the files are associated with the issues. If no issues are currently active, you must activate the issues before checking in. See ["Associating and Working on TeamTrack Issues" on page 337](#).

Labeling Revisions

Assign a version label to assign a descriptive text label to files. You can use version labels to mark revisions that have been used in specific releases, or that include specific changes. For example, you can assign a floating label (a label that always moves to the newest revision of a file) that build scripts can search for, in order to be sure that only the latest revisions of files are retrieved. You can:

- Assign labels: See ["Assigning Labels" on page 320](#)
- Rename labels: See ["Renaming Labels" on page 321](#)
- Delete labels: See ["Deleting Labels" on page 321](#)

Assigning Labels

You can label the latest version of a file (or files), or label a previous version of a specific file.

To label the latest version of a file, or a selection of multiple files:

- 1 Select the files that you want to label. Select a folder to label all files within that folder.
- 2 Select File | Serena | Label. The Add Label dialog box appears.
- 3 Verify that the correct items are selected.
- 4 Enter the label in the **New Label** field. Labels are limited to 254 characters. Do not use a colon (:), double quotes ("), a plus sign (+), or a minus sign (-).
- 5 Optionally, click the **Options** bar and modify either of the following options:
 - Set **If label exists** to **Prompt**, **Reassign**, or **Leave as-is** to choose what to do if the label you defined is already assigned to the selected files.
 - Set **Make floating** to **Yes** in order for this label to automatically move (or *float*) to each new version of the files.
- 6 Click the **Add Label** button.

To label a previous version of a specific file:

- 1 Select the file that you want to label.
- 2 Select Serena | Show History.
- 3 Right-click the version that you want to label and select Add Label. The Assign Label dialog box appears.
- 4 Verify that the correct items are selected.
- 5 Enter the label in the **Version Label** field.
- 6 Optionally, click the **Options** bar and modify either of the following options:
 - Set **If label exists** to **Prompt**, **Reassign**, or **Leave as-is** to choose what to do if the label you defined is already assigned to a revision of the file.
 - Set **Make floating** to **Yes** in order for this label to automatically move (or *float*) to each new version of the file.

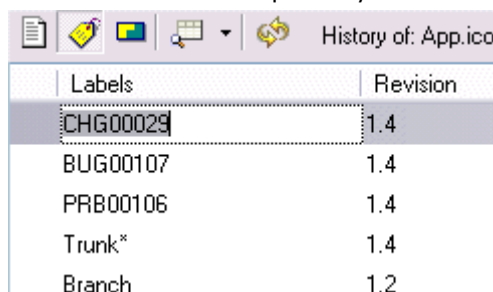
- 7 Click the **Add Label** button.

Renaming Labels

Rename version labels to change the name of an existing label. You can rename labels assigned to specific versions of specific files.

To rename a label:

- 1 Select the file that contains the label you want to rename.
- 2 Select **Serena | Show History**.
- 3 Click the **Label** button to display all version labels assigned to revisions of the file. Each label is listed separately.



Labels	Revision
CHG00029	1.4
BUG00107	1.4
PRB00106	1.4
Trunk*	1.4
Branch	1.2

- 4 Click on the label that you want to rename, and enter the new text.

Deleting Labels

Delete a version label to remove it from a specific revision of a file.

To delete a label:

- 1 Select the file that contains the label you want to delete.
- 2 Select **Serena | Show History**.
- 3 Click the **Label** button to display all version labels assigned to revisions of the file.
- 4 Right-click on the label you want to delete, and select **Delete Label**.

Promoting Revisions

Promote a revision to associate it with the next promotion group in the promotion model. Promote a revision when that revision represents the transition into the next phase of development or production. For example, if the next group in your promotion model is called *test* and is used to identify files that are ready to be tested, and you check in a revision that makes a component ready to be tested, promote the revision to assign the *test* group to it.

To promote the latest revision of a file, or multiple files at once:

- 1 In the Solution Explorer, select the files that you want to promote. Select a folder to promote all files within that folder.
- 2 Select **File | Serena | Promote**. The files are promoted to the next group.

To promote a specific revision of a specific file:

- 1 Select the file that you want to promote.
- 2 Select Serena | Show History.
- 3 Right-click on the revision that you want to promote, and select Promote to Next.

Setting Default Options for Dialog Boxes

Set default options to define the default settings and behavior for dialog boxes.

To set default options for dialog boxes:

- 1 Select Tools | Options. The Options dialog box appears.
- 2 From the list of folders on the left, select Serena to display the different categories of options.
- 3 Select any of the following categories and set the default options to your choice:

Category	Options
Assign Label Defaults apply whenever you assign version labels. See "Labeling Revisions" on page 320 .	If label exists Set to Prompt , Reassign , or Leave as-is to choose what to do if a label you define is already assigned to the selected files.
	Make floating Set to Yes in order for the label to automatically move (or <i>float</i>) to each new revision of the files.

Category	Options
Check In Defaults apply whenever you check in files. See "Checking In Files" on page 316 .	If newer revision in repository Set to: <ul style="list-style-type: none"> ■ Merge: Merge your changes with changes in the latest revision in Version Manager. If conflicts result from attempting to merge files, you must resolve the conflicts before completing the check-in. See "Reviewing and Resolving Conflicts" on page 335. ■ Skip: Do not check in the file. ■ Force Checkin: Check in the file and create a new revision, without merging.
	Use description for all Select Yes to apply the description from the Comment field to all files during a check-in. If you choose No , you will be prompted to enter descriptions for each file.
	Keep locked Select Yes to keep files locked after check-in so that no other users may check them out.
	New label Enter a version label to assign to new revisions of files, or click the drop-down list to select an existing label.
	Float label with tip If you are assigning a label to the new revision, set to Yes to make sure that the label is always assigned to the latest revision of the file. Every time a new revision is checked in, the label will move (or float) to the new revision.
	If label exists Choose what to do if the label you are assigning to the new revision is already assigned to a different revision. Select from the following: <ul style="list-style-type: none"> ■ Prompt to be prompted to resolve this issue if it occurs during check-in ■ Reassign to move the label to the new revision ■ Leave as-is to leave the label assignment as is, without moving it to the new revision
	Promote to next Select Yes to promote the new revision to the next group in the promotion hierarchy.
	Update local file after Keyword expansion If the file you are checking in includes Version Manager keywords that will be expanded during check-in, setting this option to Yes will then copy the latest revision, with the expanded keywords, to your local workspace.

Category	Options
Check Out Defaults apply whenever you check out files. See "Checking Out Files" on page 313.	If workfile is changed Choose what to do if your local working copy of the file is different from the latest revision. Select from the following: <ul style="list-style-type: none"> ■ Merge: to automatically merge the latest revision with your local copy ■ Prompt: to be prompted ■ Overwrite: to overwrite the local copy with the latest revision ■ Leave as-is: to keep the local copy as-is
Compare and Merge	See "Setting Encoding and Display Options" on page 331.
Get Defaults apply whenever you get files. See "Getting Specific Files or Folders" on page 312.	If workfile is changed Choose what to do if your local working copy of the file is different from the latest revision. Select from the following: <ul style="list-style-type: none"> ■ Merge: to automatically merge the latest revision with your local copy ■ Prompt: to be prompted ■ Overwrite: to overwrite the local copy with the latest revision ■ Leave as-is: to keep the local copy as-is
Undo Checkout Defaults apply whenever you undo checkout. See "Undoing Checkout" on page 314.	After file has been unlocked Choose what to do after the files are unlocked. Select from the following: <ul style="list-style-type: none"> ■ Leave local workspace as-is: to leave all local working copies of files as they are ■ Replace local workspace with latest revision: to overwrite local working copies of the file with copies of the latest revisions, from Version Manager.

Comparing and Synchronizing Workspaces

Synchronize workspaces to check in any changes to files in your local workspace, and to update your local workspace with all changes from Version Manager. Synchronizing workspaces includes the following procedures:

- Compare your local workspace to the corresponding Version Manager project to determine what has changed since your last synchronization. See ["Comparing Workspaces" on page 326.](#)
- Commit all changes to local files, to check in the changes to Version Manager. See ["Committing Local Changes to Version Manager" on page 329.](#)
- Update your local workspace with all updates to files in Version Manager. See ["Getting All Updates from Version Manager" on page 327.](#)

- Synchronize workspaces to commit all local changes to Version Manager, and update your local workspace with changes from Version Manager, all in one step. See ["Synchronizing Workspaces" on page 330](#).



IMPORTANT! The Compare Workspace view is not accessible if you are working within a solution that is not under source control. See ["Working with Uncontrolled Solutions" on page 306](#).

About the Merge Process

Files may be merged when checking in files, and when synchronizing workspaces. If you and others have made changes to a shared file without checking that file out, then your respective changes will be merged when you synchronize workspaces. For example, Developer 1 and Developer 2 both get Queries.cs in their local workspaces, without checking it out and locking it. Developer 1 checks in a new revision with changes. Developer 2 then checks in with changes, as well. At this time, the changes that Developer 2 made are merged into the revision of the file that Developer 1 checked in. If there are any conflicts, Developer 2 must resolve them before completing check-in.

Important Refactoring Considerations

When you synchronize, your local workspace is automatically updated with any files that have been deleted, moved, renamed, or added within another Visual Studio environment. **However, if any files have been added, moved, renamed, or deleted from any of the other Version Manager clients (such as the desktop, Web, or command line clients), your Visual Studio solution or project will not be automatically updated with all of the changes.** We therefore recommend that any additions, moves, deletions, or renames of files in any Visual Studio projects are completed within Visual Studio itself. This updates the Visual Studio solution and project information so that the changes will be available from within Visual Studio.

If any files are added, renamed, deleted, or moved from any other Version Manager interface, you must complete the following steps to reconcile your local workspace to the changes:

- 1 Synchronize your workspace. This will update your working directories with all of the changes. For example, if a file was renamed in Version Manager, the file with the old name will be replaced by the file with the new name. Any files that were deleted in Version Manager will be deleted from your working directories.
- 2 From the Solution explorer, delete any references to files that are now missing. This includes any file that has been renamed or moved. Because the Visual Studio solution or project are not aware of the changes, the files simply appear to be missing, rather than renamed or moved.
- 3 Add any files that have been renamed, moved, or added. These files were all placed in your physical working directories when you synchronized; you must add them to your Visual Studio solution or project to make sure that the solution or project are aware of them. Make sure that you add them to the location in your project that corresponds to their location in your working directories.
- 4 Once again synchronize your workspace with Version Manager. This will ensure that your solution or project is checked in to Version Manager, with all of the changes.

Then, any other developer will get the updated solution or project with all of moved, renamed, added, and deleted files.

Comparing Workspaces

Compare your local workspace to the corresponding Version Manager project to determine what has changed since you last synchronized. Once this is done, you can determine whether you need to commit local changes to Version Manager ("[Committing Local Changes to Version Manager](#)" on page 329), update your local workspace ("[Getting All Updates from Version Manager](#)" on page 327), or synchronize workspaces ("[Synchronizing Workspaces](#)" on page 330) to update and commit all changes. You can also determine whether you need to resolve any conflicting changes between different revisions of files.



IMPORTANT! The Compare Workspace view is not accessible if you are working within a solution that is not under source control. See "[Working with Uncontrolled Solutions](#)" on page 306.

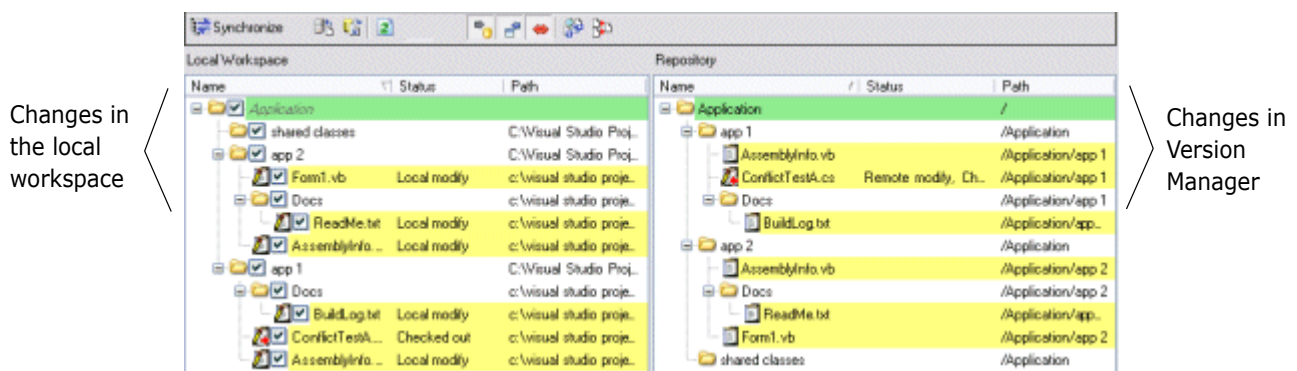
Potential changes include:

- New files have been added, either to your local workspace or to Version Manager.
- Files have been changed in your local workspace.
- New revisions of files have been checked in to Version Manager.
- Files have been deleted, moved, or renamed, either in your workspace or in Version Manager.

To compare workspaces:



- 1 Make sure to save all files that you have modified locally, including solution and project files.
- 2 Select Serena | Compare Workspaces. The Compare Workspace view appears.

By default, the contents of the local workspace appear in the left pane, under Local Workspace. The contents of the Version Manager project appear in the right pane, under Repository.







- 3 To limit the display to specific types of changes, select any of the following filtering options:

- Select / de-select the **Show local files** button to show / hide changes to local files

- Select / de-select the **Show remote files** button  to show / hide changes to files in Version Manager
- Select / de-select the **Show conflicts** button  to show / hide conflicts between files in the local workspace and files in Version Manager

Workspace status
icons

- 4 Consult the following table to review the status of files:

File icon	Status
	Updated file: <ul style="list-style-type: none"> ■ If in the local workspace, may be checked in to Version Manager ■ If in Version Manager, may be retrieved to the local workspace
	New file: <ul style="list-style-type: none"> ■ If in the local workspace, may be added to Version Manager ■ If in Version Manager, may be added to the local workspace
	Deleted file: <ul style="list-style-type: none"> ■ If in the local workspace, may be deleted from Version Manager ■ If in Version Manager, may be deleted from the local workspace
	Renamed file: <ul style="list-style-type: none"> ■ If in the local workspace, may be renamed in Version Manager ■ If in Version Manager, may be renamed in the local workspace

Getting All Updates from Version Manager

Get all updates from Version Manager to update your local workspace with all changes in the corresponding Version Manager project. When you get updates from Version Manager, your workspace is updated with the following types of change:

- All new revisions of files are copied to your workspace. By default, all changes in the new revisions are merged with changes that you have made to your local copies of the files since you last checked in. If your changes conflict with other users' changes, you must either:
 - Resolve the conflicts and update again.
 - Or force conflicting files to update, despite conflicts. In this case, your local changes will be overwritten with the latest revisions. The revisions are not merged, and your local updates are lost. See ["Forcing Updates" on page 328](#).
- Any new files, that have been added to Version Manager since you last got all updates, and to which the default version label for your workspace is assigned, are added to your local workspace.
- If any files have been deleted from Version Manager, the corresponding files are deleted from your local workspace. This includes any files from which the default version label has been removed.

- If any files in Version Manager have been moved or renamed, the corresponding files on your workspace are moved and renamed.



IMPORTANT! Only additions, deletions, moves, and renames that are made via the rich integration to Visual Studio are automatically synchronized. See ["Important Refactoring Considerations" on page 325](#) for information on refactoring changes made via other interfaces, such as the desktop.

Updating and Merging Local Workspaces

To update your local workspace:

- 1 Select Serena | Compare Workspaces.
- 2 Compare your local workspace to the corresponding Version Manager project (see ["Comparing Workspaces" on page 326](#)). Of particular interest are the *Incoming* changes; these are all changes to the Version Manager project that will be updated in your local workspace. To filter the comparison to only display incoming changes, click the **Show remote files** button
- 3 Click the **Show conflicts** button to determine if any of the local files conflict with files in Version Manager. If so, you must resolve these conflicts before you can update your workspace with the new files. See ["Reviewing and Resolving Conflicts" on page 335](#).



TIP If there are conflicts, but you do not want to resolve them and would prefer to start over with new copies of the latest revisions from Version Manager, you can do so by forcing updates. See ["Forcing Updates" on page 328](#).

- 4 Once you have reviewed the changes, click the **Update** button to get all new and updated files from Version Manager.
- 5 Once the operation is complete, you can verify that you have successfully gotten all updates by again displaying all incoming changes, as well as conflicts.

Forcing Updates

If you want to overwrite any local files with the latest revisions from Version Manager, you can do so by forcing an update. A forced update does not attempt to merge files. Any local modifications are over-written. This is very useful if there are conflicts that you do not need to resolve, and you would instead prefer to start over with the latest revisions.

To force updates:

From the Compare Workspace view, right-click the file (or files) and select Force Update from the menu that displays. Your local files are over-written with the latest revisions from Version Manager.



Committing Local Changes to Version Manager

Commit local changes to Version Manager to update the Version Manager project with all changes to your local workspace. When you commit local changes, the Version Manager project is updated with the following types of change:

- Changes to files are checked in to new revisions. By default, all of your changes are merged with changes that other users have checked in since you last checked in. If your changes conflict with other users' changes, you must either:
 - Resolve the conflicts and commit again.
 - Force the conflicting files to commit, despite conflicts. In this case new revisions are created from your local files. The revisions are not merged. See ["Forcing Commits" on page 330](#).
- Any new files are added to the Version Manager project, and the default version label for your workspace is assigned to them.
- If you have deleted any files from your workspace, the corresponding files are deleted from Version Manager.
- If you have moved or renamed any files in your local workspace, the corresponding files are moved and renamed in Version Manager.


Committing and Merging Local Changes

To commit local changes to Version Manager:

- 1 Make sure to save all files that you have modified locally, including solution and project files.
- 2 Select **Serena | Compare Workspaces**.
- 3 Compare your local workspace to the corresponding Version Manager project (see ["Comparing Workspaces" on page 326](#)). Of particular interest are the *Outgoing* changes; these are all changes to your local workspace that will be committed to the Version Manager project. To filter the comparison to only display outgoing changes, click the **Show local files** button .
- 4 Click the **Show conflicts** button  to determine if any of the local files conflict with files in Version Manager. If so, you must resolve these conflicts before you can update your workspace with the new files. See ["Reviewing and Resolving Conflicts" on page 335](#).



TIP If there are conflicts, but you do not want to resolve them and would prefer to check in new revisions from your files without merging them, you can do so by forcing a commit. See ["Forcing Commits" on page 330](#).

- 5 Once you have reviewed the changes, click the **Commit** button  to update the Version Manager project.



IMPORTANT! If any of your local changes conflict with the latest revisions of files in Version Manager, you must resolve those conflicts before you can merge the files with the latest revisions. See ["Reviewing and Resolving Conflicts" on page 335](#).

Forcing Commits

If you want to create new revisions in Version Manager from your local copies of files, without merging them into the latest revisions, you can do so by forcing a commit. A forced commit does not attempt to merge files. This is very useful if there are conflicts that you do not need to resolve, and would instead prefer to check in new revisions using your local files.

To force commits:

From the Compare Workspace view, right-click the file (or files) and select Force Commit from the menu that displays. New revisions are created in Version Manager.

Synchronizing Workspaces


Synchronize workspaces to automatically complete all of the following actions:

- Check in any changes to files that you have modified locally. By default, all changes to your local copies of the files are merged with any changes that other users have checked in to Version Manager since you last synchronized (or committed changes). If your changes conflict with other users' changes, you must resolve them. See ["Reviewing and Resolving Conflicts" on page 335](#).
- Add any new files from your local workspace to the corresponding Version Manager project, and assign the default version label for your workspace to them.
- Get the latest revisions of all files in Version Manager. By default, all changes in the new revisions are merged with changes that you have made to your local copies of the files since you last checked in. If your changes conflict with other users' changes, you must resolve them. See ["Reviewing and Resolving Conflicts" on page 335](#).
- Get any files that have been added to Version Manager since you last synchronized, and to which the default version label has been assigned.
- Delete any files from Version Manager that have been deleted in your local workspace, and delete any files from your local workspace that have been deleted in Version Manager. This includes any files that haven't actually been deleted, but from which the default version label has been removed.
- Move or rename any files in Version Manager that you have moved or renamed locally, and move or rename any files locally that have been moved or renamed in Version Manager.



IMPORTANT! Only additions, deletions, moves, and renames that are made via the rich integration to Visual Studio are automatically synchronized. See ["Important Refactoring Considerations" on page 325](#) for information on refactoring changes made via other interfaces.

To synchronize workspaces:

- 1 Make sure to save all files that you have modified locally, including solution and project files.
- 2 Compare your local workspace to the Version Manager project to determine what changes you need to synchronize. See ["Comparing Workspaces" on page 326](#).
- 3 Optionally select / de-select changes to choose specific changes to synchronize.
- 4 Click the **Synchronize** button  Synchronize.

Comparing Files and Resolving Conflicts

Using the rich integration to Visual Studio, you can compare and resolve conflicts between your local workfiles and the latest revisions in Version Manager. You can also compare two revisions of the same file. See the following sections for detailed information:

- See ["About File Comparison" on page 331](#) for information on the types of differences you can evaluate by comparing files.
- See ["Setting Encoding and Display Options" on page 331](#) to learn how to set display options for the file comparison tool, and how to set encoding options.
- See ["Comparing Files" on page 333](#) to learn how to compare files.
- See ["Reviewing and Resolving Conflicts" on page 335](#) to learn how to resolve conflicts between different revisions of files.

About File Comparison

File comparison allows you to carefully evaluate the differences between a local copy of a file and the latest revision in Version Manager, or between two revisions of a file in Version Manager. You can compare any text based file, such as code source files.

Types of Differences

File comparison reveals the following types of differences between files:

- General changes: Changes that are not clearly insertions or deletions.
- Additions: Additions to one revision of a file that are not present in another revision of the file.
- Deletions: Content that has been deleted from one revision of a file but not from another.
- Moves: Content that has been moved in one revision of a file but not from another.

Setting Encoding and Display Options

Set encoding and display options to define:

- How text in file comparisons will appear, including markup for each type of difference (such as changes, deletions, and conflicts)
- How text in file comparisons will be encoded
- Whether line numbers should be displayed
- How many spaces tabs should take up
- Whether, when resolving conflicts, to display the original file (ancestor), as well as the derivatives that are in conflict

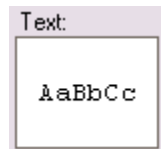
To set encoding and display options for file comparisons:

- 1 Select Tools | Options. The Options dialog box appears.
- 2 From the list of options on the left, select Serena.

- 3 Select **Compare and Merge** to display the file comparison settings.
- 4 Complete the general settings as follows:

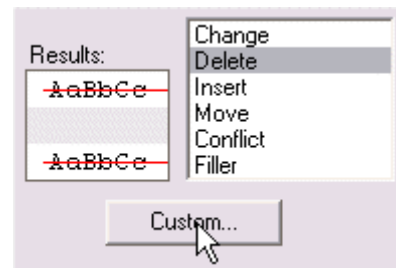
Option	Description
Show ancestor	Select to always show the ancestor (or <i>original</i>) revision pane when resolving conflicts.
Syntax highlighting	Select to highlight keywords when comparing files. You can highlight syntax in the following types of files: CSharp, CPP, Java, Visual Basic, HTML, XML, Java Script, VB Script, CSS, SQL, Python, .ini
Tab size	Enter the number of spaces that comprise a tab.
Line numbers	Select to display line numbers when comparing files.

- 5 Under the **Encoding** options, choose any of the following:
 - **UTF-8**: 8 bit Unicode
 - **UTF-16**: 16 bit Unicode (*Unicode* typically refers to this encoding)
 - **UTF-16BE**: Big-endian Unicode
 - **ASCII**: 7 bit characters
 - **UTF-7 or high-ASCII**: Variable length encoding, commonly used in e-mail
- 6 Under the **Display** options, optionally click the **Font**, **Text Color**, or **Background** buttons to modify the way that the text will display when you compare files. You can preview the text style in the **Text** box.



- 7 Also under the **Display** options, optionally select a type of difference and click the **Custom** button in order to customize the markup of specific types of differences. You can customize the text style and highlighting for changes, deletions, insertions, and moves. You can customize text color for conflicts and filler.

For example, by default, deletions are marked up with a red strike-out. To change this, select **Delete** and click **Custom**.



- 8 Click **OK**.

Comparing Files


To compare files:

- You must first select the file that you will compare, and display the file comparison view. You can compare a local file to the latest revision in Version Manager, or you can compare two revisions of the same file. See ["Displaying File Comparisons" on page 333](#).
- You can then review the differences. See ["File Comparison Usage Overview" on page 333](#) and ["Navigating Differences" on page 334](#).

Displaying File Comparisons



To display a file comparison:

Do one of the following:

Result	Steps
Compare the local copy of a file to the latest revision in Version Manager	a Select the file from the Solution Explorer. b Select File Serena Compare Revisions. <i>Or</i> a Select Serena Show File Status. b Select the file. c Click the Compare Revisions button  .
Compare two different revisions of the same file in Version Manager.	a Select the file from the Solutions Explorer. b Select File Serena Show History. c Select the two revisions, then right-click and select Compare Revisions.

The Serena Compare tool appears. By default, both of the revisions appear, side-by-side. Information about each file appears above each pane.

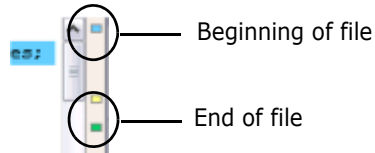
You can click either of the following buttons to show / hide just one of the files:

-  To only display file one.
-  To only display file two.

File Comparison Usage Overview


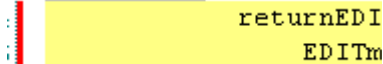

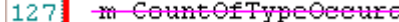



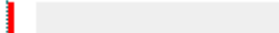


Each difference and conflict in a file comparison is represented by unique graphical elements. These elements appear differently, depending on the type of difference. Use these graphical elements to help you navigate difference reports. Each difference is indicated by the following:

- **Marker:** Color markers in the bar to the right of each file pane summarize all of the differences. Different colors mark each type of difference. A separate marker appears for each difference. The bar represents the entire file, for example:




- **Text markup:** Differences are highlighted within the text itself. Different colors and styles are applied to each type of difference. You can customize the text markup styles for each type of difference. See ["Setting Encoding and Display Options" on page 331](#) for details.


The following table describes each of the markers, icons, and default text markup styles you will see for each type of difference.

Type	Marker	Default Text Markup
Modification Any difference that is neither an addition nor a conflict is marked as a change.		Yellow: 
Deletion Any text that has been deleted from one of the revisions of the file that you are comparing.		Strike-out: 
Addition Text that has been added to one of the revisions of the file that you are comparing.		Green: 
Conflict Text that has been changed in one of the two revisions, and that somehow conflicts with the same text in the other revision. You must resolve any conflicts if you want to merge two revisions of a file during check-in. See "Reviewing and Resolving Conflicts" on page 335 .		Gray: 
Move Any text that has been moved in one of the revisions of the file you are comparing.		Blue: 

Navigating Differences

To review changes in a difference report:

- 1 Click the difference markers to navigate to a specific difference. When you click the marker in one file pane, all file panes automatically jump to the same marker, allowing you to compare differences side-by-side.
- 2 To jump from the current change to the next change, click the **Next Difference** button .

- 3 To jump from the current change to the previous change, click the **Previous Difference** button .

Reviewing and Resolving Conflicts

Review the following procedures to learn how to review conflicts between your local copies of files and the latest revisions in Version Manager, and how to resolve those conflicts before checking in new revisions of the files:

- ["Reviewing Differences and Conflicts" on page 335](#)
- ["Resolving Conflicts in Merged Files" on page 335](#)
- ["Completing Merges" on page 337](#)







You must resolve conflicts before checking in, if you intend to merge your local updates with the latest revision in Version Manager.



NOTE The conflict resolution window uses the same graphical user interface as the Serena Compare tool to represent the differences between files.

Reviewing Differences and Conflicts

Note the following to review differences and conflicts from the Merge tool:

- For an explanation of how to review and navigate differences and conflicts in a file comparison, see ["Comparing Files" on page 333](#).
- Each type of difference is marked by a specific icon to the left of the Latest, Local, and Merged file panes:
 - Additions: 
 - Deletions: 
 - Edits: 
- Conflicts are marked on the left by the **Copy edits to solution** button: . See ["Resolving Conflicts in Merged Files" on page 335](#) for more information.
- You can skip ahead to the next conflict, or back to the previous conflict using the **Next Conflict**  and **Previous Conflict**  buttons.

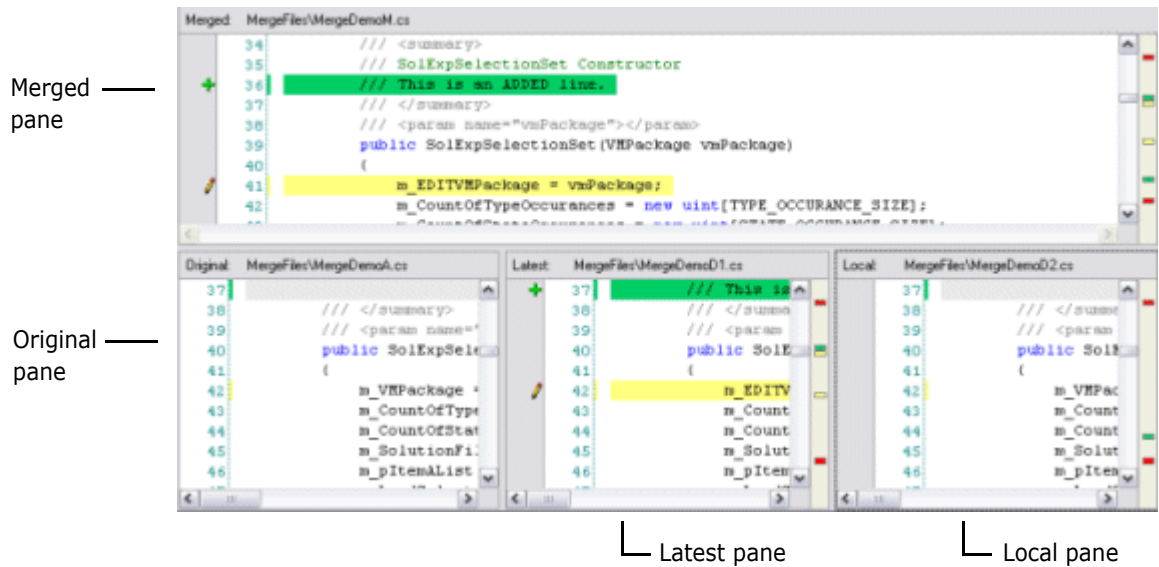
Resolving Conflicts in Merged Files




Resolve conflicts in merged files to make sure that any changes you have made to your local copy of the files do not conflict with changes that other users have checked in to those files. You must resolve all conflicts in the merged files before you can get, check out, or check in the files. The merged file is ready to check in or get once there are no more conflicts visible in the Merged file pane.

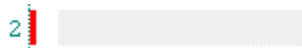
To resolve conflicts in merged files:

- 1 Display the Merge tool to resolve any conflicts between your local working copy of the file and the latest revision of the file in Version Manager. You can find conflicting files in the Compare Workspace view. See ["Comparing Workspaces" on page 326](#) for details.

By default, the Merge tool displays four panes: **Original**, **Latest**, **Local**, and **Merged**:





- The **Original** pane displays the original file, without markup.
 - The **Latest** pane displays the latest revision, in Version Manager, and highlights differences from the original file.
 - The **Local** pane displays the local copy of the file, with your changes, and highlights differences from the original file.
 - The **Merged** pane displays the new, resolved file, with the outcome of your merge operations.
- 2 Locate the conflict you want to resolve. You can jump to it by clicking the **Next Conflict**  or **Previous Conflict**  button, or by clicking a red marker in the right margin . Within the Merged file pane, the area where the conflict occurs is blank, and indicated by a gray placeholder:

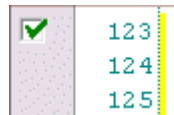


As you navigate the conflicts in one file pane, all of the file panes jump to the corresponding point. For example, if you navigate to a conflict placeholder in the Merged file pane, the Latest and Local file panes display the corresponding lines that are in conflict with each other.

- 3 Review the conflicting lines in the Latest and Local panes, and choose how to resolve it. You can resolve it in any of the following ways:

Solution	Procedure
Edit the text directly	Click on the conflict placeholder in the Merged file pane, and enter the text that will resolve the conflict. You can also paste or drag text from another window or application into the Merged file pane.
Use the lines from either the Latest or the Local file pane	To the left of the conflicting lines in either the Latest or the Local file pane, click the Copy edits to solution button:  . The lines are copied into the corresponding placeholder in the Merged file pane. You can also click in the lines you want to copy to the Merged file pane, and click the Copy edits to solution button  on the toolbar.

- 4 Once the conflict is resolved, a checkbox appears to the left of the updated text in the Merged file pane:



Completing Merges

Once you have resolved all conflicts, click the **Done** button and do one of the following:

- If you are performing a bulk synchronization of your local workspace with the corresponding Version Manager project, synchronize workspaces from the Compare Workspaces view. See ["Synchronizing Workspaces" on page 330](#).
- If you are checking files in, check them in from the Solution Explorer, or perform a bulk commit of all local changes. See ["Checking In Files" on page 316](#) or ["Committing Local Changes to Version Manager" on page 329](#).
- If you are getting files, get them from the Solution Explorer, or perform a bulk get of all changes from Version Manager. See ["Checking In Files" on page 316](#) or ["Getting All Updates from Version Manager" on page 327](#).
- If you are checking files out, check them out from the Solutions Explorer. See ["Checking Out Files" on page 313](#).

Associating and Working on TeamTrack Issues

If your organization uses Serena TeamTrack to track development issues, such as defects and tasks, you can access your issues from within the Version Manager integration to Visual Studio 2003. You can submit and modify TeamTrack issues from within Visual Studio, and then associate issues with specific files. When you associate issues with files, the versioned file history is added to the issue.



NOTE A specific TeamTrack user privilege is required in order to run the integration to TeamTrack. See the TeamTrack SourceBridge documentation.

See the following for detailed information on the TeamTrack integration to Visual Studio:

- ["Issue Management Workflow" on page 338](#)
- ["Setting Up Your IDE Personal Folder" on page 339](#)
- [Defining Association Options](#)339
- ["Logging In to TeamTrack" on page 340](#)
- ["Displaying Reports and Issues" on page 341](#)
- ["Submitting and Modifying Issues" on page 342](#)
- ["Associating Issues" on page 342](#)

Issue Management Workflow

The following table describes the issue management workflow in Visual Studio. You must follow this workflow to successfully display issues, and associate them with files.

Step	Description
1	Set up IDE Personal Folder Before you can access issues from within Visual Studio, you must set up your IDE personal folder in the TeamTrack web client. The IDE personal folder is a special system folder that enables you to display specific issues and listing reports from the rich integrations to Visual Studio and Eclipse. From within TeamTrack, add any issue or any listing report that you want to access to the IDE personal folder. See the <i>Serena TeamTrack User Guide</i> for detailed information on setting up personal folders.
2	Define Integration Settings In the Version Manager desktop client, you can optionally update settings that affect issue association in the rich integration to Visual Studio, including: <ul style="list-style-type: none">■ Whether to apply a version label to all revisions associated with a TeamTrack issue that includes the issue number■ Whether to require issue associations on check-in■ Whether to automatically add notes about associated issues to the check-in comments for new revisions See "Defining Association Options" on page 339 .
3	Connect to the TeamTrack Server In Visual Studio, when adding or getting a project to source control, you have the option to specify the TeamTrack server that contains the solution you will use to manage your issues. If you did not specify the TeamTrack server at that time, or if you need to change the TeamTrack server connection, complete this procedure. When you connect to a TeamTrack server, you also login as a specific user. See "Logging In to TeamTrack" on page 340 .

Step	Description
4	<p>Review, modify, and submit issues</p> <p>From the Issues view, you can display all issues that are available via listing reports in your IDE personal folder, or that have been added directly to your IDE personal folder. For example, this may include specific reports that only list issues that are assigned to you.</p> <p>You can then modify these issues, and even submit new issues. See "Displaying Reports and Issues" on page 341 and "Submitting and Modifying Issues" on page 342.</p>
5	<p>Associate issues with revisions of files</p> <p>The TeamTrack integration to Version Manager also allows you to <i>associate</i> issues with specific revisions of files. When you associate an issue with a file, a Version Control History section is added to the issues, that tracks information about the revisions of the files. A version label with the issue ID can also be assigned to the associated revision. See "Associating Issues" on page 342 for details.</p> <p>To associate issues:</p> <ol style="list-style-type: none"> 1 <i>Activate the issue.</i> This places the issue in a queue of issues that you can optionally choose to associate with files when you check them in. 2 <i>Work on the files that are affected by the issue.</i> For example, you may need to edit specific source code files to resolve a problem described in a specific issue. 3 <i>Check in the files.</i> When you check in, you have the option to <i>associate</i> the files with any (or all) of the currently activated issues. At this time, you can choose specifically which issues the files will be associated with. If the files you are checking in effectively end your portion of the work to address the issues, you can also choose to deactivate the issues.

Setting Up Your IDE Personal Folder

In the TeamTrack Web client, determine which issues you will have access to from Visual Studio by doing any of the following:

- Add specific issues directly to your IDE personal folder.
- Add listing reports to your IDE personal folder.



IMPORTANT! You can only access specific issues and listing reports from within Visual Studio. You cannot access other types of reports, or other types of items, such as URLs.

See the *Serena TeamTrack User Guide* for details on setting up personal folders.

Defining Association Options

From the Version Manager desktop client, the administrator can define settings for rich IDE integrations to TeamTrack, including:

- Whether to apply a version label with the issue number to all associated revisions
- Whether to require issue associations on check-in

- Whether to automatically add notes about associated issues to the check-in comments for new revisions

To define association options:

- 1 Select the Project Database to which you will apply the settings.
- 2 From the Version Manager desktop client, select Admin | SourceBridge settings. The SourceBridge Settings dialog box appears.
- 3 Set the following options:

Field	Description
Show Issue association dialog on checkin / Association required	Select to require that issues be associated with files at check-in. If you select this option, users will be unable to complete checkins if no issues are currently active. The Show Issue association dialog on checkin option has no effect within the rich integration to Visual Studio, but you must select it in order to enable you to then select the Association required option.
Tag workfile comment with association	<p>Select to add information about the associated issue(s) to the check-in comments for files as they are checked in. Select Before existing comment or After existing comment to determine the placement of this information within the comment.</p> <p>In the Tag field, enter the text that you want to add to the check-in comments. This can include any of a number of keywords that will automatically enter information about the associated issues. These include:</p> <ul style="list-style-type: none"> ■ \$id -- Expands to the issue ID number ■ \$ownid -- Expands to the user ID of the issue owner ■ \$owner -- Expands to the name of the issue owner ■ \$project -- Expands to the name of the current project ■ \$title -- Expands to the title of the issue
Use Version Labels on checkin	Select to apply a version label consisting of the issue number when checking in a file.


- 4 Click **OK**.

Logging In to TeamTrack

When adding or opening a project from Version Manager, you have the option to specify the TeamTrack server that contains the solution you will use to manage your issues. If you did not specify the TeamTrack server at that time, or if you need to change the TeamTrack server connection, complete this procedure. When you connect to a TeamTrack server, you also login as a specific user. All issues that are visible from the IDE personal folder in TeamTrack are then visible from Visual Studio.

To connect to a TeamTrack server:

- 1 Select Serena | Show Issues. The Issues view appears.

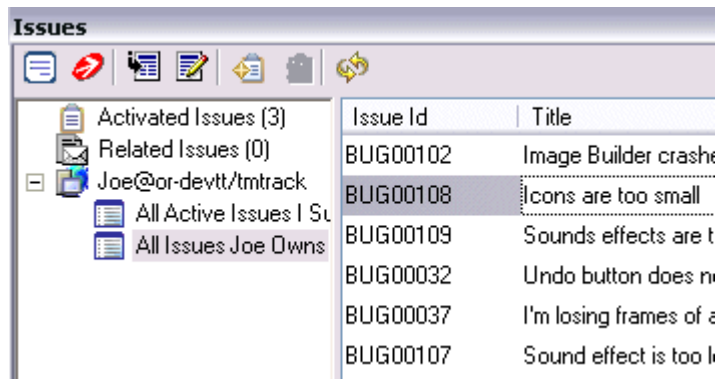
- 2 Click the **TeamTrack Login** button . The Connect to TeamTrack dialog box appears.
- 3 Enter the TeamTrack server name in the **TeamTrack Host** field. If the TeamTrack server uses a non-default port number (any port except 80), append the port number to the server name. For example, if the port number is 89:
`tt_server:89`
- 4 Enter your TeamTrack username and password and click **Next**.
- 5 Click **Finish**.



Displaying Reports and Issues

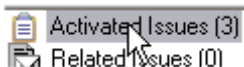
From the Issues view, you can display all issues that are available via listing reports in your IDE personal folder, or that have been added directly to your IDE personal folder. For example, this may include specific reports that only list issues that are assigned to you.

To display reports and issues:


- 1 Select **Serena | Show Issues**. The Issues view appears.



- 2 To review your issues:
 - Select your user name to list any issues that have been added to your IDE personal folder.

 - Expand your user name to display all reports that are available to you. Any listing reports that have been added to your IDE personal folder appear here. You can then click any of the reports to display issues.

 - Select **Activated Issues** to display any currently activated issues (issues that you are currently working on).




NOTE The Related Issues list displays all issues that are associated with a particular file. See ["Associating Issues" on page 342](#) for information on using this list.

- 3 To view the contents of an issue, select the issue and click the **View Issue** button .


Submitting and Modifying Issues

Submit and modify TeamTrack issues to track the status and details of the tasks that you are completing in Visual Studio. You can submit new issues for tasks, defects, or other work that needs to be completed, or modify issues to provide input into your work assignments. Depending on the workflow for your organization, you may modify issues in order to move them to another state, for example if you have completed your portion of the task and need to mark it as ready to test.

To submit an issue:

- 1 Select **Serena | Show Issues**. The Issues view appears.
- 2 Click the **Submit Issue** button . See the *Serena TeamTrack User Guide* for more information on submitting issues.

To modify an issue:

- 1 Locate the issue you want to update. See ["Displaying Reports and Issues" on page 341](#).
- 2 Select the issue and click the **View Issue** button .
- 3 Update the issue as needed. See the *Serena TeamTrack User Guide* for more information on updating issues.

Associating Issues

In addition to providing access to specific issues and reports, The TeamTrack integration to Version Manager also allows you to *associate* issues with specific revisions of files. When you associate an issue with a file:

- A Version Control History section is added to the issues, that tracks:
 - The name of the associated file
 - The revision number
 - The check-in date
 - The user who checked in the file
 - The description of the change that the user entered when checking in

For example, if Joe associated an issue with a file called test.cs, something like the following might appear in the issue after check-in:

Version Control History

/Application/app 1/test.cs

Revision 1.3 Checked In by Joe Manager 2/4/2005 3:54:49 AM

Revision 1.2 Checked Out 2/4/2005 3:54:49 AM


minor change

- Optionally, a version label is assigned to the revision of the file that is associated with the issue. The version label includes the issue number.


- Optionally, information about the associated issue(s) is added to the check-in comment for the new revision.


See ["Defining Association Options" on page 339](#) for information on setting the association options.

To associate issues:

- 1 Locate the issues that you will work on and eventually associate to file revisions. See ["Displaying Reports and Issues" on page 341](#).
- 2 Select the issue and click the **Activate Issue** button . The issue is added to your **Activated Issues** list.

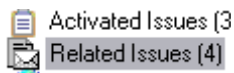


TIP To remove an issue from the Activated Issues list, select the issue from the list and click the **Deactivate Issue** button .

- 3 At any point, you can review the details of an issue by selecting it and clicking the **View Issue** button .
- 4 Complete the work required to resolve the issue, or your portion of it.
- 5 Check in the file or files that resolve the issue. On the Check In dialog box, under TeamTrack Associations, select the issue that you want to associate with the file or files. Only issues that are currently activated can be associated during check-in. See ["Checking In Files" on page 316](#).

To display all issues associated with a particular file:

In the Solution Explorer, right-click the file and select View Related Issues. The Issues view appears, and the Related Issues list is selected.



All associated issues appear to the right.

Chapter 20

WebSphere Studio Application Developer 5 (Eclipse 2)

Introduction	346
Accessing Supported Features	346
Setting Up Source Control Projects	347
Using Source Control	355

Introduction

Purpose This chapter has four purposes:

- List the Version Manager features available through Eclipse 2 and 3 and IBM® WebSphere™ Studio Application Developer 5, and provide a quick reference to accessing those features
- Note any features described in Part 1 of this manual that do not apply to this IDE
- Help administrators set up source control projects and add files to source control
- Help your development team access files that are under source control from within Eclipse

For more information See [Part 1, "The Version Manager IDE Client," on page 15](#) for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features

What is supported? Eclipse 2- and 3-based IDEs support the full set of source control features available through the Version Manager IDE client, except for the sharing of archives among projects.

To...	Select...	For more information see...
Get revisions	Right-click Team Get	"Getting Files" on page 356
Check out revisions	Right-click Team Checkout	"Checking Out Files" on page 356
Lock revisions without overwriting work files	Right-click Team Lock	"Locking Files" on page 357
Undo checkout of revisions	Right-click Team Undo Checkout	"Undoing Checkout" on page 358
Check in revisions	Right-click Team Checkin	"Checking In Files" on page 358
Manage version labels	Serena-SB Run Serena Client	"About Version Labels" on page 56
View properties of revisions or archives	Right-click Team Show Serena Properties	"About Properties" on page 72
Monitor source control activity	Serena-SB Run Serena Client	"Monitoring Source Control Activity with Pulse" on page 73
Generate a history report	Right-click Team Show History	"About History Reports" on page 77
Generate a difference report	Right-click Compare With Serena Team Provider	"About Difference Reports" on page 80
Compare workspace with local history	Right-click Compare With Local History	"Comparing with Local History" on page 366

To...	Select...	For more information see...
Replace workspace with local history	Right-click Replace With Local History	"Replacing with Local History" on page 367
Access the Version Manager Options dialog	Serena-SB Run Serena Client	"About Setting Defaults for Version Manager Options" on page 28
Connect projects to source control	Right-click Team Share Project	"Connecting Projects to Source Control" on page 349
Add new files to source control	Right-click Team Add	"Adding New Files to Source Control" on page 353
Disconnect projects from source control	Right-click Team Disconnect Project	"Disconnecting Projects from Source Control" on page 354
Remove files from source control	Right-click Team Remove	"Removing Files from Source Control" on page 354
Open project from source control	Serena-SB Open from Serena Team Provider	"Connecting Additional Workstations to a Source Control Project" on page 352
Edit files locally without checking them out (local mode)	Right-click Team Local Mode	"Using Local Mode" on page 360
Revert local mode files to source control	Right-click Team Revert Controlled	"Using Local Mode" on page 360
Enter and exit offline mode	See the text.	"Working Offline" on page 362
Rename or move objects (refactoring)	See the text.	"Using Rename or Move (Refactoring)" on page 359
Refresh source control status	Right-click Team Refresh Project Status	"Viewing Source Control Status" on page 355
Synchronize your workspace with source control	Right-click Team Synchronize Project	"Synchronizing Your Workspace with Source Control" on page 363

Setting Up Source Control Projects

Contents This section contains information about setting up the Version Manager IDE client to work with Eclipse-based IDEs.

Prerequisites Before proceeding, you must use the Version Manager desktop client to create a project database that will contain the source control projects associated with the IDE project (if you don't already have one).



IMPORTANT! Eclipse requires JRE 1.3 or 1.4, but it will attempt to use the first JRE found in the path. No JRE is included with Eclipse.



IMPORTANT! Eclipse does not work correctly with UNC paths. Rather than UNC paths, use mapped drives for the Version Manager installation and any Version Manager file server paths that are to be used with Eclipse.

For more information

See [Chapter 2, "Setting Up Source Control with SCC IDEs"](#) on page 23.

Excluding Files and Directories from Source Control

You can configure Eclipse to exclude specified files and directories from source control. This can minimize the size of the project database. For example, you could exclude all files with a `.tmp` file extension or exclude the `bin` directory and its contents.



IMPORTANT! Specify any files and directories you wish to exclude from source control before adding the project they are in to source control.

To exclude specified files and directories from source control:

- 1 Select **Window | Preferences**. The Preferences dialog box appears.
- 2 Click the plus sign next to **Team** and select **Ignored Resources**.
- 3 Examine the **Ignore Patterns** list for the file type or directory you wish to exclude from source control. If it is not listed, do the following:
 - a Click the **Add** button. The Enter Ignore Pattern dialog box appears.
 - b Enter a pattern that defines a file type or directory to ignore. Use wildcards if needed:
 - Asterisks (*) represent one or more characters.
 - Question marks (?) represent one character.
 - c Click **OK**.
- 4 In the **Ignore Patterns** list, ensure that a check mark appears next to each file type and directory you want to exclude from source control.
- 5 Click **OK**.

Migrating WebSphere Studio Application Developer Version 4 Projects to Version 5



IMPORTANT! WebSphere Studio Application Developer 4 is not supported in Version Manager 8. Migrate your WebSphere Studio Application Developer 4 projects while you still have Version Manager 7 installed.

If you have WebSphere Studio Application Developer 4 projects under Version Manager source control and you wish to migrate them to version 5, do the following:

- 1 From WebSphere Studio Application Developer 4, release all of your code changes to the repository.

- 2 From WebSphere Studio Application Developer 5, get the project from source control. See, ["Connecting Additional Workstations to a Source Control Project" on page 352](#).
- 3 Add the .project file to source control. This takes the place of the .vcm_meta file that was used with WebSphere Studio Application Developer 4.



IMPORTANT! Once you have migrated a project to WebSphere Studio Application Developer 5, do not open it from WebSphere Studio Application Developer 4 again.

Connecting Projects to Source Control

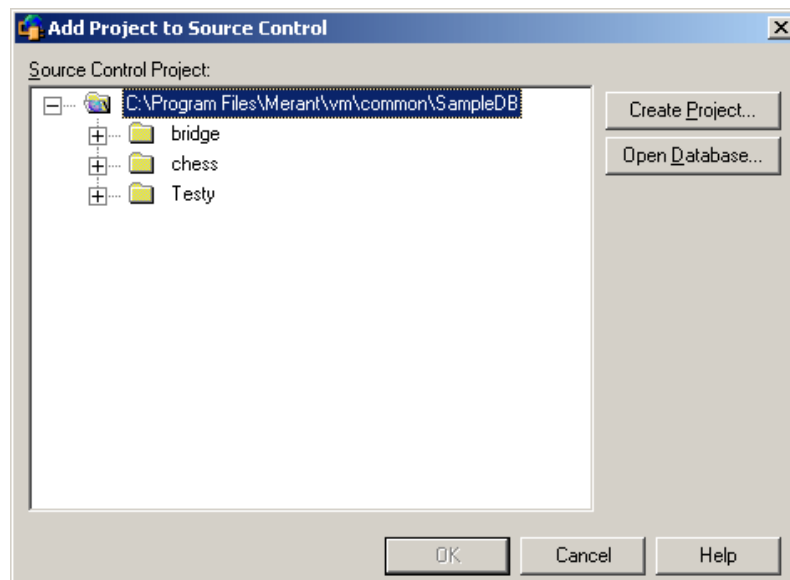
Before you can place IDE files under source control, you must connect your IDE project to source control.



IMPORTANT! Specify any files you wish to exclude from source control before adding the project they are in to source control. See ["Excluding Files and Directories from Source Control" on page 348](#).

To connect to a Version Manager project database:

- 1 Right-click the project icon in the Package Explorer or Navigator. A pop-up menu appears.
- 2 Select Team | Share Project. The Share Project dialog box appears.
- 3 Select **Serena Team Provider** from the **Select a repository type** list.
- 4 Click the **Next** button. The Create or Select a Serena Team Provider Project dialog box appears.
- 5 Click the **Create/Select** button. The Add Project to Source Control dialog box appears.

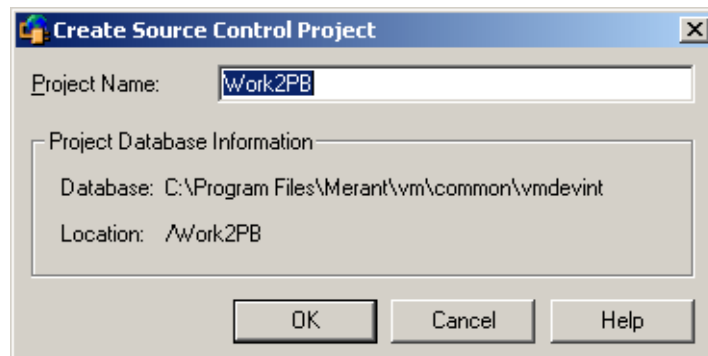


- 6 The default project database displays under **Source Control Project**. If you wish to add the files to a different project database, click the **Open Database** button and

browse to select one or click the **Browse Database** button to browse a list of project databases published by your Version Manager File Servers if you have any.

7 Do one of the following:

- To add to an existing source control project, select one from under Source Control Project. Proceed to [Step 8](#).
- To create a new Version Manager project:
 - a** Under Source Control Project, select the location in the project database where you want to create the new project.
 - b** Click the **Create Project** button. The Create Source Control Project dialog box appears.



The Project Database Information group displays the name and location of the current project database, and the location of the new project within the database.

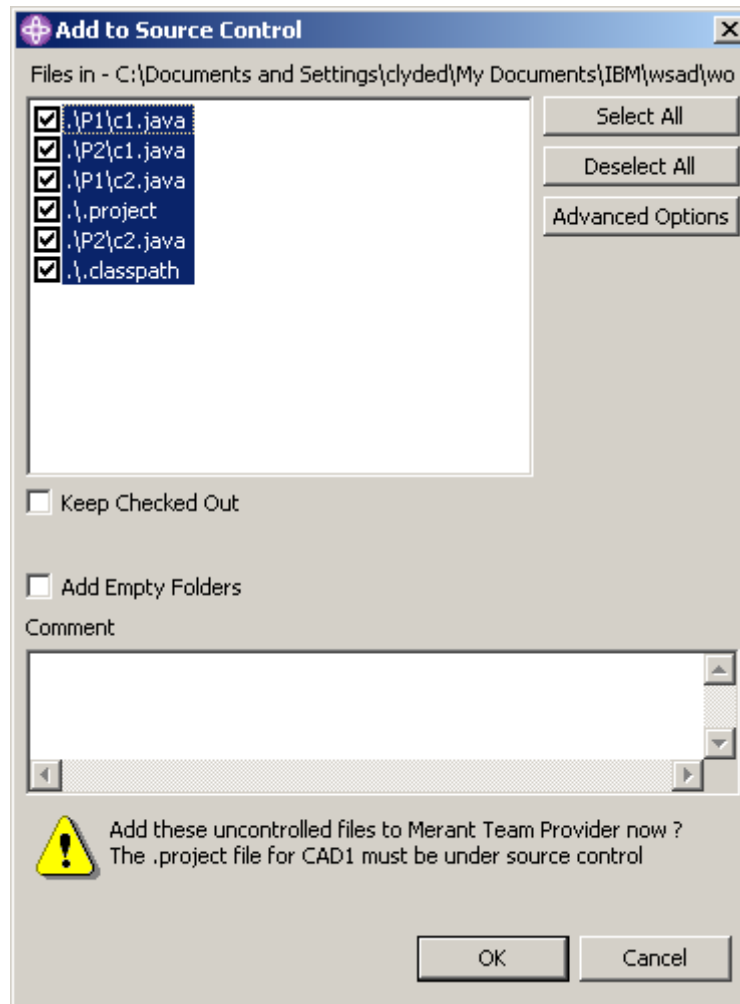
- c** By default, the new Version Manager project uses the same name as the IDE project. If necessary, enter a different name in the **Project Name** field.

The name cannot begin or end with a tab or blank space. Any character can be used in the name except an asterisk (*), a colon (:), a vertical bar (|), forward and backward slashes (/ \), a question mark (?), and angle brackets (< >).

- d** Click **OK**. The Add Project to Source Control dialog box reappears with the new project displayed under **Source Control Project**.

8 Click **OK**. The Create or Select a Merant Team Provider Project dialog box reappears.

- 9 Click **Finish**. Select Team | Add. The Add to Source Control dialog box appears with a list of selected files to be added.



- 10 Do any of the following:

- To change which files are selected, select and deselect files in the **Files in** list.



NOTE You must add the `.project` file to source control.


- To check out and lock the files immediately after adding them to source control, select the **Keep Checked Out** check box.
- To add any empty folders to source control, select the **Add Empty Folders** check box. The empty folders will then be included when developers open the project from source control.

- 11 Enter a description of the files in the **Comment** field. The description will be applied to all selected files.



TIP To use a unique description for each file, leave the **Comment** field blank. After you complete the Add to Source Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

12 Do one of the following:

- | | |
|----------------------|---|
| Use advanced options | ■ To assign a version label or promotion group to the initial revision, click the Advanced Options button. The Merant Advanced Add dialog box appears. (For information on advanced options, see "Advanced Add Options" on page 32.) |
| Accept defaults | ■ To accept the default add options, click OK . The selected files are added to source control, creating archives in the specified archive directory. A gold cylinder () is added to the icon of each item to indicate that the item is under source control. |

Connecting Additional Workstations to a Source Control Project

Once an Eclipse project is under source control, you can open it from any workstation that has access to the Version Manager project database. There are two ways to connect additional workstations to a source control project:

- Open the project from the Merant Team Provider.
- Export and import a Project Set file.

Open from the Merant Team Provider

To add existing repository projects to your workspace:

- 1** Select Serena-SB | Open from Serena Team Provider. The Get Project from Source Control dialog box appears with a list of projects in the current project database.

If the database containing the project you wish to open is not displayed, click the **Open Database** button to browse for the correct database.

- 2** Select the project you wish to open.
- 3** If the Login dialog box displays, enter your user ID and password.
- 4** Enter a location for all of your project files in the **Workfile Location** field, or click the browse button to select a location.
- 5** Click **OK**.

Export/Import a Project Set File

A Project Set file contains the path information needed to connect other workstations to an existing source control project.

To export a Project Set file:

- 1** Select File | Export. The Export dialog box appears.
- 2** Select **Team Project Set** from the **Select an export destination** list.
- 3** Click the **Next** button.
- 4** Enter a path and file name in the **File name** field or browse to select a destination.
- 5** Click the **Finish** button. A *.PSF file is created in the selected directory.
- 6** Distribute the *.PSF file to each workstation or make it available from a network location.

To import a Project Set file:

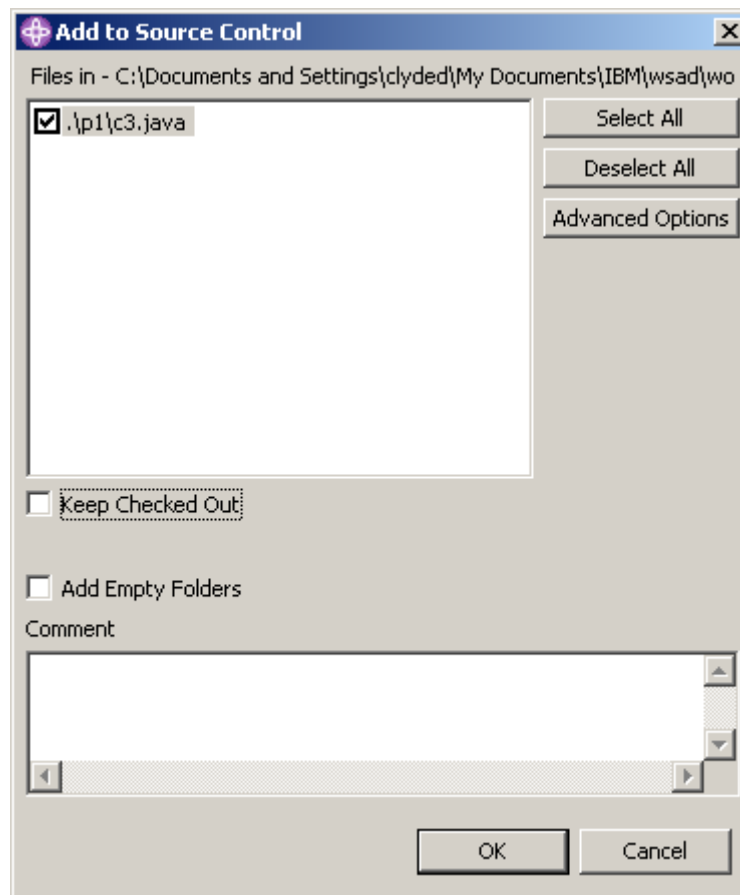
- 1 Select File | Import. The Import dialog box appears.
- 2 Select **Team Project Set** from the **Select an import source** list.
- 3 Click the **Next** button.
- 4 Enter the path and file name of the *.PSF file in the **File name** field or browse to select it.
- 5 Click the **Finish** button.

Adding New Files to Source Control

Once you have connected an Eclipse project to source control, you can add new IDE files to source control at any time. (For details on connecting Eclipse to project databases, see ["Connecting Projects to Source Control" on page 349.](#))

To add new files to an IDE project that is already under source control:

- 1 Right-click on the root of the IDE project in the Package Explorer or Navigator. A pop-up menu appears.
- 2 Select Team | Add. The Add to Source Control dialog box appears with a list of selected files to be added.



- 3 Do any of the following:
 - To change which files are selected, select and deselect files in the **Files in** list.
 - To check out and lock the files immediately after adding them to source control, select the **Keep Checked Out** check box.
 - To add any empty folders to source control, select the **Add Empty Folders** check box. The empty folders will then be included when developers open the project from source control.
- 4 Enter a description of the files in the **Comment** field. The description will be applied to all selected files.



TIP To use a unique description for each file, leave the **Comment** field blank. After you complete the Add to Source Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

- 5 Do one of the following:

Use advanced options

- To assign a version label or promotion group to the initial revision, click the **Advanced Options** button. The Merant Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))

Accept defaults

- To accept the default add options, click **OK**. The selected files are added to source control, creating archives in the specified archive directory. A gold cylinder (🔒) is added to the icon of each item to indicate that the item is under source control.

Disconnecting Projects from Source Control

When you disconnect a project from source control, Version Manager does not delete the Version Manager archives; it simply removes the association between the IDE project and archives.

To disconnect a project from source control:

- 1 Right-click the project icon in the Package Explorer or Navigator. A Pop-up menu appears.
- 2 Select Team | Disconnect Project. A prompt appears to confirm that you wish to disconnect the project.
- 3 Click **Yes**.

Removing Files from Source Control

When you remove a file from source control, Version Manager does not delete the Version Manager archive; it simply removes the association between the IDE file and archive. You can always add the file back to source control later.

To remove files from source control:

- 1 Select the files you want to remove in the Package Explorer or Navigator and right-click. A pop-up menu appears.
- 2 Select Team | Remove. The Remove from Merant Team Provider dialog box appears with a list of files to be removed.

- 3 Select or deselect files in the list as needed.
- 4 Click **OK**.

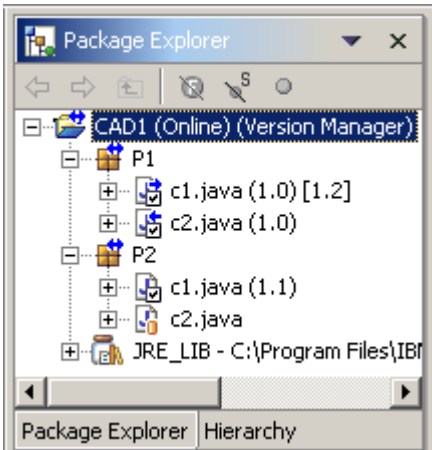
Returning files to source control For information on returning files to source control, see ["Returning Files to Source Control" on page 31](#).

Using Source Control

Contents This section contains procedural information about viewing and editing files that are under source control.





Viewing Source Control Status

Version Manager indicates status and revision information by displaying graphics and text next to the object icons in the Package Explorer and Navigator, as in the following image.



The following table lists the information that can be displayed.

This graphic/text . . .	Indicates . . .
(Online)	Whether you are working in online or offline mode.
(Offline)	
(1.0)	The revision you got or checked out from source control to your workspace.
[1.2]	The current tip revision in the source control repository if the tip is not the revision in your workspace.
	The object is under source control and it is checked in.
	You have the object checked out.
	Someone else has the object checked out.
	Multiple users have the object checked out and you are not one of them.
	Multiple users have the object checked out and you are one of them.

This graphic/text . . .	Indicates . . .
	The object is in local mode.
	The object contains objects that have been modified locally or for which there are newer revisions in the source control repository.
	The object has been modified locally and is out of synch with the repository.
	The repository contains a newer revision of this object. NOTE If you modify the local object, the graphic will change to a right-pointing arrow.

To refresh status information, right-click on a project and select Team | Refresh Project Status.

Enabling Merant Icon Glyphs

By default, Merant icon glyphs are enabled.

To enable Merant Icon Glyphs:

- 1 Select Window | Preferences. The Preferences dialog box appears.
- 2 Click the plus sign next to **Workbench** and select **Label Decorations**.
- 3 Select **Merant** in the **Available label decorations** list.
- 4 Click **OK**.

Getting Files

When you get files, read-only copies of the selected revisions are placed in the workfile location.

To get revisions:

- 1 In the Package Explorer or Navigator, select the files you want to get and right-click. A pop-up menu appears.
- 2 Select Team | Get. The Get dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 Do one of the following:
 - Use advanced options
 - To override the default get options, click the **Advanced Options** button. The Merant Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48.](#))
 - Accept defaults
 - To accept the default get options, click **OK**. Read-only copies of the selected revisions are placed in the workfile location.

Checking Out Files

When you check out a file, the revision is locked and a writable workfile is created in the workfile location.

To check out files:

- 1 In the Package Explorer or Navigator, select the files you want to check out and right-click. A pop-up menu appears.
- 2 Select Team | Checkout. The Check Out dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 (Optional) To modify the files locally without first placing a source control lock on them, select the **Make Files Local** checkbox.



NOTE Other users can still check out, modify, and check in changes to any files you use in local mode. You must resolve any resulting code conflicts if you decide to check in the changes you make while in local mode. See ["Using Local Mode" on page 360](#).

- 4 Do one of the following:

Use advanced options

- To override the default checkout options, click the **Advanced Options** button. The Merant Advanced Check Out dialog box appears. (For information on advanced options, see ["About Checking Out Files" on page 50](#).)

Accept defaults

- To accept the default checkout options, click **OK**. A check mark (☑) appears next to each file icon to indicate that the files are checked out.

Locking Files

When you lock a file, the revision is locked in source control but no files are written to the workfile location so your existing workfile is not overwritten. Locking a revision does not change the write attribute of the workfile.

To lock files:

- 1 In the Package Explorer or Navigator, select the files you want to lock and right-click. A pop-up menu appears.
- 2 Select Team | Lock. The Check Out dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 (Optional) To modify the files locally without first placing a source control lock on them, select the **Make Files Local** checkbox.



NOTE Other users can still check out, modify, and check in changes to any files you use in local mode. You must resolve any resulting code conflicts if you decide to check in the changes you make while in local mode. See ["Using Local Mode" on page 360](#).

- 4 Do one of the following:

Use advanced options

- To override the default checkout options, click the **Advanced Options** button. The Merant Advanced Check Out dialog box appears. (For information on advanced options, see ["About Checking Out Files" on page 50](#).)

Accept defaults

- To accept the default checkout options, click **OK**. A check mark (☑) appears next to each file icon to indicate that the files are locked.

Undoing Checkout

When you undo a checkout, the archive is unlocked and a read-only workfile is left in the workfile location. No changes are checked into the archive.

To undo a checkout:

- 1 In the Package Explorer or Navigator, select the files you want to unlock and right-click. A pop-up menu appears.
- 2 Select Team | Undo Checkout. The Undo Check Out dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 Do one of the following:

- | | |
|----------------------|--|
| Use advanced options | ■ To override the default undo checkout options, click the Advanced Options button. The Merant Advanced Undo Check Out dialog box appears. (For information on advanced options, see "About Undoing Checkout" on page 52.) |
| Accept defaults | ■ To accept the default undo checkout options, click OK . The check mark is removed from each file icon to indicate that the files are unlocked. |

Checking In Files

By default, the following occurs when you check in a workfile:

- If you modified the file in local mode and the tip revision is newer than the revision you started with, a prompt appears for the Merant Merge Tool.
- A new revision is created and assigned the next number in sequence.
- A read-only workfile is left in the workfile location.
- The archive is unlocked.

To check in files:

- 1 In the Package Explorer or Navigator, select the files you want to check in and right-click. A pop-up menu appears.
- 2 Select Team | Checkin. The Check In dialog box appears with a list of selected files. You can change your selection by selecting and deselecting the files in this list.
- 3 Do any of the following:

- | | |
|---------------|---|
| Retain lock | ■ To retain the lock on the files after they are checked in, select the Keep Checked Out check box. |
| Compare files | ■ To compare two revisions in an archive, revisions in two archives, two workfiles, or a revision and a workfile: <ol style="list-style-type: none">a Select a single file from the Files in list.b Click the Differences button. The Show Differences dialog box appears. For more information see "About Difference Reports" on page 80. |

- 4 Enter a description of the changes you made in the **Comment** field. The description will be applied to all selected files.



TIP To use a unique description for each file, leave the Comment field blank. After you complete the Add to Source Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

You will not be prompted for a description for unmodified files. Unmodified files will be given a description of "No Change."

- 5 Do one of the following:

Use advanced options

- To override the default check-in options, click the **Advanced Options** button. The Merant Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53.](#))

Accept defaults

- To accept the default check-in options, click **OK**. The check mark is removed from each file icon to indicate that the files are checked in.

Using Rename or Move (Refactoring)



NOTE

- You *can* refactor when in offline mode, **but there are significant risks**. If other users have refactored the code while you were offline, your offline refactoring will be unaware of the changes they made. This will result in errors which will require manual fixes.
- Refactoring may cause the archive name to differ from the workfile name--which is not compatible with the Command-Line Interface (CLI), including CLI scripts called from within Configuration Builder. Since the CLI is not project aware, it requires that the names match. However, you can use the Project Command-Line Interface (PCLI), instead. (This does not impact the Version Manager desktop client or the IDE client since they resolve workfile and archive names via the project metadata.)

To use Rename or Move:

- 1 Before using Rename or Move on a project accessed by multiple users, all users should check in their changes.
- 2 Open a perspective in which the Package Explorer is available, such as the Java Perspective.
- 3 Select the Package Explorer as the active pane.
- 4 Select the item you wish to rename or move and do one of the following:
 - Select Refactor | Rename (or Move).
 - Right-click and select Refactor | Rename (or Move).
- 5 You may be asked to confirm the action of checking in from a different location than the one to which the file is checked out. You must choose to proceed with this action.
- 6 To work with the modified project, all users must get the updated project from source control. See ["Getting Files" on page 356](#) or ["Synchronizing Your Workspace with Source Control" on page 363](#).


Using Local Mode

You can edit projects and/or files without checking them out from source control by working on them in local mode. Local mode can be enabled for individual projects or files, unlike offline mode which affects the entire IDE.

Putting Files into Local Mode

To put files into local mode:

- 1** In the Package Explorer or Navigator, select the project(s) or file(s) you want to work on in local mode and right-click. A pop-up menu appears.
- 2** Do one of the following:
 - Select Team | Local Mode.
 - Select Team | Checkout then select the **Make Files Local** checkbox on the Check Out dialog box. Complete the checkout operation as normal.

The local mode graphic () appears on the icons of the selected files.



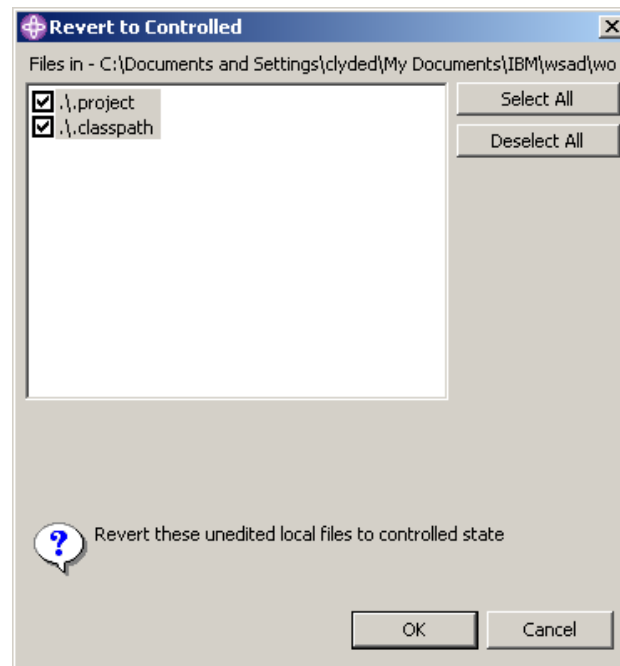
TIP You can also put files into local mode by selecting the **Make Files Local** check box on the Check Out dialog box.

Reverting Local Mode Files to Controlled Mode

To revert files to controlled mode:

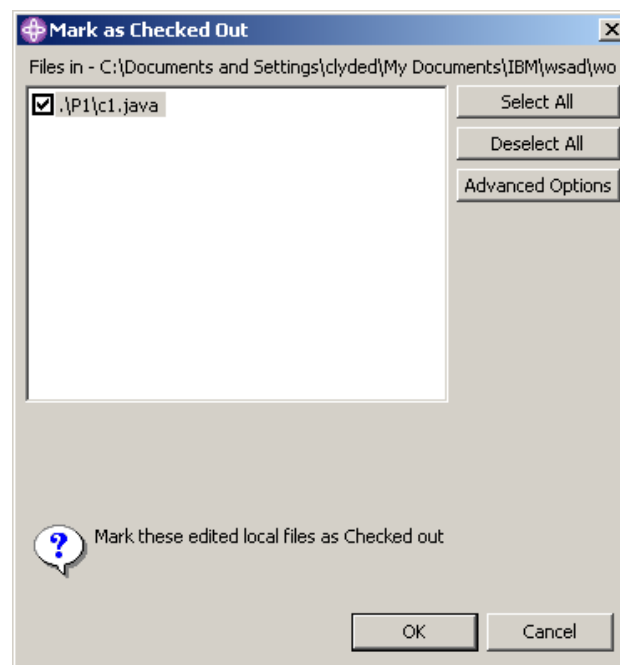
- 1** In the Package Explorer or Navigator, select the local mode project(s) or file(s) you want to revert to controlled mode and right-click. A pop-up menu appears.

- 2 Select Team | Revert Controlled. Depending upon what changes are found, any of the following may occur:
 - The Revert to Controlled dialog box appears with a list of files that have not changed while in local mode.



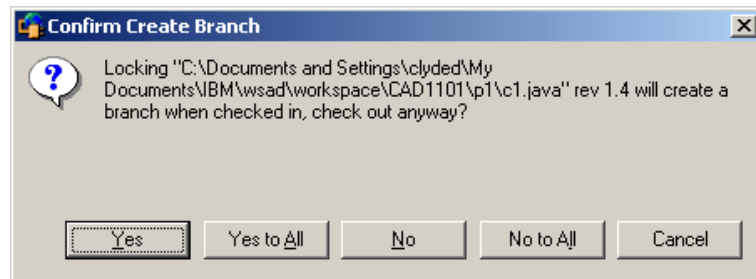
Select or deselect files in this list as needed and click **OK**. The files are removed from local mode.

- The Mark as Checked Out dialog box appears with a list of files that you have edited while in local mode.



- a Select or deselect files in this list as needed and click **OK**.

- b** If other users have checked in changes to a file while you were offline, the Confirm Create Branch dialog box appears.



Select **Yes** or **Yes to All**.



NOTE Later, when you check in the file(s), you will be asked if you wish to merge to the tip revision. If you select **Yes**, the Merge tool launches. If you select **No**, the revision will be checked in as a branch off of the revision you started with.

The selected files are removed from local mode and are shown as being checked out by you. To add your local mode edits to source control, check in the files.

The deselected files are removed from local mode. To overwrite your local mode edits, do a get or checkout.

Working Offline

You can configure the integration to give you the option of working in offline mode. This allows you to edit projects in your local workspace without checking the files out from source control. You may find this feature useful if you wish to:

- Experiment with code and not check in the resulting changes.
- Continue development while away from your network connection then synchronize your offline changes with source control when you can reconnect.



NOTE You *can* refactor when in offline mode, **but there are significant risks**. If other users have refactored the code while you were offline, your offline refactoring will be unaware of the changes they made. This will result in errors which will require manual fixes.

Enabling the Online/Offline Prompt

You can enable a prompt that appears while the IDE is starting up that asks if you wish to work in online or offline mode.

To enable the Online/Offline prompt:

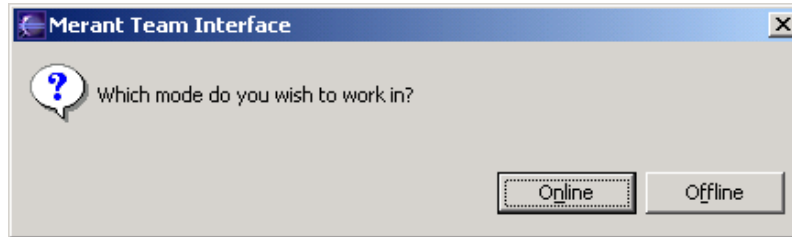
- 1 Select Window | Preferences. The Preferences dialog box appears.
- 2 Select **Merant** from under **Team** in the left pane. The Merant pane appears.
- 3 Select the **Ask to go Offline at startup** check box.
- 4 Click **OK**.

To Enter/Exit Offline Mode

Once the Online/Offline prompt is enabled, you can enter or exit Offline mode when ever you start the IDE.

To enter/exit offline mode:

- 1 Launch the IDE. A prompt appears as the IDE starts up.



- 2 Click **Online** to enter online or **Offline** to enter offline mode. The mode you select will remain in effect until you restart the IDE and make another selection. The current mode is displayed next to each project in the Package Explorer and Navigator as (Online) or (Offline).



NOTE If you wish to check in the changes you made while working in offline mode, you must enter online mode then synchronize your local workspace with source control (see the next section).

Synchronizing Your Workspace with Source Control

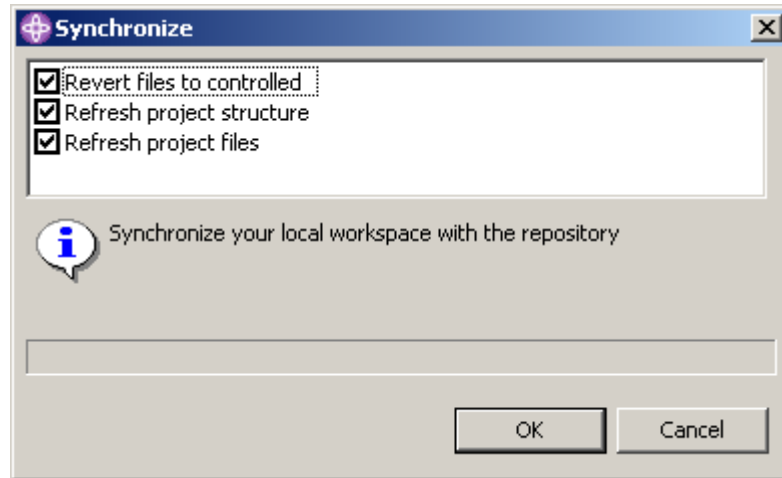
In a multi-user environment, you should synchronize your workspace with source control to:

- Remove files from your local workspace that other users have removed from the source control project.
- Add files to your local workspace that other users have added to the source control project.
- Add files to the source control project that you have added to your local workspace.
- Update the content of files in your local workspace that other users have modified and checked into the source control project.
- Update the content of files in the source control project that you have modified in your local workspace.

To synchronize your workspace with source control:

- 1 In the Package Explorer or Navigator, select the project(s) you want to synchronize and right-click. A pop-up menu appears.

- 2 Select Team | Synchronize Project. The Synchronize dialog box appears.



- 3 Select the type of synchronization operations you want to perform:
- **Revert files to controlled:** Reverts local mode files in your local workspace to active source control status. If the files have been modified, they will be marked as checked out. If you also select **Refresh project files**, the modified files will be checked in.
 - **Refresh project structure:** Updates you workspace and the source control project by adding or deleting projects and files.
 - **Refresh project files:** Updates the contents of files in your local workspace and the source control project.
- 4 Click **OK**. Depending upon the type of synchronization you selected and what changes are found, any of the following may occur:

Revert files to controlled

- The Revert to Controlled dialog box appears with a list of files that have not changed while in local mode.
 - a Select or deselect files in the list as needed.
 - b Click **OK**. The files are removed from local mode.
- The Mark as Checked Out dialog box appears with a list of files that you have edited while in local mode.
 - a Select or deselect files in the list as needed.
 - b Click **OK**. The files are removed from local mode and are shown as being checked out by you.

To add your local mode edits to source control, check in the files. If you selected **Refresh project files** in the Synchronize dialog box, the files will be checked in by a subsequent dialog box; see below.

Refresh project structure

- The Refresh Project Structure - New Repository Files dialog box appears with a list of files that are in the source control project but not in your local workspace. You can select and deselect files in this list.
 - a Select or deselect files in the list as needed.

- b** Do one of the following:
 - To override the default get options, click the **Advanced Options** button. The Merant Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48.](#))
 - To accept the default get options, click **OK**. Read-only copies of the files are placed in the workfile location.
- The Refresh Project Structure - New Local Files dialog box appears with a list of files that are in your local workspace but not in the source control project.
 - a** Do any of the following:
 - To change which files are selected, select and deselect files in the **Files in** list.
 - To check out and lock the files immediately after adding them to source control, select the **Keep Checked Out** check box.
 - To add any empty folders to source control, select the **Add Empty Folders** check box.
 - b** Enter a description of the files in the **Comment** field. The description will be applied to all selected files.



TIP To use a unique description for each file, leave the **Comment** field blank. After you complete the Add to Source Control dialog box, the Change Description dialog box will appear. Enter a description for each file in turn.

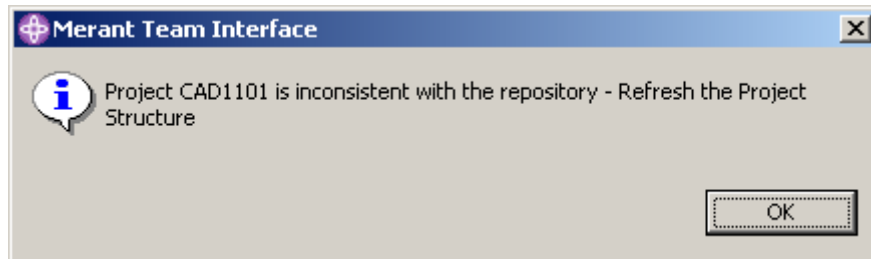
- c** Do one of the following:
 - To assign a version label or promotion group to the initial revision, click the **Advanced Options** button. The Merant Advanced Add dialog box appears. (For information on advanced options, see ["Advanced Add Options" on page 32.](#))
 - To accept the default add options, click **OK**. A gold cylinder (🔒) is added to the icon of each item to indicate that the item is under source control.
- The Refresh Project Structure - Remove from Workspace dialog box appears with a list of files that have been removed from source control but still exist in your local workspace.
 - a** Select or deselect files in the list as needed.
 - b** Click **OK**.
- The Check in Edited Files dialog box appears.
 - a** Select or deselect files in the list as needed.
 - b** To check out and lock the files immediately after checking them in, select the **Keep Checked Out** check box.
 - c** Enter a description of the edits you made in the **Comment** field.
 - d** Do one of the following:
 - To override the default check-in options, click the **Advanced Options** button. The Merant Advanced Check In dialog box appears. (For information on advanced options, see ["About Checking In Files" on page 53.](#))

Refresh project
files

- To accept the default check-in options, click **OK**. The check mark is removed from each file icon to indicate that the files are checked in.
- The Get Changed Files dialog box appears.
 - a Select or deselect files in the list as needed.
 - b Do one of the following:
 - To override the default get options, click the **Advanced Options** button. The Merant Advanced Get dialog box appears. (For information on advanced options, see ["About Getting Files" on page 48.](#))
 - To accept the default get options, click **OK**. Read-only copies of the files are placed in the workfile location.

Enabling Refresh Project Structure Report on Open

You can configure the integration to notify you if the project you are opening has a different structure in the repository as compared to your workspace. If it does, a prompt will appear to remind you to synchronize your workspace with the repository. Click **OK** to dismiss the prompt.



NOTE The prompt appears only if files have been added to or removed from the project. The contents of the files are not considered.

To enable the refresh project structure on open prompt:

- 1 Select Window | Preferences. The preferences dialog box appears.
- 2 Select Merant from under Team in the left pane.
- 3 Select the **Refresh Project Structure Report on open** check box.
- 4 Click **OK**.

Comparing with Local History

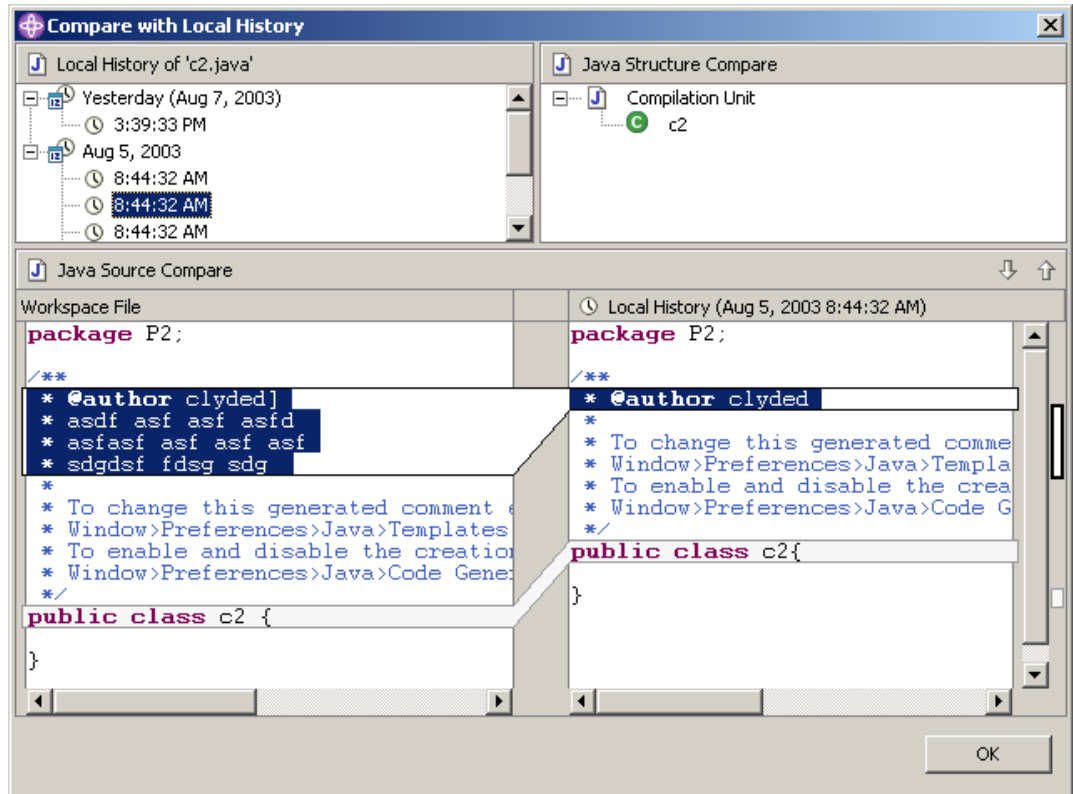
You can compare a workfile with a local history of the changes made to that workfile. A new entry is made in the local history each time you save changes to a file.



NOTE To configure how many entries are retained and for how long, select Window | Preferences then select **Local History** from under **Workbench**. For more information, see the WebSphere Studio help.

To compare with local history:

- 1 In the Package Explorer or Navigator, select the file you want to compare and right-click. A pop-up menu appears.
- 2 Select Compare With | Local History. The Compare with Local History dialog box appears.



- 3 Select a local history entry from the Local History of *filename* pane.
- 4 Use the **Select Next Change** (↓) and **Select Previous Change** (↑) buttons to step through the changes.
- 5 Click **OK** to exit the compare.

Replacing with Local History

You can replace a workfile with an entry from the local history of changes made to that workfile. A new entry is made in the local history each time you save changes to a file.



NOTE To configure how many entries are retained and for how long, select Window | Preferences then select **Local History** from under **Workbench**. For more information, see the WebSphere Studio help.

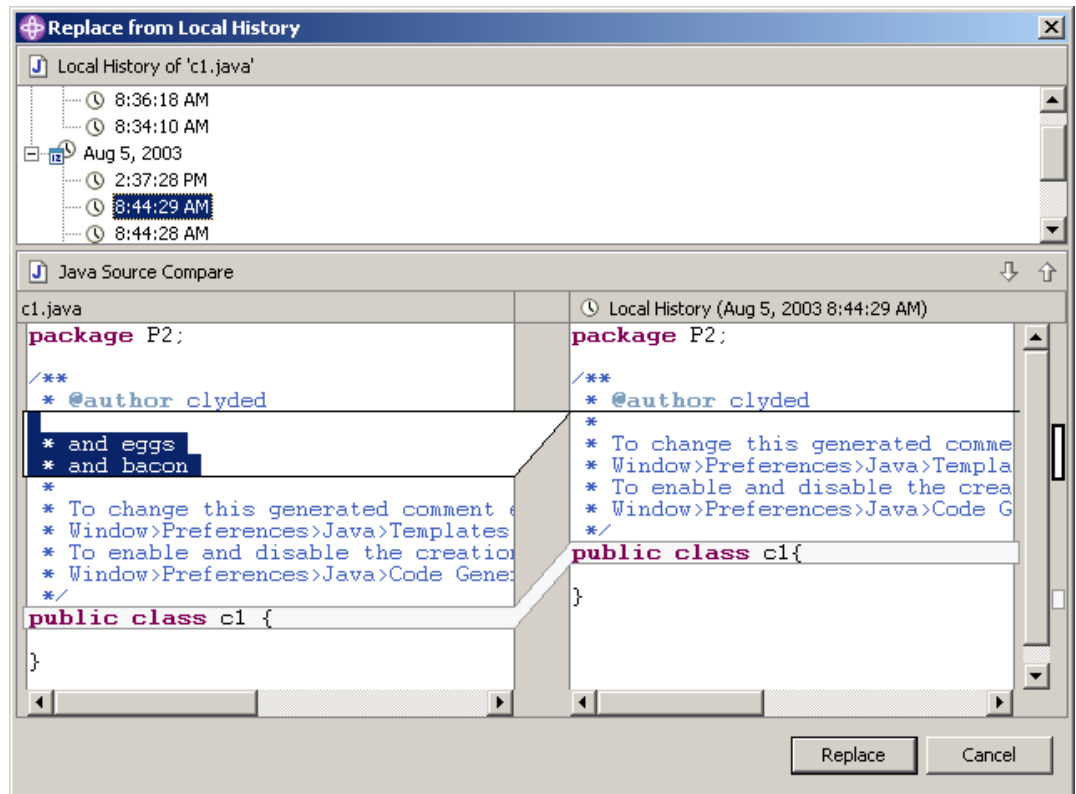
To replace with local history:

- 1 In the Package Explorer or Navigator, select the file you want to replace and right-click. A pop-up menu appears.



NOTE The file must be checked out.

- 2 Select Replace With | Local History. The Replace from Local History dialog box appears.



- 3 Select a local history entry from the Local History of *filename* pane.
- 4 Use the **Select Next Change** (⬇) and **Select Previous Change** (⬆) buttons to step through the changes.
- 5 Do one of the following:
 - To replace the workfile with the selected history entry, click the **Replace** button.
 - To close the dialog box without replacing the workfile, click the **Cancel** button.

Part 3

5.3/6.0 Projects

Converting 5.3/6.0 Projects	371
About Converting PowerBuilder Projects	379
About Converting Visual Basic Projects	383
About Converting Visual C++ Projects	387

Introduction

Contents	This part of the manual contains conceptual and procedural information common to converting 5.3/6.0 projects to the project format used in Version Manager 6.5 and later. It also contains IDE-specific conversion information.
Purpose	The purpose of this part of the manual is to help you convert your existing 5.3/6.0 projects to the new project format.
Additional information	Use this part of the manual in conjunction with these additional sources of information.

For more information about...	See the...
Setting up and configuring Version Manager projects	Version Manager Administrator's Guide
Setting up and using your IDE with source control	Documentation and online help provided by the vendor of your IDE

Chapter 21

Converting 5.3/6.0 Projects

Introduction	372
Why Convert?	372
When to Convert Projects	372
What Happens When You Convert Projects?	373
Before Converting Projects	373
Converting 5.3/6.0 Projects	374
Reviewing the Conversion Report	378
Completing the Conversion	378

Introduction

Contents and purpose	<p>This chapter contains conceptual and procedural information about converting 5.3/6.0 projects to the project format used in Version Manager 6.5 and later. The purpose of this chapter is to help you:</p> <ul style="list-style-type: none">■ Decide if you want to convert your 5.3/6.0 projects■ Decide when to convert■ Convert your projects■ Check the converted projects for errors
IDE-specific information	<p>See the IDE-specific chapters that follow this chapter for the IDE-specific steps you must take to prepare for and complete the conversion process.</p>
FrontPage	<p>The procedures in this chapter do not apply to converting FrontPage projects. See "Upgrading 6.0 Projects" on page 99.</p>

Why Convert?

New project configuration	<p>The Version Manager IDE client supports Version Manager 6.5 or higher, which lets you organize your versioned files using project databases, projects, and subprojects to reflect the structure of your actual working directories. Configuration is inherited from the project database instead of from the master project, which was used by Version Manager 5.3/6.0 projects.</p>
New features	<p>In addition to nested project support, other features that are available only when working with the 6.5 or later Version Manager project format include project archive sharing and project-wide version labeling.</p> <p>To access these features and ensure project compatibility with Version Manager 6.5 or higher projects, you'll need to convert existing projects to the current Version Manager project format.</p>
Working with 5.3/6.0 projects	<p>You can continue working with 5.3/6.0 projects if both Version Manager 5.3/6.0 and the Version Manager Source Code Control (SCC) Interface 6.0 are installed to your system. But to open multiple projects in an IDE, the projects must use the same source control provider.</p>
Switching between versions	<p>The Version Manager IDE client allows you to select among Serena source control providers, if more than one is installed. For more information, see "About Selecting a Source Control Provider" on page 25.</p>

When to Convert Projects

We recommend converting when your development project has reached a successful milestone. Converted projects should be tested and verified. Converting projects at a critical point may disrupt your development workflow.

What Happens When You Convert Projects?

Version Manager does the following when you convert a 5.3/6.0 project:

1 Creates a temporary copy of the project based on workfile hierarchy

Version Manager first creates a copy of the original project in the project's root directory. The copy is named !TEMP!*source* where *source* is the name of the source project. For example, if you are copying a project named Project1, the copy is named !TEMP!Project1.

Project structure
based on workfile
hierarchy

The structure of the copy is based on the workfile hierarchy of the original project. If the original project references workfiles that are located outside of the IDE project's working directories, those files will not appear in the converted project.



NOTE If you have located workfiles outside of the project workfile directories to allow multiple development projects to share the workfiles, they will not appear in the new project. For information on restoring the cross-project sharing of files, see the conversion chapter specific to your IDE.

2 Creates the new project in the selected project database

Version Manager creates the new project in the project database you select as the destination. To create the new project, Version Manager copies the temporary project that was created in the first step of the conversion. The new project name is identical to the source project name.



NOTE When you copy projects with !TEMP! appended to the name, !TEMP! does not appear in the new project name.

3 Creates a conversion report

Version Manager creates a logfile, *prjcvr.txt*, that reports the success of the conversion. The logfile informs you if any files in the project were not successfully copied into the new project. By default, Version Manager stores the conversion report in the same directory as the project you are converting.

Before Converting Projects

Do the following before you convert a 5.3/6.0 project to the current project format:

- See the conversion chapter specific to your IDE for any steps you must perform before converting projects.
- Rename any 5.3/6.0 projects and folders that contain square brackets [] in their name.

Converting 5.3/6.0 Projects

After preparing your projects as described in the previous section, you can convert them to the current project format.

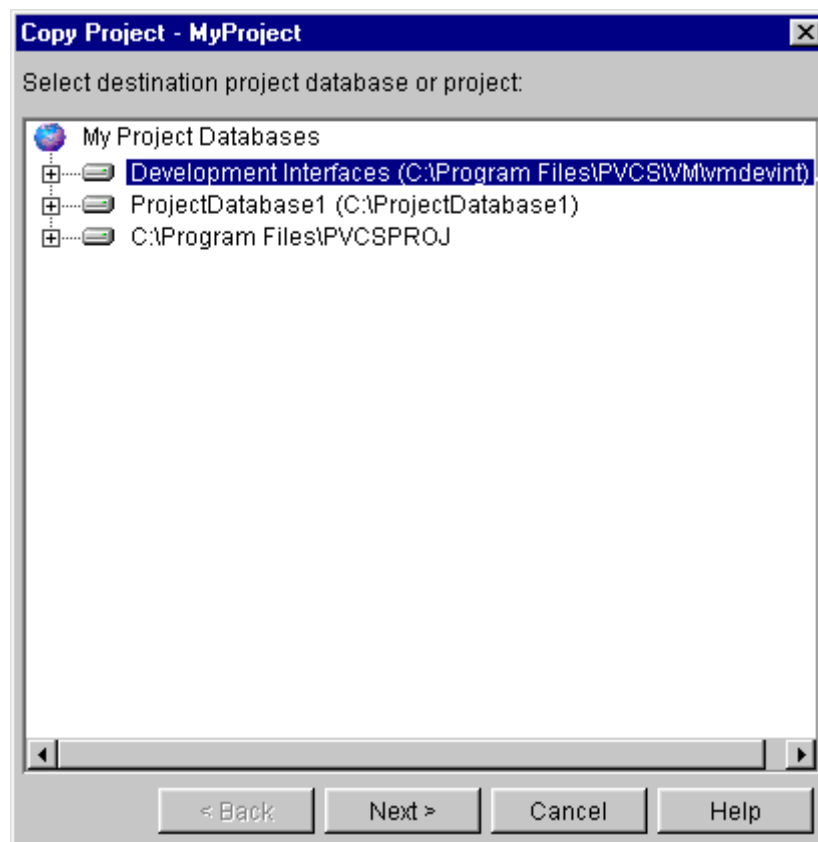
To copy a 5.3/6.0 project to a project database:

- 1 Launch the Version Manager desktop client (6.5 or higher).
- 2 Create or open the project database in which you will create the new project. For information on creating project databases, see the *Version Manager Administrator's Guide*.



IMPORTANT! To copy a project, you must log in to the destination project database as Admin, or with a user ID to which the SuperUser privilege is granted.

- 3 Open the 5.3/6.0 project root that contains the project you wish to convert.
- 4 In the Project pane, select the project you wish to convert. You can select only one project at a time.
- 5 Select Edit | Copy. The first Copy Project dialog box appears. It displays all currently open project databases.

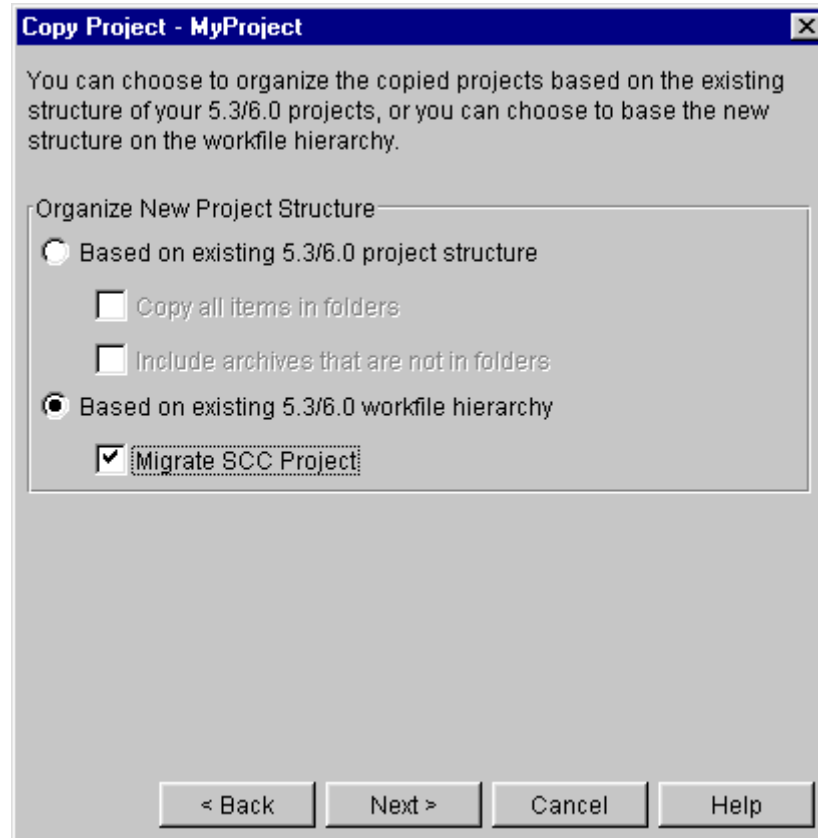


- 6 Select the project database or project within a project database to which you want to copy the project.



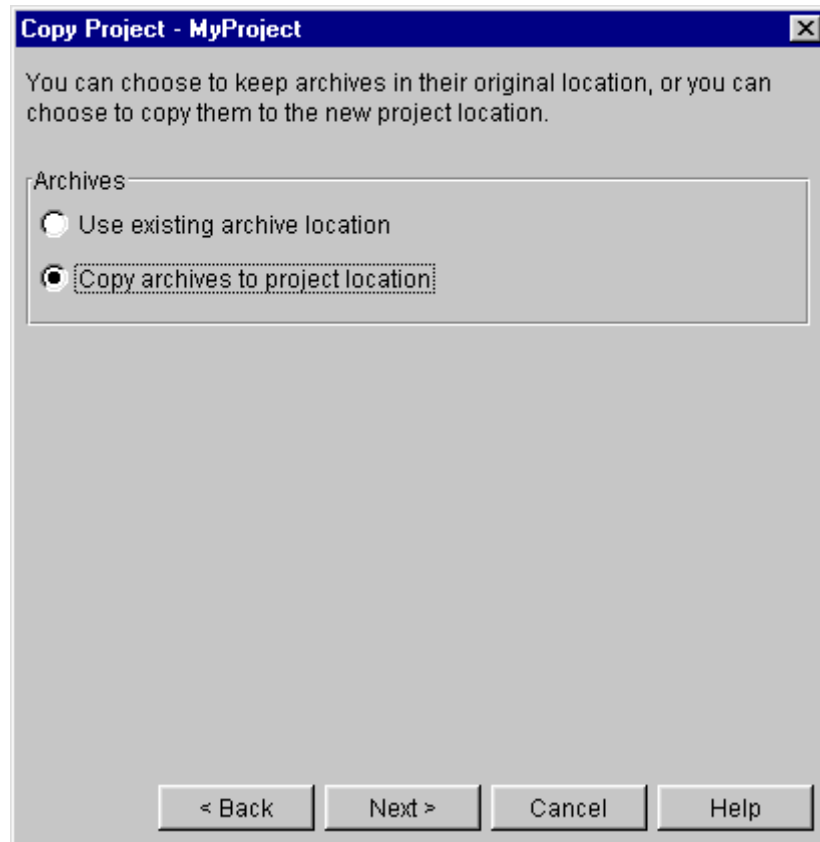
NOTE If you intend to share files across multiple projects, you must select the same destination project database for all projects. See ["About Sharing Files Across Projects"](#) on page 33.

- 7 Click **Next**. A second Copy Project dialog box appears, with options that allow you to select how you want to organize the new project.



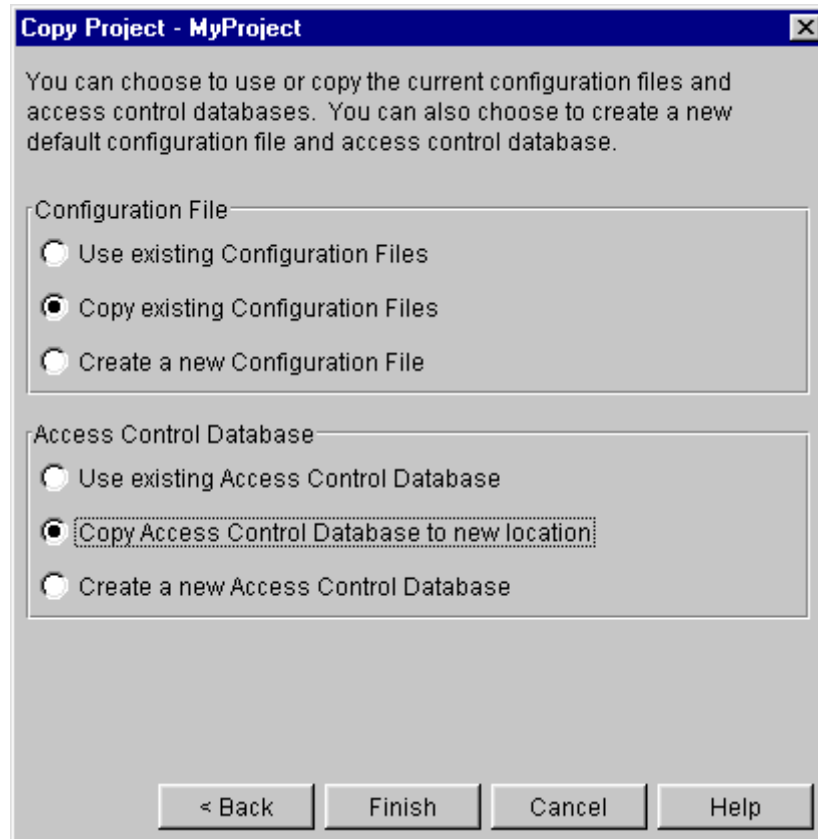
- 8 Select the **Based on existing 5.3/6.0 workfile hierarchy** option.
- 9 Select the **Migrate SCC Project** check box.

- 10** Click **Next**. A third Copy Project dialog box appears, with options that allow you to choose whether archives will be copied to the new project archive directory or left in the existing location.



- 11** Select one of the following options:
- **Use existing archive location** to continue referencing the existing archives in their current location, which means the copied project will share the archives of the 5.3/6.0 project. This is the default option. Any new files that you add to the copied project will reference the new project's archive location, not the 5.3/6.0 project's archive location.
 - **Copy archives to project location** to copy the archives to the new project directory. Archives in the new project directory will be organized just as they were in the original project directory.

- 12 Click **Next**. A fourth Copy Project dialog box appears.



- 13 Choose from the following options:

- If your project uses configuration files, select the **Copy existing Configuration Files** option from the Configuration Files group. This option copies existing configuration files and places them in the new project structure.
- If your project uses access control databases, select the **Copy Access Control Database to new location** from the Access Control Database group. This option copies all existing access control databases and places them in the new project's structure.

- 14 Click **Finish**. Version Manager creates the new project in the destination project database.

Visual C++ only

A prompt appears asking if you want to automatically update your Visual C++ project to reference the new Version Manager project. You can also update the project file (.dsp) manually after the conversion is complete.

Do one of the following:

- To automatically update your Visual C++ project, click Yes.
- To complete conversion without automatically updating your Visual C++ project, click No. When conversion is complete, you can manually update your Visual C++ project file (.dsp) to refer to the new project. See ["Updating the Visual C++ Project File" on page 389](#).

- 15 A prompt appears asking if you wish to review the conversion report. Click **Yes**.

A temporary copy of the conversion report is displayed in your default text (.txt) file viewer. See the next section for information on reviewing the conversion report.

Reviewing the Conversion Report

- Where is it? During the conversion, you are prompted to display a temporary copy of the conversion report (*PvMig* located in your system's temporary directory). A permanent copy of the report (*prjcvr.txt*) is saved to the source directory of the 5.3/6.0 project.
- What's in it? The conversion report contains:
- The names and locations of the source 5.3/6.0 project and the new project
 - A list of files that were successfully added to the new project
 - Error messages for any files in the source 5.3/6.0 project that were not copied to the new project
- Errors There are two situations that could prevent files from being added to the new project:
- **Files located outside of the project's root working directory**
Any files that are located outside of the project's root working directory will not appear in the new project. For example, if the working directory for your source project is c:\projectfiles but contains one file, home.htm, that has the working directory set to D:\workarea, the following message appears:
FAILED - Cannot use the workfile path D:\workarea for the archive
home.htm_v
 - **Files that are named differently than their associated archives**
If any workfiles in the source 5.3/6.0 project are named differently than their associated archives, they may not be added to the new project. If this occurs, the following message appears in the conversion report:
FAILED - File information does not match for archive *File.xxx_v*.

Completing the Conversion

Close the report viewer and return to Version Manager. To complete the conversion, see the conversion chapter specific to your IDE.

Chapter 22

About Converting PowerBuilder Projects

Introduction	380
Before Converting Projects	380
Converting	380
Completing the Conversion	381

Introduction

Contents and purpose	This chapter contains IDE-specific information about converting 5.3/6.0 projects to the project format used in Version Manager 6.5 and later. The purpose of this chapter is to help you perform the IDE-specific steps necessary to prepare for and complete the conversion process.
For more information	See Chapter 21, "Converting 5.3/6.0 Projects" on page 371 for more information about converting.

Before Converting Projects

Before you convert a 5.3/6.0 project to the current project format, complete the following steps:



IMPORTANT! You can only convert one Version Manager project at a time.

- 1 If you haven't already done so, use the Version Manager SCC Interface 6.0 to add the PowerBuilder project's application object to source control.
- 2 Check in all objects in the project, including the application object.
- 3 Back up all PBLs and files associated with the Version Manager project.
- 4 Back up the Version Manager 5.3/6.0 project domain and all project archives. The project domain includes the root project directory and everything under it.



NOTE If you are adding the converted project to a Version Manager project database with existing projects in it, we recommend backing up the project database.

- 5 If archives in the existing 5.3/6.0 projects have been organized based on PBL structure, assign version labels that correspond to PBL names before completing the conversion. Once conversion is complete, you can then filter the view in the Version Manager desktop client by version label, then copy versioned files associated with particular PBLs into subprojects that mirror the application's PBL structure.

Converting

After completing the steps in the previous section, follow the conversion procedure in [Chapter 21, "Converting 5.3/6.0 Projects" on page 371](#).

Once you have followed the conversion procedures in [Chapter 21, "Converting 5.3/6.0 Projects" on page 371](#), return to this chapter to complete the IDE-specific portion of the conversion process.

Completing the Conversion

Before you can begin working with the converted Version Manager project from within PowerBuilder, you must complete the following steps:

- 1 **Review the prjcv.txt logfile** to verify that Version Manager successfully copied all objects to the new project. See ["Reviewing the Conversion Report" on page 378](#).
- 2 **Reconfigure each copy of the application** to refer to the new Version Manager project. See ["Reconfiguring Source Control Settings" on page 381](#).

Reconfiguring Source Control Settings

Once conversion is complete, you must reconfigure your application to refer to the new Version Manager project. If multiple developers will connect their local copies of the application to the new Version Manager project, repeat the steps below for every copy of the application.

To reconfigure source control settings for an application, complete the following steps:

- 1 Make sure that PowerBuilder is not currently open.
- 2 Locate the PowerBuilder initialization file (PB.INI).and open it in a text viewer. The PB.INI file is stored in the same directory as the PowerBuilder executable (.exe).
- 3 Save a backup copy of the PB.INI file to another location.
- 4 Under [Library], locate and delete the line that associates the application with an existing source control configuration file (.cfg). For example, if your application object is stored in a PBL on drive C:\ named *APP1*, and is associated with a configuration file named *APP1.cfg*, delete the following line:

`$C:\APP1(APP1)=c:\APP1.c f g`
- 5 Save the PB.INI file.
- 6 Open the application in PowerBuilder.
- 7 Open the Library Painter. Because you have deleted the reference to the existing source control configuration file from the PB.INI file, you will be prompted to select a source control provider and connect the application to source control.
- 8 Complete the steps under ["Connecting PowerBuilder Workspaces to Source Control" on page 106](#) with the following considerations:
 - You must create a new source control configuration file. If you are connecting multiple developers' copies of the application to the new Version Manager project, we recommend that you create local configuration files for each developer.
 - In the Add Project to Source Control dialog box, select the new Version Manager project.



NOTE You do not need to re-register objects in the application.

Once you have determined the success of the conversion, you can delete old configuration (.cfg) files.

Chapter 23

About Converting Visual Basic Projects

Introduction	384
Before Converting Projects	384
Converting	384
Completing the Conversion	385

Introduction

Contents and purpose	This chapter contains IDE-specific information about converting 5.3/6.0 projects to the new project format. The purpose of this chapter is to help you perform the IDE-specific steps necessary to prepare for and complete the conversion process.
For more information	See Chapter 21, "Converting 5.3/6.0 Projects" on page 371 for more information about converting.

Before Converting Projects

Before you convert a 5.3/6.0 project to the new project format, complete the following steps:

- 1 If you haven't already done so, use the Version Manager SCC Interface 6.0 to add your project file (.vbp) to source control.



IMPORTANT! Though your workspace may contain multiple projects that are associated with multiple Version Manager projects, you can only convert one project at a time.

- 2 TCheck in all files in the project. This includes all workfiles and project (.vbp) files.
- 3 Back up the Visual Basic project.
- 4 Back up the Version Manager 5.3/6.0 project domain and all project archives. The project domain includes the root project directory and everything within it.



NOTE If you are adding the converted project to a Version Manager project database with existing projects in it, we recommend backing up the project database.

Converting

After completing the steps in the previous section, follow the conversion procedure in [Chapter 21, "Converting 5.3/6.0 Projects" on page 371](#).

Once you have followed the conversion procedures in [Chapter 21, "Converting 5.3/6.0 Projects" on page 371](#), return to this chapter to complete the IDE-specific portion of the conversion process.

Completing the Conversion

Before you can begin working with the new Version Manager project from within Visual Basic, you must complete the following steps:

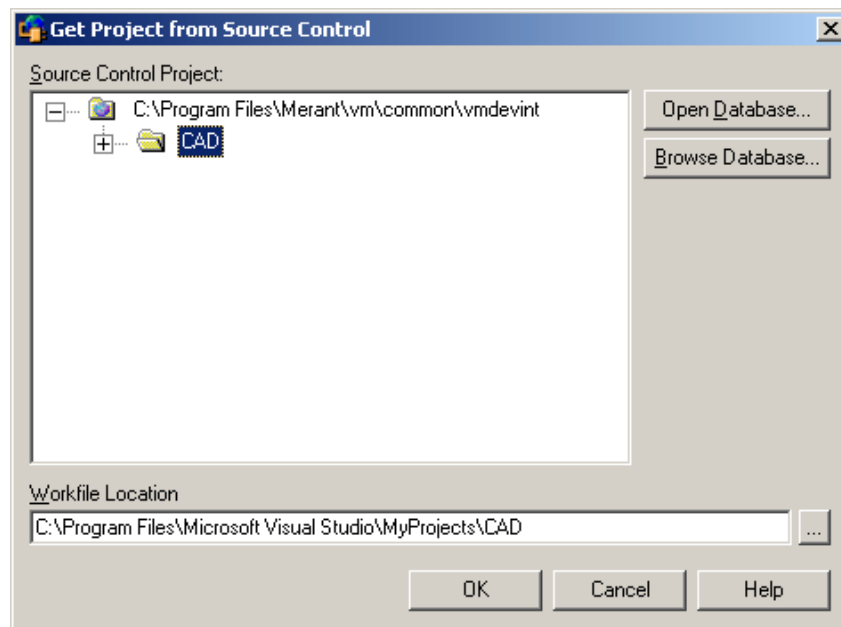
- 1 **Review the prjcv.txt logfile** to verify that Version Manager successfully copied all files to the new project. See ["Reviewing the Conversion Report" on page 378](#).
- 2 **Open the Visual Basic project.** You must open a new copy of the project from source control. See the next section.
- 3 **If necessary, restore files to the new Version Manager project.** You must add any files to the new project that were not added during the conversion. See ["Restoring Files to New Projects" on page 386](#).
- 4 **Resolve cross-project file sharing.** See ["Restoring Cross-Project File Sharing" on page 386](#).

Opening Converted Projects

To ensure that all source control settings are properly updated for the project, you must open a new copy of the project from source control.

To open a converted project:

- 1 Launch Visual Basic.
- 2 Select Tools | Serena | Create Project from Serena. The Get Project from Source Control dialog box appears.



The Get Project from Source Control dialog box displays a list of projects in the current or default project database.

- 3 Select the converted project, or click the **Open Database** button to browse for the project database that contains the project.

- 4 Enter a workfile location in the **Workfile Location** field, or click the Browse button to select one.
- 5 Click **OK**. The project is copied to the workfile location and appears in Visual Basic.

Restoring Files to New Projects

If an archive in the original 5.3/6.0 project references a workfile that is located outside of the Visual Basic project workfile directories, the file will not appear in the new project.

Review the `prjcvr.txt` file to determine if any files were not successfully added to the new project. If any files are missing, you must add them to source control from within Visual Basic.



NOTE If you located workfiles outside of the 5.3/6.0 project workfile directories to allow multiple development projects to share the workfiles, see the next section for information on restoring the cross-project sharing of files from within Visual Basic.

To add a file or files that are located outside of the project working directory, complete the following steps:

- 1 If you chose to change the archive location to the new project directory, copy or move the archives associated with the files you are adding from the original 5.3/6.0 project archive directory to the new project directory. This ensures that the files reference the original archives when they are added to source control. If you do not copy or move the archives to the new archive directory, Version Manager will create new archives for the files when they are added to source control.
- 2 Open the project in Visual Basic.
- 3 Add the files to source control. You will be prompted to copy the files to the local working directory. You must click **Yes** to successfully add the files to source control. For more information on adding file, see ["Adding Files to Source Control" on page 234](#).

Restoring Cross-Project File Sharing

How Version Manager 5.3/6.0 worked

To allow multiple Version Manager 5.3/6.0 projects to access the same workfiles, it was sometimes necessary to locate workfiles outside of the project working directories.

How Version Manager 6.5 or higher works

With the Version Manager IDE client, multiple projects within a project database can share the same archive. With this feature, all projects that share the archive can check out a copy of the file to their workfile directories, then check changes back in to the source archive.

Restoring file sharing

Use the Version Manager desktop client to copy all projects that share a given file to the same project database, including the project that contains the shared file's archive. You can then set up sharing from within Visual Basic.

For more information

See ["About Sharing Files Across Projects" on page 33](#).

Chapter 24

About Converting Visual C++ Projects

Introduction	388
Before Converting Projects	388
Converting	388
Completing the Conversion	389

Introduction

Contents and purpose	This chapter contains IDE-specific information about converting 5.3/6.0 projects to the project format used in Version Manager 6.5 and later. The purpose of this chapter is to help you perform the IDE-specific steps necessary to prepare for and complete the conversion process.
For more information	See Chapter 21, "Converting 5.3/6.0 Projects" on page 371 for more information about converting.

Before Converting Projects

Before you convert a 5.3/6.0 project to the current project format, complete the following steps:

- 1 If you haven't already done so, use the Version Manager SCC Interface 6.0 from within Visual C++ to add your project file (.dsp) to source control.



IMPORTANT! Though your workspace may contain multiple projects that are associated with multiple Version Manager projects, you can only convert one project at a time. The existing workspace (.dsw) file will not be converted. You will have to create a new workspace after the conversion is complete.

- 2 Check in all files in the project. This includes all workfiles, your workspace file, and your project files.



NOTE You do not need to add the .opt file to source control. A new .opt file will be generated with updated source control settings after conversion is complete.

- 3 Back up the Visual C++ project.
- 4 Back up the Version Manager 5.3/6.0 project domain and all project archives. The project domain includes the root project directory and everything within it.



NOTE If you are adding the converted project to a Version Manager project database with existing projects in it, we recommend backing up the project database.

Converting

After completing the steps in the previous section, follow the conversion procedure in [Chapter 21, "Converting 5.3/6.0 Projects" on page 371](#).

Once you have followed the conversion procedures in [Chapter 21, "Converting 5.3/6.0 Projects" on page 371](#), return to this chapter to complete the IDE-specific portion of the conversion process.

Completing the Conversion

Before you can begin working with the new Version Manager project from within Visual C++, you must complete the following steps:

- 1 **Review the prjcv.t.txt logfile** to verify that Version Manager successfully updated the Visual C++ project file (.dsp). See ["Reviewing the Conversion Report" on page 378](#).
- 2 **If necessary, update the Visual C++ project file (.dsp)** to refer to the new Version Manager project. See ["Updating the Visual C++ Project File" on page 389](#).
- 3 **Open the Visual C++ project.** You must open a new copy of the project from source control. See ["Opening Converted Projects" on page 390](#).
- 4 **If necessary, restore files to the new Version Manager project.** You must add any files to the new project that were not added during the conversion. See ["Restoring Files to New Projects" on page 391](#).
- 5 **Resolve cross-project file sharing.** See ["Restoring Cross-Project File Sharing" on page 392](#).

Verifying Visual C++ Project Settings

Successful update	<p>Review the prjcv.t.txt file to determine if the .dsp file associated with the Visual C++ project was successfully updated. The following line indicates that the .dsp file was successfully updated:</p> <p>IDE file <i>File.dsp</i> has been modified.</p>
Unsuccessful update	<p>If any lines in the prjcv.t.txt logfile indicate that the .dsp file was not updated to refer to the new Version Manager project, you must manually update the .dsp file before you can open the project in Visual C++. For example, you must manually update the .dsp file if either of the following lines appear in the prjcv.t.txt file:</p> <p>Unable to open the IDE files. Unable to find the IDE file.</p> <p>See the next section for information on updating Visual C++ .dsp files.</p>

Updating the Visual C++ Project File

If necessary, complete the following steps to update source control settings for your Visual C++ project:

- 1 In the Version Manager desktop client (6.5 or higher), open the project database that contains the new converted project.
- 2 Locate the Visual C++ project file (.dsp) in the File pane. For example, if your Visual C++ project is named *NewApp*, locate the file named *NewApp.dsp*.
- 3 Check out the .dsp file and open it in a text viewer.
- 4 In the .dsp file, locate the following line:

```
#PROP Scc_ProjName "projectname"
```

where "*projectname*" is the source control project the Visual C++ project is currently associated with.

- 5 If the value of "*projectname*" does not match the name of the new Version Manager project, replace it with the name of the new project. For example, if your project is named Project1 and is located in a database named PDB1, the line should read:

```
#PROP Scc_ProjName "/Project1?PVCS Version Manager?drive:path?"
```

If you nested Project1 under an existing project, the line should read:

```
#PROP Scc_ProjName "/ExistingProject/Project1?PVCS Version Manager?drive:path?"
```

where "*ExistingProject*" is the name of the existing project and "*drive:path*" is the drive and path where the database is located. Note that there is a space between the words "Version" and "Manager".

- 6 Save the .dsp file and check it back in to the converted project.

Opening Converted Projects

Once you have ensured that the Visual C++ project file has been updated to refer to the new Version Manager project, you can open your Visual C++ project. To ensure that all source control settings are properly updated for the project, you must open a new copy of the project from source control.

To open a converted project:

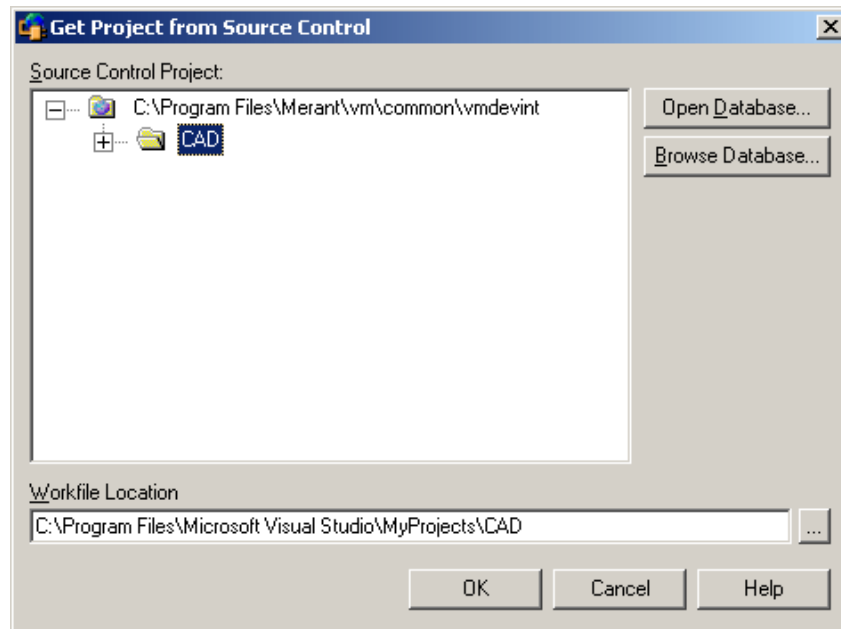
- 1 Launch Visual C++.
- 2 Select File | New. The New dialog box appears.
- 3 Select the Workspaces tab.
- 4 Create a new blank workspace by entering a name in the Workspace name field and clicking the **OK** button.



IMPORTANT! Visual C++ workspaces cannot be converted; You must create a new workspace for the converted project.

- 5 Select Project | Insert Project into Workspace. The Insert Projects into Workspace dialog box appears.

- 6 Click the **Source Control** button. The Get Project from Source Control dialog box appears.



The Get Project from Source Control dialog box displays a list of projects in the current or default project database.

- 7 Select the converted project, or click the **Open Database** button to browse for the project database that contains the project.
- 8 Enter a workfile location in the Workfile Location field, or click the Browse button to select one.
- 9 Click **OK**. The Insert Projects into Workspace dialog box reappears with the project file selected.
- 10 Click **OK**. The project is copied to the workfile location.

Restoring Files to New Projects

About restoring files If an archive in the original 5.3/6.0 project references a workfile that is located outside of the Visual C++ project workfile directories, the file will not appear in the new project.

Review the `prjcv1.txt` file to determine if any files were not successfully added to the new project. If any files are missing, you must add them to source control from within Visual C++.



NOTE Shared files:

If you located workfiles outside of the 5.3/6.0 project workfile directories to allow multiple development projects to share the workfiles, see the next section for information on restoring the cross-project sharing of files from within Visual C++.

- Restoring files **To add a file or files that are located outside of the project working directory, complete the following steps:**
- 1** If you chose to change the archive location to the new project directory, copy or move the archives associated with the files you are adding from the original 5.3/6.0 project archive directory to the new project directory. This ensures that the files reference the original archives when they are added to source control. If you do not copy or move the archives to the new archive directory, Version Manager will create new archives for the files when they are added to source control.
 - 2** Open the project in Visual C++.
 - 3** Add the files to source control. You will be prompted to copy the files to the local working directory. You must click **Yes** to successfully add the files to source control. For more information on adding file, see ["Adding Files to Source Control" on page 245](#).

Restoring Cross-Project File Sharing

- How 6.0 worked To allow multiple Version Manager 5.3/6.0 projects to access the same workfiles, it was sometimes necessary to locate workfiles outside of the project working directories.
- How 6.5 or higher works With the Version Manager IDE client, multiple projects within a project database can share the same archive. With this feature, all projects that share the archive can check out a copy of the file to their workfile directories, then check changes back in to the source archive.
- Restoring file sharing Use the Version Manager desktop client to copy all projects that share a given file to the same project database, including the project that contains the shared file's archive. You can then set up sharing from within Visual C++.
- For more information See ["About Sharing Files Across Projects" on page 33](#).

Index

Numerics

5.3/6.0 projects, converting 369

A

- access list, definition of 18
- access, web server 37
- adding files to source control 31
- adding Visual Studio solutions and projects to Version Manager 306
- administrative workflow
 - non-web projects 24
 - web projects 36
- archives
 - creating 18, 31
 - definition of 18
 - directory structure 31
 - history 20
 - properties, reviewing 72
 - sharing 33
 - sharing, about 20
- assigning labels in Visual Studio 320
- assigning labels to revisions 56
- associating TeamTrack issues 342
- association options for TeamTrack issues 339
- automatic merging in Visual Studio 300

B

- branches
 - creating 55
 - definition of 20

C

- changes to files, storing 53
- check in
 - defaults 53
 - overriding defaults 54
 - procedure 53
- check out
 - by date 52
 - by revision 51
 - default options 50
 - overriding defaults 51
 - undoing 52
- checking files out in Visual Studio 313

ColdFusion Studio

- adding
 - files to source control 91
 - projects to source control 88
- checking in files 93
- checking out files 93
- getting files 92
- removing files from source control 92
- setting up multiple-users 87
- undoing checkout 93
- collaborative workflow, Visual Studio 300
- COM compliant IDEs 21
- COM, enabling source control 41
- committing changes in Visual Studio 329
- comparing files 21, 80
- comparing revisions in Visual Studio 333
- comparing workspaces in Visual Studio 324
- configuring
 - defaults for web projects 38
 - project databases 27
 - source control environment 28
 - TeamTrack issue association options 339
 - Version Manager defaults 29
 - web server security 37
- conflicts, resolving in Visual Studio 335
- contacting technical support 14
- conventions, typographical 13
- converting 5.3/6.0 projects 369
- creating projects in
 - COM IDEs 42
 - SCC IDEs 31

D

- default
 - check-in options 53
 - checkout options 50
 - get options 48
 - revision, definition of 19
- default version label 301
- deleting labels in Visual Studio 321
- deleting version labels 60
- delta files 40
- design part, top level. See project databases
- design part. See projects
- dialog box defaults 322
- difference reports
 - about 21
 - generating 80
- differences, comparing in Visual Studio 331

Directory Service, Windows 37
displaying properties 72

E

Eclipse 2
 adding projects to source control 349
 checking in files 358
 checking out files 356
 compare with local history 366
 connecting additional workstations to source control 352
 disconnecting projects from source control 354
 excluding files from source control 348
 getting files 356
 icon glyphs enabling 356
 locking files 357
 migrating from Eclipse 1 348
 offline mode 362
 removing files from source control 354
 replace with local history 367
 source control status 355
 undoing checkout 358
Eclipse rich integration
 adding projects to source control 127
 associating TeamTrack issues 168
 checking in files 148
 checking out files 146
 compare with local history 159
 connecting additional workstations to source control 133
 disconnecting projects from source control 139
 excluding files from source control 126
 getting files 145
 replace with local history 161
 setting default options 169
 source control status 140
 submitting TeamTrack issues 167
 synchronizing with source control 153
 undoing checkout 148
 working with TeamTrack issues 162
editing files 50
 in Visual Studio 310
encoding for file comparisons 331
environment, configuring 28

F

file conflicts, resolving in Visual Studio 335
file history, displaying in Visual Studio 310
files
 adding to source control
 non-web projects 31
 web projects 42
 checking in 53, 316
 checking out 50, 313
 getting 48, 312

floating labels 32
force commit in Visual Studio 330
force update in Visual Studio 328
FrontPage
 6.0 projects, upgrading 99
 checking in files 102
 checking out a previous revision 43
 checking out files 101
 projects
 adding to source control 97
 removing from source control 99
 undoing checkout 101

G

generating
 difference reports 80
 history reports 77
getting files
 by date 50
 by promotion group 49
 by revision 49
 default options 48
 overriding defaults 49
getting Visual Studio solutions and projects 308
global workset. See root workspaces 27

H

history reports
 about 20
 generating 77
 types of 78

I

IDE personal folder, TeamTrack 339
information, source control 72
initial revision, definition of 19
invoking Pulse 74
issues, TeamTrack
 associating 342
 association options 339
 displaying 341
 rich integration overview 338
 submitting and modifying 342

K

keyword expansion 41, 319

L

labels

- assigning 56, 320
- deleting 60, 321
- floating 58
- reassigning 58
- renaming 58, 321

launching

- Pulse 74
- Version Manager 28

local workspace, comparing to Version Manager 326

locking files, definition of 19

logging in to a project 48

M

markup for file comparisons in Visual Studio 332

merging revisions in Visual Studio 325

migrating SCC projects to rich Visual Studio integration 304

modifying TeamTrack issues 342

monitoring source control activity

- about 73
- in multiple environments 74

N

nested project structure 18, 21, 42

NT security 37

numbering revisions 19

O

online help

- accessing 13
- for the command-line interface 13
- for the desktop client 13

opening Visual Studio solutions and projects 308

options dialog box in Visual Studio 322

options, setting up environment 28

organizing projects 18, 21

P

parallel development. See branches 20

personal folder, IDE 339

PowerBuilder

- checking in objects 115
- checking out objects 113
- getting objects 113
- objects
 - removing from source control 112

taking objects 113

undoing checkout 114

version 8

- disconnecting from source control 112

pragmatic locking in Visual Studio 302

preferences 28

product item. See versioned files

project activity, monitoring 73

project databases

- creating 27
- definition of 18

projects

- 5.3/6.0 format 21, 372

creating

- for COM IDEs 42
- for SCC IDEs 31

definition of 18

setting up 24

Visual Studio

- adding to Version Manager 306

- opening from Version Manager 308

promoting revisions in Visual Studio 321

promotion

groups

- assigning 32
- checking out by 51
- definition of 19
- reviewing 72

models, definition of 19

promotion groups 61

- about 61
- assigning to revisions 62
- changing 66
- checking out revisions 62
- permissions 62
- promoting to next group 64
- removing 68
- setting up a promotion model 61

promotion models

- about 61
- setting up 61

properties, reviewing 20, 72

public workset. See public workspaces 27

public workspaces 27

Pulse

- about 73
- configuring 73
- starting 74
- suspending 76

PVCS Merge 80

PVCSCIServ service 27

R

Rational Application Developer

- adding projects to source control 127
- associating TeamTrack issues 168

- checking in files 148
- checking out files 146
- compare with local history 159
- connecting additional workstations to source control 133
- disconnecting projects from source control 139
- excluding files from source control 126
- getting files 145
- replace with local history 161
- setting default options 169
- source control status 140
- submitting TeamTrack issues 167
- synchronizing with source control 153
- undoing checkout 148
- working with TeamTrack issues 162
- Rational Rose
 - adding files to source control 181
 - checking in files 186
 - checking out files 186
 - getting files 185
 - removing files from source control 185
 - undoing checkout 186
- reassigning version labels 58
- re-factoring in Visual Studio 325
- refresh rate, Pulse 74
- relating TeamTrack issues 342
- removing files from source control
 - COM IDEs 42
 - SCC IDEs 34
- renaming version labels 58, 321
- reports
 - difference
 - about 21
 - generating 80
 - history
 - about 20
 - generating 77
- resolving file conflicts in Visual Studio 335
- restricting web server access 37
- results messages, displaying 73
- reviewing TeamTrack issues 341
- revision history, displaying in Visual Studio 310
- revisions
 - assigning to a promotion group 62
 - assigning version labels to 19
 - checking out
 - assigned to promotion group 62
 - comparing 80
 - definition of 19
 - numbering 19
 - promoting 64
 - properties, reviewing 72
- rich integration
 - TeamTrack 337
 - Visual Studio .NET 2003 300
- root workspaces 27

S

- saving changes to files 53
- SCC compliant IDEs 21
- SCC projects, migrating to rich integration 304
- SCC provider
 - selecting 25
 - testing 26
- security, web server 37
- selecting an SCC provider 25
- Serena, contacting 14
- server security, configuring 37
- setting up source control for web projects 38
- settings, source control 28
- sharing files
 - definition of 20
 - how to 33
- solutions
 - adding to Version Manager 306
 - opening from Version Manager 308
- source control
 - adding Visual Studio projects to 306
 - concepts 18
 - environment, configuring 28
 - information, viewing 20, 72
 - removing SCC projects from 34
 - removing web projects from 42
- subprojects, definition of 18
- supported IDEs 21
- synchronizing workspaces in Visual Studio 330
- syntax highlighting
 - enabling for file comparisons 332
 - options, defining 332

T

- team environment
 - personal workspaces 28
 - sharing files 33
 - updating your workfiles 50
- TeamTrack
 - association options 339
 - IDE personal folder 339
 - issues
 - associating 342
 - displaying 341
 - submitting and modifying 342
 - logging in to 340
 - workflow 338
- TestDirector
 - adding a new test 197
 - adding projects to source control 191
 - checking in tests 196
 - checking out tests 194
 - enabling source control 191
 - getting tests 193
 - removing projects from source control 192

- supported features 190
- undoing a checkout 196
- viewing version history 197
- testing SCC initiation 26
- timestamps, setting 50, 52
- tip revision, definition of 19
- Together
 - adding projects to source control 202
 - checking in files 211
 - checking out files 210
 - getting files 209
 - removing files from source control 208
 - undoing checkout 211
- trunk, definition of 20
- typographical conventions 13

U

- undoing checkout 52, 314
- unlocking files 52, 54
- updating Visual Studio workspaces 327
- upgrading 5.3/6.0 projects 369
- user
 - ID, entering 48
 - privileges, defining 37
 - types 38
- using
 - reports 72
 - version labels 56

V

- version labels
 - assigning 32, 56, 320
 - definition of 19
 - deleting 60, 321
 - floating 32, 58
 - reassigning 58
 - renaming 58, 321
 - viewing 72, 310
- Version Manager
 - about project databases 18
 - launching 28
 - workspaces 27
 - workspaces, using in Visual Studio 301
- versioned files
 - comparing 80
 - editing 50
- viewing
 - file status in Visual Studio 315
 - properties 20, 72
 - source control activity 73
- Visual Basic
 - adding projects to source control 234
 - binary files 233
 - checking in files 240
 - checking out files 239

- file pairs 233
- getting files 239
- removing files from source control 238
- undoing checkout 240

Visual C++

- adding projects to source control 245
- checking in files 252
- checking out files 252
- getting
 - files 251
 - projects 250
 - workspaces 249
- removing files from source control 250
- undoing checkout 252

Visual InterDev

- non-web projects
 - about 273
 - adding to source control 274
 - checking in files 281
 - checking out files 280
 - deleting files 278
 - getting files 279
 - getting projects 279
 - push add to server 282
 - removing from source control 277
 - undoing checkout 280
- web projects
 - about 268
 - adding new files to 272
 - adding to source control 268
 - checking in files 271
 - checking out a previous revision 43
 - checking out files 271
 - refreshing 270
 - removing from source control 269
 - synchronizing 270
 - undoing checkout 271

Visual Studio .NET

- adding projects to source control 289
- checking in files 296
- checking out files 295
- configuring SCC behavior 288
- getting files 294
- removing files from source control 289
- supported features 286
- undoing checkout 296

Visual Studio .NET Rich Integration

- adding solutions and projects to Version Manager 306
- editing files 310
- migrating SCC projects to 304
- opening solutions and projects from Version Manager 308
- overview 300
- resolving conflicts 331
- synchronizing workspaces 324
- using TeamTrack 337
- using workspaces 301

VisualAge for Java

- adding files to source control 228
- checking in files 227
- checking out files 225
- connecting to source control 217
- getting files 225
- removing files from source control 228
- undoing checkout 226

VisualCafe

- adding projects to source control 257
- checking in files 263
- checking out files 263
- getting files 262
- removing files from source control 262
- undoing checkout 263

synchronizing 330

W

web projects

- setting up 38
- team development and 37

web server security 37

WebSphere Studio Application Developer 5

- adding projects to source control 349
- checking in files 358
- checking out files 356
- compare with local history 366
- connecting additional workstations to source control 352
- disconnecting projects from source control 354
- excluding files from source control 348
- getting files 356
- icon glyphs, enabling 356
- locking files 357
- migrating from WebSphere Studio Application Developer 4 348
- offline mode 362
- removing files from source control 354
- replace with local history 367
- source control status 355
- undoing checkout 358

Windows Directory Service 37

Windows NT security 37

workfiles

- adding to projects 31
- comparing 80
- definition of 19

workflow

- non-web projects 24
- TeamTrack rich integration to Visual Studio 338
- web projects 36

workset. See workspaces 27

workspaces

- definition of 20
- Version Manager 27
- Visual Studio
 - comparing 326
 - overview 301