Siebel

Using Siebel Tools

August 2020

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Contents

Preface

This preface introduces information sources that can help you use the application and this guide.

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1 What's New in This Release

What's New in Using Siebel Tools, Siebel CRM 20.8 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Overview of Using Siebel Script Editor	Modified topic. Updated the content to reflect changes to browser script.
Development Options for Scripting	Modified topic. Updated the content to correct minor inaccuracies.

Note: Along with the above topics, a few other topics have been updated to correct minor inaccuracies.

What's New in Using Siebel Tools, Siebel CRM 20.7 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Using the Toolbars	Modified topic. Updated the content to reflect the current behavior of the WF/Task Editor Toolbar.
Using Workflows in Workspaces Overview	Modified topic. Updated the content to reflect the current behavior of workflows in workspaces.
Creating New Workflows	Modified topic. Updated steps for creating new workflows as per the current behavior of workflows.
Modifying Existing Workflows	Modified topic. Updated steps for modifying existing workflows as per the current behavior of workflows.
WF/Task Editor Toolbar	Modified topic. Updated the content to reflect the current behavior of the WF/Task Editor Toolbar.

What’s New in Using Siebel Tools, Siebel CRM 20.5 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Enabling the Parallel Development Feature for Siebel Tools Workspaces	Modified topic. Updated the content to remove inaccuracies in the process for enabling parallel development for Siebel Tools.
Understanding Integration Workspaces in Siebel Tools	Modified topic. Updated the content to remove inaccuracies in the topic.
• Where Siebel Tools Stores Archive Files • Creating a Project for Your Symbolic Strings • Enabling Workspaces in the Development Environment • Tagging Objects When Using Siebel Remote • Adding Identification Numbers to Repository Modifications • Preparing to Migrate Repositories • Updating Siebel Remote Databases • Migrating Non-repository Configurations and Data • Using the Repository Import and Export Utility • Guidelines for Migrating Repositories	Deleted topics. Removed these topics as they are no longer valid.

Note: Along with the above topics, many other topics have been updated to correct minor inaccuracies.

What’s New in Using Siebel Tools, Siebel CRM 20.1 Update

No new features have been added to this guide for this release. This guide has been updated to reflect only product name changes.

What’s New in Using Siebel Tools, Siebel CRM 19.11 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Component Parameters for Siebel Business Applications	**New topic**. Describes the following component parameters: ***EnableSafeBoot*** , **ManifestSafeLoad**, *DefaultNavigation*.

What’s New in Using Siebel Tools, Siebel CRM 19.10 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Overview of Using the ST eScript Engine	Modified topic. Updated the content to reflect the current behavior of the ST eScript Engine.
Detecting Conflicts in Workspaces and Applying Resolutions	Modified topic. Aligned the content for Name Conflicts to reflect the appropriate behavior.

What’s New in Using Siebel Tools, Siebel CRM 19.9 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Deleting Development Workspaces	Modified topic. Development Workspace can now be deleted by users with Workspace Administrator role.
Deleting Integration Workspaces	Modified topic. When you delete an Integration Workspace, it will permanently delete all the data and versions under this workspace and the associated child workspaces.

What's New in Using Siebel Tools, Siebel CRM 19.8 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Flattening Workspace Versions	Modified topic. Updated the content to reflect the current behavior of the flattening feature.

What's New in Using Siebel Tools, Siebel CRM 19.4 Update

The following information lists the changes in this revision of the documentation to support this release of the software.

Topic	Description
Using a View Web Template Editor	Modified topic. Added the steps on configuring the User Property of an application so as to preview it from within the editor.
About Web Tools	Modified topic. Added a point on the behavior of the Web Tools theme.
Flattening Workspace Versions	Modified topic. Aligned the content to reflect the current behavior of the flattening feature.
Flattening Workspace Versions	Modified topic. Aligned the content to reflect only the flattening feature.
Editing the Repository Objects	Modified topic. Added a new procedure on how to use the EnableWorkspace utility.
Deleting Integration Workspaces	New topic. It describes deleting integration workspaces in Web Tools and Siebel applications and how the feature differs from deleting development workspaces.
Using the Database Configuration Wizard to Migrate Repositories	Deleted topic. Removed this topic and all its references because the same is covered in *Siebel Database Upgrade Guide* from Siebel IP2017 onward.

What's New in Using Siebel Tools, Siebel CRM 19.1 Update

No new features have been added to this guide for this release. This guide has been updated to reflect only product name changes.

2 Using Siebel Tools

Using Siebel Tools

This chapter describes how to use Oracle's Siebel Tools. It includes the following topics:

Overview of Using Siebel Tools

Siebel Tools is an integrated development environment that you can use to customize Siebel CRM. You can use it to modify predefined Siebel objects or to create custom objects that meet your business requirements. For example, you can use Siebel Tools to modify the data model, modify business logic, or customize the user interface that the Siebel client shows. Siebel Tools allows you to develop a single configuration that you can use to do the following:

- Deploy Siebel CRM across multiple types of clients
- Support multiple Siebel Business Applications and languages
- Upgrade Siebel product releases
- Maintain Siebel CRM

Declarative configuration is a type of programming technique that uses objects and object properties in the Siebel repository to implement the logic that your business requires. Siebel Tools uses declarative configuration to create and modify the object definitions that define a Siebel application. Siebel Tools is not a programming environment. You do not modify the source code or write SQL. Siebel CRM uses the terms object and object definition differently than developers who use programming languages that use similar terms, such as object, object class, or object instance. For more information about the Siebel repository, see *Managing Repositories* For more information about the objects, object definitions, and the object hierarchy that Siebel CRM uses, see *Configuring Siebel Business Applications* .

> **Note:** The *Siebel Bookshelf* is available on Oracle Technology Network (http://www.oracle.com/technetwork/indexes/documentation/index.html) and Oracle Software Delivery Cloud. It might also be installed locally on your intranet or on a network location.

Roadmap for Setting Up and Using Siebel Tools

To set up and use Siebel Tools, do the following tasks:

1. *Process of Setting Up the Development Environment*
2. *Creating, Modifying, Copying, Validating, and Deleting Objects*
3. *Testing and Troubleshooting Your Modifications*
4. *Exporting Objects to an Archive*

Process of Setting Up the Development Environment

To set up the development environment, do the following tasks:

1. *Installing Siebel Tools*
2. *Controlling How Siebel Tools Handles Versions for a Workflow Process or Task UI*
3. *Setting the Language Mode*
4. *Controlling How Siebel Tools Displays the Confirmation Dialog Box*
5. *Resetting Development Tools Options*

This process is a step in *Roadmap for Setting Up and Using Siebel Tools*.

Installing Siebel Tools

In this guide, *SIEBEL_TOOLS_ROOT* represents the folder where you install Siebel Tools. This folder is `C:\Siebel\release_number \Tools`, by default.

For more information about:

- How to install Siebel Tools, see the *Siebel Installation Guide* for the operating system you are using. For example, see *Siebel Installation Guide for Microsoft Windows* .
- System requirements, such as supported versions of Microsoft Windows, see *Siebel System Requirements and Supported Platforms* on Oracle Technology Network.

  Note: For Siebel CRM product releases 8.1.1.9 and later and for 8.2.2.2 and later, the system requirements and supported platform certifications are available from the Certifications tab on My Oracle Support. For information about Certifications, see article 1492194.1 (Article ID) on My Oracle Support.

This task is a step in *Process of Setting Up the Development Environment*.

Controlling How Siebel Tools Handles Versions for a Workflow Process or Task UI

You can control how Siebel Tools handles versions for a workflow process or task UI that you open with an editor, depending on the value of the Status property.

This task is a step in *Process of Setting Up the Development Environment*.

To control how Siebel Tools handles versions for a workflow process or task UI

1. In Siebel Tools, click the View menu, and then click Options.
2. In the Development Tools Options dialog box, click the General tab.
3. In the Workflow and Task Configurations section, set the options by using the descriptions in the following table, and then click OK.

Option	Description
Automatic Revision in WF/Task Editor and Version Check	If this check box: ◦ Includes a check mark, and if you use an editor to open a workflow process or task UI, and if the Status property of this workflow process or task UI is Completed, then Siebel Tools creates a copy of this workflow process or task UI, sets the status for this copy to In Progress, and then opens an editable version of it in the editor. ◦ Does not include a check mark, then Siebel Tools opens the editor, and then displays a version of the workflow process or task UI that you cannot edit.
Automatically Close All the Previous WF/Task Versions	If this check box includes a check mark, and if you use an editor to open a workflow process or task UI, and if the Status property of this workflow process or task UI is Completed, Not In Use, or Expired, then Siebel Tools closes any prior versions of this workflow process or task UI.

Setting the Language Mode

The *language mode* is a type of mode that allows you to configure Siebel CRM to display text in a language other than English. For example, the German (DEU) language mode allows you to view text in some objects of Siebel Tools in German, such as the text that a string contains or object definitions that the Object List Editor shows. The language mode determines the set of locale data that Siebel Tools uses when it compiles the repository, and during checkin and checkout. If you add a language to the Siebel database that does not come predefined with Siebel CRM, then this language must use all capital letters. For more information, see *About Predefined Objects* and *Siebel Global Deployment Guide* .

This task is a step in *Process of Setting Up the Development Environment*.

To set the language mode

1. Make sure the repository includes the language data that Siebel Tools must show.
2. In Siebel Tools, click the View menu, and then click Options.
3. In the Development Tools Options dialog box, click the Language Settings tab.
4. In the Tools Language Mode section, choose a value from the Language drop-down list, and then click OK.
5. (Optional) To enable language override, make sure the Enable and Use Language Override check box includes a check mark.
   For more information, see the Enabling Language Override section in this chapter.
6. Click OK.

Enabling Language Override

A *language override* is a nontranslatable, locale property that you can configure differently for different locales. For example, you can configure Siebel CRM to use a specific height for the address field in French and to use a different height in English. If you enable language override, then Siebel CRM might create more locale records in the repository. To avoid unnecessary records, it is recommended that you enable language override only if your deployment requires it. For more information, see *Configuring Nontranslatable Locale Object Properties* and *Configuring Siebel Business Applications* .

Controlling How Siebel Tools Displays the Confirmation Dialog Box

You can control how Siebel Tools displays the confirmation dialog box.

This task is a step in *Process of Setting Up the Development Environment*.

To control how Siebel Tools displays the confirmation dialog box

1. In Siebel Tools, click the View menu, and then click Options.
2. In the Development Tools Options dialog box, click the General tab.
3. In the Editing Confirmation Dialogs section, configure Siebel Tools to do one of the following:
    - **Display a confirmation dialog box.** Add a check mark to a check box.
    - **Do not display a confirmation dialog box.** Remove a check mark from a check box.
4. Click OK.

Resetting Development Tools Options

If Siebel Tools behavior is not consistent with the preferences you set, then you can reset them.

This task is a step in *Process of Setting Up the Development Environment*.

To reset development tools options

Do one of the following:

- Reset preferences in the Development Tools Options dialog box:
    - Click the View menu, and then click Options.
    - In the Development Tools Options dialog box, click the various tabs and reset preferences, as necessary.
- Delete the file that stores your preferences:
    - Close Siebel Tools.
    - Navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder, and then delete the devtools.prf file.
    - Log in to Siebel Tools, click the View menu, and then click Options.
    - Set preferences in the Development Tools Options dialog box.

  Siebel Tools stores the preferences that you set in the Development Tools Options dialog box. It stores these preferences in the devtools.prf file. If you delete this file, then Siebel Tools resets all your preferences to their default values.

Using the Object Explorer and Object List Editor

This topic describes how to use the Object Explorer and Object List Editor. It includes the following information:

- *Overview of the Object Explorer and Object List Editor*
- *Locating and Modifying Object Definitions in the Object List Editor*
- *Displaying Object Types in the Object Explorer*
- *Using Lists and Tabs in the Object Explorer*
- *Using the Object List Editor*

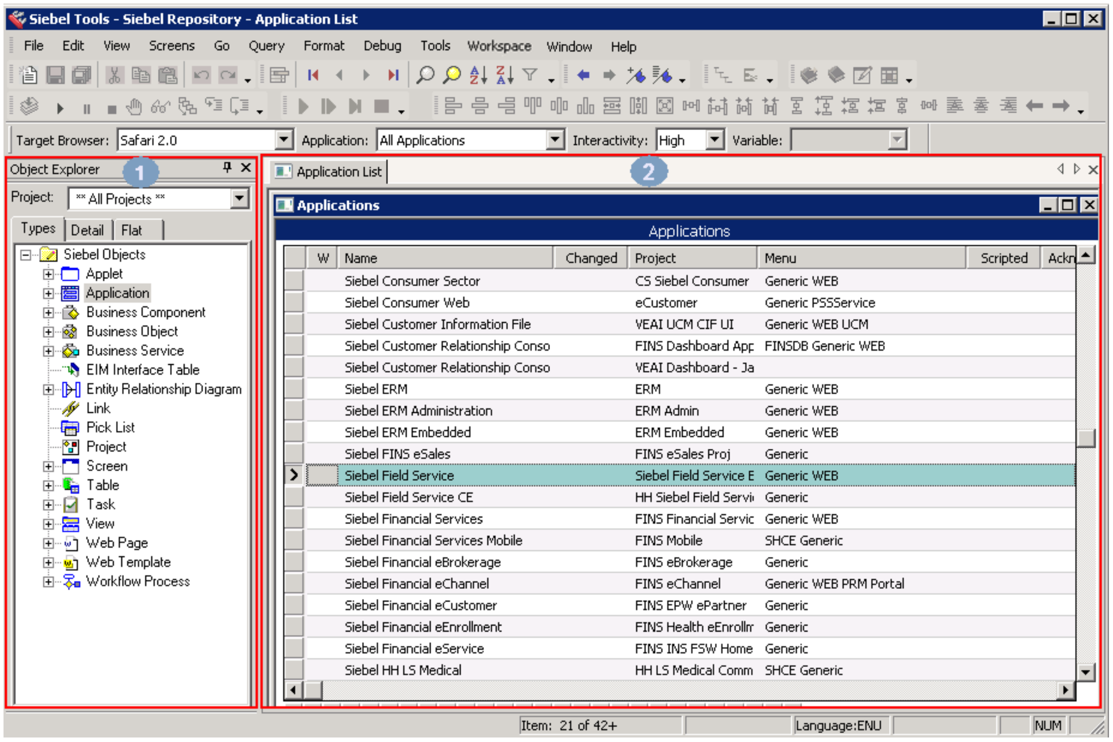
Overview of the Object Explorer and Object List Editor

Note: The *Object Explorer* is available in both Siebel Tools and Web Tools.

The *Object Explorer* is a window that displays the Siebel object hierarchy. It allows you to use a tree structure to navigate through the object types that the hierarchy contains. The *Object List Editor* is a window that displays the object definitions of the object type that you choose in the Object Explorer. It allows you to view and modify the object definitions.

How Siebel Tools Displays Object Types and Object Definitions

The following image illustrates how Siebel Tools includes an Object Explorer window and one or more Object List Editor windows. In this image, the Applications list in the Object List Editor is shown. For more information about the object hierarchy that Siebel CRM uses, see *Configuring Siebel Business Applications* .



Target Browser: Safari 2.0
Application: All Applications
Interactivity: High
Variable:
Project: ** All Projects **

W	Name	Changed	Project	Menu	Scripted	Ackn
	Siebel Consumer Sector		CS Siebel Consumer	Generic WEB		
	Siebel Consumer Web		eCustomer	Generic PSSService		
	Siebel Customer Information File		VEAI UCM CIF UI	Generic WEB UCM		
	Siebel Customer Relationship Conso		FINS Dashboard App	FINSDB Generic WEB		
	Siebel Customer Relationship Conso		VEAI Dashboard - Ja			
	Siebel ERM		ERM	Generic WEB		
	Siebel ERM Administration		ERM Admin	Generic WEB		
	Siebel ERM Embedded		ERM Embedded	Generic WEB		
	Siebel FINS eSales		FINS eSales Proj	Generic		
	Siebel Field Service		Siebel Field Service E	Generic WEB		
	Siebel Field Service CE		HH Siebel Field Servi	Generic		
	Siebel Financial Services		FINS Financial Servic	Generic WEB		
	Siebel Financial Services Mobile		FINS Mobile	SHCE Generic		
	Siebel Financial eBrokerage		FINS eBrokerage	Generic		
	Siebel Financial eChannel		FINS eChannel	Generic WEB PRM Portal		
	Siebel Financial eCustomer		FINS EPW ePartner	Generic		
	Siebel Financial eEnrollment		FINS Health eEnrollm	Generic		
	Siebel Financial eService		FINS INS FSW Home	Generic		
	Siebel HH LS Medical		HH LS Medical Comm	SHCE Generic		

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Explanation of Callouts

The preceding image includes the following items:

1. **Object Explorer.** A window that displays object types. Allows you to navigate between each group of object definitions of an object type.
2. **Object List Editor.** A window that displays object definitions. For more information, see *Using the Object List Editor*.

An *object type* is an entity that includes a predefined set of properties. You can use it as a template to create an object definition. An application is one kind of object type. For more information, see *About Predefined Objects*.

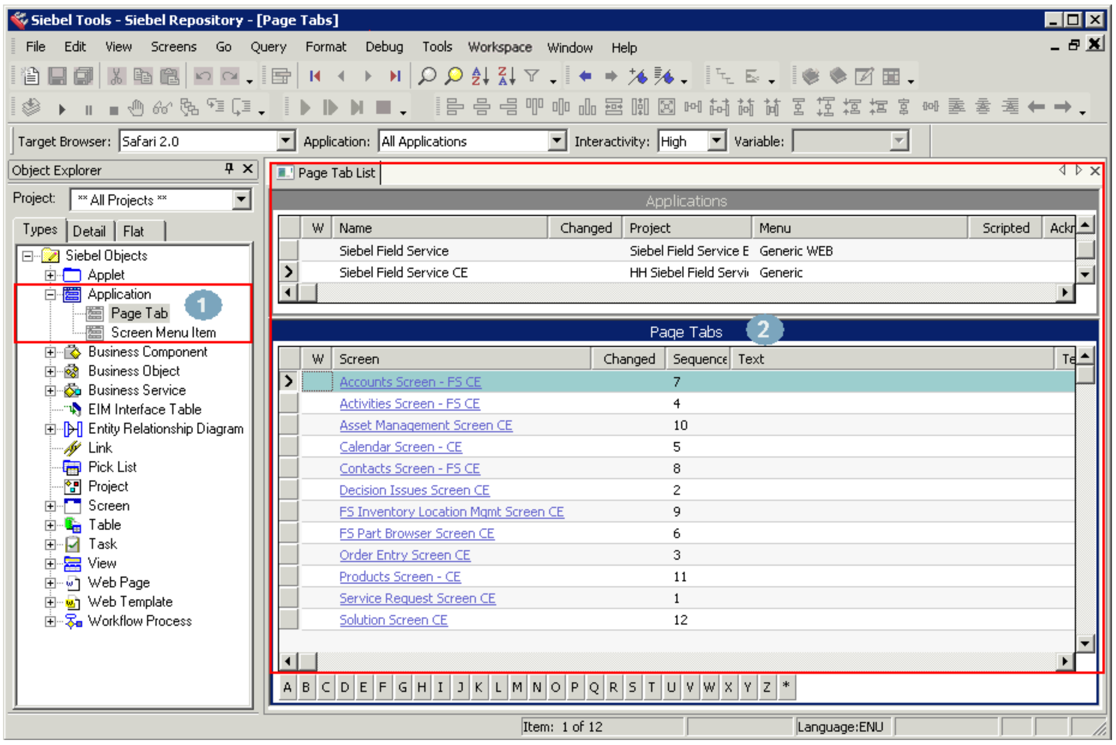
An *object definition* implements one piece of the software. This object definition consists of *object properties*, which are characteristics of this piece of the software. The Object Explorer and Object List Editor display all the object definitions that the repository contains. Siebel Field Service is an example of an object definition of an application. Siebel CRM uses the terms *attribute* and *property*. These terms have the same meaning.

If an object type is not visible in the Object Explorer, then you can display it. For more information, see *Displaying Object Types in the Object Explorer*.

Note: Web Tools follows a similar arrangement with object types listed in Object Explorer and their corresponding object definitions in Object List Editor.

How Siebel Tools Displays the Siebel Object Hierarchy

The following image illustrates a parent and child relationship, which is a type of hierarchical relationship between one object type and another object type. In this image, the Page Tabs object definitions for the Siebel Field Service application are shown.



Target Browser: Safari 2.0 Application: All Applications Interactivity: High Variable:

Applications

W	Name	Changed	Project	Menu	Scripted	Ackn
	Siebel Field Service		Siebel Field Service E	Generic WEB		
	Siebel Field Service CE		HH Siebel Field Servi	Generic		

Page Tabs

W	Screen	Changed	Sequence	Text	Te
	Accounts Screen - FS CE		7		
	Activities Screen - FS CE		4		
	Asset Management Screen CE		10		
	Calendar Screen - CE		5		
	Contacts Screen - FS CE		8		
	Decision Issues Screen CE		2		
	FS Inventory Location Mgmt Screen CE		9		
	FS Part Browser Screen CE		6		
	Order Entry Screen CE		3		
	Products Screen - CE		11		
	Service Request Screen CE		1		
	Solution Screen CE		12		

Item: 1 of 12 Language:ENU

Explanation of Callouts

The preceding image includes the following items:

1. **Object type hierarchy.** In this example, the Page Tab object type and the Screen Menu Item object type are child objects of the parent Application object type. The Object Explorer displays this relationship as a hierarchical tree that you can expand or collapse. For more information, see *Using the Types Tab*.
2. **Object definition hierarchy.** The Object List Editor uses two windows to display this parent and child relationship. In this example, the Applications list displays the object definition for the parent Siebel Field Service application. The Page Tabs list displays the object definitions of the child page tabs that the repository contains for the Siebel Field Service application.

If you click the Types tab in the Object Explorer, then Siebel Tools arranges folder icons in a hierarchy. An object type that the Object Explorer shows succeeding another object type and indented after it is the child in a parent and child relationship. The object type that the Object Explorer shows preceding the child object type is the parent. A parent object type can include multiple child object types.

> **Note:** Web Tools follows a similar hierarchy. When you click an object type in Object Explorer, the object displays in Object List Editor in two applets as the parent and its child.

About Predefined Objects

This guide uses the term *predefined* to describe an object or configuration that comes already defined when you first install Siebel CRM or Siebel Tools. Each object that the Object List Editor shows after you install Siebel Tools, but before you make any modification, is a predefined object. A *custom object* is a new object that you create. A *modified object* is a predefined object or custom object that you modified.

Locating and Modifying Object Definitions in the Object List Editor

The example in this topic locates the object definitions for a single object type in the Object List Editor, and then modifies the value in a property of this object definition. You use the Object Explorer and Object List Editor to modify the Comment property of the Siebel Field Service application, and then examine the page tabs that this application uses. For information about locating object definitions for multiple object types, see *Searching the Repository*.

To locate and modify object definitions in the Object List Editor

1. Click the View menu, and then click Object Explorer.
   You can also press CTRL+E.
2. In the Object Explorer, click Application.
   For more information, see *How Siebel Tools Displays Object Types and Object Definitions*.
3. In the Applications list, query the Name property for Siebel Field Service.
   For more information, see *Using the Query Menu to Run a Query*.
   If the object definition exists, then the Object List Editor displays it in the Applications list. Querying for a record in this way causes Siebel Tools to display a single, isolated record. This technique helps to make sure that you choose the correct object definition and that it remains chosen while you use the Object Explorer and Object List Editor to navigate the object hierarchy, or if you do other work, such as delivering or revising. It reduces the possibility that you might mistakenly modify another object definition. For more information, see *How Siebel Tools Displays Object Types and Object Definitions*.
4. Locate the property you want to modify, and then type a new value in this property, choose a value from a drop-down list, or add a check mark to a check box.
   In this example, locate the Comments property. Use the scroll bar at the end of the Object List Editor to scroll toward the end.
5. Enter the following text in the Comments property:
   ```
   This is the object definition for the Siebel Field Service application.
   ```
   For more information, see *Using the Object List Editor*.
6. To save your modifications, click anywhere outside of the row.

7. In the Object Explorer, expand the Application tree, and then click Page Tab.
8. Notice the records that the Object List Editor shows in the Page Tabs list.

   For more information, see *How Siebel Tools Displays the Siebel Object Hierarchy*.

Modifying Multiple Records in the Object List Editor

You can modify multiple records in the Object List Editor of Siebel Tools.

To modify multiple records in the Object List Editor

1. In the Object List Editor, locate the objects you want to modify.
2. To choose multiple records, hold down the CTRL key while you click each record you want to modify.
3. Click the Edit menu, and then click Change Records.
4. In the Change Selected Records dialog box, choose the field you want to modify, and then enter a value for that field.
5. Click OK.

Displaying Object Types in the Object Explorer

This topic describes how to display object types in the Object Explorer.

To display object types in the Object Explorer

1. Click the View menu, and then click Options.
2. Click the Object Explorer tab.

   Note: In Web Tools, click the pencil icon from the menu before the Object Explorer tabs.

3. Scroll down through the Object Explorer Hierarchy window until you locate the object type you want to display.
4. Make sure the object type you want to display includes a check mark, and use the values from the following table.

Check Box State - Web Tools	Check Box State - Siebel Tools	Description
☑	☑	Display this object and all child objects of this object.
☐	☐	Hide this object and all child objects of this object.
▣	☑	Display this object. Display some child objects and hide some child objects.

If you add a check mark to a top-level object type, such as Applet, then Web Tools and Siebel Tools add a check mark to all child objects that the Applet contains. You can expand the parent tree to display only some child objects. A *top-level object type* is an object type at the start of the object hierarchy. The object types that the Object Explorer shows immediately after you install Siebel Tools or Web Tools, but before you expand any object types in the Object Explorer, are top-level object types.

5. (Optional) To restore the Object Explorer to the settings when you first install Siebel Tools or Web Tools, click Default.

   Note: In Web Tools, click the Refresh icon to restore the default settings.

6. Click OK.

   Note: In Web Tools, click Save.

Displaying Hidden Object Types and Properties

This topic describes how to display hidden object types and properties. A *hidden object type* is an object type that Siebel CRM does not show in the Siebel Web Client. For more information, see *Siebel Object Types Reference* .

To display hidden object types and properties

1. Close Siebel Tools.
2. Use a text editor to open the `tools.cfg` file.
3. In the Siebel section, set the value of the following parameter to `All`:

```
ClientConfigurationMode
```

4. Save the file, and then restart Siebel Tools.

Using Lists and Tabs in the Object Explorer

This topic describes how to use lists and tabs in the Object Explorer.

Using the Project Drop-Down List

The Object Explorer includes the Project drop-down list that allows you to filter objects according to project. The example in this topic describes how to use the Project drop-down list so that the Object Explorer displays only the object types that reference the Account project.

Note: In the Object Explorer pane of Web Tools, most of the object types are workspace-enabled, except the following ones: Table, Task, Repository, Type, EIM Table, and Project. For more information on behavior of Project in Web Tools, see *Using Workspaces in Siebel Tools*.

To use the Project drop-down list in Siebel Tools

1. In the Object Explorer, click the Project drop-down list.
2. Choose Account.

You can choose All Projects in the Project drop-down list to reset the Object Explorer so that it displays objects types for all projects.

Using the Types Tab

Siebel Tools displays the Types tab, by default. You can use it to navigate the object hierarchy. The Object Explorer does not display all object types, by default. For more information, see *Displaying Object Types in the Object Explorer*. For more information about the object hierarchy, see *Configuring Siebel Business Applications* .

To use the Types tab

1. In the Object Explorer, click the Types tab.

   Siebel Tools displays the top-level object types in alphabet order.
2. To display child object types, expand the tree for an object type.

   To expand the tree, you click the plus sign (+) that the Object Explorer shows next to the object type. For example, expand the Business Component tree.
3. To collapse an object type, click the minus sign (–).

   Note: In Web Tools, click the arrow sign to expand and collapse the Object Explorer tree.

Using the Detail Tab

The Object Explorer includes a Detail tab that allows you to view and expand an object type. If you use the Detail tab, then Siebel Tools displays object properties in the Object List Editor only for the object that you choose.

Note: Web Tools has only the Type and Flat tabs.

Using the Flat Tab

The Object Explorer includes a Flat tab that displays all object types in a single, alphabetic list. It does not display a hierarchy. You can use it to do the following:

- Find a child object with an unknown parent. For example, you create a new field but do not remember the business component that this field references. You can click the Flat tab, click the Field object type, and then query the Name property for the field name. Each record that Siebel Tools returns includes a parent property that displays the business component name.
- Determine how Siebel CRM typically uses objects and properties, such as how it uses a predefault value or the format that it uses in a calculated field.

To use the Flat tab

1. In the Object Explorer, click the Flat tab.

   The Object Explorer displays a list of all the object types in the repository. It displays this list in alphabetic order and with no hierarchy.
2. In the Object Explorer, click Field.

   The Object List Editor displays all the object definitions in the repository for the field object. This example describes how to use the flat tab to identify all the business components that include a field named Account Address.
3. In the Fields list, query the Name property for Account Address.

The Object List Editor displays a list of all the field object definitions in the repository with the name Account Address.

4. Right-click in the Fields list.

   > **Note:** In Web Tools, use the Columns Displayed menu from the gear icon or press CTRL+SHIFT+K.

5. In the Columns Displayed dialog box, scroll to the end of the Displayed Columns window, choose Parent Business Component, click the move to first arrow, and then click OK.

   The Parent Business Component column in the Object List Editor lists all the business components that include a field named Account Address.
6. In the Parent Business Component property, click Order Entry - Orders.

   The Object List Editor displays the object definition for the Order Entry - Orders business component.

Using the Object List Editor

You can use the Object List Editor to edit the properties of an object definition. For example, if you choose the Application object type in the Object Explorer, then the Object List Editor displays a list of all the applications that the repository contains. One row in the Object List Editor represents one object definition. For example, the values that the Object List Editor shows in the properties of the Siebel Field Service application represent one object definition.

The Object List Editor displays each object property as a column in the list. Information that you enter in each column represents a property value. You can modify the property values in an object definition. You cannot modify the set of properties that constitute an object definition. You can also use the Properties window to edit these properties. Modifying the value of a property in the Properties window also modifies the corresponding value of that property in the Object List Editor window. For more information, see *Using the Properties Window*.

Controlling How Siebel Tools Displays the Object List Editor

You can control how Siebel Tools displays the Object List Editor.

To control how Siebel Tools displays the Object List Editor

1. In Siebel Tools, click the View menu, and then click Options.
2. In the Development Tools Options dialog box, click the List Views tab, and then set the options using the information from the following table.

Option	**Description**
Small, Normal, or Large	Sets the size of the font that Siebel Tools shows.
Tight, Normal, or Loose	Sets the spacing that Siebel Tools uses between rows.
Horizontal Grid Lines	Displays or hides horizontal grid lines in the list.
Vertical Grid Lines	Displays or hides vertical grid lines in the list.

Option	Description
Alternating Row Color	Displays a different color for every other row.
Mouse Focus Rectangle	Displays or hides a dotted line around the record that you choose.

Using the W Property

If an object is locked and editable, then Siebel Tools displays a pencil icon in the W property in the Object List Editor. The pencil icon in *How Siebel Tools Displays the Siebel Object Hierarchy* indicates that all objects in the Object List Editor are locked and editable. If you lock a parent object, then Siebel Tools locks all child objects of this parent throughout the hierarchy. If you lock a child object, then Siebel Tools locks all objects that are parents of this child throughout the hierarchy.

Note: Locking a project is still required before you edit the non-workspace objects. The non-workspace objects are Table, Task, Workflows, Repository, Type, EIM Table, Projects, Dock objects, Schema Maintenance, and Server Components. For more information, see *Using Workspaces in Siebel Tools*.

Using the Changed Property

If you edit a record, then Siebel Tools adds a check mark in the Changed property. This check mark indicates that you modified this object definition since a specific date and time. If the Changed property does not include a check mark, then no modification has occurred since the date and time that you specify in the General tab of the Development Options dialog box. If you modify a child object, then Siebel Tools also adds a check mark to the Changed property of all objects that are parents of this child in the hierarchy. You can control how Siebel Tools displays the check mark in the Changed property.

To use the Changed property

1. In Siebel Tools, click the View menu, and then click Options.
2. In the Development Tools Options dialog box, click the General tab.
3. In the Changed Date section, set the Date and Time fields, and then click OK.

   If a modification occurs on a record that the Object List Editor shows, and if this modification occurs:

   - **On or after the date you specify.** Siebel Tools displays a check mark in the Changed property.
   - **Before the date you specify.** Siebel Tools does not display a check mark in the Changed property.

   Note: For more information on how the change is handled in Web Tools, see *Workspaces Dashboard in Web Tools*.

Using the Link

If the property value in the Object List Editor references the name of another object, then Siebel Tools displays this value as a link that you can click. If you click this link, then Siebel Tools displays the object definition of the item you clicked.

To use the link

- Make sure you are assigned the Developer responsibility in the Administration - Application screen, Responsibilities view in the Siebel client.
  For more information, see *Siebel Security Guide* .

Using the Inactive Property

If the Inactive property is TRUE, then Siebel Tools and Web Tools deactivate the record in the repository the next time you deliver your modifications. For more information, on how to deliver your workspaces see *Delivering Workspaces*.

To use the Inactive property

- If an object definition becomes obsolete due to an update or due to a new requirement, then you must not delete the unused objects. Instead, it is recommended that you set the Inactive property of this object definition to TRUE.
  Siebel CRM does not reference an inactive object.

Defining the Name of the User Property Object Type

It is not necessary to enter the name of a valid user property if you add a user property to an object, such as an applet or business component. Instead, you can use a drop-down list in the Name field of the user property. Siebel Tools then displays a dialog box that lists the valid user properties that you can define for the object. For more information about user properties, see *Siebel Developer's Reference* .

Using Menus and Running Queries

This topic describes how to use menus and run queries.

Using the Menu Bar

The menu bar follows the title bar of the Siebel Tools interface. It includes the same menus that a typical Microsoft Windows application includes, such as File, Edit, and Help. You click a menu on the menu bar to display menu items. Siebel Tools disables the menu items that are not available. For more information, see *Menus and Menu Items on the Menu Bar*.

To use the Menu Bar

- Log in to Siebel Tools, and then click a menu on the menu bar.

Using a Right-Click Menu

A *right-click menu* is a type of context-sensitive menu that appears if you right-click an object or an element. It allows you to do the following:

- Create, copy, or delete a record.

- Undo modifications that you make to a record.
- Display the name and status of a toolbar. You can right-click any toolbar. You can also customize how a toolbar appears.
- Lock an object.
- Add an object to an archive.
- Access wizards.

Note: Right-click is available only in Siebel Tools.

Running Queries

This topic describes how to run a query in the Object List Editor. If you use the Query Menu, then Object List Editor searches for objects according to the conditions that you enter in one or more properties. You can use a simple query or a compound query. You can create, refine, or activate a query from the Query menu or from the List toolbar. You can also use shortcut keys instead of using the Query menu.

Using the Query Menu to Run a Query

This topic describes how to use the Query Menu to run a query.

To use the Query Menu to run a query

1. In the Object Explorer, click the object type you want to locate.
2. Click the Query menu, and then click New Query.

   Siebel Tools displays an empty record in the Object List Editor.

   Note: In Web Tools, search using the Filter preceding the list of objects or use the object's menu in the Object List Editor.
3. In the Object List Editor, enter the query.

   For more information, see *Using a Simple Query* and *Using a Compound Query*.
4. Click the Query menu, and then click Execute Query.

   Siebel Tools displays the records that meet the query criteria that you entered.
5. (Optional) To refine the query, do the following:
   a. Click the Query menu, and then click Refine.
   b. In the Object List Editor, add more query conditions.
   c. Click the Query menu, and then click Execute Query.

Using Shortcut Keys to Run a Query

You can use a shortcut key to run a query.

To use shortcut keys to run a query

1. In the Object Explorer, click the object type that you want to locate.
2. In the Object List Editor, enter CTRL+Q in Siebel Tools or ALT+Q in Web Tools.

3. In the Object List Editor, enter the query.

   For more information, see *Using a Simple Query* and *Using a Compound Query*.
4. Press the ENTER key.

   Siebel Tools displays the query results.

Using a Simple Query

The following table describes the operators that you can use to create a simple query. A *simple query* is a type of query that locates records according to one condition. A check mark in a property that can contain a Boolean value represents TRUE. The Changed property is an example of a property that contains a Boolean value. For more information about query operators and Siebel data types, see *Siebel Developer's Reference* .

Operator	Description
=	Equal to.
<	Less than.
>	Greater than.
<>	Not equal to.
<=	Less than or equal to.
>=	Greater than or equal to.
*	A wildcard. An asterisk (*) can represent any number of characters, including no characters.
?	A wildcard. A question mark (?) can represent any single character.
IS NOT NULL	Queries for a property that is not empty.
IS NULL	Queries for an empty property.
LIKE	Queries for a value that begins with the string that you enter.
NOT LIKE	Queries for a value that does not start with the string that you enter.
" "	Queries for a string that includes a special character. For example, enter "MyQuery's Text" to query for the MyQuery’s Text string. If your query text includes a special character, then you must use quotes to enclose the query.
EXISTS ( )	Queries for a value in a multi-value group.
~	Forces the case of the text string to use the case that follows the tilde (~).

Operator	Description

Using a Compound Query

A *compound query* is a type of query that locates records according to more than one condition. You can use parentheses to control the order that Siebel Tools uses to do a compound query. Siebel Tools runs the query according to the expression that you enter. It starts with the inside parentheses and then proceeds to the next, similar to the order in which you read English.

The following table describes operators that you can use for a compound query. You can combine simple conditions and compound conditions in a single query. For more information, see *Siebel Developer's Reference* .

Operator	Description
AND	All the conditions that the AND operator connects must be true.
OR	At least one of the conditions that the OR operator connects must be true.
NOT	The condition that the NOT operator precedes must be false.

To use a compound query, do one of the following:

- Enter conditions in two or more properties.
- When you run the query, Siebel Tools uses an AND operator between the conditions that you enter.
- Use OR, AND, and NOT operators in a single property.

Removing Query Results from the Object List Editor

You can remove query results from the Object List Editor.

To remove query results from the Object List Editor

1. Click the Query menu, and then click New Query.
2. Do not enter any values in the Object List Editor.
3. Click the Query menu, and then click Execute Query.

Getting Documentation About an Object

This topic describes how to get documentation about an object.

To get documentation about an object

1. Open Siebel Tools.
2. In the Object Explorer, click an object type, such as Business Component, and then press the F1 key.
   Siebel Tools Online Help appears with documentation about the selected object type, including information about its properties. The content in this online help also appears in *Siebel Object Types Reference* .

Using Windows, Wizards, and Toolbars

This topic describes how to use windows, wizards, and toolbars. It includes the following information:

- *Using the Properties Window*
- *Using Web Templates*
- *Using the Multi Value Property Window*
- *Using the Bookmarks Window*
- *Displaying, Docking, and Stacking Windows*
- *Using a New Object Wizard*
- *Using the Toolbars*

Using the Properties Window

The *Properties window* is a window that displays the properties and the property value for the object that you choose in the Object List Editor. It displays the name of this object and the name of the property in the one column and the property value in the next column. Siebel Tools displays properties in the Properties window in alphabetic order. You can click the Categorized tab to view these properties grouped according to category. The Properties window does not display the Project property or the Changed property.

In this example, you use the Properties window to modify the Comments property of the Siebel Field Service application.

To use the Properties window

1. Locate the Siebel Field Service application in the Applications list.
   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
2. Click the View menu, Windows, and then click Properties Window.
3. In the Properties window, enter the following text in the Comments property:

   ```
   I can modify values in the Properties window or in the Object List Editor.
   ```

4. To verify your modifications, examine the Comments property in the Applications list. It includes the values you entered.

Using Web Templates

Web Template is an applet in Web Tools that displays the HTML code of a Siebel Web Template in an editor and also lets you preview the object design.

To use the Web Templates applet

1. In Web Tools, navigate to Object Explorer and then click the Web Template object.
   To filter the templates, you can use the filter preceding the list of objects or run a query using the gear icon in the Object List Editor applet.

2. Drill down on the Web template that you want to view or modify.

   Web Tools displays the HTML code for Siebel Web Template in Object List Editor. To modify, you must first open a workspace. To do so, see *Navigating to the Workspace Dashboard in the Web Tools Mode Application*.
3. If the Web template is editable, you can edit the HTML code in the editor.

   You can customize the editor with options such as auto-close tags, hints, display of line numbers or Object Design hierarchy, and indentation. The settings you select are automatically available whenever you access the editor.
4. Click the Preview (eye-shaped) icon to preview the object design.

   You can toggle between the editor and preview.
5. Click the Back button to exit the preview.

Using the Multi Value Property Window

The Multi Value Property Window allows you to view and set values for multi-value properties when you use one of the following designers:

- Entity Relationship Designer
- Task Designer
- Workflow Process Designer

For more information about multi-value properties and how to use the Multi Value Property Window, see *Siebel Business Process Framework: Task UI Guide* and *Siebel Business Process Framework: Workflow Guide* .

Using the Bookmarks Window

The *Bookmarks window* is a window that allows you to navigate directly to an object that you use frequently. For more information, see *History Toolbar*.

Displaying, Docking, and Stacking Windows

This topic describes how to display, dock, and stack windows.

Displaying a Window

You can display or hide a window.

To display a window

- In Siebel Tools, click the View menu, click Windows, and then click the window that you want to display.

  You can also click the Go menu, and then click Bookmarks List to display the Bookmarks window.
- To hide a window, do one of the following:
  - Click the Close button in the title bar of the window.

- Right-click the window that you want to hide, and then click Hide.

Docking a Window

You can dock a window in a corner of the main window.

To dock a window

- Relocate the window to the area of the main window where you want to dock the window.
- To undock a window, you can right-click the window, and then click Docked.
- To prevent Siebel Tools from docking a window when you move it, you can hold down the CTRL key while you move the window.

Displaying a Window as a Tab

You can display a docked window, including the Object Explorer, as a tab. You can open, close, or dock a tabbed window.

To display a window as a tab

- Right-click the window, and then click Hide.

  Siebel Tools collapses the window and displays a tab for it at the margin of Siebel Tools.
- To display a tabbed window:
  - **Temporarily.** Place your curser over the tab that represents the window.
  - **Permanently.** Place your curser over the tab that represents the window, and then click the push pin in the window title bar.

Stacking Windows

You can stack windows over each other if they are floating.

To stack windows

- Relocate a floating window to another floating window.

  Siebel Tools creates a single window that includes both windows, and it adds a tab that represents each window. You can click the tabs to navigate between these stacked windows.

Resetting Windows

You can reset windows to the display that Siebel Tools uses immediately after you first install it.

To reset windows

- In Siebel Tools, click the View menu, and then click Reset Windows.

  Siebel Tools closes all windows except the Object Editor and the Object List Editor. It pins the Object Editor and the Object List Editor to their placeholders and resizes them to their original size.

Using a New Object Wizard

A *new object wizard* is a feature that you can use that guides you through the steps of creating a new object. It prompts you to configure the properties and objects that SiebelTools require according to the object type that you are creating. You can use a new object wizard to create the following objects:

- **General object.** For example, a business component, table, view, or applet method menu item.
- **Applet object.** For example, a list applet, form applet, MVG Applet, or chart applet.
- **EAI object.** For example, an integration object.
- **Task object.** For example, a task, task applet, task view, or transient business component.

For more information about how to use a wizard for a particular object type,see *Configuring Siebel Business Applications* .

Note: You can use the Edit Web Layout function, which is available only in Web Tools, to edit the web layout.

To use a new object wizard

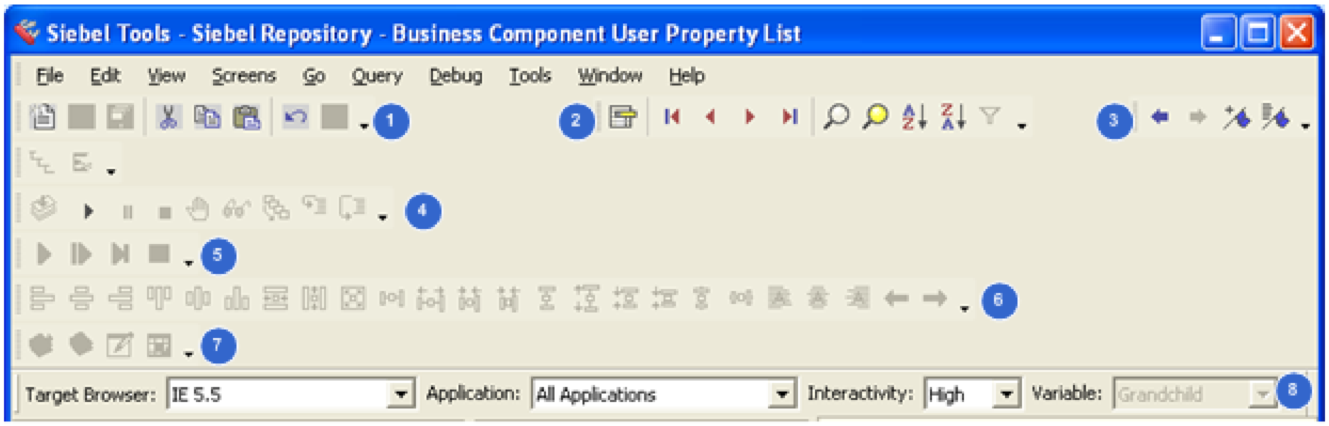
1. Do one of the following:
   - Click the File menu, and then click New Object.

     SiebelTools displays the New Object Wizards dialog box.
   - Right-click an object in the Object List Editor, and then click New Object Wizards.

     SiebelTools displays a list of wizards that are specific to the object type that you choose.
2. Choose a wizard.

Using the Toolbars

The following image illustrates the toolbars that you can use in Siebel Tools. A toolbar is active only if the object type or window that uses it is active. You can relocate toolbars using the mouse. You can display and hide toolbars.


Siebel Tools - Siebel Repository - Business Component User Property List
File Edit View Screens Go Query Debug Tools Window Help
1
2
3
4
5
6
7
Target Browser: IE 5.5
Application: All Applications
Interactivity: High
Variable: Grandchild
8

Explanation of Callouts

Siebel Tools includes the following toolbars:

1. **Edit Toolbar.** Allows you to use edit tools, the New Object wizard, and undo and redo options. You can right-click a field in the Object List Editor to display a menu of edit tools.
2. **List Toolbar.** Allows you to insert a new record, move forward and backward through records, query records, and sort records. It manages records that the Object List Editor shows.
3. **History Toolbar.** Allows you to retrace your steps, and to create and navigate to bookmarks.
4. **Debug Toolbar.** Allows you to access debug tools that you can use with Siebel VB and Siebel eScript. For more information, see *Using Siebel Script Editors*
5. **Simulate Toolbar.** Allows you to simulate a workflow process.
6. **Format Toolbar.** Allows you to apply a format to an applet control. This control uses a Web template that uses a grid layout.
7. **WF/Task Editor Toolbar.** Allows you to publish, revise, or expire a task UI.

   Note: All the buttons apply only to Tasks and not to Workflows.

8. **Configuration Context Toolbar.** Allows you to define settings for Web browser layout and scripting.

Displaying a Toolbar

You can display a toolbar.

To display a toolbar

- In Siebel Tools, click the View menu, click Toolbars, and then click the menu item that represents the toolbar that you want to display.

  If Siebel Tools displays a check mark next to the menu item that represents the toolbar, then the toolbar is visible.

Displaying the Status Bar

You can display the status bar.

To display the status bar

- In Siebel Tools, click the View menu, and then click Status Bar.

  If Siebel Tools displays a check mark next to the Status Bar menu item, then the Status Bar is visible.

Using Editors in Siebel Tools

This topic describes how to use some of the editors that you can use in Siebel Tools. It includes the following information:

- *Using an Editor That Includes a Canvas*
- *Using a Script Editor*

Using an Editor That Includes a Canvas

A *canvas* is a background that appears in different designers. It includes a work area that allows you to move or rearrange objects. For example, the Task Designer allows you to move a Siebel Operation step from the Palette window to the canvas. The canvas also indicates whether or not you can edit an object.

The example in this topic uses the canvas that appears in the Task Designer for the FS Asset To Contract Task.

To use an editor that includes a canvas

1. In the Object Explorer, click Task.
2. In the Tasks list, locate the FS Asset To Contract Task.

   Siebel Tools displays two records for the FS Asset To Contract Task. For more information, see *How Siebel Tools Displays Object Types and Object Definitions*.
3. Use multiselect to choose both records in the Tasks list.

   For more information, see *Choosing More Than One Record in the Object List Editor*.
4. Right-click the tasks that you chose in Step 3, and then click Lock Object.
5. Use the canvas for an object that you can edit:

   a. Right-click the task that includes In Progress in the Status property, and then click Edit Task Flow.

      Siebel Tools displays the canvas as a solid grid, which indicates that you can edit the task. It displays task objects over this grid.

   b. To verify that you can edit the task, move an existing object.
   c. Click the File menu, and then click Close.
   d. In the Confirm dialog box, click No.
6. Use the canvas for an object that you cannot edit:

   a. Right-click the task that includes Completed in the Status property, and then click Edit Task Flow.

      Siebel Tools displays the canvas as a solid background with no grid, which indicates that you cannot edit the task. Some editors, such as the Workflow Process Designer, use a colored canvas to indicate that you cannot edit the object.

   b. To verify that you cannot edit the task, do the following:

      - Attempt to move a Siebel Operation step from the Palette window to the canvas.
      - Attempt to move an existing object.

   c. Click the File menu, and then click Close.
7. Right-click the tasks that you chose in Step 3, and then click Unlock Object.

Choosing More Than One Record in the Object List Editor

You can use multiselect to choose more than one record in the Object List Editor.

To choose more than one record in the Object List Editor

- Do one of the following:

  - To choose records that are not consecutive, hold down the CTRL key while you click each record.

- To choose multiple records that are consecutive, click a record, hold down the SHIFT key, and then click another record.

Editors That Include a Canvas

The following table describes the editors that include a canvas. You can use these editors with the Palettes Window

.

Editor	Description
Entity Relationship Designer	Allows you to diagram the business entities that your configuration uses and represent relationships between these entities. For more information, see *Configuring Siebel Business Applications* .
Task Designer	Allows you to create a user interface that assists the user in completing a job task. Allows you to add steps and connectors to a task UI. For more information about task UI and using the Task Designer, see *Siebel Business Process Framework: Task UI Guide* .
Workflow Process Designer	Allows you to define, manage, and enforce the business processes that your company uses. Allows you to add steps and connectors to a workflow process. For more information about workflow processes, using the Workflow Designer, and using the Workflow Simulator, see *Siebel Business Process Framework: Workflow Guide* .

Using a Script Editor

If you cannot use declarative configuration to meet your requirements, then you can use the Server Script Editor and the Browser Script Editor to create a script. You use these editors to add a script to a Siebel object. You can use the following types of script:

- Siebel VB
- Siebel eScript
- Browser Script

For information about declarative configuration, see *Overview of Using Siebel Tools*. For information about scripting, see *Using Siebel Script Editors*

Using IDE in Web Tools

Note: The feature described in this topic is available in Siebel CRM 18.10 Update and later releases.

This topic describes how to use Integrated Development Environment (IDE) of Web Tools. It includes the following information:

- *Overview of Integrated Development Environment*
- *Using a Web Page Editor*

- *Using a View Web Template Editor*
- *Using an Applet Web Template Editor*

For more information about using the editors, see *Configuring Siebel Business Applications* .

Overview of Integrated Development Environment

In Web Tools, Integrated Development Environment (IDE) provides a selection of tools for you to create or modify a Siebel object. You can access IDE through the preview mode of View or Applet Web templates in the Object Explorer. IDE helps you configure new applets and views or modify existing ones. You can also preview your changes from within IDE for the desired application. To exit IDE and revert to Object Explorer, you need to click the Close button on the IDE title bar.

To learn more about the various sections of IDE, see the following table.

Section	Type of Editor	Description
Title bar	Both	Displays the view or applet you selected for update. It also has the Close button to exit IDE.
Form Factor	Both	Helps you view the layout in three different form factors: Desktop, Tablet, and Mobile. This helps fine tune the layout as per your requirement and visualize the result. For example, placeholders that display in a row in Desktop will stack under each other in a column in Mobile due to restricted space.
Show More/Show Less	Applet Web Template Editor	It is next to the Form Factor buttons and toggles to display more or less number of fields and columns in applets. In grid-based form applets, you can further fine-tune the fields that will display by clicking the pin icon that appears on the control/column after you move it to the form. The pin is a toggle to enable/disable a red border around the control and its label. Appearance of the border indicates that the control will display only during the Show More mode of the applet.
Applications	Both	Lists Siebel applications so that you can select the application that will reflect your changes. In Applet Web Template Editor, you can select All Applications to make your changes available to all applications. You can also select a particular application in which you want to use the applet. If you select a specific application, your changes will be available for this applet only in the selected application. In View Web Template Editor, you have the preview option to view your changes within IDE. Before you obtain the preview, you must set the user property of the selected application. The preview displays the objects in context but without data. When you want to view the changes made in either editor with data, you need to log in to the actual application and submit the changes for delivery.
Library	View Web Template Editor	Lists preconfigured applets you can map to the selected view. To unmap, you can click the Trash icon at the far end of the applet.
Web Template	Applet Web Template Editor	Displays all the web templates of a selected applet so that you can select to work on another web template from within the IDE itself. For each web template, this pane lists Web Controls that you can use to create a control or a column. In Controls/Columns, the pane lists pre-configured controls/columns and their

Section	Type of Editor	Description
		labels for the applet. You can also filter on unmapped controls/columns to select a required object quickly. **Note:** In grid-based applets, the controls and their labels display separately under the Name (control) and Type (label) columns so you need to move them to the canvas one at a time. The difference between a control and its label is that the control has a border.
Canvas	Both	Contains placeholders to receive an object. Click (+) to show additional unmapped placeholders. Click the Trash icon to unmap an object and reuse a placeholder. You can resize the canvas from both the Library and Property pane sides. **Note:** If a workspace is open then the editor's canvas is white, which indicates that you can now perform actions on it. If the workspace is closed then the canvas is grey and non-editable. In Applet Web Template, you can unmap individual web controls and controls/columns.
Properties	Both	Lists the properties of currently selected object, web control, or control/column. If you click on an empty placeholder then this section will be blank. If you click outside a placeholder, on the canvas, then it will display the selected property of the view or applet.

Using a Web Page Editor

Web Tools supports Web Page Editor for both edit and preview of the code.

To use a web page editor

1. In the Object List Editor, locate the web page that you want to modify.
2. Click the Preview (eye-shaped) icon to preview the design in the same page as the object.

   Note: You can make changes to the web page in its record.

3. To save your changes to the web page or exit the preview, step off the record.

Using a View Web Template Editor

You sometimes have to modify an existing view to add a new applet or remove an existing one. You can do these tasks in View Web Template Editor, which is available in IDE. For more information about IDE, see *Overview of Integrated Development Environment*.

To use a View Web Template editor

1. Create or open a workspace.
2. In the Object List Editor, go to View and search for a view where you want to add a new applet.

For example, search for Account List View.

3. In the View Web Template of the view, click the Preview button to view the IDE for View Web Template Editor. The IDE for the view displays.

   The Property pane in the IDE displays the property of the selected view web template similar to that in Object List Editor.
4. Select a form factor in which to view your changes. The default view is Desktop.
5. In the Library pane, search for an applet that you want to add to the view.

   For example, search for Account Contact List Applet.
6. Select the applet and, with the mouse button depressed, move the selected applet onto an unused placeholder then release the mouse button. The Properties pane displays the property for the new applet.

   For example, move it to placeholder 14. If the placeholder is not visible, then click the plus sign on the canvas until you reach it or move to any unused placeholder.
7. To preview your changes in an application, select it from the Applications drop-down list and then proceed as follows:

   For example, select Siebel Universal Agent to preview changes in the Call Center application.

   - If the application is configured as viewable then click the arrow button next to the Application drop-down list to preview the changes from within Web Tools.

     i. Log in to the chosen application in the pop-up dialog box that displays in View Web Template Editor.

        The preview displays your selected view and applet in the application.

        Note: You can view the selected application as per your login credentials but cannot make any change to it due to viewing it in the preview mode. To submit your changes, directly log in to the application, go to the workspace dashboard and then click Inspect.

   - If the application is not yet configured as viewable within Web Tools then a pop-up message prompts you to set the URLApp application user property for the selected application.

     i. Click OK in the pop-up message.

        Web Tools automatically takes you to Application, Application User Props of Siebel Universal Agent in the Object Explorer.

        Note: You can click Cancel in the pop-up message to select another application or perform another task in the editor. However, the arrow button of the Applications drop-down list enables only after you enable the User Property of the application. At any time, you can click the Close button at the end of the title bar to exit the IDE.

     ii. Create a new record in Application User Props and then enter the value as URLApp in the Name field.
     iii. Enter the value as callcenter (or as appropriate for your customized application) in the Value field of the same record and repeat Step 3.

> **Note:** To know the value associated with the application, see the identifier that precedes the language in a typical Siebel URL such as `http(s)://<server>:<port>/siebel/app/<application name>/<language>` for `http://siebeldemo:16001/siebel/app/callcenter/enu`. The application name is also listed in the Application Interface Profile when you install Siebel. For more information about Siebel Application Interface Profile, see the *Siebel Installation Guide* for the operating system you are using.

iv. The View Web Template Editor for the required view web template displays and you can perform Step 7 to preview the application.

Using an Applet Web Template Editor

You can use Applet Web Template Editor to modify existing controls or add new ones. You can do so for any of the web templates of the applet without exiting IDE to select the next web template. You must access this editor through IDE. For more information about IDE, see *Overview of Integrated Development Environment*.

To use an Applet Web Template editor

1. Create or open a workspace.
2. In the Object List Editor, go to Applet, Applet Web Template and then search for the applet that you want to modify.

   For example, search for SIS Account Entry Applet.
3. Select the web template that you want to modify and then click the preview button to view the IDE for Applet Web Template Editor.
4. Select a form factor to preview your changes.
5. Select the application you want to modify from the Applications drop-down list.

   For example, select Siebel Universal Agent to view changes only in the Call Center application. If you select All Applications then the changes will reflect in all applications where this applet is in use.

   > **Note:** At any time, you can click the Close button at the end of the title bar to exit the IDE. To submit your changes, log in to the selected application, go to the workspace dashboard and then click Inspect.

6. Select a web control and, with the mouse button depressed, move the selected web control to an unused placeholder then release the mouse button.

   For example, select the Delete web control.
7. In the Properties pane, modify the properties of the object as required. The Property pane displays the same properties as given in the Object List Editor.
8. Select a control and, with the mouse button depressed, move the selected control to an unused placeholder then release the mouse button.

   For example, select Account Channel.
9. Do likewise for the label of the control.

   > **Note:** In list-based applets, when you move a control, its label automatically moves to the adjacent placeholder.

   For example, the label of Account Channel.

Using the Command Line

For more information about using the command line, see the following information:

- *Using the Command Line to Validate Objects*
- *Using the Command Line to Run the Locale Management Utility*
- *Using the Command Line to Export Objects to an Archive*
- *Using the Command Line to Import an Archive*

3 Using Web Tools

Using Web Tools

This chapter describes how to use Oracle's Siebel Tools. It includes the following topics:

About Web Tools

Oracle is gradually migrating from Siebel Tools to Web Tools to simplify and expedite the process of configuring Siebel Business Applications. Web Tools is a Web-enabled application that runs on a server, and you access it in a browser by using a Siebel Open UI client. Siebel Tools is a stand-alone application that runs on Microsoft Windows.

Note: Web Tools does not support thick client.

In Web Tools, you currently have access to some of the functionality in Siebel Tools, so you can use Web Tools to perform some of the tasks that in the past you performed in Siebel Tools. In both Siebel Tools and Web Tools, you need to be added to the database to access these tools. In addition, for Web Tools, you need to have the Composer Administrator responsibility to access the Workspace Dashboard to perform developer or configuration operations. To learn more about workspaces in Web Tools, see *Setting up Web Tools*.

Using Web Tools, note that:

- You must ensure that the Workspace features are enabled on the environment before you work on Web Tools.

  For more information about how to use the Workspace feature in Siebel Tools, see *Using Workspaces in Siebel Tools*.
- Web Tools has the same client requirements as other Siebel Open UI clients. For more information, see Deploying Siebel Open UI.
- Web Tools uses its own theme, which cannot be configured. For themes that can be configured in Siebel applications, see *Configuring Siebel Open UI* .

Benefits of Web Tools

Web Tools provides the following benefits:

- More elements for composition of the user interface.
- More efficient rendering of Web pages.

  The DOM (Document Object Model) structure in Siebel Business Applications is simplified, and the DOM is assembled using a single HTTP response, not multiple relays between the client and the server.

  When you use Siebel Tools, content is trimmed only from the client. Also, post-response JavaScript execution trims content. When you use Web Tools, the server evaluates client capabilities, such as resolution and form factors. Content is tailored from the server, and more efficient options are available to manage content.
- Decreased network traffic.

  Only the content that is necessary to currently render the user interface is included in responses. Extraneous content that the client must later discard or ignore is not included in responses. This decrease in content decreases the network traffic.
- More control in the client.
- Improved file loading.

  The framework files that are needed to start a Siebel application are loaded from the manifest. The files for the presentation model and physical renderer that are needed to render Web pages are also loaded from the manifest.

About Delivering in Siebel Tools and Web Tools

In Siebel Tools, you deliver modifications to implement your configuration changes in the user interface of the Siebel application. You deliver the modifications that you make to objects directly into the Siebel application. To deliver modifications, see *Delivering Workspaces*.

In Web Tools, you deliver modifications to implement your configuration changes in the user interface of the Siebel application. You deliver the modifications that you make to objects directly into the Siebel application.

Siebel Tools Features Included in Web Tools

Web Tools currently supports the following features in Siebel Tools:

- Locking and unlocking projects in the local repository for non-workspace objects. Locking is enabled only at the workspace level, and can be edited after you open the workspace.
- Configuring symbolic strings.
- Adding to archive.

- Sorting on objects.
- List of Values, Analytic Strings, and System Preferences.
- Using Object Explorer and Object List Editor.
- Using Siebel IDE for layout editing.
- IO deploy/undeploy.
- Using the Siebel Script Editor, the ST eScript Engine, and the Siebel Debugger.
- Setting debug options.

Siebel Tools Objects Included in Web Tools

The following table shows the objects in Siebel Tools that Web Tools currently supports.

CAUTION: Operations are not allowed on the read-only objects: Dock Object, the Schema Maintenance objects, Task, Type, Repository, Table, and EIM Interface Table.

Applet	Find	Screen	Workflow Process
Application	HTML Hierarchy Bitmap	Symbolic String	
Business Component	Icon Map	System Activity Object	
Assignment Attribute	Import Object	Table	
Assignment Criteria	Integration Object	Task	
Bitmap Category	Link	Task Group	
Business Object	Menu	Toolbar	
Business Service	Message Category	Type	
Class	Pick List	View	
Command	Project	Web Page	
Content Object	Repository	Web Template	
DLL	Schema Maintenance Phase	Workflow Policy Column	
Dock Object	Schema Maintenance Process	Workflow Policy Object	

EIM Interface Table	Schema Maintenance Step	Workflow Policy Program	

Siebel Tools Features Excluded From Web Tools

Web Tools currently does not support the following features in Siebel Tools:

- Using various windows and wizards (such as New Object and Synchronize) that are only available in Siebel Tools.
- Tagging objects to manage developer changes.
- Validating, examining, and comparing objects.
- Using the Script Profiler.
- Configuring locale data and using the Locale Management utility to manage locales.
- Importing objects from an archive and using Application Deployment Manager (ADM).
- Task Editor.
- Workflow Editor.

Siebel Tools Objects Excluded From Web Tools

This is the list of the objects in Siebel Tools that Web Tools currently does not support:

- Entity Relationship Diagram
- Help Id
- Pager Object
- Server Component Type
- Search Category
- Search Engine
- Search Index

4 Using Workspaces in Siebel Tools

Using Workspaces in Siebel Tools

This chapter describes the Workspaces feature and how to use workspaces in Oracle's Siebel Tools. It includes the following topics:

- *Overview of the Workspaces Mode for Siebel Tools*
- *Using Workspaces in Siebel Tools*
- *Using Workflows in Workspaces*
- *Workspaces Administration*

Overview of the Workspaces Mode for Siebel Tools

This section describes the Workspaces feature and the Workspaces dashboard. It includes the following topics:

- *Workspaces Overview*.
- *Workspace Users*
- *Workspace Dashboard in Siebel Tools*.

Workspaces Overview

The Workspace feature provides users a new way to manage configurations of repository artifacts in Siebel Tools. This feature allows multiple developers to work on the same repository objects in the Siebel database.

A workspace provides a user with a sandbox for editing and publishing (delivering) configuration changes until these changes are ready to be delivered into the main workspace (parent, root, or master workspace). This feature ensures isolation from other users making changes to either the same objects or other objects in the application. It is also an alternative to using local databases to make changes to the repository data.

Users can preview and test repository updates made in a developer's environment (workspace) in Web Tools without affecting other developers. They can do this when they are added to the database and also have the Composer Administrator responsibility to access the Workspace Dashboard to perform developer or configuration operations. Until all updates are delivered, these updates will not impact other developers. Once the changes in developer workspace are delivered then Siebel runtime repository tables will be updated with the new values. To learn more about Web Tools and workspaces in Web Tools, see *Using Web Tools* and *Setting up Web Tools*.

In other words, the Workspace feature in Siebel Tools provides the following capabilities:

- A user can make configuration changes to the repository application without any impact on other users.
- Configuration changes are persistent but in isolation from the metadata of the deployed application.
- Only modifications to the configuration (delta) are tracked and stored, while other configurations are referenced from the base repository in order to render a consistent view of the modified application.
- Persistence of configuration changes enables configuration to be a long-running operation or transaction.

- Concurrency is achieved so that multiple users can each modify the same application in isolation from one another.

Workspace is also a feature of Web Tools, which is an alternative to the traditional Siebel Tools client. Starting with Siebel Innovation Pack 2017, the Workspace feature is available as a part of product upgrade in both Siebel Tools and Web Tools. After the Workspaces mode is enabled for Siebel Tools, it cannot be reverted back to the non-workspace mode.

Note: Starting from Siebel Tools Innovation Pack 2017, all Siebel Tools developers must use workspaces because there is no local database.

For more information about how to use workspaces for Web Tools, see *Setting up Web Tools*, and *Navigating to the Workspace Dashboard in the Web Tools Mode Application*.

Workspace Users

Workspace users are categorized into these two groups:

- Workspace Owner is the owner of a workspace and also the creator of that workspace.
- Workspace Administrator is the owner of the MAIN workspace who has the privileges to deliver workspaces to MAIN, undo submit for delivery, flatten, etc. The owner of the MAIN workspace is set at the time of enabling Siebel Workspace on the database using the EnableWorkspace utility.

  Note: Only the Siebel (system) Administrator can create and manage the responsibility called Workspace Administrator.

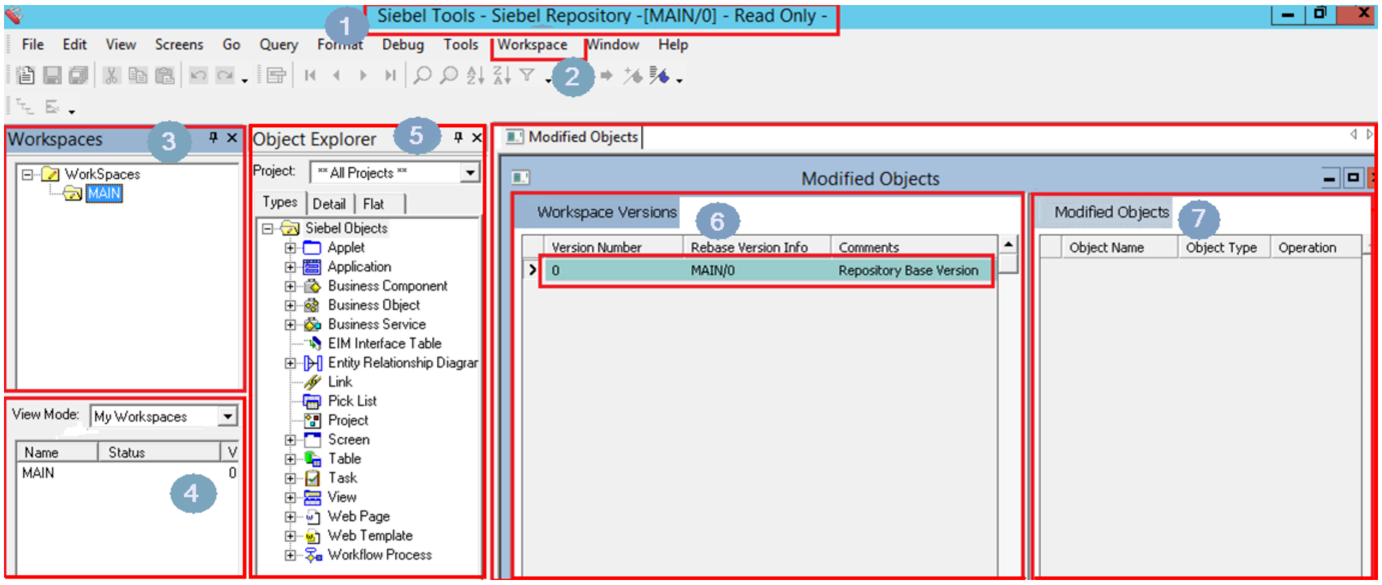
To create the responsibility Workspace Administrator in Siebel application

1. Ensure that Workspaces and Parallel Development Using Workspaces features are enabled in the system.
2. Navigate to Administration - Application, Responsibilities.
3. Click the New Record button in the Responsibilities applet.
4. Add a new responsibility called Workspace Administrator.
5. In the Users applet, click the New Record button to add the user IDs that will have the authority to perform the administrative tasks.
6. Save the record.

Workspace Dashboard in Siebel Tools

The Workspace dashboard enables users to view the list of all workspaces that were created and currently presented in the database. From the workspace dashboard, you can perform various operations on workspaces.

The following image illustrates the workspace dashboard in Siebel Tools.



Explanation of Callouts

The workspace dashboard in Siebel Tools includes the following information:

1. The Siebel Tools title bar displays the title that includes the name, the latest version, and the status of the opened workspace. For example:

```
Siebel Tools -Siebel Repository -[MAIN/0] - Read Only-
```

> **Note:** You have the Editable access on your workspace after you create it, but you have Read only access after you change its status to Submit for Delivery.

2. On the menu bar, the Workspace menu is between the Tools and the Window menus.

   When you select the Workspace menu, a list of different options that are used to configure and manage workspaces appears. The following table lists and describes the options under the Workspace menu:

Option	Description
Create	Select this option to create a new workspace. For more information, see *Creating New Workspaces*.
Checkpoint	Select this option to preserve the current version of the changes that you made to the current version of the workspace. This can be used to revert to a previous state later if required. It is required before each Rebase and Submit for Delivery process. For more information, see *Performing the Checkpoint Version Process*.
Revert	Select this option to revert the changes that you made to the current version of that workspace since the last checkpointed version.

Option	Description
	For more information, see *Reverting to Previous Workspace Versions*.
Rebase	Select this option to apply the changes that were made in the parent workspace into the current workspace. For more information, see *Rebasing Workspaces*.
Merge Reports	Select this option to view and resolve the conflicts that occurred during the rebase process. For more information, see *Rebasing Workspaces* and *Detecting Conflicts in Workspaces and Applying Resolutions*.
Submit for Delivery	Select this option to change the status of the workspace and make it ready for delivering the changes to the parent workspace. For more information, see *Submitting Workspaces for Delivery*.
Deliver	Select this option to deliver the changes in the workspace to the MAIN workspace. **Note:** This option is available only to the user who is also the owner of the MAIN workspace. For more information, see *Delivering Workspaces*.
Compare	Select this option to view the differences that are made to the objects in two selected workspace versions. For more information, see *Comparing Workspace Versions*.
Undo Submit for Delivery	Select this option to cancel the workspace delivery process. For more information, see *Canceling the Workspace Delivery Process*.
Workspace Explorer	Select this option to display the Workspace explorer pane.

3. The Workspace explorer pane is displayed next to the window.

   After you select the Workspace Explorer option under the Workspace menu, this pane appears listing all available workspaces in the database. This section is expandable and collapsible. You can select a workspace and then view the versions of the selected workspace and the list of modified objects for the selected version.

By default, Siebel Tools opens the latest version of the root workspace and this workspace is set at the session. Also, the root workspace is the only workspace in the Workspace explorer pane and it is always a read-only workspace.

Depending on the workspace that you select, different context menu options are available in the Workspace dashboard.

4. The View Mode pane is also displayed next to the window following the Workspace explorer pane. This pane lists the workspace information (including the names, current statuses, and versions) based on the selected filter option in the View Mode drop-down list.

   The following table describes the filter options under the View Mode drop-down list:

Option	Description
My Workspaces	Select this option to view all workspaces that you own regardless of their status.
My In-progress Workspaces	Select this option to view the workspaces that you own and that have the status of Edit In Progress.
All Workspaces	Select this option to view all workspaces that were created by all users of the current development environment.

5. In the Object Explorer pane, most of the object types are workspace-enabled, except the following ones: Table, Dock Object, EIM Interface Table, Repository, Workflow Policy Column, Workflow Policy Object, Workflow Policy Program, Task, Task Group, and Project.
6. The Workspace Version pane lists the versions of the selected workspace and the rebase version information. For more information, see *Rebasing Workspaces*.
7. The Modified Objects pane lists the objects that were modified in the current version of the workspace. This pane displays the object name, object type, and operation type performed on the modified objects. For more information, see *Tracking Repository Object Changes in Workspaces*.

Using Workspaces in Siebel Tools

This topic describes how to use the Workspaces feature in Siebel Tools. These tasks are performed by all users who have the permissions to use the Workspace feature. This topic includes the following information:

- *Creating New Workspaces*
- *Opening Existing Workspaces*
- *Editing Workspace-Enabled Repository Objects*
- *Deleting Development Workspaces*
- *Refreshing the Workspace Explorer Pane*
- *Tracking Repository Object Changes in Workspaces*
- *Performing the Checkpoint Version Process*

Creating New Workspaces

This topic describes how to create new workspaces.

To create a new workspace

1. In Siebel Tools, select the Workspace menu and then select the Create option.

   The Create Workspace dialog box appears.
2. Enter the workspace name in the Enter Workspace Name field.

   Workspace names can only contain lower case alphabetic, numeric, hyphen, and underscore characters. Also, workspace names must start with the value that is set for Workspace Prefix in the System Preferences, appended by _<login userid>_.

   For example, if you log into Siebel Tools using user name sadmin, the workspace name must be dev_sadmin where dev is the value set for the Workspace Prefix system preference. For more information on how to add Workspace Prefix in system preferences, see *Adding the Workspace Prefix in System Preferences*.
3. Note the values in the Parent Workspace and Parent Workspace Version fields.

   By default, the newly recreated workspace is always branched out from the latest version of the MAIN workspace; therefore, the Parent Workspace field is populated with the value MAIN and the Parent Workspace Version field is populated with the latest check-pointed version of the MAIN workspace.
4. (Optional) Use the Parent Workspace Version drop-down list to select a previous version to branch out from the previous versions of the MAIN workspace.
5. Enter the description for the workspace in the Add Description field.
6. Click the OK button and note that:
   - In the Workspaces pane, the newly created workspace is listed under the MAIN workspace.
   - In the View Mode list, the status of the workspace is updated to Created.
   - The title bar text in Siebel Tools is updated using this format:

     ```
     Siebel Tools - Siebel Repository -[<workspace name>/0] - Editable -
     ```

     For example:

     ```
     Siebel Tools - Siebel Repository -[dev_sadmin_test/0] - Editable -
     ```

Opening Existing Workspaces

You must open a workspace before you can make any configuration changes. Remember that you can open only one workspace at any given time within your current session.

- If you are the owner of the opened workspace, then you can edit (read and write) that workspace.
- If you are not the owner of the opened workspace, then you can only read (without editing) that workspace.

Opening a workspace sets a session-level workspace context; therefore, while the workspace is opened, all configuration changes that you made are saved as parts of the opened workspace.

To open an existing workspace

1. In the workspace dashboard, navigate to the Workspace explorer pane.
2. Select the workspace that you want to open and then right-click.

   A list of available options appears. These options are Open, Delete, Refresh, Docked, and Hide.

   > **Tip:** Select the Hide option to hide the Workspace explorer pane or select the Close (X) icon to close this pane.

3. Select the Open option.

   The workspace dashboard opens the selected workspace and displays its information.

Editing Workspace-Enabled Repository Objects

You can edit workspace-enabled repository objects directly without locking any project. Note that only workspace-enabled repository objects can be edited inside workspaces. By default, all workspace-enabled objects are locked at the database level, so you are not required to lock projects when you edit the objects or perform any type of CRUD (create, read, update, delete) operations.

However, locking a project is still required before you edit the non-workspace objects. The non-workspace objects are Table, Task, Workflows, Repository, Type, EIM Table, Projects, Dock objects, Schema Maintenance, and Server Components.

As in the previous releases of Siebel Tools:

- You can update existing records by selecting the attribute and child record.
- You can create new child records of the parent objects by drilling down on the child objects using the tree hierarchy in the Object Explorer pane.

  All context menu options that are applicable in the previous releases of Siebel Tools for the child level objects are still applicable when the Workspace mode is enabled.
- You cannot delete any parent objects or child-level objects if any of them are workspace-enabled objects.

  Only the new parent objects that were created in one workspace version can be deleted in that version.

To edit a workspace-enabled repository object

1. In the workspace dashboard, navigate to the Workspace explorer pane.
2. Right-click on the workspace that you want to edit and then select the Open option.
3. Note that:
    - In the Siebel Tools title bar text, the status Editable is added at the end of the title.
    - In the View Mode pane, the status of the workspace is shown as Edit-In-Progress.
4. Edit the repository object as needed.

    > **Note:** In workspace mode, the concept of checking out objects does not apply to workspace-enabled repository objects, explicitly. As in the previous releases of Siebel Tools, you can perform all context menu options such as inserting new records, copying records, and other default options that are specific to the selected objects.

5. (Optional) Create new object records using the following steps:
    a. In the workspace dashboard, select the File menu and then select the New Object option.

       Alternatively, click the New icon in the tool bar.
    b. In the New Object Wizards dialog box, select an object template.

       > **Tip:** When Workspace mode is enabled, project or object locking is not mandatory. You can select an appropriate object by selecting one option in the New Object Wizards dialog box.

6. Save the changes.

    If the workspace is in Edit-In-Progress state, then the changes are tracked under the latest checked-out version. Otherwise, a new version is created and changes are tracked under that new version until that version is checkpointed.

    If you edit the repository object again after it is checkpointed, the current version is incremented by 1 and all new changes are tracked under the current version until the new version is checkpointed.

For more information on how to enable workspaces in Siebel Tools and then edit the repository objects, see *Editing the Repository Objects*.

For more information on how to configure non-workspace objects, see *Configuring Non-Workspace Objects*.

Deleting Development Workspaces

You can delete the development workspaces that you own, but you cannot delete workspaces or parent workspaces that are owned by other users and the development workspace can be deleted by a user with the Workspace Administrator responsibility. In addition, development workspaces that are in the status of Submitted for Delivery or Delivered cannot be deleted from the repository.

Development workspaces can also be deleted by a user, with the Workspace administrator role.

To delete a workspace

1. In the workspace dashboard, navigate to the Workspace explorer pane.

2. Select the workspace that you want to delete.
3. Click the Delete icon on the Workspace menu.
4. The selected workspace is removed from the Workspace explorer pane.

Note: You can also delete a workspace in Siebel Tools.

Refreshing the Workspace Explorer Pane

At the time you open the Workspace explorer pane, this pane lists all available workspaces that are in the database. After that, if other users use other workspace sessions to modify their workspaces in the same database, such as adding new workspaces or deleting the current ones, you need to refresh the Workspace explorer pane to display these changes.

To refresh the Workspace explorer pane

1. In the workspace dashboard, navigate to the Workspace explorer pane.
2. Select the root (MAIN) workspace and then right-click.

   A list of available options appears. These options are Open, Delete, Refresh, Docked, and Hide.
3. Select the Refresh option.

   The Workspace explorer pane is refreshed displaying the latest changes for all workspaces in the database.

Note: You can hide or close the Workspace Explorer pane by selecting the Hide or the Close (X) option from the action list.

Tracking Repository Object Changes in Workspaces

You can use the Modified Objects option under the Workspace menu to view the changes that you have made to objects in the current workspace.

To track repository object changes in a workspace

1. In Siebel Tools, navigate to the Workspace explorer pane.
2. To see the list of modified objects in a workspace without opening a workspace, select that workspace and then select a version from the Workspace Version pane.
3. To see only the changes in the repository, open a version of the workspace.

   When you open a particular version, all versions succeeding the selected version are also opened. For example, if the workspace dev_sadmin_demo has 10 versions and you open the fifth version, then you can view the repository changes of version one through version five.
4. View the detailed changes in the Modified Objects pane.

   The Modified Objects pane lists the object names, object types, and operations that were performed for each modified object.

   The following table describes the values listed in the Operation column on the Modified Objects pane.

Option	Description
Update	Indicates an operation of updating a parent object record. Also indicates an operation of inserting, updating, or enabling the Inactive option for a child record.
Insert	Indicates an operation of inserting a new parent object record.
Delete	Indicates an operation of enabling the Inactive option for a parent object record.

Note: You cannot delete any existing record in workspace-enabled objects, but the new objects that were created in the latest workspace version can be deleted in that version.

Performing the Checkpoint Version Process

The checkpoint operation commits the changes that you made to the current workspace version of the selected workspace and sets that version to be non-editable. After checkpointing the workspace, you are no longer able to make object changes to the current version of the workspace. All subsequent object changes will be tracked under the next version of the workspace.

To perform a checkpoint workspace version process

1. In Siebel Tools, select the Workspaces menu and then select the Checkpoint option.

   The Enter Comment dialog box appears.
2. Enter the comments, which will be displayed in the Comment column on the Workspace Versions pane.
3. Click the OK button.

   A message appears saying the checkpoint process is completed successfully.
4. Click the OK button.

   After a workspace version is check pointed, its status changes to Checkpointed in the My Workspaces pane and the Submit for Delivery option for that workspace is enabled under the Workspaces menu.

Reverting to Previous Workspace Versions

When the changes that were made since the last checkpointed version of the workspace cause issues, you can revert or roll back to the most recent checkpointed version. You can also revert or roll back a checkpointed version to the previous checkpointed version.

- If you perform the revert process on a workspace with the status set to Edit-In-Progress or Checkpointed, then all changes that you made in the latest version are lost and the workspace reverts back to the last checkpointed version.
- If you perform the revert process on the first version of the workspace, then all changes that you made in the first version are lost and the status of the workspace reverts back to Created.

To revert to a previous version of a workspace

1. In Siebel Tools, select the Workspace menu and then select the Revert option.

   A revert confirmation appears.
2. Click the Yes button to revert all changes back to the last checkpointed version.

   > **Note:** All changes that were made in the latest version will be lost.

   Alternatively, click the No button to cancel the revert operation.

Rebasing Workspaces

Rebasing (merging) a workspace is applying the changes that were made in the parent workspace (as a result of deliveries by other workspaces that have branched off the same parent) into the current workspace.

Only the owner of the workspace can perform the rebase process for that workspace.

You can perform the rebase process only after you perform the checkpoint operation at least on the first version of the workspace. If you perform the rebase process for the workspace that has no changes in the root (MAIN) workspace since it was created, then the rebase process fails and this error message appears: The rebase failed with error: No changes found to rebase/deliver/checkpoint.

To rebase a workspace

1. In the workspace dashboard, select the Workspace menu and then select the Rebase option.

   The Rebase Workspace dialog box appears displaying the From Workspace, To Workspace, and Merge Status fields and the Start Rebase button.
2. Click the Start Rebase button to start the rebase process.

   The Rebase Workspace dialog box displays the merge details and the rebase process bar in the Merge Status section.
3. Confirm that the rebase process bar shows the process is completed.

The Rebase Workspace dialog box updates the message in the Merge Status section to Rebase Completed. The status of the workspace in the View Mode pane is updated to Rebase-in-Progress and the version of the workspace is incremented by 1.

4. If there is any conflict, the Rebase Workspace dialog box displays the Resolve Conflicts button and you must click this button to resolve the conflicts.

   > **Note:** If you close the Rebase Workspace dialog box without clicking the Resolve Conflicts button, then all workspace-enabled objects will be read-only even though the workspace title indicates that the workspace is editable. In this case, you can change its status to Editable by running the Merge Report process using the Merge Reports option under the Workspace menu. For more information on how to detect conflicts in workspaces and how to apply the resolutions, see *Detecting Conflicts in Workspaces and Applying Resolutions*.

5. In the workspace dashboard, click the Finish button on the Merged Workspaces pane to complete the merge process.

   Alternatively, click the Cancel button on the Merged Workspaces pane to cancel the merge process. The workspace will be reverted to the last checkpointed version and its status is set to Checkpointed in the View Mode pane.

   > **Note:** If you are the owner of the workspace, you can set the Override option and use the Finish or Cancel buttons in the Merged Workspaces pane for that workspace.

6. After you click the Finish button, enter comments using the Enter Comment dialog box and click the OK button.

   A message appears confirming the completion of the merge process.

   > **Note:** If you close the Merged Workspaces pane without clicking the Finish button while the workspace status is Rebase-In-Progress, then you cannot do any object changes (even though the title of the workspace includes Editable) until you resolve the conflicts by clicking the Finish button or clicking the Cancel button to cancel the merge process. You can reopen the Merged Workspaces pane by selecting the Merge Reports option under the Workspace menu.

7. Click the OK button on the confirmation message.

   After the Rebase process in completed successfully:

   - The status of the workspace in the View Mode pane is updated to Checkpointed. In the My Workspaces pane, the version of the workspace is incremented by 1 and the comments that you previously entered are also displayed.
   - Workspace resolution is set to the From Version value by default. When you click the Finish button, the value of From Version is saved in your workspace. If you select the Override option, then the workspace resolution changes to To Version and the value of To Version is saved in your workspace when you finish the rebase process.

     > **Note:** While checking the Override flag, keep in mind that you are overwriting other users' changes that are already checked into the MAIN workspace. Therefore, you must use this option carefully. For details on various errors and conflict scenarios during the deliver and rebase processes, see *Detecting Conflicts in Workspaces and Applying Resolutions*.

Detecting Conflicts in Workspaces and Applying Resolutions

In a development environment where multiple users work in parallel making configuration changes concurrently in their own private workspaces, conflicts might arise when the same objects and attributes are modified by different users in their own private workspaces, and then the changes from these users are delivered to the main branch. These situations often lead to non-trivial merges because of the conflicting changes between different users.

For workspaces, the system detects the possibility of conflicts prior to workspace delivery. If conflicts or errors are found, the system displays the issues along with the default resolutions. You must review the conflicts and resolve the issues.

In other words, during the rebase workspace process, the system enables you to:

- Identify the conflicts by viewing the conflict flags on the attributes. Notice that some conflicts must be explicitly resolved before you can submit the workspace for delivery again.
- Identify the errors by viewing the status message of the objects or attributes.
- View the status message that describes the error or conflict in details for each object or attribute.

If the system cannot resolve the conflict or the delivery process encounters an error while merging the changes, an error message appears. Although an attempt is made on all objects, the overall delivery process fails even if a single error is encountered.

Note: Overriding the default resolutions is only permitted while the status of rebase is Pending Resolution. After the status changes to Finished, modifications in the Merge Conflicts dialog box will not be applied.

Tip: To assist with further analysis on errors encountered during the rebase, see the log WS_REBASE_<wsname><rebase attempt number>.log, located in the standard Siebel log folder. For example, ...\ses \siebsrvr\log.

Conflicts and errors can be broadly categorized as:

- Attribute-level conflicts and errors.

  The default resolutions for the attribute conflicts can be overridden by selecting the Override option. You must select the Override option with caution because you might overwrite other users' changes that were already checked into the MAIN workspace. If you select the Override option by mistake, then you can clear it to resolve the issue.

  Errors can happen on attributes when the merge process is unable to set the correct value. Common errors are when there are inconsistencies in the repository and a foreign key is missing.

  You can analyze the error further by viewing the appropriate log files.
- Object-level conflicts and errors, which are name conflicts, object inactive conflicts, and index violation errors.
- Name Conflicts

  A name conflict occurs when there are two different objects of the same type that have the same combination of name and parent ID. A potential violation of user key is detected as a result of the rebase operation, and the merge process selects a default resolution of renaming the object that belongs to the child workspace by appending the string -[Rebase]. Both object and name attribute are marked with a conflict flag in the Merge Conflicts dialog box.

If a name conflict is not resolved, then subsequent delivery fails by identifying the system-generated name. This conflict cannot be resolved by selecting the Override option, but you must finish the rebase process and resolve it in either one of the two methods described in this example:

  - Suppose that both User1 and User2 branch from MAIN/5 and create their workspaces WorkSpace_U1 and WorkSpace_U2, respectively.
  - User1 creates a new business component with the name NewBC123. This user then delivers changes to the MAIN workspace by creating a new version MAIN/6.
  - User2 is unaware of User1's changes, so he creates a new business component with the same name, NewBC123, in WorkSpace_U2/1.
  - User2 cannot deliver his branch before starting a rebase process because this is a non-trivial merge.
  - Upon doing a rebase, the merge process detects that there is a name conflict, so it renames the object in WorkSpace_U2 to NewBC123-[Rebase] and issues a conflict flag for this object in the Merge Conflicts dialog box.

To resolve this conflict, it should be determined whether the users are intended to create two different objects or the same object.

  - Case-1: If the users were creating two logically different objects that have the same name, then the second user must rename the duplicate object to a valid name once the rebase process is completed. For example, NewBC123_ProjA.
  - Case-2: If users were creating the same logic object, then the second user should create a Siebel Archive File (files with the SIF file extension) for the object, create a new workspace, and import the Siebel Archive File by selecting the Override option once the rebase process is completed.

- Object Inactive Conflicts

  An object inactive conflict occurs when the target workspace being rebased has a change to an object that is inactivated in the source workspace. Even if the source workspace has an inactive parent object, this conflict is still alerted to let users know that the change that is made in the workspace will not be applied at runtime because either this object or its parent is inactivated.

  Users can either ignore this conflict or resolve this conflict by checking the Override option for the Inactive attribute.

  For example:

  - Both User1 and User2 have branched from MAIN/5 and created their workspaces WorkSpace_U1 and WorkSpace_U2, respectively.
  - User1 inactivates the contact business component and delivers this change to the MAIN workspace by creating a new version MAIN/6.
  - User2 modifies the account status Field by making it force active. He then tries to deliver this change to the MAIN workspace, but the system enforces a rebase.
  - On rebase, the merge process detects that the changes on the account status Field are no longer applied as the parent contact Business Component is inactivated. Hence a conflict is logged against the contact Business Component and the corresponding inactive attribute.

  To resolve the conflict, users can select the Override option for the inactive attribute on the contact Business Component.

- Index violation errors

An index violation error conflict occurs when there are two different objects of the same type having the same combination of contents. A potential violation of the index is detected as a result of the rebase and the merge process cannot select any resolution. Hence the system displays an error on the object and fails the rebase process.

Users must fix this error either by manually modifying the fields involved in the index or by performing the RevertObject operation on the object (on a single version or the entire workspace). This fix ensures that there is no longer a violation and then users can run the rebase process again.

For example:

- Both User1 and User2 have branched from MAIN/5 and created their workspaces WorkSpace_U1 and WorkSpace_U2, respectively.
- User1 modifies and creates a Workflow Policy Component Column with these attributes: Name - 'NewCompCol', Workflow Column Name - 'COL1', Workflow Object Name. This user then delivers this change to the MAIN workspace by creating a new version MAIN/6.
- User2 modifies and creates a Workflow Policy Component Column under the same Workflow Policy Component with these attributes: Name - 'AnotherCompCol', Workflow Column Name - 'COL1'.
- During the rebase process, the merge process detects the possibility of a unique key violation on the index involving the field Workflow Column Name (Workflow Column Name, Workflow Object Name). The object is marked with the key violation error in the Merge Conflicts dialog box.

To resolve this conflict, User2 must perform either of the following resolutions to resolve the error and ensure that there is no longer an index violation, and then perform the rebase process again.

- Case-1: Modify the index-based fields. User2 modifies the Workflow Policy Component Column name from COL1 to COL2 on the AnotherCompCol object.
- Case-2: Run the RevertObject process. User2 runs the RevertObject process on the AnotherCompCol object either for a single version or for all versions in the workspace.

To view the merge conflicts and resolutions

1. In the workspace dashboard, select the Workspace menu and then select the Merge Reports option.

   The Merged Workspaces pane appears with the following sections:

   - The Merged Workspaces section displays the status of merge, resultant version, base version, From version, and To version of the merge process.
   - The Object Differences section displays the object name, object type, top-level parent name and type, and the status of the selected object after the merge process is completed.
   - The Attribute Differences - Critical Conflicts section displays the attribute information including the workspace resolution, base version value, To and From version values, conflict, override, and so on.
2. (Optional) Select the Override flag to override the default workspace resolution.
3. Click the Finish button to complete the merge process.

   Alternatively, click the Cancel button to cancel the merge process.

Submitting Workspaces for Delivery

After you perform the checkpoint process on the latest workspace version, you can use the Submit for Delivery option under the Workspace menu to deliver the changes of your workspace to the MAIN workspace.

The Submit for Delivery process initiates the governance flow that may require one or more levels of review and approval. After the changes are submitted for delivery, the workspace is locked or made read-only to prevent further configuration changes while the workspace is being reviewed. After the workspace is approved, it is delivered into the MAIN workspace.

> **Note:** When you select the Submit for Delivery option, the system identifies whether the rebase process is required with the current modifications. If the merge process is non-trivial, then an error message appears reminding you to run the rebase process before the system converts the workspace to read-only mode. When there is a trivial merge, the system changes the workspace status to Submitted for Delivery and converts the workspace to read-only mode.

To submit a workspace for delivery

1. In the workspace dashboard, select the Workspace menu and then select the Submit for Delivery option.

   A confirmation message appears enabling you to confirm the submission.
2. Click the Yes button to start the Submit for Delivery process.

   The workspace status in the View Mode pane changes to Submitted for Delivery and the workspace title indicates the workspace is read-only. You cannot perform any operation on the objects in the Object Explorer pane. Except for the Deliver option, other options under the Workspace menu such as Checkpoint, Revert, and Rebase are also disabled.

   Alternatively, click the No button to cancel the submission. Then you can continue to make changes on the objects.
3. If there is a non-trivial merge issue, then an error message appears and you must perform the rebase process and then submit the workspace for delivery again.

   For more information, see *Rebasing Workspaces*.

Canceling the Workspace Delivery Process

Before delivering a workspace, workspace administrators must change the status of that workspace to Submitted for Delivery to make it ready for the delivery process. After the status of the workspace is changed to Submitted for Delivery, it is a read-only workspace and end users or developers cannot perform any other repository changes on it until the merging process is completed. Any repository changes to that workspace would make the delivery process fail.

To cancel the workspace delivery process, avoid the delivery failures, and allow end users or developers to be able to make repository changes on the workspaces with the status of Submitted for Delivery, workspace administrators must revert the status of that workspace back to Checkpointed and Editable by using the Undo Submit for Delivery option under the Workspace menu or running the UndoSubmitForDelivery command from the Command Prompt window.

> **Note:** Only a workspace administrator who is also the owner of the MAIN workspace can cancel the workspace delivery process. If workspace users or workspace developers need to cancel their workspace delivery processes, they must submit the cancel requests to the workspace administrator. After the requests are approved, the workspace administrator will cancel the delivery processes as requested.

Delivering Workspaces

Delivering a workspace, or merging workspace changes, is applying the changes that are made in the workspace into its parent workspace such as the MAIN workspace or the root workspace. You must always perform the workspace delivery process to the immediate parent workspace. You cannot deliver the workspace to any arbitrary workspace.

If you are the owner of the parent workspace or if you are a workspace administrator who is also the owner of the parent workspace, then you can run the workspace delivery process. For more information on how to deliver workspaces, see *Delivering Workspaces*.

Exporting Workspace Objects to Archive Files

You can export all workspace objects to an archive file, such as object definitions of the object types Business Component, Applet, View, Screen, Integration Object, Business Object, and so on.

To export workspace objects to an archive file

1. In the workspace dashboard, select and open a workspace.
2. Select the Tools menu and then select the Export Workspace to Archive option.

   The Export Workspace to Archive dialog box appears. By default, the Workspace To Version field always displays the latest version of the workspace.

   > **Tip:** Optionally, you can open a specific workspace version in the Workspace Version pane to export that workspace's object changes into an archive file. For example, when a workspace has ten versions and you want to export the workspace's object changes through the seventh version, you can open the seventh version in the Workspace Version pane and then click the Export Workspace to Archive option under the Workspace menu.

3. On the Export Workspace to Archive dialog box, select one version from the Workspace From Version drop-down list.
4. Click the Export button.

   The Export to Archive File dialog box appears. The status bar in this dialog box indicates the child objects that are included in the export process. When the process finishes, this dialog box displays the top-level objects in the Objects to Archive list.

> **Note:** If you attempt to export a workspace that has no changes to an archive, then an error message appears saying that no objects are modified to be exported.

Comparing Workspace Versions

You can use the Compare option under the Workspace menu to identify the changes that are made to the objects in two selected workspace versions.

To compare workspace versions

1. In the workspace dashboard, select the Workspace menu and then select the Compare option.

   The Compare Workspace dialog box appears. In the First Selection group box, the value in the Workspace Name field is populated using the value of the opened workspace name and the Version field is populated using the value of the opened version of that workspace.
2. In the Second Selection group box:

   a. Select a workspace name from the Workspace Name drop-down list.
   b. Select a version from the Version drop-down list (which includes all versions of the selected workspace.)
3. Click the OK button.

   The status bar indicates that the process is running. When the process finishes, the Compare Objects dialog box appears, displaying all top-level objects that have differences in the two selected workspace versions.
4. Select one object that has such differences.

   The Compare Objects dialog box displays the object properties, including the similarities and the differences for each attribute.
5. Close the Compare Objects dialog box by clicking the Close button.

Flattening Workspace Versions

In general, flattening workspace versions is one of the workspace administrator's tasks. A workspace administrator who is also the owner of the MAIN workspace (root, parent, or master workspace) can perform the process of flattening workspace versions using the command prompt. No other users can perform this process.

For more information on how to flatten workspace versions, see *Flattening Workspace Versions*.

Configuring Non-Workspace Objects

The following object types and their child objects are non-workspace objects:

- Repository
- Project
- Table
- Task
- Type
- EIM table

- Dock objects
- Schema maintenance
- Server components

Only one single public version of the object is available for all users. Hence, configuration on instances of this object is centrally controlled by the workspace administrator, who can lock all relevant projects and objects. Developers are able to configure the respective objects or projects after their requests to release the locks on these objects or projects are granted by the workspace administrator.

When developers configure non-workspace objects, they must develop and test the non-workspace objects against a dedicated environment and deliver changes (or import using the SIF-OUT/SIF-IN command) directly to the master database by requesting that the workspace administration team unlock the project.

For more information on how to control the access on non-workspace objects, see *Controlling Access on Non-Workspace Objects*.

> **Note:** In Siebel Tools Innovation Pack 2016, workflow objects were considered non-workspace objects. However, workflow objects are also workspace objects in Siebel Tools Innovation Pack 2017 and the later releases.

Using Workflows in Workspaces

In Siebel Tools Innovation Pack 2016, workflow objects were considered non-workspace objects. However, workflow objects are also workspace objects in Siebel Tools Innovation Pack 2017 and the later releases.

This section describes how to use Siebel workflows in Siebel workspaces. It includes the following topics:

- *Using Workflows in Workspaces Overview*.
- *Creating New Workflows*.
- *Modifying Existing Workflows*.
- *Importing Workflows into Workspaces*.
- *Exporting Workflows from Workspaces*.
- *Validating Workflows*.
- *Debugging Workflows*.
- *Invoking Workflows*.
- *Delivering Workspaces that Use Workflows*.

Using Workflows in Workspaces Overview

Using Siebel workflows in Siebel Workspace, note that:

- You cannot perform any operation on workflows that are in the MAIN/Integration branch.

  You have to create the developer workspaces under the Main/Integration branch to perform the operations on workflows.
- You have to deliver a workspace to activate a workflow.

- Workflows can be imported within a workspace and they can be exported.

  For more information, see *Importing Workflows into Workspaces* and *Exporting Workflows from Workspaces*.
- Workflows cannot be deleted.
- Once a workspace is delivered, workflows under that workspace are activated and published by default into the Runtime table.

For detailed information on Siebel workflows and how to manage workflows in Siebel Tools, see the *Siebel Business Process Framework: Workflow Guide* .

Creating New Workflows

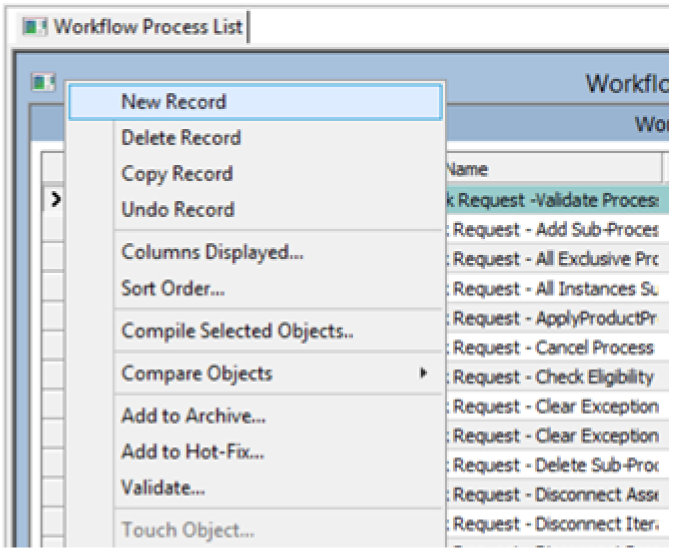
You can use the New Record option under the Workflow Object List to create new workflows.

To create a new workflow

1. In Siebel Tools, create a new developer workspace under the Main/Integration workspace.

   For more information on how to create a new developer workspace, see *Creating New Workspaces*.
2. Under the newly created workspace, click the Workflow Process List from the Object Explorer section.
3. In the Workflow Process List, right-click your mouse and select the New Record option.

   This example illustrates the New Record option under the Workflow Process List.



4. Enter the required information for the new record.
5. Right-click your mouse and select the Edit Workflow Process option.
6. Add all required workflow process steps using the Workflow Process Editor window.

   For more information on how to add workflow process steps, see *Siebel Business Process Framework: Workflow Guide* for Adding Workflow Process Steps.
7. Save the record.
8. From the Workspace menu, choose Checkpoint, Submit for Delivery, and then Deliver.
9. Click Start Merge in the Deliver Workspace dialog box.

Modifying Existing Workflows

You can use the Edit Workflow Process option under the Workflow Object List to modify existing workflows.

To modify an existing workflow

1. In Siebel Tools, open an existing developer workspace under the Main/Integration workspace.

   For more information on how to open an existing developer workspace, see *Opening Existing Workspaces*.
2. Click the Workflow Process List from the Object Explorer section.
3. Select the workflow that you want to modify, right-click, and select the Edit Workflow Process option.
4. In the Workflow Process Editor window, modify the workflow as needed.
5. Save the record.
6. From the Workspace menu, choose Checkpoint, Submit for Delivery, and then Deliver.
7. Click Start Merge in the Deliver Workspace dialog box.

Importing Workflows into Workspaces

You can use the Import Workflow Process option under the Workflow Object List to import a workflow into a workspace. You can import a workflow process as an XML file by using the Import Workflow Process option.

To import a workflow into a workspace

1. In Siebel Tools, to create a new workspace, select the Workspace menu, select the Create menu option, enter all required values, and click the OK button.

   Note: You can also modify an existing workspace by selecting a workspace in the Workspace Explorer pane. Next, right-click the workspace and select the Open option.
2. Click the Workflow Process List from the Object Explorer section.
3. In the Workflow Process List window, right-click your mouse and select the Import Workflow Process option.
4. From the list of all available workflows, select the workflow that you want import into the current developer workspace.
5. Select the project for import.
6. Save your record.

Note: You can import only into an undelivered workspace. To import back the same workflow in to a different project, you still need to change both the Process Name and Display Name.

Exporting Workflows from Workspaces

You can use the Export Workflow Process option under the Workflow Object List to export a workflow process as an XML file from a workspace to a defined location.

To export a workflow from a workspace

1. In Siebel Tools, open the developer workspace with the workflow you want to export.
2. Click the Workflow Process List from the Object Explorer section.
3. Select the workflow to export, right-click, and select the Export Workflow Process option.
4. Specify the location path to save the exported workflow.
5. Save your record.

Note: If XML export is not successful, insert these values in Tools.cfg:

```
[EAIFileTransportConfigSubsys]

EAIFileTransportFolders = <path to the version_Tools\BIN folder>
```

Validating Workflows

You can use the Validate option under the Workflow Object List to validate workflows.

To validate a workflow

1. In Siebel Tools, click the Workflow Process List from the Object Explorer section.
2. In the Workflow Process List, select the workflow to validate, right-click, and select the Validate option.

   The Validate wizard opens. If there are any errors in the workflow, the wizard displays the error information and the location of the log file.
3. Optionally, save or download the error log file.
4. Correct the errors as required.

   For more information on how to fix the conflict errors and apply resolutions, see *Detecting Conflicts in Workspaces and Applying Resolutions*.
5. Click the Start button to start the Validate Workflow process.

   Alternatively, click the Cancel button to cancel the Validating Workflow process and return to the Siebel Tools window.

Debugging Workflows

Siebel Tools launches the thick client with the user-provided database details to simulate the workflow wizard. You can use the Debug tab under the Development Tools Options window to debug workflows.

To debug a workflow

1. In Siebel Tools, select the Development Tools Options from the View menu bar.

   The Development Tools Options window opens.
2. Select the Debug tab from the Development Tools Options window.
3. Under the Run-time start up information and Login Information sections, enter the following required information:

Field Name	Example Value
Executable	C:\17_17\Dclient\BIN\siebel.exe
CFG file	C:\17_17\Dclient\BIN\enu\uagent.cfg
Working Directory	C:\17_17\Dclient\BIN
Arguments	/h
Show Workflow Primary Business Component Data	<Selected>
User Name	SADMIN
Password	SADMIN
Data source	ServerDataSrc

4. Save your work and return to the Siebel Tools window.
5. In the Workflow Process List, select a workflow to simulate, right-click your mouse, and select the Simulate Workflow Process option. The Process Simulator opens. It displays a read only version of the workflow process with a pale yellow canvas, highlights the start step, and makes the Start Simulation button on the Simulate toolbar active.
6. In the Simulate toolbar, click Start Simulation. The Simulation In Progress dialog box is displayed momentarily.
7. Click the Simulate Next button in the Simulate toolbar to proceed to the next step. Continue clicking Simulate Next until the last step finishes.

   The Watch window appears showing the values of workflow properties at each simulating step.

   For a detailed example that uses the Watch window, see information about defining a workflow process that closes obsolete service requests in Siebel Business Process Framework: Workflow Guide.

Invoking Workflows

You can use one of the following methods to invoke a workflow:

- Calculating fields through the InvokeSiebelMethod
- Applet User Property such as Named Method
- RTEs
- Running a script

- Using other workflows
- Applying workflow policies
- Applying web services

Delivering Workspaces that Use Workflows

Delivering a workspace deploys the workflow to the runtime repository tables.

Workspaces Administration

This topic describes how to perform Workspace administrative tasks in Siebel Tools. These tasks are performed only by the users who are assigned the user role Workspace Administrator. This topic includes the following information:

- *Editing the Repository Objects*
- *Canceling the Workspace Delivery Process*
- *Delivering Workspaces*
- *Flattening Workspace Versions*
- *Controlling Access on Non-Workspace Objects*
- *Publishing Tables*
- *Using Workspaces for Seed Data*
- *Support for NON-ENU Language in Rich Text Control*
- *Adding the Workspace Prefix in System Preferences*

Editing the Repository Objects

This topic discusses how to edit the repository objects.

To edit the repository objects

1. Open the Workspace tab to view the existing workspaces.
2. Create a new workspace or edit an existing one.

   To create a new workspace, select the Workspace menu, select the Create menu option, enter all required values, and click the OK button.

   To modify an existing workspace, select a workspace in the Workspace Explorer pane, right-click and select the Open option.
3. Modify, insert, or delete any repository object as required.

   Note: Users can modify workspace-enabled objects without locking.
4. Perform the Checkpoint process to check the changes that you just made by selecting the Workspace menu bar and the Checkpoint option.
5. After all changes are checked, run the Rebase process with the parent workspace by selecting the Workspace menu bar and the Rebase option.

6. Confirm that the Rebase process completes successfully.
7. Navigate to the Conflicts Resolution view if this view is not displayed automatically.

   By default, the values in the From Version Value list are committed to the target workspace's To Version Value list during the Rebase process.
8. Optionally, override the values in the To Version Value list and select the Override option.
9. Resolve all conflicts as needed.
10. Save your record.
11. Perform the Checkpoint process on the rebased workspace.
12. Click the Finish button.

For more information on how to edit workspace-enabled repository objects, see *Editing Workspace-Enabled Repository Objects*.

Canceling the Workspace Delivery Process

Before delivering a workspace, workspace administrators must change the status of that workspace to Submitted for Delivery to make it ready for the delivery process. After the status of the workspace is changed to Submitted for Delivery, it is a read-only workspace and end users or developers cannot perform any other repository changes on it until the merging process is completed. Any repository change to that workspace would make the delivery process fail.

To cancel the workspace delivery process, avoid the delivery failures, and allow end users or developers to be able to make repository changes on the workspaces with the status of Submitted for Delivery, workspace administrators must revert the status of that workspace back to Checkpointed and Editable by using the Undo Submit for Delivery option under the Workspace menu or running the UndoSubmitForDelivery command from the Command Prompt window.

Note: Only a workspace administrator who is also the owner of the MAIN workspace can cancel the workspace delivery process. If workspace users or workspace developers need to cancel their workspace delivery processes, they must submit the cancel requests to the workspace administrators. After the requests are approved, the workspace administrator will cancel the delivery processes as requested.

To cancel the workspace delivery process using the Undo Submit for Delivery option

1. In Siebel Tools, select the Workspace menu and then select the Undo Submit for Delivery option.

   The Undo Submit for Delivery confirmation message appears.
2. Click the Yes button to revert the status of the workspace from Submitted for Delivery to Checkpointed and Editable.

To cancel the workspace delivery process using the Command Prompt window

1. Open the Command Prompt window from your computer by clicking the Start button and then selecting the Run option.

   The Run window appears.
2. Enter the value CMD in the Open field.

   The Command Prompt window appears.
3. Change the directory in the Command Prompt window to the <TOOLS_HOME>\BIN folder using this command:

```
cd <TOOLS_HOME>\BIN
```

The Command Prompt window displays a list of arguments and parameters.

4. Run this command line to cancel the workspace delivery process:

```
siebdev /c tools.cfg /u SADMIN /p SADMIN /d ServerDataSrc /UndoSubmitForDelivery
<Workspace Name>
```

For example:

```
C:\Siebel\Tools\BIN>siebdev /c tools.cfg /u SADMIN /p SADMIN /d ServerDataSrc /UndoSubmitForDelivery
 <Workspace Name>
```

After the status of the workspace is reverted, end users and developers of that workspace must perform these steps before they can make any repository change on it:

1. In Siebel Tools, close and then reopen the workspace.
2. In the View Mode pane, confirm that the reverted workspace status is now Checkpointed and the title of the workspace includes Editable.

Delivering Workspaces

Delivering a workspace, or merging workspace changes, is applying the changes that are made in the workspace into its parent workspace such as the MAIN workspace or the root workspace. You must always perform the workspace delivery process to the immediate parent workspace. You cannot deliver workspace to any arbitrary workspace.

If you are the owner of the parent workspace or if you are a workspace administrator who is also the owner of the parent workspace, then you can use one of these options to run the workspace delivery process:

- Running the Deliver command from the Command Prompt window.

  Only workspace administrators can optionally enter comments into the command line while running the Deliver command from the Command Prompt window.
- Using the Deliver option under the Workspace menu.

  The workspace owner and/or administrator can enter comments while running the workspace delivery process using the Deliver option.

If you are a workspace administrator without being the owner of the parent workspace, you can run the workspace delivery process by running the Deliver command from the Command Prompt window.

A workspace can be delivered once. Workspace administrators have full permissions on the MAIN workspace, including delivering the workspace. However, end users and developers have read-only access on the MAIN workspace.

To run the workspace delivery process from the Command Prompt window

1. On the Siebel Tools workspace dashboard, confirm that the status of the workspace is Submitted for Delivery.
2. Open the Command Prompt window from your computer by clicking the Start button and then selecting the Run option.

   The Run window appears.
3. Enter the value CMD in the Open field.

The Command Prompt window appears.

4. Change the directory in the Command Prompt window to the <TOOLS_HOME>\BIN folder using this command:

```
cd <TOOLS_HOME>\BIN
```

The Command Prompt window displays a list of arguments and parameters.

5. If you are the owner of the parent workspace, run this workspace delivery command:

```
siebdev /c tools.cfg /u <User ID> /p <password> /d ServerDataSrc /DeliverWorkspace
" <Workspace Name>"
```

For example:

```
C:\SIEBEL\TOOLS\BIN siebdev /c tools.cfg /u SADMIN /p SADMIN /d ServerDabaSRC_ /DeliverWorkspace
 "<Workspace Name>
```

If you are a workspace administrator, you can optionally enter comments into the command line. For example:

```
C:\SIEBEL\TOOLS\BIN siebdev /c tools.cfg /u SADMIN /p SADMIN /d ServerDataSrc_ /
Deliverworkspace "<Workspace Name>" “<Your Comment>
```

> **Note:** The comments in the command line will be displayed in the comment fields in the Workspace version pane of the parent workspace. If you do not provide comments in the command line, the system uses the description of the workspace for the comment fields. If the description of the workspace is not available, the system displays the value Enter Comments for these comment fields.

To deliver a workspace using Siebel Tools

1. In Siebel Tools, select the Workspace menu and then select the Deliver option.

   The Enter Comment window appears.
2. Enter comments in the Enter Comment field.

   > **Note:** Entering comments is a mandatory step while delivering a workspace using the Deliver option under the Workspace menu.

3. Click the OK button.

   The Deliver Workspace window appears displaying the From Workspace, To Workspace, Merge Status fields and the Start Merge button.
4. Click the Start Merge button to trigger the merging process.

   The In Progress status bar and the detailed information of the merging process are displayed in the Merge Status field.
5. Click the Done button after the merging process is completed.

   Siebel Tools reappears displaying the status and detailed information of the merging process.
6. In the View Mode pane, confirm that the parent workspace status is now Checkpointed.
7. (Optional) View the detailed information in the Workspace Versions pane including the merge version information and the comments that you entered while delivering the workspace.

If the merging process encounters any non-trivial merge, then the system displays this error message: The deliver failed with error: Non-trivial merge found. Rebase needs to be done. The View Mode pane now displays the workspace status as Delivery Failed. If this error message appears, you must rebase the workspace, resolve the conflicts, and then run the workspace delivery process again. For more information on how to rebase a workspace, see *Rebasing Workspaces*.

The Checkpoint, Revert, Submit for Deliver, and Rebase options under the Workspace menu are disabled if the workspace deliver is completed successfully. The Rebase and Submit for Delivery options are enabled and the workspace title indicates the workspace is editable if the workspace delivery process fails.

Flattening Workspace Versions

The flattening of workspaces essentially collapses the MAIN branch to a single version with all the latest changes and subsequently deletes all the workspaces. The flattening process also restores the time stamps throughout the hierarchy of all objects, so the upgrade process (IRM) has no impact.

Note: Use Flattening Workspace only when you want to consolidate a particular release and start from that as a base. Do not use flattening if parallel development is going on with integration workspaces. When you run flattening on an integration workspace, the entire hierarchy till the selected workspace gets flattened to a single workspace MAIN with version 0. If there are other integration workspaces present at the time of flattening, they will be deleted and the history will be lost. Before doing so, make sure you take the necessary backup. After flattening, you need to do a Full Publish. For more information on how to do Full Publish, see *Support for NON-ENU Language in Rich Text Control*

A workspace administrator who is also the owner of the MAIN workspace (root, parent, or master workspace) can perform the process of flattening workspace version using the command prompt. No other users can perform this process.

CAUTION: In order for the flattening process to run successfully, the parameter ServerDbODBCDataSource under the [Siebel] section in the Tools.cfg file must point to the correct data source.

This example shows the setting of the parameter ServerDbODBCDataSource under the [Siebel] section in the tools.cfg file:

```
[Siebel]

…

…

…

ReportsODBCDataSource = Siebel Reports: Access

LocalDbODBCDataSource = m:/siebel Local DB

ServerDbODBCDataSource = "ORAJQ141"

DockRepositoryName = Siebel Repository

HoldExportOdbcConnection = FALSE

…

…

…
```

To flatten the workspace versions using the command prompt

1. Open the Command Prompt window from your computer by clicking the Start button and then selecting the Run option.

   The Run window appears.
2. Enter the value CMD in the Open field.

   The Command Prompt window opens.
3. Change the directory in the Command Prompt window to the <TOOLS_HOME>\BIN folder using this command:

   ```
   cd <TOOLS_HOME>\BIN
   ```
4. Run the following flattening workspace command:

   ```
   siebdev /c tools.cfg /u <User ID> /p <password> /d ServerDataSrc /FlattenWorkspace
   ```

   For example:

   ```
   C:\Siebel\TOOLS\BIN>siebdev /c tools.cfg /d ServerDataSrc /u sadmin /p
   sadmin /FlattenWorkspace
   ```
5. Confirm that the flatting workspace version process shows the process is successfully completed.

Controlling Access on Non-Workspace Objects

Currently, the following object types and their child objects remain as non-workspace objects:

- Table
- Dock Object
- EIM Interface Table
- Repository
- Workflow Policy Column
- Workflow Policy Object
- Workflow Policy Program
- Task
- Task Group
- Project

Only one single public version of the object is available for all users. Hence, configuration on instances of this object is centrally controlled by the workspace administrator, who can lock all relevant projects and objects. Developers are able to configure the respective objects or projects after their requests to release the locks on these objects or projects are granted by the workspace administrator.

For changing the existing database schema or adding new tables to the database schema, all users must follow the same process that is currently followed by all development teams; that means, respective teams need to cooperate with the workspace administrators for any change that is required in the database schema of their applications.

For Workflow and Task configurations, developers must ensure that only the 0th version on the master database exists.

Note: In Siebel Tools Innovation Pack 2016, workflow objects was considered the non-workspace objects. However, workflow objects are also workspace objects in Siebel Tools Innovation Pack 2017 and the later releases.

Note: The project must be locked for non-workspace objects before the object can be modified. The locking and unlocking of projects can be controlled by an administrator.

Publishing Tables

Tables can also be published into the S_RR_TABLE table using the same concept by which other metadata objects are published into the report repository table. A table maintains a different version number and it is tracked from the S_RR_OBJ_ITEM.TBL_VER column.

However, table versioning is different from other metadata versioning because a table is not workspace-enabled. While performing the Full Publish process, the table version is always 0 (zero), irrespective of the workspace version.

A table can be published in two ways using Siebel Tools in a Windows environment:

- Using the Apply/DDL button.
- Using the siebdev.exe utility.

Publishing Table in the Source-to-Target Migration

In the source environment, a table needs to be published either by using the Apply/DDL button or by running the siebdev.exe utility command.

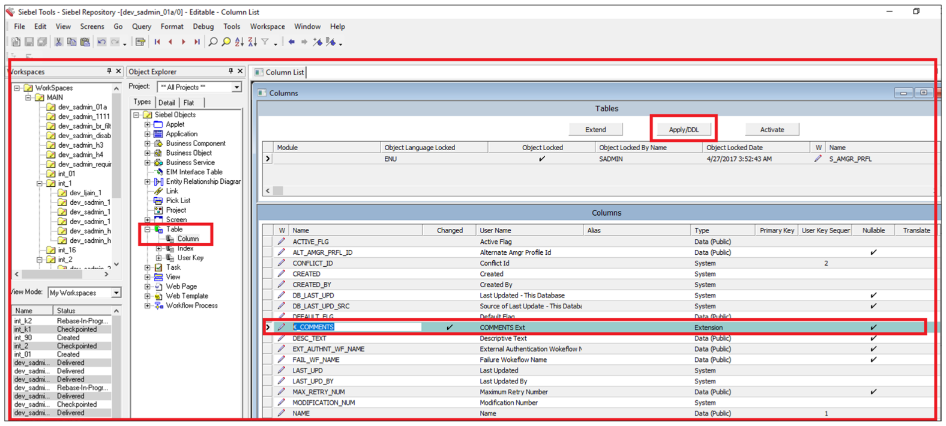
In the target environment, publishing a table is generated by the Incremental/Full source-to-target runtime repository migration. Hence, a table should not be published explicitly in the target environment.

To publish a table using the Apply/DDL button in Siebel Tools

1. In Siebel Tools, update the required table schema changes as needed.
2. Search for the table that you want to publish.

   Siebel Tools now displays a list of table row records.

   The following image shows the Siebel Tools window displaying the table row records after you perform the table search. The Apply/DDL button is available after the table header.


Siebel Tools - Siebel Repository -[dev_sadmin_01a/0] - Editable - Column List
Workspaces
Object Explorer
Column List
Columns
Tables
Extend
Apply/DDL
Activate

Module	Object Language Locked	Object Locked	Object Locked By Name	Object Locked Date	W	Name
	ENU	✓	SADMIN	4/27/2017 3:52:43 AM		S_AMGR_PRFL

W	Name	Changed	User Name	Alias	Type	Primary Key	User Key Sequer	Nullable	Translate
	ACTIVE_FLG		Active Flag		Data (Public)				
	ALT_AMGR_PRFL_ID		Alternate Amgr Profile Id		Data (Public)			✓	
	CONFLICT_ID		Conflict Id		System		2		
	CREATED		Created		System				
	CREATED_BY		Created By		System				
	DB_LAST_UPD		Last Updated - This Database		System			✓	
	DB_LAST_UPD_SRC		Source of Last Update - This Databa		System			✓	
	DEFAULT_FLG		Default Flag		Data (Public)				
	X_COMMENTS	✓	COMMENTS Ext		Extension			✓	
	DESC_TEXT		Descriptive Text		Data (Public)			✓	
	EXT_AUTHNT_WF_NAME		External Authentication Wokeflow N		Data (Public)			✓	
	FAIL_WF_NAME		Failure Wokeflow Name		Data (Public)			✓	
	LAST_UPD		Last Updated		System				
	LAST_UPD_BY		Last Updated By		System				
	MAX_RETRY_NUM		Maximum Retry Number		Data (Public)			✓	
	MODIFICATION_NUM		Modification Number		System				
	NAME		Name		Data (Public)		1		

3. Click the Apply/DDL button.

   The Choose Option window appears enabling you to select the action to either apply the schema changes to the database or create the DDL file.
4. Select either the Apply or the Generate DDL option, and click the OK button to return to Siebel Tools.

   - If you select the Apply option, then the Apply Schema window appears, enabling you to specify the details of table, database, and DDL. After you click the OK button, the schema is applied to the tables and the tables are republished with the next version number. The table compiled-object definitions are present in the S_RR_TABLE table in the next table version, and the list of effected tables is present in the S_RR_OBJ_ITEM table.
   - If you select the Generate DDL option and click the OK button, the table will not be published but it will generate the DDL in the specified location.

To publish a table using the siebdev.exe utility in Siebel Tools

1. Open the Command Prompt window from your computer by clicking the Start button and then selecting the Run option.
2. In the Run window, enter the value CMD in the Open field.
3. In the Command Prompt window, run the following *siebdev.exe* utility command:

```
siebdev /c tools.cfg /l <LANG> /d <odbcdatasource> /u <username> /p <password> /
IncrementalTablePublish <FileName>
```

   The contents of <FileName> can be <TableName>:<Operation> where the operation can be Insert, Update, or Delete. These are the examples of the ddl_TableSchema.txt:

   - S_RR_OBJ_VER:Update
   - S_RR_TEST1:Insert
   - S_RR_TEST2:Delete

Note: The ddl_TableSchema.txt file is always auto-generated when the schema is applied using DDLIMP. This file is generated in the same location as the log file under the file name <log_File_Name>_TableSchema.txt. The name of the generated file cannot be changed.

Using Workspaces for Seed Data

Workspaces are also used for certain types of seed data. This feature enables developers to have their work neatly isolated. It also maintains the changes that are set at the design time and the runtime as a single package. This feature requires no downtime of the seed data to deploy.

Using workspaces for the seed data, note that:

- By default, Oracle Siebel delivers seed data workspace-enabled for LOVs and you cannot disable those workspaces on seed data.
- The concept of workspace for seed is similar to the concept of workspace for metadata. The only difference is metadata changes are specific to the user whereas seed data changes apply to all users under the nearest integration branch.
- Modifying the seed data occurs in the closest integration branch; hence, all users under the same integration branch can see each other's changes immediately.
- Seed data is copied automatically when a user creates a new integration branch, so there is a separate copy of the seed data for every integration branch, including the MAIN branch.
- Modifying seed data does not create the workspace version. You must always modify metadata to create the workspace versions.
- Workspace delivery from the user-to-integration branch carries only metadata modifications because seed data modification exists in the integration branch.

  However, workspace delivery from integration-to-integration workspace carries both seed data and metadata changes.
- You can access Siebel Tools or the thick client using the \editseeddata option to create a corporate record and then start using the workspace.

  For more information on how to use the \editseeddata option, see Siebel Developer's Reference Guide.
- You cannot perform the Revert process for the changes in the seed data.

For more information on how to use database utilities to migrate metadata and seed data, see the Migration Application section in the Siebel Database Upgrade Guide.

To enable workspaces for seed data

1. Create a user workspace under the integration branch.

   For more information on how to create new workspaces, see *Creating New Workspaces*.
2. Modify the seed data and metadata as needed.

   The modification of seed data in the user workspace causes the modification in the nearest integration branch.
3. Perform the Checkpoint process on the workspace.

   For more information on how to perform the Checkpoint process, see *Performing the Checkpoint Version Process*.
4. Submit the workspace for delivery.

   For more information on how to submit the workspaces for delivery, see *Submitting Workspaces for Delivery*.
5. Deliver the workspace to the nearest integration branch.

For more information on how to deliver workspaces, see *Delivering Workspaces*.

6. Deliver the integration workspace to the MAIN branch.

   For more information on how to deliver the integration workspace to the main branch, see *Delivering Workspaces*.
7. If there is non-trivial change or conflict in the seed data, perform the following steps to rebase and deliver the workspace:
   a. Rebase the workspace.

      For more information on how to perform the Rebase process, see *Rebasing Workspaces*.
   b. Select the original value to override the current workspace value; otherwise, use the default new value.

      For more information on how to fix the conflict errors and apply resolutions, see *Detecting Conflicts in Workspaces and Applying Resolutions*.
   c. After the Rebase process is completed, perform the Workspace Deliver process again to deliver the workspace.

      For more information on how to deliver the workspace, see *Delivering Workspaces*.

Example: Inserting Seed Data Records

1. Create the integration workspace called INT_IP2017 under the MAIN workspace.

   For more information on how to create new workspaces, see *Creating New Workspaces*.
2. Create another workspace called EXAMPLE_WS under the INT_IP2017 workspace.
3. Optionally, modify the metadata record.
4. From the menu bar in the Siebel Tools window, choose the Screens menu, System Administration, and then select the List of Values menu item.
5. Change the Type value to CUT_ACCOUNT_TYPE.
6. Change the display name from BILLING to BILLINGNEW.

   The new display name BILLINGNEW is available in the INT_IP2017 workspace.
7. Perform the Deliver process to deliver the EXAMPLE_WS workspace to the INT_IP2017 workspace.

   For more information on how to deliver workspaces, see *Delivering Workspaces*.
8. Perform the Deliver process again to deliver the INT_IP2017 workspace to the MAIN workspace.
9. Open the MAIN workspace.
10. Navigate to the Account List view and select the Account Class drop-down list.

    The BILLINGNEW value is listed in the Account Class drop-down list. If the BILLINGNEW value is not listed, you must clear the cache by navigating to System Administration\Data\List of Values and click the Clearcache button.
11. Check to ensure that both INT_IP2017 and MAIN workspaces now list the BILLINGNEW value.

Support for NON-ENU Language in Rich Text Control

To enable the support for NON-ENU language in rich text control (RTC), you must run the Full Publish process using the appropriate language. In the Full Publish process, the NON-ENU language compiles all object definitions and adds those records to the respective Repository Runtime tables.

Note: The Full Publish process must be performed only by Siebel Tools; it cannot be performed in Web Tools. Also, not all repository objects are runtime-enabled, but only the repository objects that can be compiled are runtime-enabled.

Note: Use Flattening Workspace when you want to consolidate a particular release and start from that as a base. Before doing so, make sure you take the necessary backup. After flattening, you need to do a Full Publish. For more information on how to flatten a workspace, see *Flattening Workspace Versions*.

To run the Full Publish process

1. Confirm that Siebel Tools Innovation Pack 2017 or later release is installed in your environment.

   For more information about performing a new installation, see the Siebel Installation Guide for the operating system you are using.
2. Open the Command Prompt window from your computer by clicking the Start button and then selecting the Run option.
3. In the Run window, enter the value CMD in the Open field.
4. In the Command Prompt window, use this format to run the FullPublish process:

   ```
   siebdev /c tools.cfg /TL <lang_code> /d <dataSource_name> /u <username> /p
   <password> /FullPublish
   ```

   For example:

   ```
   siebdev.exe /c tools.cfg /TL DEU /d orakrv122 /u sadmin /p sadmin /FullPublish
   ```

   Notice that the /d parameter in this example refers to the ODBC data source.

Note that the <lang_code> parameter in the previous command can either be a single language or multiple languages. You must specify the language that needs to be published in the /TL parameter. For more information about runtime repository business components that are language independent, see the following table in this section.

- This example shows the command that is used to run the Full Publish process in the database with one language, English (ENU):

  ```
  siebdev /c tools.cfg /d ServerDataSrc /u SADMIN /p SADMIN /TL ENU /FullPublish
  ```

- This example shows the command that is used to run the Full Publish process in the database with one language, German (DEU):

  ```
  siebdev /c tools.cfg /TL DEU /d ServerDataSrc /u sadmin /p sadmin /FullPublish
  ```

  or

  ```
  siebdev.exe /c tools.cfg /TL DEU /d orakrv122 /u sadmin /p sadmin /FullPublish
  ```

- This example shows the command that is used to run the Full Publish process in the database with three languages: English (ENU), German (DEU), and Japanese (JPN):

  ```
  siebdev /c tools.cfg /TL ENU,DEU,JPN /d <ServerDataSrc> /u SADMIN /p MSSQL /FullPublish
  ```

  or

```
siebdev.exe /c tools.cfg /TL ENU,DEU,JPN /d orakrv122 /u sadmin /p sadmin /FullPublish
```

After the Full Publish process completes successfully, you can launch the Siebel application only in those languages that have the application strings and languages that are specified in the Full Publish process. In case you need to launch the Siebel application in any additional language, run Full Publish again by specifying those languages.

In the given example, Siebel application is already published in ENU, DEU, and JPN. However, if their is a requirement for FRA (French) then you need to repeat Full Publish with all the four languages together as follows:

```
siebdev.exe /c tools.cfg /TL ENU,DEU,JPN,FRA /d orakrv122 /u sadmin /p sadmin /FullPublish
```

Note: You cannot add or drop a new language through Incremental Publish and can do so only through Full Publish. During Full Publish, Siebel will be down.

If you need to drop a language then too repeat Full Publish. For example, you can remove JPN as follows:

```
siebdev.exe /c tools.cfg /TL ENU,DEU,FRA /d orakrv122 /u sadmin /p sadmin /FullPublish
```

Full Publish will recompile all the objects again and you can later launch Siebel in the three remaining languages.

The following table lists all runtime repository business components that are language independent:

Object Type	Runtime Object Name	Table
Prototype Applet Browser Script	Runtime Repository Prototype Applet Browser Script	S_RR_APL_BRSCPT
Prototype Applet Server Script	Runtime Repository Prototype Applet Server Script	S_RR_WEBSCRPT
Data Source Definition	Runtime Repository Data Source	S_RR_DATASRCDEF
Content Object	Runtime Repository Content Object	S_RR_CONTENTOBJ
Web Template	Runtime Repository Web Template	S_RR_WEB_TMPL
Assignment Attribute	Runtime Repository Assignment Attribute	S_RR_ASGN_ATTR
Table	Runtime Repository Table	S_RR_TABLE
Help ID	Runtime Repository Help ID	S_RR_HELP_ID
Pager Object	Runtime Repository Pager Object	S_RR_PAGER_OBJ
Search Index	Runtime Repository Search Index	S_RR_SRCH_INDEX
Text Style	Runtime Repository Text Style	S_RR_TEXT_STYLE
Icon Map	Runtime Repository Icon Map	S_RR_ICON_MAP

Object Type	Runtime Object Name	Table
Integration Object	Runtime Repository Integration Object	S_RR_INT_OBJ
HTML Hierarchy Bitmap	Runtime Repository HTML Hierarchy Bitmap	S_RR_HRCHY_BMP
String Map	Runtime Repository String Map	S_RR_STRING_MAP
Link	Runtime Repository Link	S_RR_LINK
Business Object	Runtime Repository Business Object	S_RR_BUSOBJ
Type	Runtime Repository Type	S_RR_OBJ_TYPE
DLL	Runtime Repository DLL	S_RR_DLL
Search Category	Runtime Repository Search Category	S_RR_SRCH_CAT
Pick List	Runtime Repository Pick List	S_RR_PICKLIST
System Activity Object	Runtime Repository System Activity Object	S_RR_SYS_ACTOBJ

Adding the Workspace Prefix in System Preferences

To ensure all users follow standards while creating workspace names, a workspace administrator who is also the owner of the MAIN workspace needs to create a new system preference called Workspace Prefix.

When users create workspaces that do not have values for the Workspace Prefix system preference, the default prefix values are set as dev in the application.

To add the Workspace Prefix in system preferences

1. In Siebel Tools, select the Screens menu bar.
2. Select the System Administration option and then select the System Preferences option.

   Note: In Web Tools, click the Tools menu and then click the System Preferences menu item.

3. Create a new record to add the new system preference by clicking the Add New Record button.

   The System Preference Administration pane appears.

   Note: In Web Tools, click the plus icon to create a new record or select New Record from the gear icon.

4. Enter the value Workspace Prefix in the Description field.
5. Enter the value ‘Workspace Prefix’ Value as <text decided> in the System Preference Name field.

6. Save the new system preference.

For more information about setting system preferences, see *Siebel Applications Administration Guide* .

5 Setting up Web Tools

Setting up Web Tools

This chapter includes information about the setup tasks that you must perform to deploy Web Tools for a new deployment and an existing deployment that you originally installed for an earlier version. It includes the following topics:

- *HTML Tags Migrated to Web Tools*
- *Manually Running the Migration Script*
- *Troubleshooting and Verifying the Results of the Web Template Migration Process*
- *Publishing Changes to Siebel Web Templates*
- *Workspaces Dashboard in Web Tools*
- *Editing the Repository Objects*
- *Navigating to the Workspace Dashboard in the Web Tools Mode Application*

Tip: Ensure that you enable the applicable component group while configuring the Siebel Server. For more information about configuring the components, see *Siebel Installation Guide* for the operating system you are using and *Siebel Applications Administration Guide* .

HTML Tags Migrated to Web Tools

The following table shows the HTML (Hypertext Markup Language) tags that are migrated to fields in Web Tools in the Web template migration process.

Tag Name	General Tag Purpose
div	Generates a container record for a Web template item and for its properties.
li	Generates a container record for a Web template item and for its properties.
span	Generates a container record for a Web template item and for its properties.
ul	Generates a container record for a Web template item and for its properties.

Manually Running the Migration Script

You can manually run the migration script for the Web template migration process by entering the following command in a command-line interface:

```
-jar $DbsrvrRoot\common\SWTClob.jar /s $SiebelRoot /c "$ODBCDataSource" /t
$TableOwner /u $TableOwner /p $TablePassword /o $SiebelLogDir /d $DatabasePlatform
/r $RepositoryName /j $WebTemplatesDir /w $WSUSerName /x $WorkspaceName /b
$BranchedWS /i $WebTemplateName
```

where:

- $DbsrvrRoot is the path of the database server installation.
- $SiebelRoot is the path of the Siebel Server installation.
- $SiebelLogDir is the path to the log directory.
- $DatabasePlatform is the database platform such as Oracle, DB2UDB, MSSQL, and DB2390.
- $RepositoryName is the Name of the Repository such as Siebel Repository.
- $WebTemplatesDir is the directory for Web Templates such as $SiebelRoot/Webtempl.
- $WebTemplateName is the list of template names for Incremental Migration. If not passed, all Web Templates are considered for Migration.

The following are optional parameters applicable only for Workspace Environment:

- $WSUserName is the Workspace Owner user such as SADMIN.
- $WorkspaceName is the Workspace Name to be created such as dev_xxxx_xxx.
- $BranchedWS is the Workspace Branch under which $WorkspaceName needs to be created such as MAIN.

Note: For Workspace-enabled environment, the New Private Workspace branch will be created and then delivered to the Integration or Main branch through the defined delivery process. The delivery process will internally publish the modified content into the RunTime Repository.

Troubleshooting and Verifying the Results of the Web Template Migration Process

After the migration script runs, you can access the SWTClob.log file to review the results of the Web template migration process. This file is available when you manually run the migration script and when the migration script automatically runs during upgrade. The log file will list the probable errors, if any, or will state the program completion message. Look for messages in the log that indicate incomplete or partial conversion or failure in conversion:

- **Incomplete conversion for <template name>**
  This error indicates that the template file still contains some unconverted od tags. The possible reason for this is that occurrences of SWE markup in the template file are not as per their documented usage. To resolve, review the remaining od tags in the converted template.
- **Unable to convert <template name>**

This error indicates that the template could not be converted at all. The possible reason for this is an internal conversion error when you tried to migrate to ODH. To resolve, review the template content for any inconsistency.

Note: You can ignore the Malformed markup log that indicates that the template does not have a complete markup. It relates to tags that are not closed in the same file at the correct level.

Publishing Changes to Siebel Web Templates

The Web template migration process generates the table-based content for Siebel Web templates. If the migration installation case applies to you, then you must publish the content in these tables so that the content is implemented in the Siebel application. If the new installation case applies to you, then publication of this content is automatically completed for you.

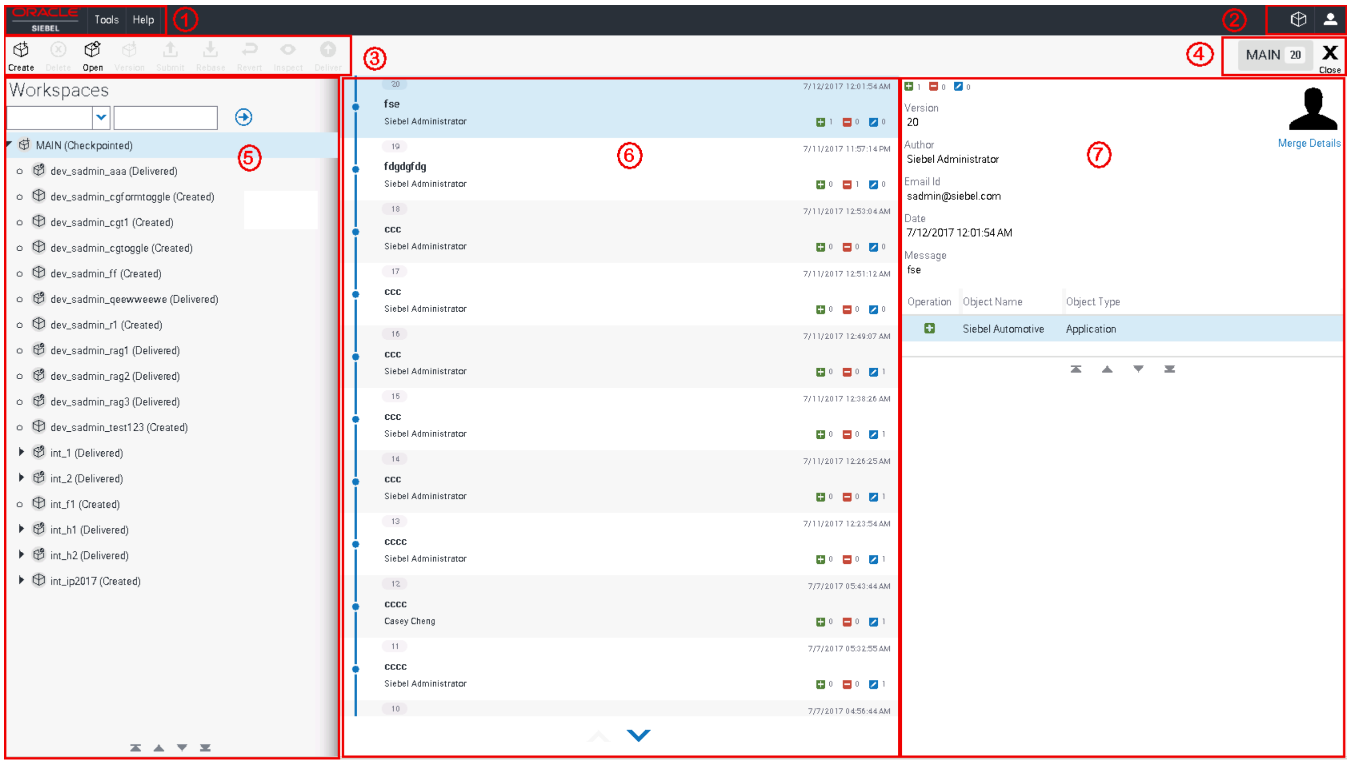
To publish the table-based content for Siebel Web templates, enter the following command in a command window on the computer where you installed Siebel Tools:

```
siebdev /c tools.cfg /u $SIEBUSER /p $SIEBPWD /d "$ODBCDataSource" /l enu /
fullpublish
```

Workspaces Dashboard in Web Tools

The Workspace dashboard enables users to view the list of all workspaces that were created and currently presented in the database. From the workspace dashboard, you can perform various operations on workspaces.

The following image illustrates the Workspace dashboard in Web Tools.


1
2
3
4
5
6
7
Tools
Help
Create
Delete
Open
Version
Submit
Rebase
Revert
Inspect
Deliver
MAIN 20
Close
Workspaces
MAIN (Checkpointed)
dev_sadmin_aaa (Delivered)
dev_sadmin_cgformtoggle (Created)
dev_sadmin_cgt1 (Created)
dev_sadmin_cgtoggle (Created)
dev_sadmin_ff (Created)
dev_sadmin_qeewweewe (Delivered)
dev_sadmin_r1 (Created)
dev_sadmin_rag1 (Delivered)
dev_sadmin_rag2 (Delivered)
dev_sadmin_rag3 (Delivered)
dev_sadmin_test123 (Created)
int_1 (Delivered)
int_2 (Delivered)
int_f1 (Created)
int_h1 (Delivered)
int_h2 (Delivered)
int_ip2017 (Created)
20 fse Siebel Administrator 7/12/2017 12:01:54 AM
19 fdgdgfdg Siebel Administrator 7/11/2017 11:57:14 PM
18 ccc Siebel Administrator 7/11/2017 12:53:04 AM
17 ccc Siebel Administrator 7/11/2017 12:51:12 AM
16 ccc Siebel Administrator 7/11/2017 12:49:07 AM
15 ccc Siebel Administrator 7/11/2017 12:38:26 AM
14 ccc Siebel Administrator 7/11/2017 12:26:25 AM
13 cccc Siebel Administrator 7/11/2017 12:23:54 AM
12 cccc Casey Cheng 7/7/2017 05:43:44 AM
11 cccc Siebel Administrator 7/7/2017 05:32:55 AM
10 7/7/2017 04:56:44 AM
Version 20
Author Siebel Administrator
Email Id sadmin@siebel.com
Date 7/12/2017 12:01:54 AM
Message fse
Merge Details
Operation
Object Name
Object Type
Siebel Automotive
Application

Explanation of Callouts

The workspace dashboard in Web Tools includes the following information:

1. **Toolbar and menus.**

   Use the toolbar and menu items to initiate various actions. The application-level menu (File, Edit, View, Navigate, Query, Tools, and Help) appears depending on your system configurations.

   For more information about toolbar and menus, see *Configuring Siebel Business Applications* .
2. **Workspace icon and user name.**
   - Click the Workspace icon to navigate to the Workspace Dashboard view in Siebel Tools. For more information, see *Workspace Dashboard in Siebel Tools*.
   - Click the User icon (a man) to display the name of current workspace user, access the Settings button, or log out. Click the Settings button to set the date and time by which updated records need to be marked as changed.
3. **The Workspace menu.**

   The Workspace menu displays different buttons that are used to configure and manage workspaces. These buttons are active or displayed depending on the current workspace user and the selected workspace.

   The following table lists and describes the buttons on the Workspace menu:

Button	Description
Create	Click this button to create a new workspace.

Button	Description
Delete	Select a workspace and click this button to delete the selected workspace.
Open	Click this button to open an existing workspace.
Version	Click this button to view the version of the selected workspace.
Submit for Delivery	Click this button to change the status of the workspace and make it ready for delivering the changes to the parent workspace.
Rebase	Click this button to apply the changes that were made in the parent workspace into the current workspace.
Deliver	Click this button to deliver the changes in the workspace to the MAIN workspace. This button is available only to the user who is also the owner of the MAIN workspace.
Checkpoint	Click this button to preserve the current version of the changes that you made to the current version of the workspace. This can be used to revert to a previous state later if required. It is required before each Rebase and Submit for Delivery process.
Revert	Click this button to revert the changes that you made to the current version of that workspace since the last checkpointed version.
Merge Reports	Click this button to view and resolve the conflicts that occurred during the rebase process.
Compare	Click this button to view the differences that are made to the objects in two selected workspace versions.
Undo Submit for Delivery	Click this button to cancel the workspace delivery process.

4. **Title of the workspace and its latest version.**

   This section also include the Close button that is used to close the current workspace.
5. **The Workspace pane.**

   This pane lists all available workspaces in the database and their statuses. This pane is expandable and collapsible. You can select a workspace and then view the versions of the selected workspace and the list of modified objects for the selected version.

By default, Web Tools opens the latest version of the root workspace and this workspace is set at the session. Also, the root workspace is the only workspace in the Workspace explorer pane and it is always a read-only workspace.

Depend on the workspace that you select in this pane, different buttons are available in the Workspace menu.

The following table describes the filter sections in the Workspace pane:

Option	Description
My Workspaces	Expand this section to view all workspaces that you own regardless of their status.
My In-progress Workspaces	Expand this section to view the workspaces that you own and that have the status of Edit In Progress.
Workspaces	Expand this section to view all workspaces that were created by all users of the current development environment.

6. **The Modified Objects pane.**

   This pane lists the objects that were modified in the current version of the workspace. This pane displays the object name, object type, and operation type performed on the modified objects.
7. **The Workspace Version pane.**

   This lists the versions of the selected workspace and the rebase version information. This pane also lists the author of the workspace, his/her email, date and time the workspace was modified, and the contact email, and a message of the last updated version.

Editing the Repository Objects

This topic discusses how to edit the repository objects.

To edit the repository objects

1. Select Admin-Runtime Config, and then All Workspaces to view all existing workspaces.

   Alternatively, select Admin-Runtime Config, and then My Workspaces to view only the workspaces that you created.
2. Create a new workspace in the Workspaces window or open an existing one.
3. Modify, insert, or delete any object as required.

   Note: Users can modify workspace-enabled objects without locking.
4. Return to the Workspaces window.
5. Click the workspace version to check the changes that you just made.
6. Optionally, click the Edit button to continue editing the object.

7. Perform the Rebase process.
8. Perform the Deliver process to deliver the changes to the MAIN workspace.
9. Confirm that the Deliver process has successfully completed. If not, continue to Step 10.
10. Navigate to the Conflicts Resolution view.

    By default, the values in the From Version Value list are committed to the target workspace's To Version Value list during the Rebase process.
11. Optionally, override the values in the To Version Value list and select the Override option.
12. Save the record.
13. Resolve all conflicts as needed.
14. Perform the Checkpoint process on the rebased workspace.
15. Click the Finish button.
16. Click the Deliver button and then click the Start button to merge the changes to the mainline.
17. Click the Finish button to complete delivery to the MAIN workspace.

For more information on how to enable the workspaces in Siebel Tools and edit the repository objects, see *Editing the Repository Objects*.

Navigating to the Workspace Dashboard in the Web Tools Mode Application

You can use the Workspace (cube) icon in any Siebel application that is set in the Web Tools mode to access and open the Workspace Dashboard view, and then create or edit workspaces.

To access and open the Workspace Dashboard view in the Web Tools mode

1. On the Siebel application window, click the Workspace Dashboard (cube) icon after the menu bar and next to the Settings icon.

   The Workspace dashboard appears.
2. Either create a new workspace or open an existing one.
3. Close the Workspace dashboard by clicking the Close (X) button in the Workspace dashboard.

   The Siebel application reappears displaying the Application Edit (hammer) icon.

To create a new workspace in the Workspace dashboard

1. Click the Create button on the Workspaces dashboard.
2. Enter a workspace name and click the OK button.

   The new workspace with the name that you entered is created and automatically opened.

To open an existing workspace in the Workspace dashboard

1. If necessary, expand the Main workspace (parent workspace) to display a list of the children workspaces.
2. Select an existing workspace from the list of the children workspaces under the Main workspace.
3. Click the Open button on the Workspace toolbar.

   The selected workspace is opened.

Component Parameters for Siebel Business Applications

The following table describes some key component parameters for Siebel Business Applications. For information about how to change component parameters, see *Siebel System Administration Guide* .

Parameter	Description

EnableSafeBoot	Siebel OOTB Runtime Repository is shipped as a loadable unit (DLL/SO). When the EnableSafeBoot parameter is set to TRUE, the OOTB Runtime Repository is used.
	
	• For Mobile Web Client, set the EnableSafeBoot parameter to TRUE along with the RepositoryType parameter to RUNTIME in the respective configuration file.
	
	To set EnableSafeBoot and RepositoryType in the Siebel Mobile Web Client.
	a. Use a text editor to open the respective configuration file.
	b. Set the EnableSafeBoot parameter to the following value:
	`EnableSafeBoot=TRUE`
	c. Set the RepositoryType parameter to the following value:
	`RepositoryType=RUNTIME`
	The EnableSafeboot parameter should be added to the InfraObjMgr section of the configuration file, while the RepositoryType parameter is available in the InfraObjMgr section by default.
	
	Note: For Mobile Web Client, the EnableSafeBoot parameter is used only for troubleshooting purpose. If Mobile Web Client fails to load after repository changes, then the users must set the EnableSafeBoot parameter to TRUE for the Mobile Web Client and try again. After troubleshooting, you can revert the value of the EnableSafeBoot parameter.
	
	• For Siebel Enterprise Server, set EnableSafeBoot as follows:
	
	`change param EnableSafeBoot=TRUE for comp SCCobjMgr_enu`
	
	Note: Siebel Tools or Web Tools runs in safe boot mode by default so changing the value of EnableSafeBoot will not affect Siebel Tools or Web Tools in any way.

ManifestSafeLoad	ManifestSafeLoad can be set to TRUE or FALSE as follows: • If set to TRUE, the application starts with only the Oracle provided manifest records (that is, seeded records in the manifest). • If set to FALSE (the default value), the application starts with both custom-configured and seeded records in the manifest. Change the parameter as follows: `change param ManifestSafeLoad=TRUE for comp SCCObjMgr_enu` **Note:** Changing the value of ManifestSafeLoad will not affect the Siebel Tools or Web Tools application in any way.

Parameter	Description
DefaultNavigation	This parameter allows the application to start with the preferred navigation control. The available options are: NAVIGATION_SIDE, NAVIGATION_TREE, or NAVIGATION_TAB. Change the parameter as follows: `change param DefaultNavigation=NAVIGATION_TREE for comp SCCObjMgr_enu` **Note:** Changing the value of DefaultNavigation will not affect the Siebel Tools or Web Tools application in any way.

6 Parallel Development Using Workspaces

Parallel Development Using Workspaces

Parallel Development enables Siebel workspace users to create and to work on integration branches. This tool is useful when users work in a parallel development environment. It maintains the relationship between the design time (workspaces) and the runtime repository tables even after the Parallel Development Using Workspaces feature is enabled on workspaces. Using this tool, users can create or open the workspaces from any parent or version workspace and get a consistent manifestation of the runtime metadata.

This chapter describes the Parallel Development Using Workspaces feature and how to use this feature for the Siebel Tools workspaces. These tasks are performed only by the users who have the permissions to use the Parallel Development Using Workspaces feature. This topic includes the following information:

- *Administering Parallel Development using Workspaces*.
- *Using the Parallel Development Tools for Workspaces*

Administering Parallel Development using Workspaces

This section describes how to perform the administrative tasks for the Parallel Development Using Workspaces feature. Note that only users with the administrative permissions can perform these administrative tasks:

- *Enabling the Parallel Development Feature for Siebel Tools Workspaces*.
- *Understanding Integration Workspaces in Siebel Tools*.
- *Creating Integration Workspace in the Workspaces Dashboard*.
- *Creating Integration Workspace Using Siebel Tools*
- *Setting an Integration Workspace as the Default Workspace Branch*.
- *Setting System Preferences for Parallel-Development Workspaces*.
- *Launching the Web Client with a Specified Workspace*.
- *Deleting Integration Workspaces*

For more information on how to detect errors and conflicts in the parallel-development workspaces, and then apply the resolution, see *Detecting Conflicts in Workspaces and Applying Resolutions*.

Enabling the Parallel Development Feature for Siebel Tools Workspaces

Only users that have administrative permissions can enable the Parallel Development Using Workspaces feature. In general, the Siebel administrators perform this task for all members in the development teams.

> **Note:** Before you enable the Parallel Development feature for workspaces in your working environment, the workspaces must be enabled.

For more information on how to enable workspaces in Siebel Tools, see *Workspaces Administration*.

For more information on how to use the Workspaces feature in Siebel Tools as a Siebel developer or user, see “*Using the Command Line*.

To enable the Parallel Development feature for Siebel Tools Workspaces

1. As an administrator and owner of the development environment, log into the Siebel application.

   > **Note:** You can set the user preferences using either the Siebel application or Siebel Tools. To see the changes of the preferences in Siebel Tools, you must log out of Siebel Tools and then log in again. To see the changes of the preferences in Siebel application, you must restart the services of the application.

2. From the toolbar, choose the Screens option, System Administration and then select the System Preferences menu item.

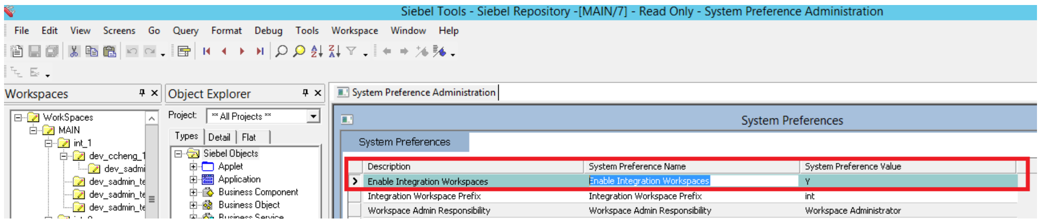
   The System Preference Administration window appears.

   > **Note:** In Web Tools, click the Tools menu and then click the System Preferences menu item.

3. In the System preferences section, set the following parameter value to Y (yes):

   ```
   Enable Integration Workspaces=Y
   ```

   The following image illustrates Siebel Tools displaying the System Preference Administration window.



Description	System Preference Name	System Preference Value
Enable Integration Workspaces	Enable Integration Workspaces	Y
Integration Workspace Prefix	Integration Workspace Prefix	int
Workspace Admin Responsibility	Workspace Admin Responsibility	Workspace Administrator

4. After setting the parameter Enable Integration Workspaces to Y, restart the services of Siebel Server Application to reflect the new parameter value on the server side.

   The environment is now ready for all users to create the parallel-development workspaces.

   For information about restarting Siebel Servers, see *Siebel System Administration Guide* .

Understanding Integration Workspaces in Siebel Tools

Users with the administrative permissions can create parallel-development integration workspaces. Developers use these integration workspaces to set up a parallel release development environment. The names of all integration workspaces start with the prefix int_ and these workspaces have the corresponding run-time repository version.

Only administrators can perform these workspace operations on the integration workspaces: Submit for Delivery, Rebase, Delivery, and Undo Submit for delivery. Also, only administrators can deliver the changes in the integration workspaces to the immediate parent integration workspace, and the rebase process must be performed from the immediate parent integration workspace.

For more information on how to deliver workspace changes and rebase workspaces, see *Using the Command Line*“.

Note: Users with the developer permissions can create development workspaces but they cannot create integration workspaces nor deliver their workspace changes to the multiple-release integration workspaces simultaneously. In fact, they can open the integration workspaces and view the version changes in read-only mode, but they cannot perform any other workspace-related actions. After the administrators successfully deliver their workspace changes into the integration workspace, developers can open the integration workspaces in the Siebel application and view the latest delivered changes.

For more information on how to create development workspaces, see *Understanding Development Workspaces*, *Creating Development Workspaces Using Siebel Tools*, and *Creating Development Workspaces in the Workspaces Dashboard*.

After the Merge process from the source workspace to the destination workspace has completed, the Publish process runs automatically if the destination workspace is an integration workspace. The publish process is not initiated if the destination workspace is a development workspace. When the Publish process starts, processing updates all run-time repository tables with the latest metadata values. After the Publish process has successfully completed, users can see the latest compiled and published changes when they open the integration workspace in the Siebel application.

To avoid conflicts, it is recommended that you always create workspaces branching from the latest versions of the integration workspaces. For more information on how to resolve the conflicts in the emerging resolution window in Siebel Tools, see *Detecting Conflicts in Workspaces and Applying Resolutions*.

The parallel-development workspaces are incremented either when:

- The child-level integration or development workspaces merge their object repository changes with them, or
- Users perform the rebase operation on an integration workspace to uptake the changes that are made in the parent integration workspace (which means the Check Point option is not available for all users, including the administrators, to manually checkpoint the version of the integration workspaces).

Note: You cannot perform the Revert functionality on the integration workspace.

Creating Integration Workspace in the Workspaces Dashboard

This topic describes the steps that administrators use to create an integration workspace in the Workspaces dashboard.

Note: Only administrators can create integration workspaces.

To create an integration workspace in the Workspaces dashboard

1. As an administrator, log into the Siebel application.
2. Click the Cube icon, after the menu bar and next to the Settings icon, to navigate to the Workspace dashboard.
3. Select the parent integration workspace.
4. Click the Create button.

   The Create Workspace window appears displaying the following elements:

   - Name of the selected parent workspace.
   - Integration Workspace option.

> **Note:** The Integration Workspace option is available only for administrators. The Integration Workspace option is not available for other users, including developers.

- Comment field.
- Cancel and Create Workspace buttons.

5. Select the Integration Workspaces option.

   In the Name field, the prefix of the workspace name changes to int_.
6. Append the workspace name text to the prefix int_.

   For example, int_cir4build.
7. Optionally, enter a comment in the Comment field.
8. Click the Create Workspace button to complete the workspace creation.

For more information on how to create integration workspace using Siebel Tools, see *Creating Integration Workspace Using Siebel Tools*.

Creating Integration Workspace Using Siebel Tools

This topic describes the steps that administrators use to create the integration workspaces using Siebel Tools.

> **Note:** Only administrators can create the integration workspaces.

To create a new integration workspace using Siebel Tools

1. Administrators log into Siebel Tools.
2. Navigate to the Workspace Menu bar.
3. Select the Create option to display the Create Workspace window.

   The Create Workspace window appears displaying the following elements:
   - Integration Workspace option.
   - Enter Workspace Name field.
   - Parent Workspace drop-down list. The available options are MAIN, int_1, and int_2.
   - Parent Workspace Version drop-down list.
   - Add Description field.
   - OK and Cancel buttons.
4. Select the Integration Workspace option.

   After the Integration Workspace option is selected, the prefix of the workspace name changes to int_.
5. Select one of the integration workspaces from the Parent Workspace drop-down list.
6. Select a version from the Parent Workspace Version drop-down list.
7. Optionally, enter the workspace description in the Add Description field.
8. Click the OK button to create the integration workspace.

For more information on how to create integration workspace in the Workspaces dashboard, see *Creating Integration Workspace in the Workspaces Dashboard*.

Setting an Integration Workspace as the Default Workspace Branch

When users access the Siebel application after they set an integration branch as the default workspace branch, the system loads the application based on the latest metadata changes of the integration workspaces that they have set as the default workspace instead of the values in the MAIN workspace. This setting enables the Siebel application to display the latest metadata values that are stored in the run-time repository tables. Every time the integration workspace is incremented by one version, the latest metadata values are stored in the run-time repository tables. When the application is reloaded, changes are reflected in the Siebel application window based on the latest version of integration workspace.

Administrators can set any integration workspace as their default workspace branch where their changes do not impact other users who are branched out from the other integration workspaces. Meanwhile, developers can work in parallel on multiple features of Siebel application without disturbing other features. Moreover, developers can verify how their latest metadata configuration appears in the Siebel application window without delivering their changes to the MAIN workspace.

To set up an integration workspace in the environment as the default workspace branch, administrators must update the parameter WorkspaceBranchName at the component level as shown in the following example. Notice that administrators must run this parameter by connecting to the server manager:

Command:

```
change param WorkspaceBranchName=<workspace_name> for comp <OBjMgr_lang>
```

Example:

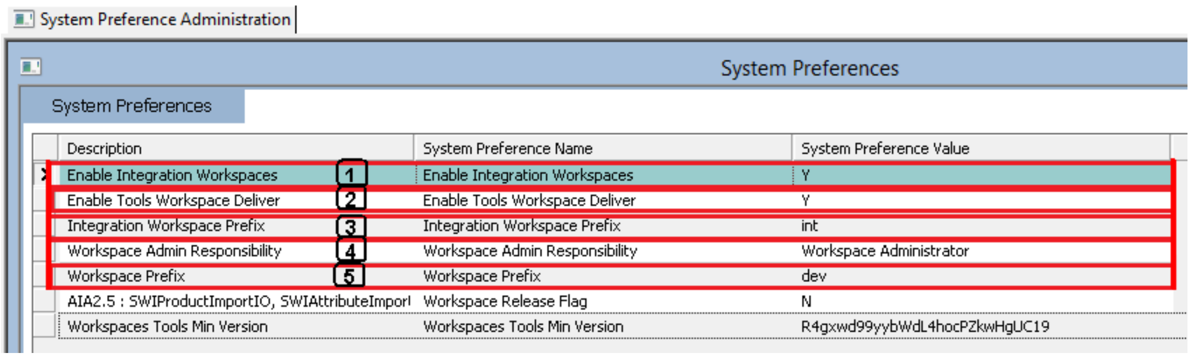
```
change param WorkspaceBranchName=int_ip2017rel for comp SCCOBjMgr_enu
```

To reflect the changes, administrators must restart the services of the Siebel server.

Setting System Preferences for Parallel-Development Workspaces

This section describes the important system preferences in the Parallel Development feature for Workspaces in Siebel Tools.

The following image illustrates the System Preference Administration window.



Description		System Preference Name	System Preference Value
Enable Integration Workspaces	1	Enable Integration Workspaces	Y
Enable Tools Workspace Deliver	2	Enable Tools Workspace Deliver	Y
Integration Workspace Prefix	3	Integration Workspace Prefix	int
Workspace Admin Responsibility	4	Workspace Admin Responsibility	Workspace Administrator
Workspace Prefix	5	Workspace Prefix	dev
AIA2.5 : SWIProductImportIO, SWIAttributeImpor		Workspace Release Flag	N
Workspaces Tools Min Version		Workspaces Tools Min Version	R4gxwd99yybWdL4hocPZkwHgUC19

Explanation of the System Preference Administration window

The system preferences for the parallel development feature in workspaces include the following information:

1. Enable Integration Workspaces

   To enable parallel-development workspaces, administrators must set this preference to Y (Enable Integration Workspaces=Y).

   The default value for this preference is N. After the parallel-development workspaces merge successfully, the default value will be set to Y.

   After the administrator changes the Enable Integration Workspace value, they must restart the services to reflect the latest integration workspace preferences on the server side.
2. Enable Tools Workspace Deliver

   To deliver and publish the workspace changes from Siebel Tools, administrators must set this preference to Y (Enable Tools Workspace Deliver=Y).

   The default value for this Preference is Y. If administrators do not want to deliver the workspaces from Siebel Tools, they can set this preference to N (Enable Tools Workspace Deliver=N).

   After the administrator changes the Enable Tools Workspace Deliver value, they must restart the services to reflect the latest integration workspace preferences on the server side.
3. Integration Workspace Prefix

   Integration workspaces start with the prefix value of int, which is derived from the preference Integration Workspace Prefix.

   If an administrator wants to set up a new prefix value, they must change the Integration Workspace Prefix preference value accordingly.

   After the administrator changes the integration workspace prefix value, they must restart the services to reflect the latest integration workspace preferences on the server side.
4. Workspace Admin Responsibility

   The Workspace Administrator Responsibility is granted only to Workspace administrative users who will have the full privileges to manage the integration/MAIN workspace.

   For more information about the detailed tasks of Workspace Administrators, see *Workspaces Administration*.
5. Workspace Prefix

   Development workspaces start with prefix value of dev, which is derived from the preference Workspace Prefix.

   If an administrator wants to set up a new prefix value, he or she must change Workspace Prefix preference value accordingly.

   After administrators change the workspace prefix value, they must restart the services to reflect the latest workspace preferences on the server side.

Launching the Web Client with a Specified Workspace

To launch the web client with a specified workspace on Siebel Tools, the administrator must update the [Workspace] and [ingraObjMrg] sections in the configuration file of the Siebel application.

For example, in the Siebel Financial application, they must update the [Workspace] sections in the fins.cfg file, which is the same for other applications. Administrators must update these sections in the respective applications' configuration files.

```
[Workspace]

Name = int_ip2017

Version = Latest

[InfraObjMgr]

RepositoryType = RUNTIME
```

Deleting Integration Workspaces in Web Tools

You can delete integration workspaces using Siebel Tools, Web Tools, or a Siebel application. Deleting an integration workspace will delete all its associated development and integration workspaces. Only a user in the role of Workspace Administrator can delete the integration workspace. For more information on deleting development and integration workspaces, see *Difference Between Deleting Development and Integration Workspaces*. For information on how to delete development workspace, see *Deleting Development Workspaces*.

- The MAIN workspace cannot be deleted.
- When you delete an Integration Workspace, the corresponding design time data, run time data and corresponding seed records are deleted and the reference to this workspace in merge or rebase reports in other views will show as deleted.

To delete an integration workspace in Web Tools

1. In Web Tools or a Siebel application window, click the Workspace Dashboard (cube) icon.

   The workspace dashboard opens.

   Note: Select a workspace that is not active or is not configured for migration because you cannot delete an active workspace or perform migration once the source workspace is deleted. Ensure that the workspace and the associated child workspaces have been delivered to the parent workspace because you cannot rollback the deletion.

2. Click the workspace that you want to delete and then click the Delete icon on the workspace menu.

   A warning message is displayed.

> **Note: Deleting an Integration Workspace will permanently delete all the data and versions under this workspace as well as all its child workspaces. Are you sure you want to delete the Integration Workspace: &lt;workspace_name>?**

3. Click the Delete Workspace button.

Difference Between Deleting Development and Integration Workspace

The difference between deleting development and integration workspaces is as follows:

Development Workspace	Integration Workspace
It can be deleted by either the creator of the workspace or a user having the Workspace Administrator responsibility.	It can be deleted only by a user having the Workspace Administrator responsibility. This user has to ensure that there is no one actively using the workspace and its child workspaces because the deletion is permanent. **Note:** If the workspace or any of its child workspaces is configured for migration then you cannot perform migration once the source workspace is deleted.
It can be deleted only if the status is not as Submitted for Delivery or Delivered in the workspace dashboard.	It is an administrative activity. It can be deleted only if the status is not as Edit-In-Progress or Rebase-In-Progress. It is not possible to rollback the deletion to recover data.
It can be deleted only if there is no child workspace associated with it.	It can be deleted even if there are child workspaces associated with it.

Using the Parallel Development Tools for Workspaces

Users with the authority of a developer can perform the following tasks:

- *Applying Parallel Development Using Workspaces Hierarchy*.
- *Understanding Development Workspaces*.
- *Creating Development Workspaces in the Workspaces Dashboard*.
- *Creating Development Workspaces Using Siebel Tools*.

Applying Parallel Development Using Workspaces Hierarchy

After the administrators enable the Parallel Development feature in a working environment, developers can create the N levels of hierarchy for the parallel-development workspaces.

> **Note:** Only administrators can enable the Parallel Development Using Workspaces feature for all users in the development team. For more information about the administrative actions of Parallel Development Using Workspaces and how to enable this feature, see *Administering Parallel Development using Workspaces* and *Enabling the Parallel Development Feature for Siebel Tools Workspaces*.

You can apply a parallel-development hierarchy to create integration workspaces. The hierarchy of workspaces will be in the following combinations:

- *Integration workspace, integration workspace*, followed by another integration workspace.

  This combination is applied to the N levels and you can have multiple integration or development workspaces at one level that are parallel under one parent integration workspace.
- *Integration workspace, development workspace*, followed by another development workspace.

  This combination is applied to the N levels and you can have multiple development workspaces at one level that are parallel under one parent (integration or developer) workspace.

Note: You cannot create the integration workspaces using this combination: Integration workspace, development workspace, followed by another integration workspace.

For more information about the integration workspaces, see *Understanding Integration Workspaces in Siebel Tools*.

For more information about the development workspaces, see *Understanding Development Workspaces*.

Understanding Development Workspaces

You can create the development workspaces by branching from an integration workspace at the immediate parent level.

After opening the development workspaces, you can directly edit the workspace-supported repository object and complete the development configurations.

The names of all development workspaces start with the prefix dev_<userid>_.

Working on the development workspaces, note that:

- Administrators can perform these workspace operations on the development workspaces: open, edit workspaces that support repository objects and complete their development configuration, submit for delivery, and rebase.
- All developers must be able to create development workspaces branching from integration workspaces. For a new developer, grant the following two responsibilities:
  - Composer Administrator — This provides access to the Workspace Dashboard.
  - Web Tools User — This provides access to the views throughout the Web Tools application, such as the Applet List View, Applet Designers, etc.
- While creating development workspaces on a specific release, development members should communicate with the administrators to select an integration workspace and define it as the parent workspace.
- Users with the developer permissions can create the parallel-development workspaces by selecting one of their parent release integration workspaces as the parent workspace.

  For example, if the parent release integration workspace is IP20xx_apps, the developer’s environment displays the parallel-development workspace trees as the following:

  ```
  ip20xx_apps, dev_sadmin_l1, dev_ccheng_l2, followed by dev_cmorris_l3
  ```
- Development teams can edit repository metadata or change the repository configuration only through the development workspaces.

- Users with the developer permissions can open the development workspaces that they own to edit the repository configuration, checkpoint the version, revert the version changes, rebase the workspaces, change the state of the workspaces to Submitted to Delivery, and delete the workspaces (that is in the editable state if that workspace does not have a child workspace).
- Users or developers can preview the development workspace in the Siebel application by clicking the Inspect button for the repository changes they made to that version. However, they cannot perform the Inspect task on integration workspaces.
- Workspace developers cannot deliver their workspace changes directly to the integration workspaces after they complete the repository configurations on their development workspaces. In this case, they must change the status of the workspaces to Submitted for Delivery, and then the Siebel administrators approve and perform the deliver process.

Note: Delivering the changes to the parent development workspace delivers the changes and also publishes the changes.

Creating Development Workspaces in the Workspaces Dashboard

This topic describes how to create the development workspaces in the Workspaces dashboard.

To create the development workspace in the Workspaces dashboard

1. Click the Cube icon to navigate to the Workspace dashboard.
2. Select the parent integration workspace or any parent development workspaces.
3. Click the Create button.

   The Create Workspace window appears displaying the following elements:

   - Name of the selected parent workspace.
   - Name field.
   - Comment field.
   - Cancel and Create Workspace buttons.
4. Append the workspace name text to the prefix dev_ccheng_.

   For example, dev_ccheng_bug12345.
5. Optionally, enter a comment in the Comment field.
6. Click the Create Workspace button to complete the development workspace creation.

Creating Development Workspaces Using Siebel Tools

This topic describes how to create development workspaces using Siebel Tools.

To create the development workspaces using Siebel Tools

1. Navigate to the Workspace Menu bar and select the Create option.

   The Create Workspace window appears displaying the following elements:

- Enter Workspace Name field.
- Parent Workspace drop-down list. The available options are MAIN, int_1, and int_2.
- Parent Workspace Version drop-down list.
- Add Description field.
- OK and Cancel buttons.

2. In the Enter Workspace Name field, enter a name for the new development workspace.
3. In the Parent Workspace drop-down list, select an integration workspace or a development workspace as the parent workspace.

> **Note:** You cannot select development workspaces when they are read-only, and these read-only workspaces are not listed in Parent Workspace drop-down list.

4. Select a parent version.
5. Click the OK button to create the development workspace.

7 Using Siebel Script Editors

Using Siebel Script Editors

This chapter describes how to use the Siebel Script Editors. It includes the following topics:

- *Using the Siebel Script Editor*
- *Using the ST eScript Engine*
- *Using the Siebel Debugger*
- *Using the Script Profiler*

Using the Siebel Script Editor

This topic describes how to use the Siebel Script Editor. It includes the following information:

- *Overview of Using Siebel Script Editor*
- *Opening the Siebel Script Editor*
- *Validating Script Syntax*
- *Setting Options for the Siebel Script Editor*

Overview of Using Siebel Script Editor

The *Siebel Script Editor* is an editor that allows you to create and maintain scripts that use Siebel VB, Siebel eScript, or Browser Script. If you cannot use a declarative configuration to implement the functionality you require, then you can use the following editors to add a script to a Siebel object:

- **Server Script Editor.** Allows you to create and modify Siebel eScript or Siebel VB.
- **Browser Script Editor.** Allows you to create and modify Browser Script that runs in the Siebel application.

  Note: Oracle recommends that customers use the custom Presentation Model (PM) or Physical Renderer (PR) mechanism for any new client browser scripts. Also, customers should eventually migrate all existing legacy browser scripts to the PM or PR model. For more information, see the *Configuring Siebel Open UI* guide.

For more information, including a description of scriptable events and callable methods on browser objects, see *Siebel Object Interfaces Reference* , *Siebel eScript Language Reference* , and *Siebel VB Language Reference* .

About the Siebel Script Editor

You can use the Siebel Script Editor to edit Siebel VB script or Siebel eScript script. It allows you to do the following:

- Cut, copy, and paste the text from one location to another location in the Siebel Script Editor. You can also cut and paste text into the Siebel Script Editor.
- Import or export a Siebel script.

- Associate a given Siebel script with a predefined object event, such as a PreSetFieldValue event for a business component. For more information, see *About Predefined Objects*.
- Debug a custom script. For more information, see *Using the Siebel Debugger*.
- Compile a custom script. For more information on how to deliver workspaces, see *Delivering Workspaces*.

The Siebel Script Editor uses a window that is similar to the Windows Notepad editor. It includes the following elements:

- Title bar.
- Drop-down list that you can use to specify an object.
- Drop-down list that you can use to specify an event.
- Text entry window.
- Vertical and horizontal scroll bars that you can use to navigate.

Object Types You Can Script

You can use the Siebel Script Editor to add a script to the following object types:

- Application
- Applet
- Business Component

An object definition for each of these object types includes a Scripted property. If this property includes a check mark, then this object includes a script.

Menus in the Siebel Script Editor

The following items are available from the File menu:

- **Import.** Imports a Siebel script.
- **Export.** Exports a Siebel script.
- **Save.** Saves a Siebel script. Make sure you save your script before you exit the editor.
- **Exit.** Closes the Siebel Script Editor window.

The following items are available from the Edit menu:

- **Cut.** Deletes the selection and saves it to the clipboard.
- **Copy.** Copies the selection to the clipboard.
- **Paste.** Copies the contents of the clipboard to the chosen area.
- **Delete.** Deletes the selection.
- **Select All.** Selects the entire script.
- **Find**. Displays the Find in Script dialog box. You can search for text or spaces.
- **Replace.** Displays the Replace in Script dialog box. You can search and replace the text or spaces.
-

Guidelines for Using Siebel Script Editor

If you use the Siebel script editor, then it is recommended that you use the following guidelines:

- To verify the format of your Siebel VB or Siebel eScript script, click the Debug menu, and then click Check Syntax. The Siebel Compiler displays any format errors it finds and indicates the lines where these errors occur.

- Save your work frequently and before you close the Siebel Script Editor. Click the File menu , and then click Save to save your work. If you close the Siebel Script Editor without saving your work, Siebel Tools discards any modifications you make since the last save.
- You must deliver the objects that you modify in the workspace before you run a Siebel application. For more information on how to deliver a workspace, see *Delivering Workspaces*.

  .
- When pasting text into the Siebel Script Editor, avoid using two code blocks that use the same name. To do this, do the following depending on the type of script you use:
  - **Siebel eScript.** Place the code between `function` *Name* `{ and }.` You must enclose all function code with curly braces.
  - **Siebel VB.** Place the code between `sub` *Name* and `End sub`.

Guidelines for Testing a Script

If you test a script, then it is recommended that you use the following guidelines:

- To test a script, you can click the Debug menu, and then click Start. Siebel CRM runs with the new modifications incorporated. You can also click the Start button in the Debug toolbar.
- To display an error when you test your script, you can start Siebel CRM in debug mode. To use debug mode, use the /H option on the start-up command line. If it encounters an error in your script, then it displays a dialog box that describes the error. To troubleshoot the error, you can open the Script Editor, click the Debug menu, and then click Check Syntax. For more information, see Validating Script Syntax.
- If a run-time error occurs in the Siebel application, or if Siebel CRM does not run in Debug mode, then it displays an error message that includes an error code. It returns control to the location in the predefined Siebel code just before the error occurred.

Opening the Siebel Script Editor

This topic describes how to open the Siebel Script Editor.

To open the Siebel Script Editor

1. In the Object Explorer, click one of the following object types:
   - Application
   - Applet
   - Business Component
2. In the Object List Editor, locate the object you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. Do the following:
   - Right-click the object you located in Step 2, and then click Edit Server Script or Edit Browser script.
   - Click the View menu, Editors, and then click Server Script Editor or Browser Script Editor.

Validating Script Syntax

The debugger includes a syntax checker that you can use to make sure your script compiles properly.

> **CAUTION:** The Check Syntax feature identifies only syntax errors and errors that occur if an object or variable is not initialized. It does not identify other types of errors and it cannot trap an error that might cause a run-time error. It examines only script that is attached to the current active object. If an error exists in another script, then you cannot compile the repository.

To validate script syntax

1. Open the Siebel Script Editor, click the Debug menu, and click Check Syntax.

   Web Tools does a test compile, and then does one of the following:

   - **It finds no error.** It displays nothing.
   - **It finds an error.** It displays a dialog box that describes the error.
2. If the script includes an error, then click Go to Line in the dialog box.

   Web Tools positions the cursor on the script line that causes the error and highlights this line.
3. Correct the code and repeat Step 1.

   If the syntax of the line that you modified is correct, then the dialog box displays the next error it finds, if any.

   > **Note:** You can modify a script only if the workspace is editable.
4. Repeat Step 1 and Step 2 until you correct all errors.
5. Click the File menu, and then click Save.
6. Deliver your changes to the repository.

   For more information on how to deliver your workspaces, see *Delivering Workspaces*

Setting Options for the Siebel Script Editor

You can set options for working in the Siebel Script Editor, including setting a default scripting language, specifying a location for compiling browser scripts, and defining options for debugging. Script Assist options are available only if the ST eScript Engine is enabled. For more information, see *Overview of Using the ST eScript Engine*.

To set options for the Siebel Script Editor

1. In Siebel Tools, click the View menu, and then click Options.
2. In the Development Tools Options dialog bo, click the Scripting tab.
3. Set the options.

   For more information, see *Development Options for Scripting*.

Suppressing Error Messages

This topic describes how to configure Web Tools to not display the SBL-EXL-00151 error code and error text in the pop-up error message that the RaiseErrorText method creates.

To suppress error messages

1. In Web Tools, click the Tools menu and then click the System Preferences menu item.
2. In the System Preferences list, set the Suppress Scripting Error Code system preference using values in the following table.

System Preference Name	System Preference Value
Suppress Scripting Error Code	TRUE

Using the ST eScript Engine

This topic describes how to use the ST eScript Engine. It includes the following information:

- *Overview of Using the ST eScript Engine*
- *Setting Options for the ST eScript Engine*
- *Opening the Script Assist Window*
- *Using Fix And Go*
- *Using Running Tool Tip*
- *Using Script Libraries with the ST eScript Engine*

Overview of Using the ST eScript Engine

The ST eScript Engine was made available in Siebel CRM version 7.8 and higher, and effective from Siebel IP 2017, it completely replaces the T eScript Engine available in earlier versions of Siebel CRM. All customers must use the ST eScript Engine.

Except for a few differences, the ST eScript Engine is compatible with the script that was created with the T eScript Engine.

CAUTION: If you were previously using the T eScript Engine, you must configure Siebel CRM to use the ST eScript Engine by setting the value for System Preference "Enable ST Script Engine" to TRUE.

The ST eScript Engine is compliant with the ECMAScript Edition 4 standard. ECMAScript is the implementation of JavaScript as defined by the ECMA -262 standard. The ST eScript Engine includes the following capabilities:

- **Performance.** Provides higher throughput with a lower CPU and memory footprint in situations where you use a significant amount of script. The result is improved performance and lower maintenance on heavily scripted events.

- **Scalability.** Superior performance even if many users concurrently run scripts.
- **Strong typing.** Supports strong typing that is compliant with the ECMAScript Edition 4 standard. Strongly typed objects result in scripts that are more functional and improved performance.
- **Functionality.** Adds new functionality, such as Script Assist, script libraries, favorites, and Fix And Go. For more information, see *About Script Assist* and *Using Fix And Go*.

For more information, see *Siebel eScript Language Reference* .

About ST eScript Engine Warnings

The ST eScript Engine can display warnings that notify you of the following potential problems that might occur if you deliver your custom script:

- Referencing a method or property that is not predefined
- Referencing an undeclared identifier
- Using a variable before it initializes this variable
- Using a redundant declaration of an untyped variable
- Calling a function that includes an insufficient number of arguments

These errors might cause a run-time failure. You can use these warnings to help fix errors before you deliver your script. To enable or disable the Enable Warnings option, see *Setting Options for the ST eScript Engine*.

Example of a Warning Message

The following code is an example of a compile warning message that Web Tools creates after a run-time failure:

```
function foo(a)

 {

 var oApp: Application;

 oApp.myMethod ();

 return;

 }

foo ();

Semantic Warning around line 5:Variable oApp might not be initialized.

Semantic Warning around line 5:No such method myMethod

Semantic Warning around line 10:Calling function foo with insufficient number of
arguments.

Unhandled Exception: Function expected
```

How the ST eScript Engine Determines the Type of Variables That a Script Uses

Type deduction is a feature of the ST eScript Engine that determines the type of local variables that a script uses. It scans the assignments that the script makes to each local variable. If the ST eScript Engine can successfully determine the type for all local variables, then the compiler performs strict type checks and creates statically bound code that runs faster and uses less memory. This configuration might introduce more compile warnings as a result of performing these type checks. It cannot determine the type in all situations. It is recommended that you type your script. To enable or disable type deduction, see *Setting Options for the ST eScript Engine*.

Example of a Script That Deduces the Local Variable Type

The following script deduces the type of the oDate local variable to the Date. It then creates a warning about the MyMethod method. This method is not defined. This script fails at run time:

```
function goo()

 {

 var oDate;

 oDate = new Date ()

 oDate.myMethod ();

 return;

 }

goo ()

Semantic Warning around line 19:No such method myMethod

Unhandled Exception: 'myMethod' is not defined
```

About Script Assist

Script Assist is part of the ST eScript Engine. To help you develop a script, it inspects object definitions, and then makes information about these object definitions available to you. It includes the following functionality:

- **Syntax highlight.** Uses color to highlight reserved words, data types, operators, and other syntax in Siebel VB and Siebel eScript script. You cannot modify these colors. The following table lists the colors that it uses:

Item In the Code	Color Name
Reserved word or keyword.	Blue
Data Type.	OrangeRed
Operator.	Navy
String literal.	SteelBlue
Delimiter. For Siebel eScript only	Brown
Function. For Siebel VB only.	Magenta

- **Method list.** Displays a list of methods and properties that are available for an object. For more information, see the table that follows on Icons That the Script Assist Window Contains.

- **Repository inspection.** Inspects objects and object types in the repository without requiring you to type a string literal. This functionality results in fewer mistakes in your script. It also understands predefined constants for a business component method.
- **Favorites.** Uses italics to indicate the most frequently used object, method, or property name in the Script Assist window. Favorites exist for only a single Web Tools session. When you log out of Web Tools, it clears these favorites. If you create a new function, then you must add it to the declarations, and then save the script modifications. If you do not do this, then Web Tools does not display the function as a favorite.
- **Script libraries.** Allows you to call a business service function after you declare the business service. You do not declare property sets or make an InvokeMethod call. A script library helps you develop code that is reusable and modular. For more information, see *Using Script Libraries with the ST eScript Engine*.
- **Auto complete.** Automatically completes an entry after you enter a minimum number of unique characters in the Script Assist window. For example, if you enter Bus, then Web Tools automatically enters the word BusComp.
- **Auto indent.** Maintains a running indent. If you press the Return key or the Enter key, then it inserts spaces and tabs that left-justifies the code.
- **Tool tips.** Allows you to view descriptions of the method arguments that you use.
- **Includes child scripts.** Script Assist can parse a script that you write on a business component, applet, or business service. You can use the Application drop-down list to choose the Siebel application that includes the child script. Script Assist displays the scripts that are written on this application object in the Script Assist window.
- **Includes scripts you write in the general section.** A script that you write in the general section of the script explorer window is available in the Script Assist window. For example, if you write a helper function named Helper in the general section of the current script, and if you start Script Assist, then it includes Helper in a pop-up window.

Using Script Assist with a Custom Siebel eScript Method

If a script references a custom Siebel eScript method on a business component, and if this script does not reside on the same business component that includes this custom method, then Script Assist does not recognize the custom method and cannot display data from it. For example, you create a business component method named MyMethod on the Account business component. You then create a script on the Contact business component that references the MyMethod method. In this example, Script Assist does not include any information about your custom My Method method.

Icons That the Script Assist Window Contains

The following table describes the methods and properties that the Script Assist window shows when you choose an object. For more information, see *Opening the Script Assist Window*.

Icon	Description
	Read-only property.

Icon	Description
	Modifiable property
	Method
	Class Object
	Primitive

Setting Options for the ST eScript Engine

This topic describes how to set options for the ST eScript Engine.

To set options for the ST eScript Engine

1. In Web Tools, open the Settings for Edit Server Scripts from any supported object.
   ST eScript is the default script and you can change to VB Script and also set your choice as the default.
2. In the Development Tools Options dialog box, click the Scripting tab.
3. To define the options in the Settings drop-down list, use the information in the following table. It is recommended that you enable all of these options.

Option	Description
Enable Warnings	If this check box includes a check mark, then Web Tools displays script compile warning messages. For information, see *About ST eScript Engine Warnings*.

Option	Description
Deduce Types	If this check box includes a check mark, then Web Tools deduces the type of local variables. For more information, see *How the ST eScript Engine Determines the Type of Variables That a Script Uses*.
Fix and Go	If this check box includes a check mark, then Web Tools allows you to debug and test your script without compiling. For more information, see *Using Fix And Go*.

Opening the Script Assist Window

You must enable the following Script Assist options in the Script Editor settings before opening the Script Assist window:

- Enable Method Listing
- Enable Auto Complete

For more information about setting these options, see *Setting Options for the Siebel Script Editor*.

To open the Script Assist window

1. In the Script Editor Explorer window Script Editor pane, choose the object you want to modify.
2. Press CTRL+SPACE.

   Siebel ToolsWeb Tools displays the Script Assist window. This window lists all methods and properties that are available for the object you choose.

Using Fix And Go

If you enable Fix And Go, you can edit a script in a Web Tools session, and then test your modifications in the Siebel application without closing this client or recompiling the script. This feature allows you to save time in script development, testing, and debugging. You can use Fix And Go only with a server script and the ST eScript Engine.

To use Fix and Go

1. Enable Fix and Go in the Script Editor window.

   For more information, see *Setting Options for the ST eScript Engine*.
2. Create a server script in the Siebel Script Editor and save it.

   If you attempt to save a script that includes a format error, then Web Tools displays a script error message that prompts you to fix the line or the lines that cause the error.

3. Use the Siebel Debugger to run the script.
4. If an error occurs, then stop the script.
5. Make modifications, save your script, and then run it again.

You must save and deliver all script modifications before you exit Web Tools. If you do not save your modi#cations, then they are lost.

Using Running Tool Tip

Running Tool Tip is a help feature in the Siebel Script Editor that you can use to write a script. If you enter a method name in the Running Tool Tip window, then it displays the method arguments that you can use with this method. If you enable Script Assist, then Siebel Tools enables Running Tool Tip, by default. For more information, see *About Script Assist*.

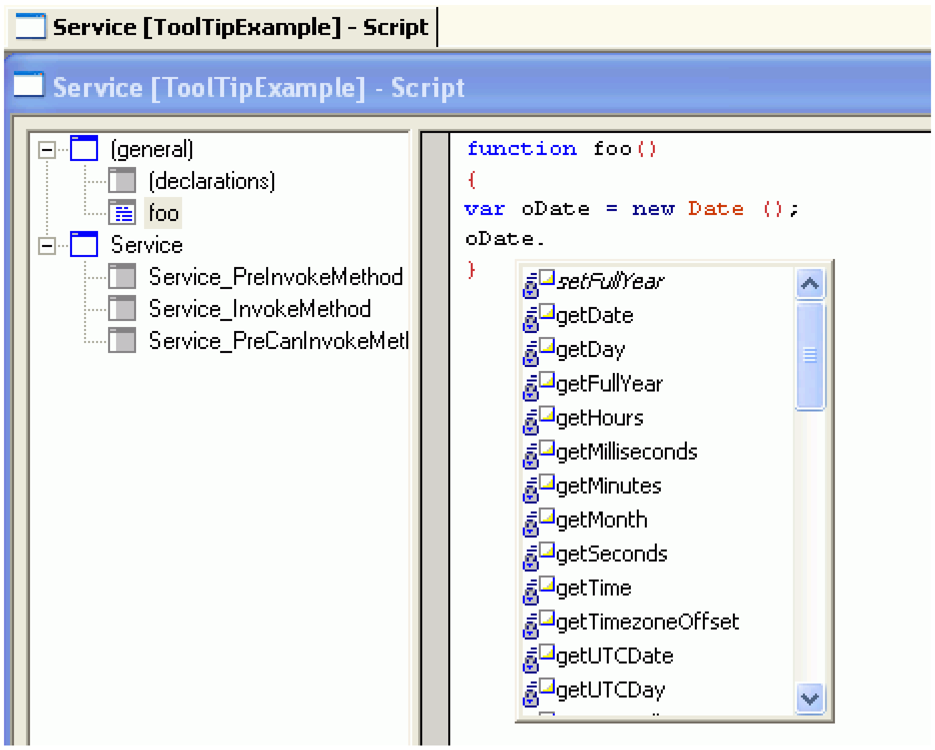
To use Running Tool Tip

1. Open the Siebel Script Editor.

   For more information, see *Opening the Siebel Script Editor*.
2. In the Script Editor window, enter a method name followed by an open parenthesis.

   Siebel Tools displays the Running Tool Tip window. This window displays the method name and the method arguments. It uses italicized text to suggest an argument. Siebel Tools hides this window after you enter all the required method arguments.

   The following image includes the Running Tool Tip window.



Service [ToolTipExample] - Script

```
function foo()
{
var oDate = new Date ();
oDate.
}
```

How Running Tool Tip Differs from Tool Tips in Script Assist

If you enter a function name followed by a left parenthesis in the Script Editor, then Script Assist or Running Tool Tip shows depending on the type of function you enter.

Running Tool Tip Window

If you enter a simple call expression, then Siebel Tools displays the Running Tool Tip window. A call expression allows you to send anything to the function according to the type of argument. For example, if you use the following code to enter a data object function, then Siebel CRM can send a value that you choose to this function:

```
Date.SetFullYear
```

For example, you enter the following code:

```
var oDate = new Date();
oDate.SetFullYear(
```

In this example, Siebel Tools displays the following code in the Running Tool Tip window:

```
oDate.SetFullYear(year, month, date)
```

Script Assist Window

If you enter a collection function, then Web Tools displays the Script Assist window. This window includes a list of methods and properties that you can choose for an object. A *collection function* is a type of function that includes a finite set of values. You can send values to a collection function. For example, if you enter the following code, then Web Tools displays fields that are defined only for this business component:

```
BusComp.GetFieldValue
```

The following code is an example:

```
var bo = TheApplication().GetBusObject(
```

For more information about using functions and expressions in Siebel eScript, see *Siebel eScript Language Reference* .

Using Script Libraries with the ST eScript Engine

A *script library* is a part of the ST eScript Engine that allows you to call a business service method from a script. This topic describes how to make a custom business service method available to a business service script library and how to call this method in the script library. Using a script library is optional. Siebel CRM supports code you write before Siebel CRM version 8.0. For more information about script libraries, see *Siebel eScript Language Reference* .

Making a Custom Business Service Method Available in a Script Library

This topic describes how to make a custom business service method available in a script library.

To make a custom business service method available in a script library

1. Create a script for a business service method.
2. Validate the script.

   For more information, see *Validating Script Syntax*.
3. Make sure the External Use property of the business service contains a check mark.

Web Tools adds the custom business service method to the script library.

Using a Script Library to Call a Custom Business Service Method

After you make a business service available for use in Web Tools, the following items apply:

- You can call a business service method of this business service from another script.
- The Script Assist window displays these business service methods. For more information, see *About Script Assist*.

To use a script library to call a custom business service method

1. Make sure the following options are enabled in ScriptAssist:
    - Enable Method Listing
    - Enable Auto Complete

   For more information about setting these options, see *Setting Options for the Siebel Script Editor*.
2. In the Siebel Script Editor, type the name of a business service object followed by a period (.).

   Web Tools displays the business service methods that are available for the business service.
3. Choose the business service method that you want to add to the script.
4. Validate the script.

   For more information, see *Validating Script Syntax*.

Example of Using a Script Library

In this example, the mathService business service is enabled for use in Web Tools. It uses a business service method named square:

```
function square (x)

{

 return (x * x);

}
```

If you use a script library to call an argument, then the compiler examines the argument types to make sure the argument that your script calls is valid and is compatible. The following code calls a business service method named square:

```
var oBS: Service = TheApplication().GetService ("mathService");

var value = 10;

var square_value = oBS.square (value);
```

Using the Siebel Debugger

This topic describes how to use the Siebel Debugger. It includes the following information:

- *Overview of Using the Siebel Debugger*

Overview of Using the Siebel Debugger

The Siebel Debugger can help you debug a script and identify an error from a script that you write in Siebel VB or Siebel eScript. It displays variables and their values in the Siebel Script Editor window and a diagnostic window. You can use it to slow down or suspend a script from running so that you can monitor the logical flow of your script and to examine the contents of variables. You can use the Siebel Debugger to do the following:

- **Set a breakpoint.** Allows you to use the Debugger so that you can examine the state of the program at this line. For more information, see *Using Breakpoints*.
- **Step over a line of code.** Allows you to step over a given line. For example, if the current code line contains a subroutine or function, then the Debugger executes the subroutine or function and displays the result without debugging each line in that subroutine or function.
- **Step into a subroutine.** Runs one line of code according to the following:
  - **The current line calls a subroutine or function.** The Debugger stops at the first line of the subroutine or function that the current line calls.
  - **The current line does not call a subroutine or function.** The Debugger stops at the next code line.
- **Examine the value of a variable.** The Siebel Debugger includes a Watch window that displays variables and their values. You can examine these values while a script runs.

Enabling Script Editor and Debugger in Web Tools

In Web Tools, the Script Editor and Debugger feature is disabled by default.

To enable Script Editor and Debugger

1. In Web Tools, click the Tools menu and then click the System Preferences menu item.
2. In the System Preferences list, add the ScriptEditorDebuggerEnabled system preference if it does not exist.
3. Set the ScriptEditorDebuggerEnabled system preference using values in the following table.

System Preference Name	System Preference Value
ScriptEditorDebuggerEnabled	Y, Yes, T, True, or 1. **Note:** All the values are case-insensitive.

4. Restart the Web Tools server component.

When the Script Editor and Debugger feature is disabled, the following Web Tools UI items are disabled:

- The Bug button in the banner area.
- All Debug menu items.
- Edit Server Script and Edit Browser Scripts applet menu items.

Note: Setting the ScriptEditorDebuggerEnabled system preference value to True enables the Script Editor and Debugger feature and its corresponding Web Tools UI items.

Setting Debug Options

This topic describes how to set debug options.

To set debug options

1. In Web Tools, click the Debug menu, and then click Toggle Script Debugger.
2. In the Server Script Debugger window, click the Settings icon to open the Debugging Settings pane. You can select the Siebel application and language for the debugger and make minor changes to the behavior of the debugging window. For more information, see *Development Options for Visualization Views*.

Accessing the Siebel Debugger

You can access the Siebel Debugger.

To access the Siebel Debugger

- Do one of the following:
  - Open the Siebel Script Editor, set a breakpoint in your script, and then click the Start button.

    For more information, see *Using Breakpoints*
  - Run a script that includes a run-time error.

    If a script includes a run-time error, then Siebel Tools suspends the script, starts the Debugger, and highlights the line that includes the error. An unhandled Siebel VB or eScript error is an example of a run-time error.

Using Breakpoints

A *breakpoint* is a marker in a line of code that stops code from running at this line. It allows you to use the Debugger so that you can examine the state of the program at this line.

To use breakpoints

- Do one of the following in the Siebel Script Debugger:
    - Place the cursor on the line of code where you want to set a breakpoint, and then press F9.Place the cursor on the line of code where you want to set a breakpoint, click Toggle Breakpoint icon or Debug menu item.
    - Click the gutter area adjacent to the line of code to toggle the breakpoint.

  If a breakpoint does not already exist on this line, a breakpoint is added. If a breakpoint already exists on this line, the breakpoint is removed.

Using the Calls Window

The Calls window includes a list of subroutine and function calls that Web Tools runs prior to the current code line.

To use the Calls window

1. Open the Siebel Debugger.
2. Click the Call Stack pane in the Debugger window while you run the Debugger.

   Each line in the Calls window represents a subroutine that Web Tools entered but did not complete. If you choose an entry in this list, then the following occurs:
    - The Debugger window displays the line of code that makes this call.
    - The Variable window displays the variables that are associated with the procedure that makes the call.

Using the Watch Window While it Monitors a Script

The Watch window displays variables and variable values. You can use it to monitor these values while a script or workflow process runs. The Watch window supports the following variable types:

- Local variables
- Global variables
- Shared global variables
- Application variables
- Persistent profile properties
- Dynamic profile properties

For a detailed example that uses the Watch window, see the information about defining a workflow process that closes obsolete service requests in *Siebel Business Process Framework: Workflow Guide* .

To use the Watch window while it monitors a script

1. Attach a script to an object, and then deliver object's changes.

   For more information on how to deliver your workspaces, see *Delivering Workspaces*.

2. Start the Siebel application from the Siebel Debugger.

   Click the Start icon or Start menu item on the Debug menu bar. For more information, see *Setting Debug Options*.
3. Open the Watch window from the Script Debugger pane.

Tracing a Script

You can run a trace on an allocation, event, or SQL command. You can start a trace for a user account, such as your development team. The Siebel Server saves the trace information to a log file. Tracing a script is not the same as tracing a file. For more information about tracing a file, see the information that describe the Trace, TraceOn, and TraceOff methods in *Siebel Object Interfaces Reference* .

To trace a script

1. Log in to the Siebel application, navigate to the Administration - Server Management screen, and then the Components view.
2. Choose the component that you want to trace.
3. Navigate to the Component Event Configuration view.
4. Locate the Object Manager Extension Language Log event.

   If this event does not exist, then the component you chose in Step 2 does not support logging. Most components support logging, but some do not. If necessary, repeat Step 2 but choose another component.
5. Set the Log Level to 1.

   To disable logging when you are done, you can set the Log Level to 0 (zero).
6. Navigate to the Component Parameters view.
7. (Optional) To display only the script tracing parameters, enter a query using the values from the following table.

Field	Value
Parameter Alias	Trace*
Subsystem	Object Manager

8. Set one or more tracing parameters using the values from the following table.

Object to Trace	Alias	Description
Allocations	TraceAlloc	Enter `0` (zero) to disable logging. Enter `1` to enable logging.
Events	TraceEvents	
SQL Commands	TraceSql	

Object to Trace	Alias	Description
Users	TraceUser	Enter a comma-separated list of user names. Do not use spaces. For example, you can enter the following: `sadmin,mmasters,hkim,cconnors`

To set tracing parameters, enter a value depending on when the modification must take affect:

- **Immediately.** You modify values in the Current Value column.
- **After a restart.** You modify values in the Value on Restart column.

Example of a Trace

The following code is an example of a trace that Web Tools creates after the Business Service Simulator runs:

```
ObjMgrExtLangLog ObjMgrExtLangLog 0 00000080475f1578:0 2007-12-12 07:33:45 [User: ] SQLBIND, 90, 1, Y.
ObjMgrExtLangLog ObjMgrExtLangLog 0 00000080475f1578:0 2007-12-12 07:33:45 [User: ] COMPILE, END,
 <unknown>.
ObjMgrExtLangLog ObjMgrExtLangLog 0 00000080475f1578:0 2007-12-12 07:33:45 [User: ] EVENT, BEGIN, Service
[sam], Service_PreInvokeMethod. ObjMgrExtLangLog ObjMgrExtLangLog 0 00000080475f1578:0 2007-12-12 07:33:45
 [User: ] EVENT, END, Service [sam], Service_PreInvokeMethod. ObjMgrExtLangLog ObjMgrExtLangLog 0
 00000080475f1578:0 2007-12-12 07:34:39 [User: ] SQLSTMT, 91,
```

Example of a Detailed Trace

The following code is an example of a trace that Web Tools creates if the log level is set to high. For brevity, only part of this log file is included:

```
2021 2007-12-12 07:46:29 2007-12-12 07:56:46 -0700 000003fd 001 003f 0001 09 SCCObjMgr_enu 11534365 5452
780 d:\21022\ses\siebsrvr\log\SCCObjMgr_enu_0011_11534365.log 8.1 [21022] ENU

ObjMgrLog Info 3 000000b9475f1578:0 2007-12-12 07:46:29 (modpref.cpp (949)) SBL-DAT-50803:
 SharedFileReader:
D:\fs\userpref\SADMIN&Siebel Universal Agent.spf_SDCHS21N625_5452_780: File succesfully opened.

ObjMgrLog Info 3 000000b9475f1578:0 2007-12-12 07:46:29 (modpref.cpp (949)) SBL-DAT-50804: LoadPreferences:
D:\fs\userpref\SADMIN&Siebel Universal Agent.spf: Preferences succesfully loaded.

ObjMgrExtLangLog ObjMgrExtLangLog 0 000000b9475f1578:0 2007-12-12 07:46:29 [User: ] SQLSTMT, 1, SELECT,
 SELECT

T1.CONFLICT_ID,

T1.DB_LAST_UPD_SRC,

CONVERT (VARCHAR (10),T1.DB_LAST_UPD, 101) + ' ' + CONVERT (VARCHAR (10),T1.DB_LAST_UPD, 8),

CONVERT (VARCHAR (10),T1.LAST_UPD, 101) + ' ' + CONVERT (VARCHAR (10),T1.LAST_UPD, 8),

CONVERT (VARCHAR (10),T1.CREATED, 101) + ' ' + CONVERT (VARCHAR (10),T1.CREATED, 8),

T1.LAST_UPD_BY,

T1.CREATED_BY,

T1.MODIFICATION_NUM,

T1.ROW_ID,
T1.BUILD_NUMBER,

T1.CURR_WEBFILE_VER,

T1.ENTERPRISE_NAME,

T1.PREV_WEBFILE_VER,

T1.RECORD_INFO_TEXT,

T1.REC_IDENTIFIER

FROM

 dbo.S_UIF_WEB_FILE T1

WHERE

 (T1.REC_IDENTIFIER = ?).

ObjMgrExtLangLog ObjMgrExtLangLog 0 000000b9475f1578:0 2007-12-12 07:46:29 [User: ] SQLBIND, 1, 1,
16:sdchs21n625:4330siebel.
```

Declaring Functions and Procedures in Siebel VB

The Siebel Compiler compiles Siebel VB functions and procedures in alphabetical order for each object definition. If a function or procedure calls another function or procedure that is not defined, then the compiler creates an error message that is similar to the following:

```
function_name Is An Unknown Function
```

To avoid this error, you must use the Declare statement to declare the function or procedure in the general declarations section. Siebel eScript does not require you to declare these functions. For more information, see *Siebel VB Language Reference* .

Using the Script Profiler

This topic describes how to use the Script Profiler. It includes the following information:

- *Overview of the Script Profiler*
- *Enabling the Script Profiler and Line Profiler*
- *Running the Script Profiler*

Overview of the Script Profiler

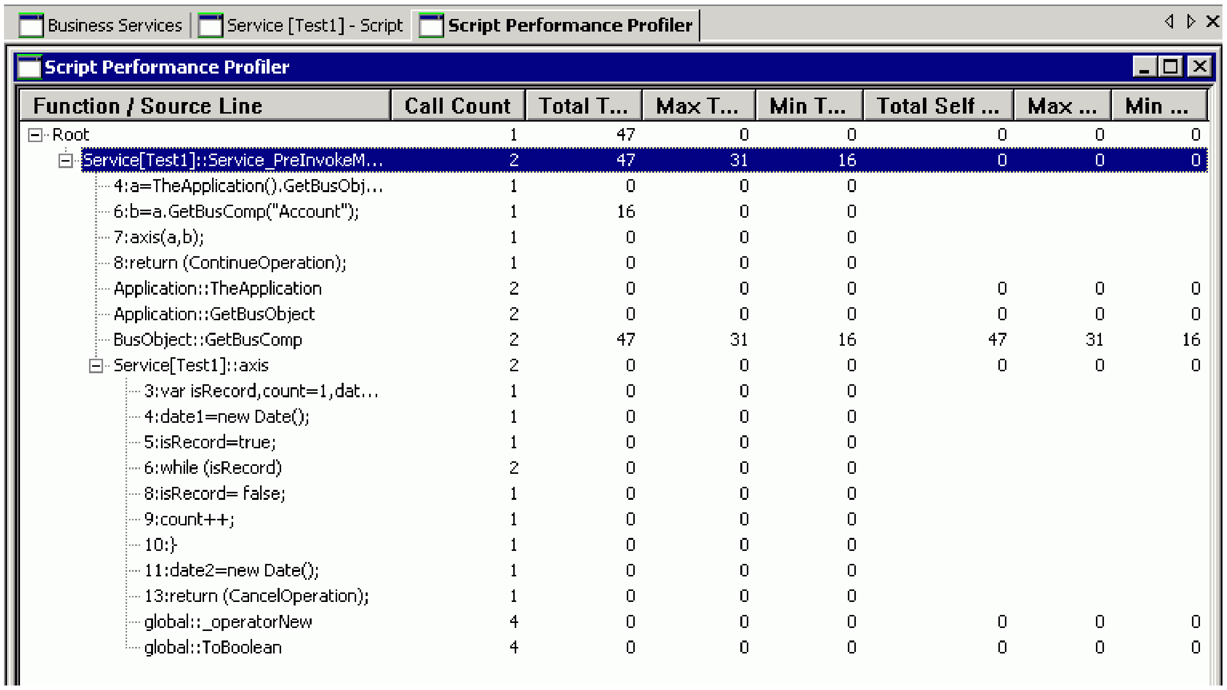
The *Siebel Script Performance Profiler* is a part of the ST eScript Engine that allows you to observe and monitor the performance of a script. For brevity, this guide refers to the Siebel Script Performance Profiler as the Script Profiler.

If you start Siebel CRM in debug mode from Siebel Tools, then the Script Profiler gathers and displays data for all executable scripts. It displays data in the Script Performance Profiler window in Siebel Tools and updates this data if a script runs. You can use this data to monitor script performance, identify performance bottlenecks, and compare performance with previous script runs. The Script Profiler allows you to do the following:

- **Use the Call Tree view.** Displays profile data as a tree of function calls. For more information, see *Example of the Script Performance Profiler Window*.
- **View function profile and line profile.** Line profile data includes the call count and total time spent for each line that runs in a function. Line profile information is available only for a compiled script and is not available for a line that does not run.
- **Save profile data to file.** You can save profile data that the Script Performance Profiler window shows to a text file.
- **Use the Siebel Script Debugger and the Siebel Script Profiler.** You can use the Script Profiler and the Script Debugger at the same time. Profile data is consistent even if the function uses Debugger functionality, such as a breakpoint.
- **View the script source.** Siebel Tools opens the objects that a script references in the Script Editor window. You can double-click a function name or line number to view the script from the Script Performance Profiler window. The View Source option is available only for a compiled script. It is not available for a runtime script.

Example of the Script Performance Profiler Window

The following image displays an example of the Script Performance Profiler window. It allows you to examine script performance. It displays a line number for each code line, total time spent to run that line, the number of times Siebel CRM runs the line, and so on.



Function / Source Line	Call Count	Total T...	Max T...	Min T...	Total Self ...	Max ...	Min ...
Root	1	47	0	0	0	0	0
Service[Test1]::Service_PreInvokeM...	2	47	31	16	0	0	0
4:a=TheApplication().GetBusObj...	1	0	0	0			
6:b=a.GetBusComp("Account");	1	16	0	0			
7:axis(a,b);	1	0	0	0			
8:return (ContinueOperation);	1	0	0	0			
Application::TheApplication	2	0	0	0	0	0	0
Application::GetBusObject	2	0	0	0	0	0	0
BusObject::GetBusComp	2	47	31	16	47	31	16
Service[Test1]::axis	2	0	0	0	0	0	0
3:var isRecord,count=1,dat...	1	0	0	0			
4:date1=new Date();	1	0	0	0			
5:isRecord=true;	1	0	0	0			
6:while (isRecord)	2	0	0	0			
8:isRecord= false;	1	0	0	0			
9:count++;	1	0	0	0			
10:}	1	0	0	0			
11:date2=new Date();	1	0	0	0			
13:return (CancelOperation);	1	0	0	0			
global::_operatorNew	4	0	0	0	0	0	0
global::ToBoolean	4	0	0	0	0	0	0

Description of the Columns in the Script Performance Profiler Window

The following table describes the columns that the Performance Profiler window includes. For the Source Line, Call Count, and Total Time columns, if line profiling is enabled for a function, then the line profile displays as child nodes of a function in the Call Tree view and in the Flat Profile view.

Column	Description
Function/Source Line	Function name and the name of the object that contains the function. For example: `Service [ATP Check]::service_preinvokeMethod and BusComp[Account]::foo`
Call Count	The number of times Siebel CRM calls a function. You can use one of the following views: • **Flat Profile view.** Displays the total number of times Siebel CRM calls the function. • **Call Tree view.** Displays the number of times Siebel CRM calls the function in the current position in the call tree. It displays profile data as a tree of function calls. A node represents each function in a call sequence. You can drill down into each node to examine a subtree. You can use the Expand All option in the Profiler toolbar to expand all nodes.
Total Time	Total milliseconds spent in this function and in nested functions.
Max Time	Maximum milliseconds spent in this function and in nested functions.
Min Time	Minimum milliseconds spent in this function and in nested functions.
Total Self Time	The total milliseconds spent in the current function, not including time spent in the subtree of this function.
Max Self Time	The maximum milliseconds spent in the current function, not including time spent in the subtree of this function.
Min Self Time	The minimum milliseconds spent in the current function, not including time spent in the subtree of this function.

Enabling the Script Profiler and Line Profiler

The Script Profiler and the line profiler are not enabled after you install Siebel Tools. You must enable them.

To enable the Script Profiler

1. Make sure your Siebel Tools environment is currently connected to the database that a Siebel application uses, and that this application is opened in debug mode.

   You can use the Script Profiler only if your Siebel Tools environment is currently connected to the database that a Siebel application uses, and if this application is opened in debug mode.
2. Make sure the ST eScript Engine is enabled.

   You can use the Script Profiler only if the ST eScript Engine is enabled. For more information, see *Overview of Using the ST eScript Engine*.
3. Set the debug options on the Debug tab of the Development Tools Options dialog box.

   Make sure you complete options in the Run-time Start Up Information section and the Login Information section. For more information, see *Setting Debug Options*.

4. Make sure the Enable Profiler check box on the Debug tab of the Development Tools Options dialog box contains a check mark.

   The Enable Profiler option is available only if the ST eScript Engine is enabled. Siebel Tools enables the Script Profiler the next time you use the debug mode in Siebel Tools to open a Siebel application.
5. Enable line profiling:

   a. Click Set Line Profile Rules.

      The Set Line Profile Rules button resides in the Profiler Start Up Options section on the Debug tab of the Development Tools Options dialog box.
   b. In the Line Profile Rules dialog box, add a rule using information from the following table, and then Click Add.

Item	Description
Object Type	Choose the object type. Only scriptable objects are available. For more information, see *Object Types You Can Script*.
Object Name	Enter the name of an object. You can include the entire object name or use wildcard operators.
Function	Enter the name of a function. You can enter the entire function name or use wildcard operators. For example, you can enter `Service_PreInvokeMethod` or `Service*`.

   c. Repeat Step ii for each rule you want to add.
   d. Click Ok to exit the Line Profile Rules dialog box.
6. Click OK to exit the Development Tools Options dialog box.

   The settings for the line profile rule remain active only for the current Siebel Tools session.

   To disable line profiling, make sure the Enable Profiler check box on the Debug tab of the Development Tools Options dialog box does not contain a check mark.

Running the Script Profiler

This topic describes how to run the Script Profiler. For more information, see *Overview of the Script Profiler*.

To run the Script Profiler

1. Log in to Siebel Tools.
2. Make sure the Script Profiler is enabled.

   For more information, see *Enabling the Script Profiler and Line Profiler*.
3. Open the Siebel Script Editor for a scriptable object, and then deliver the changes to the script to a repository.

Make sure you deliver the scripted objects or the projects that these objects reference to the repository that the Siebel client uses. If you do not deliver these objects, then the Script Profiler does not display them. For more information, see *Object Types You Can Script* and *Delivering Workspaces*.

The Script Profiler is now enabled for runtime sessions and you can open the Siebel application from Siebel Tools in debug mode.

4. In Siebel Tools, click the Debug menu, and then click Start.

   This step opens the Siebel application in debug mode. If Siebel CRM prompts you for a login, then enter the user name and password, and then click Run. For example, to run a script for the Business Service Simulator, you query for the Service Name and Method Name, and then click Run.
5. In Siebel Tools, click the View menu, Profiler, and then click Call Tree.

   Siebel Tools displays the functions that Siebel CRM calls when it runs a script as a hierarchy in the Script Performance Profiler window. It displays the functions that it calls from other functions as child objects. For an example, see *Example of the Script Performance Profiler Window*.
6. In the Script Performance Profiler window, you can do the following:

   - Navigate between nodes to view the different parameters for a function.
   - Right-click a node, and then choose a menu item. For more information, see *Navigating in the Script Performance Profiler Window*.
7. (Optional) To set or reset line profile rules for a function, do one of the following:

   - Right-click a function node, and then click Enable Line Profiling or Disable Line Profiling. If you modify a line profile rule, then this modification applies to future calls to the function that this rule references. For more information, see *Enabling the Script Profiler and Line Profiler*.
   - Use the Debug tab in the Development Tools Options dialog box. For more information, see *Setting Debug Options*.
8. Continue monitoring your script.

   For example, you want to test custom script on a business service. In the Siebel client, you can navigate to the Business Service Simulator to run a business service, and then navigate back to the Profiler window to examine the profile data that Siebel CRM logs while the script runs.

Navigating in the Script Performance Profiler Window

You can right-click in the Script Performance Profiler window, and then click one of the following menu items. The menu items that Siebel Tools enables depends on the script. Some of these items might not be available for all scripts:

- **Expand Node**. Expands the function node.
- **Expand All**. Expands the entire tree of a function node.
- **Export**. Exports profile data to a text file that you specify.

  You can use Expand All and Export in the Profiler toolbar. For more information about the Profiler toolbar, see *Example of the Script Performance Profiler Window*.
- **View Source**. Navigates to the current function in the script. If a Script Editor window is not open for this function, then Siebel Tools opens a new editor window and places the cursor at the beginning of this function.
- **Enable Line Profiler.** Enables a function for line profiling. If a function is not in the list of functions chosen for line profiling, then you can click Enable Line Profiler to enable it.
- **Disable Line Profiler.** Disables a function for line profiling.

8 Customizing Objects

Customizing Objects

This chapter describes how to customize objects. It includes the following topics:

- *Overview of Customizing Objects*
- *Creating, Modifying, Copying, Validating, and Deleting Objects*
- *Examining Objects*

Overview of Customizing Objects

You can edit workspace-enabled repository objects directly without locking any project. Note that only workspace-enabled repository objects can be edited inside workspaces. By default, all workspace-enabled objects are locked at the database level. Therefore, you are not required to lock projects when you edit the objects or perform any type of CRUD (create, read, update, delete) operation.

However, locking a project is still required before you edit the non-workspace objects. The non- workspace objects are Table, Task, Repository, Type, EIM Table, Projects, Dock Objects, Schema Maintenance, and Server Components.

Creating, Modifying, Copying, Validating, and Deleting Objects

This topic describes how to create, modify, copy, or delete an object. It includes the following information:

- *Creating Objects*
- *Modifying Objects*
- *Copying Objects*
- *Validating Objects*
- *Deleting Objects*

This task is a step in *Roadmap for Setting Up and Using Siebel Tools*.

Creating Objects

You can use a wizard to create an object, or you can create it manually. It is recommended that you use a wizard. For example, to create a new business component, you use the Business Component Wizard. A wizard guides you while you configure a new object. It prompts you for the required property values and automatically configures any required child objects. If a wizard is not available for the object type that you want to create, then you can create it manually in the Object List Editor. For more information about using wizards and creating objects, see *Configuring Siebel Business Applications* .

Using a Wizard to Create Objects

This topic describes how to use a wizard to create an object.

To use a wizard to create objects

1. Click the File menu, and then click New Object.
2. Choose the appropriate wizard to create the new object.
3. Follow the instructions that the wizard shows.

   For more information on editors, see *Using IDE in Web Tools*

Using the Object List Editor to Create New Objects

This topic describes how to use the Object List Editor to create a new object. For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.

To use the Object List Editor to create new objects

1. In the Object Explorer, click the object type that you want to create.
2. Right-click in the Object List Editor, and then click New Record.
3. Enter property values in the new row in the Object List Editor.

   You must enter values in the Name and Project properties. Siebel Tools might require that you set other properties, depending on the object type.
4. To save your modifications, click anywhere outside of the new row.

Modifying Objects

You can use the Object List Editor or the Properties window to modify an object. For more information, see *Locating and Modifying Object Definitions in the Object List Editor*. For guidelines about when to modify an object or when to create a new object, see *Configuring Siebel Business Applications* .

Using the Properties Window to Modify Objects

This topic describes how to use the Properties window to modify an object.

To use the Properties window to modify an object

1. Create or open a workspace.
2. In the Object List Editor, locate the object that you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. Click the View menu, Windows, and then click Properties.
4. In the Properties window, enter a new value for a property.
5. To save your modifications, choose another property or click anywhere outside the Properties window.

   Siebel Tools saves your modifications and places a check mark in the Changed property.

Renaming Objects

It is recommended that you copy an object, and then rename the copy instead of only renaming the original object. If you rename an object, then Siebel Tools might display an error message that is similar to the following:

```
Modifying the name of a checked out or locked object causes "unique constraint" error
during check-in. To avoid this error, modify the name of the object back to the
original name. Do you want to continue?
```

For more information, see *Copying Objects*.

Copying Objects

This topic describes how to copy an object. For guidelines about copying an object, see *Configuring Siebel Business Applications* .

To copy an object

1. Create or open a workspace.
2. In the Object List Editor, locate the object that you want to copy.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. Click the Edit menu, and then click Copy Record.

   Siebel Tools inserts a new record preceding the record that you copied. This new record includes all of the same values as the record that you copied, except the Name property is empty and the Changed property contains a check mark. Siebel Tools also creates a copy of any child objects for the record you copied. For example, if you copy the Account business component, then it creates a new business component that includes several hundred business component fields.
4. Enter a new value for the Name property.
5. If necessary, modify other properties and child objects.
6. To save your modifications, click anywhere outside of the new row.

Validating Objects

The *Validate Tool* is an error correction tool that you can use to make sure each object that you customize does not contain a configuration error. For example, you can use it to make sure an error workflow process does not itself contain an error workflow process. When you validate a workflow process, Siebel Tools displays warnings that describe errors that the workflow process contains. The validation dialog box allows you to correct these errors. This dialog box is without a mode. You can keep it open to view the error messages while you correct the problems that the dialog box reports, or you can proceed with deployment without fixing these validation errors.

Validation uses a set of rules that help make sure your configuration modifications are logically consistent with other objects. If you validate an object, then Siebel Tools also validates the child objects of this object. For example, if you validate the Account business component, then Siebel Tools also validates the child objects of the Account business component, such as fields, joins, and so on.

Using the Object List Editor to Validate Objects

This topic describes how to use the Object List Editor to validate an object.

To use the Object List Editor to validate objects

1. In the Object List Editor, locate the object that you want to validate.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
2. Click the Tools menu, and then click Validate Object.

   Siebel Tools displays the Validate dialog box. For more information, see *Elements of the Validate Dialog Box*.
3. Click Options.
4. In the Validation Options dialog box, in the Rules section, choose the validation rules that Siebel Tools must enforce.

   For more information, see *Elements of the Validation Options Dialog Box*.
5. (Optional) In the Time Filter section, choose one of the following options:
   - **Last Validated.** Validates objects that you modified since the last time you ran validation.
   - **Custom.** Validates objects that you modified since the date and time that you enter. Enter a date and time to use this option.
6. (Optional) In the Action section, choose the following options:
   - **Do Not Report Warnings.** Siebel Tools reports only errors, not warnings. It sets the Enforce field for warnings to No.
   - **Abort Validation After.** You enter a number in the window that this section shows. If Siebel Tools identifies the number of errors that you specify in this window, then it stops validating the object, and then displays the Error dialog box. For example, if you enter 8, then Siebel Tools stops validating after it identifies 8 errors.
7. Click OK.
8. In the Validate dialog box, click Start.

   Siebel Tools validates the object, and then displays any errors that it finds in the Validate dialog box.

Using the Command Line to Validate Objects

You can use the command line to validate objects.

To use the command line to validate objects

1. Open a command line, and then navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.
2. Enter the following command:

   ```
   siebdev.exe /bv
   ```

   The `/bv` switch runs all validation rules for the entire repository.

Deleting Objects

This topic describes how to delete an object.

To delete objects

1. In Siebel Tools, create or open a workspace.

> **Note:** In case of workspace-enabled objects, you cannot delete any predefined object. If you try to delete the object, it will throw an error indicating that deletion is possible only for object created in the current version and that you have to inactivate the record to proceed further. For more information on making an object inactive, see *Using the Inactive Property*.

2. In case of non-workspace enabled objects, in the Object List Editor, locate the object that you want to delete.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. Ensure that either the project or the object is locked.
4. From the Edit menu, choose Delete Record.
5. Click the Edit menu, and then click Delete Record.

   > **CAUTION:** It is recommended that you do not delete a predefined object. Other objects might reference this predefined object. Instead, you can make this object inactive. For more information, see *Using the Inactive Property*.

   Siebel Tools deletes the object, and it also deletes any child objects of this object. For example, you create a business component named My Account Business Component. If you delete this business component, then Siebel Tools deletes all child objects of this business component, such as fields. It does not delete objects that only reference the object that you delete. For example, if you delete a view, then it does not delete the applets that reference this view.

Examining Objects

This topic describes how to examine objects. It includes the following information:

- *Searching the Repository*
- *Viewing Object Relationships*
- *Comparing and Synchronizing Objects Between Repositories and Archives*
- *Comparing Different Versions of a Workflow Process or Task UI*
- *Determining When Siebel CRM Created or Updated a Record*

Searching the Repository

This topic describes how to locate object definitions for multiple object types. For information about how to locate object definitions for a single object type, see *Locating and Modifying Object Definitions in the Object List Editor*.

If you know that one or more properties includes a value, then you can search the repository across all properties of multiple object types to locate the objects that include this value.

To search the repository

1. Click the Tools menu, and then click Search Repository.

   Searching the repository can consume a significant amount of time. You can click Cancel in the Search Repository dialog box to cancel a search at any time while the search runs.
2. In the Search Repository dialog box, in the Parameters section, enter the search criteria in the Search value window.

3. To limit the search to values that are case-sensitive, make sure the Case Sensitive check box contains a check mark.

   For example, select this check box to locate objects that include a value of Account and not account.
4. To limit the search to values that match the entire search string that you enter in Step 2, make sure the Exact Match check box contains a check mark.
5. In the Types to Search list, choose the object type that Siebel Tools must search.

   Note the following:

   - Siebel Tools searches all object types, by default.
   - You can click the object type to choose a single object type.
   - You can use multiselect to choose multiple object types.

     For more information, see *Choosing More Than One Record in the Object List Editor*.
   - For improved performance, search only the minimum number of object types.
6. Click Search Now.

   Siebel Tools runs the search and lists the results in the window at the end of the Search Repository dialog box. This window lists all the objects that match the search criteria. It includes the following columns:

Column	Description
Type	Object type of the object that the search returns.
Name	Name of the object that the search returns.
Property	Property name of the object that the search returns.
Value	Property value of the object that the search returns.

7. To display the object definition of an item that the search returns, double-click this item in the results window.

   Siebel Tools displays the object definition of the item in the Object List Editor.
8. To export the search results to a file, click Export.

Viewing Object Relationships

You can use a visualization view to examine how objects relate to each other.

To view object relationships

1. Open Siebel Tools.
2. Set options for the visualization views:
   a. Click the View menu, and then click Options.
   b. In the Development Tools Options dialog box, click the Visualization tab, and then set the options.

For more information, see *Development Options for Visualization Views*.

3. To open a visualization view, do one of the following:

    - Click the View menu, click Visualize, and then click one of the following menu items:

        - View Details
        - View Relationships
        - View Descendents
        - View Web Hierarchy
    - Right-click an object in the Object List Editor, and then choose a Visualization view.

The following table describes the Visualization views.

View	Description
Details	Displays a diagram that illustrates relationships depending on the following object type that you choose in the Object List Editor: • **Business Component.** Illustrates the relationship between this business component and tables that this business component references. • **Business Object.** Illustrates the relationship between this business object and the links and business components that this business object references.
Relationships	Displays a diagram that illustrates relationships depending on the following object type that you choose in the Object List Editor: • **Business Component.** Illustrates the relationship between this business component and links to other business components. • **Table**. Illustrates the relationship between this table and other tables.
Descendents	Displays a dialog box that lists all objects that reference the current object in their Upgrade Ancestor property. For example, if you right-click the Proposal Template Section business component, and then choose View Descendents, then Siebel Tools lists the Proposal Template Section Hierarchy business component. This is the only business component that includes Proposal Template Section in the Upgrade Ancestor property.
Web Hierarchy	Displays a diagram that illustrates a Web hierarchy depending on the following object type that you choose in the Object List Editor: • Applet • Application • Business Component • Screen • View The Web hierarchy displays the parent-child relationships between the object you choose and the parent and child objects of this object throughout the hierarchy.

Comparing and Synchronizing Objects Between Repositories and Archives

You can compare two objects that are of the same object type. Siebel Tools uses color-coded icons to highlight differences. You can choose and copy properties and individual child objects from one object to another object. You can use this feature to propagate a modification that you make to an ancestor object to the descendents of this object or to other objects that are of a similar type. You can assess and adjust differences between objects. You can also compare properties of checked out objects with their counterparts on the Siebel Server. For more information about ancestor objects, see *Configuring Siebel Business Applications* .

You can compare two objects that are of the same type. The Object Comparison dialog box displays a line-by-line comparison between the two objects. You can compare the top-level objects that are defined in the following items:

- Current repository
- Different repositories
- Archive files

Note: You can compare and synchronize objects between repositories and archives if the Workspace feature in not enabled (a flattened repository) and the concept of Workspace is not applicable.

For information about top-level object types, see *Displaying Object Types in the Object Explorer*.

Comparing Two Objects in the Same Repository

You can compare two objects that reside in the same repository.

To compare two objects in the same repository

1. In the Object Explorer, click an object type.
2. In the Object List Editor, choose two top-level object types.

   For more information, see *Choosing More Than One Record in the Object List Editor*.
3. Click the Tools menu, Compare Objects, and then click Selected.
4. Examine the results in the Compare Objects dialog box.

   For more information, see *Elements of the Compare Objects Dialog Box*.

Comparing Two Objects in Different Repositories

You can compare an object in the current repository to an object in a different repository.

Note: The objects that you compare must have the same name in both repositories. A workflow name is appended with the version number of the workflow. Consequently, to compare two workflows in different repositories, the workflows must have the same name and the same version number.

To compare two objects in different repositories

1. In the Object Explorer, click an object type.
2. In the Object List Editor, choose one top-level object type.

3. Click the Tools menu, Compare Objects, and then click Selected vs. Repository.
4. In the Open Repository dialog box, choose the repository that includes the object you want to compare, and then click Open.
5. Examine the results in the Compare Objects dialog box.

   This dialog box displays the following:

   - The object in the current working repository in the one window
   - The corresponding object in the other repository in the other window

     You can update the current working repository or the other repository from the Object Comparison dialog box. For objects that are not workspace-enabled, to do an update, you must make sure the project that the object references is locked. For more information, see *Elements of the Compare Objects Dialog Box*.

Comparing an Object in the Current Repository to an Object in an Archive

You can compare an object in the current repository to an object in an archive.

To compare an object in the current repository to an object in an archive

1. In the Object Explorer, click an object type.
2. In the Object List Editor, choose one top-level object type.
3. Click the Tools menu, Compare Objects, and then click Selected vs. Archive.
4. In the Select Archive File to Compare Against dialog box, choose the archive file that includes the object you want to compare.

   Siebel Tools saves an archive file as a SIF file. For more information, see *Overview of Archiving Objects*.
5. Click Open.

   Siebel Tools starts the comparison at the project level. It does the following:

   - If it finds a corresponding object in the archive, then it displays the Compare Objects dialog box.
   - If it does not find a corresponding object in the archive, then it does nothing.

   For more information, see *Elements of the Compare Objects Dialog Box*.

Comparing Objects in Two Different Archives

You can compare an object in an archive to an object in another archive.

To compare objects in two different archives

1. In the Object Explorer, click an object type.
2. In the Object List Editor, choose one top-level object type.
3. Click the Tools menu, Compare Objects, and then click Archive vs. Archive.
4. In the Select Archive File for Left Side of Comparison dialog box, choose an archive file, and then click Open.
5. In the Select Archive File for Right Side of Comparison dialog box, choose an archive file, and then click Open.

   Siebel Tools displays the Object Comparison dialog box. It populates with the contents of the archives you choose in Step 4 and Step 5. During the comparison, these archives are read-only. For more information, see *Elements of the Compare Objects Dialog Box*.

Synchronizing Objects Between Repositories

You can use the Compare Objects dialog box to synchronize objects.

To synchronize objects between repositories

1. Lock the projects that the objects that you want to synchronize reference.
2. In the Object List Editor, choose two top-level object types of the same object type.

   For more information, see *Choosing More Than One Record in the Object List Editor*.
3. Click the Tools menu, click Compare Objects, and then click Selected.
4. In the Compare Objects dialog box, choose an object in the First Selection box.

   For more information, see *Elements of the Compare Objects Dialog Box*.
5. Click the right arrow button.

   Siebel Tools does one of the following, depending on whether or not a corresponding object exists in the repository that the Second Selection section represents:

   - **Corresponding object exists.** Siebel Tools modifies the properties of the object in the repository that the Second Selection section represents. It modifies these properties so that they are equal to the object properties of the object that the First Selection section shows.
   - **Corresponding object does not exist.** Siebel Tools creates a corresponding object in the repository that the Second Selection section represents.

   If you synchronize an object from one repository to another repository, then Siebel Tools synchronizes this object and any child objects that this object includes.

Comparing Different Versions of a Workflow Process or Task UI

Siebel Tools allows you to compare two different versions of the same workflow process or task UI. It uses two separate windows to display these differences.

To compare different versions of a workflow process or task UI

1. In the Object Explorer, click Workflow Process.

   Alternatively, you can compare two versions of a task UI.
2. In the Workflow Processes list, choose two versions of the same workflow process.

   Make sure you choose two versions of the same workflow process and that these versions include different values in the Version property. Siebel Tools allows you to choose two entirely different workflow processes, but the comparison is not meaningful. You must click Revise to create a new version of the same workflow process.

   For more information about Revise, see *WF/Task Editor Toolbar*. For more information about choosing two workflow versions, see *Choosing More Than One Record in the Object List Editor*.
3. Click the Tools menu, Compare Objects, and then click Selected.

   Siebel Tools displays each workflow process version in a separate window. It displays the first record that you choose in Step 3 in the first window and the second record that you choose in Step 3 in the second window. It compares the first record to the second record. It considers the first record as the newer record. It uses the following colors to indicate differences between these records:

- **Yellow.** You modified the object. For example, you added a process property to a business service step.
- **Red.** You deleted an object from the old version.
- **Green.** You added an object to the new version.

Note the following behavior:

- If you click an object that is not red or green in one window, then Siebel Tools chooses the corresponding object in the other window. This functionality works only if a corresponding object exists. For example, if you click a red or green object, then Siebel Tools does not choose any object in the other window because no corresponding object exists.
- You can double-click the object to view details about your modifications.
- You can repeat Step 3 and Step 4 to compare multiple sets of workflows. Siebel Tools displays each set in a separate tab. You can click each tab to navigate between sets.
- To compare the workflow process properties of the two versions, you can double-click the background of either version, and then Siebel Tools displays an object comparison dialog box that allows you to view the differences for process properties instead of the differences between process steps. If a difference exists between the process properties of the two versions, then Siebel Tools sets the background color of one of the versions to yellow.

Determining When Siebel CRM Created or Updated a Record

You can determine the last time Siebel CRM created or updated a record and who made the modification or update.

To determine when Siebel CRM created or updated a record

1. In Siebel Tools, create or open a workspace.
2. In the Object List Editor, locate the object you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. Click the Help menu, and then click About Record.
4. In The Siebel Tools dialog box, click Details to display more information about the record.

9 Managing Repositories

Managing Repositories

This chapter describes how to manage repositories. It includes the following topics:

- *Viewing, Renaming, Comparing, and Configuring Repositories*
- *Exporting and Importing Repositories*
- *Upgrading Repositories*
- *Process of Migrating Repositories*
- *Deleting Repositories*

Viewing, Renaming, Comparing, and Configuring Repositories

This topic describes how to view, rename, and compare repositories. It includes the following information:

- *Overview of Managing Repositories*
- *Viewing Information About the Current Repository*
- *Renaming Repositories*
- *Configuring Siebel CRM to Read Data from a Single Repository*

Overview of Managing Repositories

A *Siebel Repository* is a set of tables that includes Siebel objects and server scripts. These objects and scripts define a Siebel application, such as Siebel Field Service. This repository provides the metadata that Siebel CRM requires to interact with enterprise data and to interact with the people who use the Siebel application. The Siebel application stores these tables in the Siebel runtime repository, and then reads the repository at run time. You can use Siebel Tools to view and modify the information that this repository contains. For more information, see *Configuring Siebel Business Applications* .

Siebel CRM includes *Incremental Repository Merge*, which is a feature that allows you to merge multiple repositories to a single repository during an incremental upgrade. It automatically does some of this upgrade work for you, such as importing SIF files and seed data, applying schema modifications, and deliver. For more information, see *Siebel Database Upgrade Guide* .

Files That You Use to Manage Repositories

A Siebel ArchIve File (SIF) is a type of file that you can use to import object definitions into or export objects from the Siebel runtime repository. You can use Siebel Tools to create an SIF file, and you can use SIF files to move your modifications from a source environment to a destination environment. Siebel Tools writes SIF files in XML format. A SIF file uses the following hierarchy, and it can include property values and scripts:

1. Repository
2. Project
3. Object
4. Child Objects

For example, the following code is part of an SIF file that Siebel Tools creates when it adds objects to a hotfix. It includes a definition for the Account Assoc Applet:

```
<REPOSITORY

 NAME="Siebel Repository"

 ... >

 <PROJECT

 ...

 NAME="Account (SSE)"... >

 <APPLET

 ASSOCIATE_APPLET="Account Assoc Applet"

 BUSINESS_COMPONENT="Account"

 CLASS="CSSFrameListBase"

 ...

 NAME="Account List Applet"

 ... >

 <APPLET_METHOD_MENU_ITEM... >

 </APPLET_METHOD_MENU_ITEM>...

 </APPLET>

 <BUSINESS_COMPONENT

 CACHE_DATA="N"

 CLASS="CSSBusComp"

 ... >

 </BUSINESS_COMPONENT>

 ...

 </PROJECT>

</REPOSITORY>

For more information about:
```

- Using Siebel Tools to import or export an SIF file as an archive file, see *Archiving Objects*

Viewing Information About the Current Repository

In Siebel Tools, only one repository is available for all users working on workspaces in the Siebel environment. Siebel Tools opens this repository, by default.

In some situations, multiple repositories might reside on the Siebel Server (for example, if you upgrade to a new version of Siebel CRM).

To view information about the current repository

1. In Siebel Tools, click the File menu, and then click Open Repository.

   Siebel Tools displays the Open Repository dialog box. This dialog box lists the repositories in the database that Siebel Tools uses. Siebel Tools highlights the repository that it is currently using.
2. Click the Help menu, and then click About SRF.
3. Examine the information that the About Repository File dialog box shows using the information from the following table.

Field	**Description**
Internal Version	Version number that Oracle maintains. Siebel CRM modifies this value only if the internal format of the repository is modified (for example, during an upgrade).
User Version	Reserved for use by Oracle's Siebel Anywhere. It maintains this number when Oracle creates kits that upgrade the repository. Siebel CRM reads this value when it does a version check.
Full Compile	Choose this option to display information about the most recent full compile.
Last Incremental Compile	Choose this option to display information about the most recent incremental compile. If no incremental compile has occurred since the last full compile, then this option is not available.
When	Date of the last compile.
Machine Name	Name of the computer that Siebel CRM uses to compile the repository.
Language	Language code.
User Name	The Microsoft Windows logon name of the user who compiled the repository.
Repository	Repository name of the repository that was current when Siebel CRM performed the compile. This value is typically Siebel Repository.

Field	Description
Tools Version	The version number and build number of the Siebel Tools software that performed the compile. Global Customer Support can use this information to help you resolve a problem.
Schema Version	Database schema version of the Siebel database that Siebel CRM uses to compile the repository.

Renaming Repositories

It is recommended that you use Siebel Repository as the name of the repository that you use in your production environment. If you want to rename the repository, then it is recommended that you use the procedure that this topic describes.

To rename repositories

1. Display the Repository object type.

   For more information, see *Displaying Object Types in the Object Explorer*.
2. In the Object Explorer, click Repository.
3. In the Repositories list, locate the repository that you want to rename.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
4. Enter the new name in the Name property, and then step off the record to save your modifications.

   For more information, see *Guidelines for Naming Repositories*.
5. Modify the value of the Siebel Repository enterprise parameter to the new name of the repository.

   For information about how to modify an enterprise parameter, see *Siebel System Administration Guide* .
6. Modify the Application Main Repository Name parameter in the Object Manager.

Guidelines for Naming Repositories

If you name a repository, then it is recommended that you use the following guidelines:

- Use a naming convention for all repositories that your Siebel CRM implementation uses. Siebel Servers reference a repository by name. The procedure that you use to upgrade to a new version of Siebel CRM depends on the repository name. A consistent naming convention promotes successful configuration and testing and minimizes the work required to migrate a new repository or to do an upgrade.
- Use the default Siebel Repository name, where possible. You can modify this name only if it is absolutely necessary. The default configuration that Siebel CRM uses assumes that the repository name is Siebel Repository.
- Use the same repository name in your test environment that you use in your production environment.
- If your development environment uses multiple repositories, then use a unique and descriptive name for each repository. For example, you might use Siebel v8.2 Original as the name of the repository when you install

Siebel CRM. You can use another descriptive name for the repository that you use during an upgrade and for a repository from a prior custom configuration.

Configuring Siebel CRM to Read Data from a Single Repository

The example in this topic describes how to configure Siebel CRM to read data from a single repository when the Siebel database contains multiple repositories.

To configure Siebel CRM to read data from a single repository

1. Log in to the Siebel client with administrative privileges, and complete the following steps:

    a. Navigate to the Administration - Order Management screen, and then the Message Types view.
    b. Navigate to the Payload view, and then create a new record.
    c. In the new record, access the drop-down list for the Response Field.

        If the Response Field drop-down list:

        - **Does not display duplicate values.** The Siebel database does not contain multiple repositories, and you can exit this task.
        - **Displays duplicate values.**The Siebel database contains multiple repositories, and you must configure Siebel CRM to read data only from a single repository. Continue to Step 2.

    d. Delete the new record that you created.

2. Configure Siebel CRM to read data only from a single repository:

    a. Log in to Siebel Tools.
    b. In the Object Explorer, click Pick List.
    c. In the Pick Lists list, query the Name property for the following value:

        ```
        UMS PickList Response Field
        ```

    d. Modify the Search Specification property using the value from the following table.

Property	Value
Search Specification	[Buscomp] = 'UMS Response' and [Repository Id] = RepositoryId()

Siebel CRM displays the UMS Type Variables List Applet in Step 2. This applet references the UMS Type Variable business component. It displays the Response Field Name field and uses the UMS PickList Response Field picklist for this field. This picklist uses the following search specification when it references the UMS Pick List Field business component:

```
[Buscomp] = 'UMS Response'
```

The UMS Pick List Field business component references the S_FIELD table. It does not include a search specification, so Siebel CRM does not filter the records that it gets according to the specifications that the repository contains. If the Siebel database contains multiple repositories, then Siebel CRM gets all the field names from all repositories, and then displays them in the picklist. This configuration might result in Siebel CRM displaying duplicate values that you cannot choose in the picklist. To correct this situation, you create a search specification that configures Siebel CRM to read data only from the current repository.

3. Deliver your modifications.
4. Repeat Step 1 to make sure the Response Field drop-down list does not display duplicate values.

Restricting the Objects That Developers Can Modify

In some situations, it might be helpful to restrict the objects that developers can modify, according to a date that you specify. If you enable this feature, then Siebel Tools applies these restrictions when the developer does the following work:

- Import or export an SIF or SDF file. For more information, see *Files That You Use to Manage Repositories*.
- Directly modify the Siebel Database.

To restrict the objects that developers can modify

1. Enable the system preferences:
   a. Click the Screens menu, click System Administration, and then click System Preferences.

      Note: In Web Tools, click the Tools menu and then click the System Preferences menu item.

   b. In the System Preferences list, set values for the following system preferences.

System Preference Name	System Preference Value
EnablePerfFieldModification	Set the value to TRUE. This system preference applies edit and copy restrictions to objects.
Enable Object Version Control	Set the value to TRUE.
ServerEditRecordTimeStamp	Enter the time when Siebel Tools must start using this configuration. For more information, see *Setting the Server Edit Record Time Stamp Parameter*.

2. Log out of Siebel Tools.

Setting the Server Edit Record Time Stamp Parameter

When you set the ServerEditRecordTimeStamp parameter, you enter the time when Siebel Tools must start using this configuration. Use the following format:

```
MM/DD/YYYY
```

You can specify only the month, day, and year. You cannot specify minutes and seconds.

For example, to start using the configuration on October 9, 2014, enter the following value:

```
10/09/2014
```

In this example, Siebel Tools does the following:

- Allows you to modify any object that includes a timestamp that occurs after October 9, 2014.
- Does not allow you to modify any object that includes a timestamp that occurs before October 9, 2014. Developers can view or copy these objects, but not modify them.
- Allows you to create new records, and then to modify these new records.
- Allows you to copy any record, regardless of the timestamp.

Restricting Access to an Object

This topic describes how to restrict access to an object.

To restrict access to an object

1. Determine the date that Siebel Tools most recently updated the object:
   a. In the Object List Editor, choose the record where you want to restrict access.
   b. Click Help, and then click About Record.
   c. In the Siebel Tools dialog box, in the Updated section, note the date that the On window shows.
2. Set the value for ServerEditRecordTimeStamp to the date that you noted in Step iii.

Properties That Affect Database Performance

The following table lists the properties that affect database performance.

Object Type	Property
business component	The following properties affect database performance: • Force Active
field	The following properties affect database performance: • Force Active • Link Specification • Immediate Post Changes
multi value link	The following properties affect database performance: • Check No Match
multi value field	The following properties affect database performance: • Force Active • Link Specification
single value field	The following properties affect database performance: • Force Active • Link Specification

Overriding Restrictions That Prevent Developers from Modifying Objects

This topic describes how to log in to Siebel Tools so that the developer can modify any object, regardless of the timestamp restrictions that you place in Step1 of *Restricting the Objects That Developers Can Modify*.

To override restrictions that prevent developers from modifying objects

1. In Microsoft Windows, click Start, All Programs, and then click the Siebel Tools installation folder.
2. Right-click the Siebel Tools icon, and then click Properties.
3. In the Siebel Tools Properties window, click the Shortcut tab, add the EditPerfFields switch to the Target field, and then click OK.

   For example:

   ```
   C:\Siebel\8.1\Tools_2\BIN\siebdev.exe /c
   "C:\Siebel\8.1\Tools_2\bin\enu\tools.cfg" /u SADMIN /p SADMIN /d Sample /
   EditPerfFields
   ```

   Bold font indicates the switch that you add.
4. Log in to Siebel Tools.

Exporting and Importing Repositories

This topic describes how to export and import repositories. It includes the following information:

- *Overview of Exporting and Importing Repositories*
- *Importing Repositories in Windows Environments*
- *Importing Repositories in UNIX Environments*
- *Exporting Repositories*
- *Importing or Exporting Repositories at a Later Time*

Overview of Exporting and Importing Repositories

You can use the Database Configuration Wizard to export or import a repository. You can use this utility to do the following work:

- Back up or restore a repository.
- Move all repository objects to another environment that uses the same physical database schema that the source environment uses.
- Export objects to an archive so that you can export or import only some objects. For more information, see *Exporting Objects to an Archive*.

For more information about how to use the Database Configuration Wizard, see *Siebel Database Upgrade Guide* and the *Siebel Installation Guide* for the operating system you are using.

Guidelines for Exporting and Importing Repositories

If you use the Database Configuration Wizard to import or export a repository, then it is recommended that you use the following guidelines:

- If you import a custom repository, then the Database Configuration Wizard restores all the languages that are part of the predefined repository when you do the import. For example, if you archive repositories weekly, and if your development repository includes ENU and DEU, then the wizard includes ENU and DEU when it imports one of the archived repositories. For more information, see *About Predefined Objects*.
- If you modify the repository, then make sure you perform Full Publish. Make a backup copy of the repository file in case you want to compare it to the contents of the updated repository. If necessary, you can use this comparison to verify that the import is identical to the backup.
- You can use the database utilities that your RDBMS vendor provides to back up the entire contents of the Siebel database.
- If you customize the source repository, then you can use the Migrate option of the Database Configuration Wizard. For more information, see *Process of Migrating Repositories*.

Character Encoding That Siebel CRM Supports to Import or Export Repositories

The following table describes the character encoding that Siebel CRM supports when it imports or exports a repository. These databases must use the same Siebel version.

Source Database	Target Database
Code Page	Code Page
Unicode	Unicode
Code Page	Unicode

Where the Database Configuration Wizard Saves Log Files

If you export a repository in a Windows or UNIX environment, and if you use the Export Repository option of the Database Configuration Wizard, then this wizard saves log files in following directories:

- *SIEBSRVR_ROOT*\log\exprep\output
- *SIEBSRVR_ROOT*\log\exprep\state

Exprep is the default process name for the exprep utility. You can modify this value.

Importing Repositories in Windows Environments

This topic describes how to import repositories in a Windows environment.

To import repositories in Windows environments

1. Make sure Siebel CRM supports the databases that you intend to use.

For more information, see *Character Encoding That Siebel CRM Supports to Import or Export Repositories*.

2. In Microsoft Windows, navigate to Start Programs menu, Settings, Control Panel, and then click Services.
3. Stop all Siebel Servers.

   For more information, see *Siebel System Administration Guide* and the *Siebel Installation Guide* for the operating system you are using.
4. Click the Start Programs menu, Programs, Siebel Enterprise Server Configuration 8.0, and then click Database Server Configuration.
5. In the Database Configuration Wizard, enter information when this wizard prompts you, and then click Next to continue.
6. Choose Import Repository when the wizard prompts you to specify a database operation.
7. Specify the following items:
   - To import your custom 8.x repository
   - The location of where the custom CustRep.dat file resides
8. When the wizard displays the Configuration is Complete window, choose one of the following options, and then click Next:
   - **Yes Apply Configuration Changes Now.** The wizard saves the configuration information that you entered, and you can open the Siebel Upgrade Wizard in Step 10.
   - **No I Will Apply Configuration Changes Later.** The wizard saves the configuration information that you entered, but you cannot open the Siebel Upgrade Wizard in Step 10.
9. In the Configuration Parameter Review window, review the configuration that you entered. To modify a value, click Back to return to the window that includes the parameter you want to modify, modify the parameter, and then click Next.
10. When the wizard prompts you to run the configuration, click one of the following:
    - **No.** The wizard does not save the configuration information that you entered. You must enter the database configuration parameters again.
    - **Yes.** The wizard saves the configuration information that you entered.
11. Click OK.

    The Database Configuration Wizard does one of the following, depending on the choice that you make in Step 8:
    - **Apply now.** Opens the Siebel Upgrade Wizard, and then calls the SQL generator to create the SQL scripts.
    - **Apply later.** Saves the configuration information, but does not open the Siebel Upgrade Wizard. You can restart the configuration, and then run the Upgrade Wizard later. For more information, see *Importing or Exporting Repositories at a Later Time*.

Importing Repositories in UNIX Environments

This topic describes how to import repositories in a UNIX environment.

To import repositories in UNIX environments

1. Do Step 1 and Step 3 of *Importing Repositories in Windows Environments* .
2. Make sure `$SIEBEL_ROOT` is the current folder.
3. Run a script, depending on the following UNIX shell that you are using:

   - **Korn shell.** Run siebenv.sh.
   - **C shell.** Run siebenv.csh.

4. Make sure that the following environment variables use the following values:

   - **SIEBEL_ROOT.** This path must end in `siebsrvr` (for example, `/usr/siebel/siebsrvr).`
   - **LANGUAGE.** Determines the language that the Database Configuration Wizard uses. The value of this variable is a text string that identifies the language (for example, `enu` for English).

5. Run the following command to start the Database Configuration Wizard:

```
$install_path/config/config -mode dbsrvr
```

6. In the Database Configuration Wizard, do the following:

   - Enter information when the wizard prompts you.
   - Use the Next and Back button to navigate between dialog boxes.
   - Choose Import Repository when the wizard prompts you to choose a database operation.
   - Specify to import your 8.x repository.
   - Identify the location of where the custom CustRep.dat file resides.

7. After you enter all the requested information, the wizard displays a message that is similar to the following. Click Next to continue:

```
Configuration is complete: configuration parameters will be saved to $Masterfile
file when the wizard completes. Please run the following command line after you
exit from this configuration wizard. This command will deploy the process you
configured to the database.

$SIEBEL_ROOT/siebsrvr/bin/srvrupgwiz /m $SIEBEL_ROOT/siebsrvr/bin/$Masterfile
```

8. The wizard displays the values that you entered in the Parameter Review window. To modify a value, click Back to return to the appropriate window.
9. The wizard prompts you to click one of the following values:

   - **Yes**. The wizard saves the configuration in a master file in the `$SIEBEL_ROOT/bin` folder. It does not start the Upgrade Wizard. For information about how to start the Upgrade Wizard, see *Siebel Database Upgrade Guide* .
   - **No.** The wizard does not save the configuration that you entered.

Exporting Repositories

To export a repository when you use:

- **Microsoft Windows.** Use the same procedure that you use to import a repository, but choose Export Repository in Step 6 of *Importing Repositories in Windows Environments*.
- **UNIX.** Use the same procedure that you use to import a repository, but choose Export Repository in in Step 6 of *Importing Repositories in UNIX Environments*.

Importing or Exporting Repositories at a Later Time

If you use the Database Configuration Wizard to export or import a repository, then it saves the values that you specify to the master_exprep.ucf file in the *SIEBSRVR_ROOT*\ folder. After the wizard finishes collecting information from you, it prompts you to export or to not export. If you choose not to export or not to import, then you can run the following command to do the export or import at a later time:

```
siebupg.exe /m master_exprep.ucfs
```

Upgrading Repositories

The *Siebel Application Upgrader* is a utility that you can use to get new features from the latest software release while preserving the custom configuration that you created in the current repository. It allows you to do the following:

- Compare your custom configuration to the modifications that a new Siebel CRM release contains.
- Receive notifications about conflicts between the customizations that you make and the new release.
- Merge any differences between objects.
- Choose the modifications to apply and manually override modifications.
- Merge objects with versions, including task UI objects and workflow processes. It copies version 1 through version *n* from the prior custom repository to the new custom repository. It merges version 0 from the prior repository with the new custom repository. This configuration results in version *n* + 1 in the new custom repository.
- Reduce the time required to upgrade Siebel CRM.

You can use the Application Upgrader to merge an entire custom repository with another repository. To merge only part of a repository, you must import the repository. For more information, see *Exporting and Importing Repositories*. For more information about the Application Upgrader, see *Siebel Database Upgrade Guide* .

To upgrade repositories

1. Click the Tools menu, Upgrade, and then click Upgrade Application.
2. In the Merge Repositories dialog box, choose the repositories to merge, and then click Merge.

   Siebel Tools does the following:

   - Starts the upgrade.
   - Displays any differences between objects and properties.
   - Displays any differences between objects and properties for different versions of task UIs and workflow processes.

Identifying Conflicts That Occur During Upgrades

This topic describes how to identify merge conflicts between objects that Siebel Tools added or modified during a repository merge. A *merge conflict* is a scenario in which a customer changed an object in the current customer repository, and Siebel CRM changed that same object to a different value in a new version of the Siebel repository.

Consequently, the attribute for the object is different when the following three repositories are compared: the current customer repository, the current Siebel repository, and the new version of the Siebel repository.

To identify conflicts that occur during upgrades

1. Make sure you finish upgrading repositories.

   For more information, see *Upgrading Repositories*.
2. In Siebel Tools, click the Screens menu, Application Upgrader, and then click Application Upgrade Object List.
3. In the Application Upgrades list, right-click the record of the merge that you want to analyze, and then click Hierarchy Reports.

   Siebel Tools displays the hierarchy report, which includes the objects that Siebel Tools added or modified during a merge. The report includes the following types of objects:
   - **Objects that include a valid value for each field value.**Siebel Tools modified these objects during the merge. An N or a Y in a binary field is an example of a valid value.

     For these objects, the Status field designates added objects or objects with modified attributes. For added objects, an N appears in the Attributes field because none of the attributes are modified. For objects with modified attributes, a Y appears in the Attributes field, and the modified attributes appear in the Attributes pane.
   - **Objects that include an asterisk (*) for each field value.**Siebel Tools modified children of these objects during the merge, or Siebel Tools modified dependent objects of these objects during the merge.
4. To view information about merge details, complete the following steps:
   a. Expand and navigate through the hierarchical tree in the Object Types pane to select a parent or child object type.

      The starting List of Objects pane shows the objects for the parent object type that you select, and the next List of Objects pane shows the objects for the child object type that you select.

   b. Click an object in a List of Objects pane.

      In the Attributes pane, Siebel Tools displays any merge conflicts for the object.
5. (Optional) To filter the objects in the report, select one of the following values in the Filter drop-down list, and then click Go:
   - **Siebel and Customer Modified.** Siebel Tools displays only objects that Oracle or you modified. These objects have a Y in the In Prior Standard, In Prior Customized, and In New Standard fields.
   - **Siebel Modified.**Siebel Tools displays only objects that Oracle modified or added. These objects have an N in the In Prior Standard and In Prior Customized field and a Y in the In New Standard field.
   - **All.**Siebel Tools displays all modified or added objects.
6. (Optional) To filter the merge conflicts in the Attributes pane, select or clear the Critical Only check box as follows, and then click Go:
   - Select the check box to show only critical merge conflicts.
   - Clear the check box to show all merge conflicts.
7. (Optional) To display the dependencies for an object, complete the following steps:
   a. Click an object in a List of Objects pane.

      If you want to display the dependencies for an additional object, then hold down the CTRL key, and click the additional object in the List of Objects pane.

b. Click Show Dependencies.

   If the object has no dependencies, then the Show Dependencies button is disabled.

   Siebel Tools displays the dependent objects that it modified and the attributes for these objects.

c. Click Back to return to the hierarchy report.

Process of Migrating Repositories

Configuration and other changes must be migrated from your development environment to your downstream environments, such as test or production. To perform this migration, use the Siebel Migration application. For more information, see *Siebel Database Upgrade Guide*.

Deleting Repositories

You can delete repositories either using the repimexp utility or the RRCleanup utility. You use the repimexp utility by using the option /a t to delete the existing repository.

You use the RRCleanup utility to delete the existing repository or the orphan records from the Siebel database. Using this utility, you can delete:

- Orphan records.

  This option does not require you to pass a repository name as an argument to the RRCleanup utility because orphan records do not have the valid repository in the Siebel system and the repository does not exist in the S_REPOSITORY table. The RRCleanup utility deletes the LOVs (S_LST_OF_VAL) as well for orphan workspaces.

- Repository data.

  This option passes a valid repository as an argument to the RRCleanup utility to delete repository data from all repository tables. The RRCleanup utility deletes the LOVs (S_LST_OF_VAL) as well for this repository.

  Note: A repository can contain multiple integration branches with each branch containing a copy of List of Value. Deletion of repository has a cascading effect on branches and LOVs.

In Siebel Tools, the RRCleanup utility is located at this location:

```
<Siebel_Home>\BIN\RRCleanup.exe
```

In the Siebel Server, the RRCleanup utility is located at this location:

```
<Siebel_Home>\ses\siebsrvr\BIN\RRCleanup.exe
```

To run the RRCleanup utility

1. Open the Command Prompt window from your computer by clicking the Start button and then selecting the Run option.

   The Run window appears.

2. Enter the value CMD in the Open field.

The Command Prompt window appears.

3. Change the directory in the Command Prompt window using one of the following commands:

```
cd <Siebel_Home>\BIN
```

or

```
cd <Siebel_Home>\ses\siebsrvr\BIN
```

4. Run the RRCleanup.exe utility.
5. The Command Prompt window opens and displays the following arguments and parameters, which you can use to run the RRCleanup utility:
   - -t Siebel Table Owner (required)
   - -u Username (required)
   - -p Password (required)
   - -o ODBC Data Source (required)
   - -l Log File Name (default: RRCleanup.log)
   - -r Repository Name (delete Runtime Repository data for repository name pass. e.g. “Siebel Repository”)
   - -a Orphan Flag (Pass Y if required to delete only orphan records)
   - -s Siebsrvr/Tools Installation path specified (required)
   - -b Repository Type ((R)unTime, (B)Both (DR and RR)) (required)
6. Use the following command to delete a particular repository data from repository tables:

```
RRCleanup.exe -t "Table Owner" -u "Siebel User Name" -p "Siebel User Name
Password" -r "Repository Name" -o "ODBC Data Source" -s "Siebsrvr/Tools home location" -b Repository
 Type
```

> **Note:** For the -r argument, you can pass only one repository at a time as a parameter. For the -b argument, you can pass either of the repository types as parameter such as -b R to delete data from runtime repository tables or –b B to delete data from all repository tables.

7. Use the following command to delete orphan records:

```
RRCleanup.exe -t "Table Owner" -u "Siebel User Name" -p "Siebel User Name
Password" -a Y -o "ODBC Data Source" -s "Siebsrvr/Tools home location" -b Repository Type
```

> **Note:** In one command, you can delete either a repository or orphan records but not both. However, if you pass a repository as parameter and the orphan flag is also set to true then the orphan takes precedence.

8. View the output stages that represent the progress of the tasks performed by the utility to ensure that the RRCleanup utility is run successfully.

10 Localizing Strings and Locale Data

Localizing Strings and Locale Data

This chapter describes how to localize strings and locale data. It includes the following topics:

Configuring Symbolic Strings

This topic describes how to configure symbolic strings. It includes the following information:

Overview of Configuring Symbolic Strings

A *symbolic string* is an object that you can use to store the value of a string. It allows you to define a string one time, and then reference it from multiple objects. An object can reference this symbolic string to get a literal value, and then display it as text in the Siebel client. For example, an applet can reference a symbolic string to get the text it shows in a control caption, a list column display name, or an applet title.

A *translatable string* is a type of string that Siebel CRM can translate to another language. For example, it can translate the text string that defines a control label from English to French.

The symbolic string centralizes all the strings in the repository. It includes strings in English and all other languages. It includes the following advantages:

- Reduces redundancy because many objects can reference one symbolic string
- Results in a more consistent user interface
- Simplifies maintenance because you are required to maintain only one string for a word or phrase
- Eliminates duplicate translations of the same word
- Reduces translation costs

Siebel CRM cannot translate a nontranslatable property to another language. For example, the HTML Sequence property, HTML Height property, and HTML Width property are nontranslatable properties.

If you deliver to the repository, then Siebel Tools uses the current language mode that you set for Siebel Tools. It uses this language mode to choose from one of several translations for a set of symbolic string locale records. For more information on how to deliver your workspaces, see *Delivering Workspaces*.

Symbolic Strings in the Object Hierarchy

The Symbolic String object type is a top-level object type. it includes the child Symbolic String Locale object type. Each symbolic string represents a word or phrase that is language independent. For example:

Account

Siebel CRM stores all translations of this word or phrase, including English, as a symbolic string locale. For information about top-level object types, see *Displaying Object Types in the Object Explorer*.

Siebel Tools stores data for a symbolic string in the S_SYM_STR (symbolic strings) table. It stores data for a symbolic string locale in the S_SYM_STR_INTL (Repository Symbolic String Locale) table. Objects that reference symbolic strings store foreign key references to these strings in the S_SYM_STR table.

Symbolic strings do not include other types of strings that Siebel CRM typically includes as seed data, such as LOVs, error messages, or predefined queries. For more information about localizing these types of strings, see *Fixing Orphaned String References After an Upgrade*.

How Siebel Tools Determines a Translatable String

Siebel Tools does the following to compile an object property that displays a translatable string, such as the Title property of an applet:

- If a value exists in the string language that the compile uses, then it compiles this string override value.
- If the string override field for the current language mode that you set in Siebel Tools does not include a string value, then Siebel Tools uses the current language mode and the String Value property of the associated symbolic string locale to determine the value.

In most situations, a string override does not exist. For more information, see *Entering a String Override*.

How Some Early Releases Store Translatable Strings

Some early releases of Siebel Tools store translatable strings in the locale objects of a parent object type. For example, each applet includes a set of child locale records that define the text for the applet title that Siebel CRM shows in the Siebel client.

Modifying the Configuration File to Support Symbolic Strings

This topic describes how to modify the Siebel Tools configuration file to support symbolic strings.

To modify the configuration file to support symbolic strings

1. Open the tools.cfg file.
2. In the Siebel section, set the EnableToolsConstrain parameter to one of the following values:

   a. **TRUE.** Constrained mode. Siebel Tools requires you to choose a translatable string from the list of available string references. You cannot override the string reference. For example, you cannot enter a value for a string override field. You cannot create a new symbolic string reference.
   b. **FALSE.** Unconstrained mode. Siebel Tools does not require you to choose a translatable string from the list of string references. You can override the string reference. For example, you can enter a value in a string override field. You can create a new symbolic string reference.
3. (Optional) Set the SymStrPrefix parameter to a custom value.
   To distinguish between a predefined symbolic string and a custom symbolic string that you create, Siebel Tools sets the prefix for any new symbolic string you create to `x_`, by default. You can modify this value. For example, if you set this parameter to `SymStrPrefix=X_NewString`, then any new symbolic string you create includes the `X_NewString` prefix. For more information, see *Modifying a Predefined Symbolic String* and *About Predefined Objects*.

Modifying a Predefined Symbolic String

You can modify a *predefined symbolic string*, which is a string that comes predefined with Siebel CRM. It includes a `SBL_` prefix in the Name property. For more information, see *About Predefined Objects*.

CAUTION: It is recommended that you do not modify a predefined symbolic string. Instead, it is recommended that you create a new symbolic string that includes the text you require. It is recommended that you do not modify the display value of a predefined symbolic string. Siebel CRM might use this display value throughout the Siebel client. For a monolingual deployment, you risk modifying text in the Siebel client that you do not intend to modify. For a multilingual deployment, you risk breaking the relationships between display values for different languages. For more information, see *Creating a New Symbolic String*.

To modify a predefined symbolic string

1. Log in to Siebel Tools and display the Symbolic String object type.
   For more information, see *Displaying Object Types in the Object Explorer*.
2. In the Object Explorer, click Symbolic String.
3. In the Object List Editor, locate the object you want to modify.
   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
4. Set the Project property of the string you locate in Step 3 to the project you create.
   To modify multiple records, see *Using the Properties Window to Modify Objects*.

Creating a New Symbolic String

You create a new symbolic string.

To create a new symbolic string

1. Make sure the EnableToolsConstrain parameter allows you to create a new symbolic string.
   For more information, see *Modifying the Configuration File to Support Symbolic Strings*.

2. Log in to Siebel Tools and display the Symbolic String object type.

   For more information, see *Displaying Object Types in the Object Explorer*.
3. In the Object Explorer, click Symbolic String.
4. In the Symbolic Strings list, create a new record using the values from the following table.

Property	Description
Name	Enter a unique name for this symbolic string. For more information about the prefix that Siebel Tools adds to the name of any custom symbolic string you create, see *Modifying the Configuration File to Support Symbolic Strings*.
String Value	Enter the text that this symbolic string shows. In some situations, this value might be a value that Siebel Tools determines according to the current language mode and the String Value property of the child symbolic string locale object. For more information, see *Setting the Language Mode*. Siebel Tools truncates any trailing spaces you enter, including full width spaces in Japanese.
Definition	Enter text that describes the purpose of this symbolic string.
Project	Set this property to the project you create.

Modifying a Symbolic String to Globally Update Display Values

You can configure Siebel CRM to make global modifications to the values it shows in the Siebel client. For example, this feature can be useful in the following situations:

- You want to modify all instances of the word Account that Siebel CRM shows in the Siebel client to Customer.
- You want to deploy Siebel CRM specific to an industry in a locale other than English. The text strings that it shows in the Siebel client might not be appropriate for this industry.

To modify a symbolic string to globally update display values

1. Set the language mode.

   For more information, see *Setting the Language Mode*.
2. In the Object Explorer, click Symbolic String.
3. In the Object List Editor, locate the object you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
4. Modify the value of the String Value property.
5. Deliver the projects that include the objects that reference this symbolic string.

Setting a Symbolic String Reference

A *symbolic string reference* is a reference to a symbolic string. It allows you to set the text that Siebel CRM shows in the Siebel client for an object property, such as an applet title or application display name. This topic describes two different ways that you can set this text.

Using the String Reference Property to Set a Symbolic String Reference

This topic describes how to use the String Reference property to set a symbolic string reference.

To use the String Reference property to set a symbolic string reference

1. Make sure the EnableToolsConstrain parameter is set to FALSE.
   For more information, see *Modifying the Configuration File to Support Symbolic Strings*.
2. In the Object List Editor, locate the object you want to modify.
   For example, locate the Account List Applet. For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. In the Title - String Reference property, click the drop-down arrow.
   This property varies according to object type. For more information, see the Properties That Store a Symbolic String section.
4. In the Title - String Reference dialog box, locate the string reference you require, and then click Pick.
   Siebel Tools enters a value in the Title property according to the current language mode and the value in the String Value property of the child symbolic string locale.
5. If no existing symbolic string meets your requirements, then you can enter a string override.
   For more information, see *Entering a String Override*.

Properties That Store a Symbolic String

The following table describes the properties that store a symbolic string. The property varies according to object type. Siebel Tools displays these properties only in the Object List Editor. It does not display them in the Properties window.

Object Type	Label for the String Reference Property
Web Page	Title - String Reference
Applet	Title - String Reference
Screen	Viewbar Text - String Reference
View	A view includes the following properties that reference a symbolic string: • Title - String Reference • Thread Title - String Reference
Application	Display Name - String Reference

Object Type	Label for the String Reference Property

Entering a Value to Set a Symbolic String Reference

This topic describes how to enter a value to set a symbolic string reference.

To enter a value to set a symbolic string reference

1. Make sure the EnableToolsConstrain parameter is set to FALSE.

   For more information, see *Modifying the Configuration File to Support Symbolic Strings*.
2. In the Object List Editor, locate the object you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.

   For example, locate the Account List Applet.
3. In the Title property, enter the text that Siebel CRM must show in the Siebel client.

   This property varies according to object type. For more information, see the Properties That Store the Display Text section.
4. Tab out of the field.

   Siebel Tools searches for a string reference that includes a value in the String Value property that matches the value you enter, and then does one of the following depending on the result of the search:

   - **A unique match exists.** Siebel Tools enters the symbolic string reference it finds into the String Reference property. It enters this value according to the current language mode and the value that the String Value property of the child symbolic string locale contains.
   - **Multiple matches exist or no match exists.** Siebel Tools displays an error dialog box. You can click OK to close the dialog box, and then use the String Reference Property. For more information, see *Using the String Reference Property to Set a Symbolic String Reference*.

Properties That Store the Display Text

The following table describes the properties that store the display text. The property varies according to object type. Siebel Tools displays these properties in the Object List Editor and in the Properties window.

Object Type	Property That Stores the Display Text
Web Page	Title
Applet	Title
Screen	Viewbar Text
View	A view includes the following properties that include display text: • Title • Thread Title

Object Type	Property That Stores the Display Text
Application	Display Name

Entering a String Override

If you cannot find a symbolic string that meets your requirements, then you can override the symbolic string that Siebel CRM uses. The information in the Properties That Store the Display Text section of *Entering a Value to Set a Symbolic String Reference* lists the properties that store a translatable string. Siebel CRM includes a corresponding String Override property for each of these properties that store a translatable string. For example, the Title – String Override property is the corresponding property for the Title property of an applet. You can use this override property to enter a custom string.

To enter a string override

1. Make sure the EnableToolsConstrain parameter is set to FALSE.

   For more information, see *Modifying the Configuration File to Support Symbolic Strings*.
2. In the Object List Editor, locate the object you want to modify.

   For example, locate the Account List Applet. For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
3. In the Title-String Override property, enter the string you require, and then tab out of this field.

   This property varies according to object type. For more information, see *Properties That Store the String Override*.

   For more information, see *How Siebel Tools Stores the Override Value You Enter*.

How Siebel Tools Stores the Override Value You Enter

If you modify the value in the Title-String Override property, then Siebel Tools also modifies the value in the Title property to the custom value you enter. It stores this value in a locale object that is a child of the parent you modify. For example, if you use the Title-String Override property to modify the display name for the Account List Applet to My Big Accounts, then Siebel Tools adds a child locale object to the Account List Applet. The Title property of this locale object includes the custom value you enter, such as My Big Accounts. To view this locale object, you must display it in the Object Explorer. For more information, see *Displaying Object Types in the Object Explorer*.

To set this value, Siebel Tools uses the current language mode and stores it as a language-dependent value. This value does not affect other references to symbolic strings.

Properties That Store the String Override

The following table describes the properties that store the string override. This property varies according to object type. Siebel Tools displays these properties in the Object List Editor and in the Properties window.

Object Type	Property That Stores the String Override
Web Page	Title - String Override

Object Type	Property That Stores the String Override
Applet	Title - String Override
Screen	Viewbar Text - String Override
View	A view includes the following properties that store a string override: • Title - String Override • Thread Title - String Override
Application	Display Name - String Override

Converting Symbolic Strings

This topic describes how to convert symbolic strings. It includes the following information:

- *Consolidating Symbolic Strings*
- *Using a Batch File to Convert Strings*

You can use Siebel Tools to convert a translatable string to a symbolic string. Siebel CRM stores this translatable string as a child locale record of a top-level object type. It stores symbolic strings in a single table. Converting a translatable string might be useful in the following situations:

- You upgrade to a new Siebel CRM version and you want to convert custom translatable strings to symbolic strings.
- You use string overrides to store text strings and periodically want to convert them to symbolic strings.

Converting to symbolic strings reduces the size of the repository, simplifies translations, and helps to make sure that the text that Siebel CRM shows in the Siebel client is consistent. It also requires that development work is finished.

To convert symbolic strings

1. Review the caution information described in *Caution About Converting and Consolidating Symbolic Strings*.
2. Prepare to do the conversion:
   a. Back up the Siebel database and repository.
   b. Verify the Siebel Tools configuration file:
      - Make sure the DataSource parameter references the correct Siebel database. The conversion utility uses this Siebel database.
      - Make sure the EnableToolsConstrain parameter is set to FALSE and that the SymStrPrefix parameter is set to the appropriate prefix.

      For more information, see *Modifying the Configuration File to Support Symbolic Strings*.
   c. Make sure all projects are unlocked.
   d. Inform other developers not to log on to the development environment while the conversion runs.

3. Log in to Siebel Tools and display the Attribute object type.

   For more information, see *Displaying Object Types in the Object Explorer*.
4. Identify the object types you want to convert:

   a. In the Object Explorer, click the Flat Tab, and then click Attribute.
   b. In the Attributes list, query the Name property for the following string:

   ```
   *String Reference*
   ```

   The Parent Type property displays the complete set of object types to convert. If an object type includes more than one property that references a symbolic string, then you can run the conversion for this object type only one time.
5. Convert locale strings to symbolic strings. You must convert the locale strings for the object types you identify in Step 4. You can use the conversion utility to do this conversion:

   a. Open a command line, and navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.
   b. Enter the following command:

   ```
   consoleapp config_file
    app_lang
    user_Id
    password "business_service"
   "business_service_method: parameters"
   ```

   Use the values from the following table. For more information, see *Running the Console Application Executable*.

Parameter	Description
config_file	Specify the Siebel Tools configuration file, such as tools.cfg. Use the default data source. For more information, see *Modifying the Configuration File to Support Symbolic Strings*.
app_lang	Specify the application language, such as ENU.
user_Id	Specify the user Id.
password	Specify the password.
business_service	Specify the String Conversion business service.
business_service_method	Specify the name of the business service method.
parameters	Specify the input parameters to the business service method. For more information, see *Separating Conversion Files into Smaller Files*.

6. Export candidates for one of the object types you identified in Step 4. Enter the following command:

```
consoleapp "ConversionExport: Filename=
 name
 .txt,Repository=
 repository_name
 ,
 Object=
 object_type
 ,LogFile=
 object_type
 Export.log,Language=
 language_code
 ,MatchMi
n=
 an_ineger
 "
```

   For example, the following command exports the control object type:

```
consoleapp "ConversionExport: Filename=Control.txt,Repository=Siebel Repository,
 Object=Control,LogFile=ControlExport.log,Language=ENU,MatchMin=1"
```

   For information about setting parameters in this command, see *Parameters You Use with the Conversion Export Utility*.

   For more information, see *How the Conversion Export Utility Converts Strings*.
7. Repeat Step 6 for each object type that you identified in Step 4.
8. Import the symbolic strings that you converted in step 6. Enter the following command:

```
consoleapp "ConversionImport: Filename=name.txt,Repository=repository_name,
 LogFile=name.log,UnlockProjects=false,SkipParentUpdates=true,Project=Symbolic
Strings"
```

   For example:

```
consoleapp "ConversionImport: Filename=Control.txt,Repository=Siebel
Repository,LogFile=ConversionImport.log,UnlockProjects=false,SkipParentUpdates=
true, Project=Symbolic Strings"
```

   For information about setting parameters in this command, see *Parameters That You Can Use with the Conversion Import Utility*.

   For more information, see *How the Conversion Import Utility Converts Strings*.
9. Consolidate strings.

   For more information, see *Consolidating Symbolic Strings*.

Caution About Converting and Consolidating Symbolic Strings

Converting or consolidating symbolic strings might consume computer processing resources.

CAUTION: Converting or consolidating symbolic strings might consume a significant amount of computer processing resources. For information about the requirements for computer processing speed, see *Siebel System Requirements and Supported Platforms* on Oracle Technology Network.

Note: For Siebel CRM product releases 8.1.1.9 and later and for 8.2.2.2 and later, the system requirements and supported platform certifications are available from the Certifications tab on My Oracle Support. For information about Certifications, see article 1492194.1 (Article ID) on My Oracle Support.

File and Object command-line parameters are case sensitive.

CAUTION: File and Object command-line parameters that you use when you convert or consolidate a symbolic string are case sensitive. Other command-line parameters are not case sensitive.

Running the Console Application Executable

You can use consoleapp.exe (console application executable) to run various utilities that you use to manage symbolic strings.

To run the console application executable

1. On the computer where you installed Siebel Tools, navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.
2. Enter the following command:

   ```
   consoleapp parameter_1 parameter_n
   ```

   This command runs the console application executable.

Separating Conversion Files into Smaller Files

The command that this topic describes separates an export file that the conversion utility creates into smaller, more manageable files according to object type. For example, the Siebel runtime repository might include up to 130,000 controls. To improve performance, you can simultaneously import multiple consolidation files of the same object type or of different object types. An average desktop PC can typically run only 10 simultaneous conversion import processes.

To separate conversion files into smaller files

- Add the following parameter to the command you use in Step 5 of Converting Symbolic Strings:

  ```
  "SplitFile: Filename=Control.txt,Lines=2000"
  ```

  Use the values from the following table.

Parameter	Description
Filename	Name of the export file.
Lines	Approximate number of lines in each file. The conversion utility does not separate a set of symbolic strings, so the number of lines might not equal the value you set in this parameter.

How the Conversion Export Utility Converts Strings

The Conversion Export utility can convert any object that can include a translatable string (for example, a control, list column, or applet). The export utility does the following work:

1. Creates a sorted list of English (ENU) child records for each translatable string in an object.
2. Sequentially processes each object that includes multiple translatable strings. For example, a list column that includes a display name and prompt text includes multiple translatable strings.
3. Uses the list it creates in Step 1 to create information about any new symbolic strings.
4. For records that include identical ENU translations, it compares the non-ENU records and reuses the same symbolic string for subsequent records, if possible.
5. Repeats Step 1 through Step 4 for the next object type.
6. Produces an output file that includes information about the new symbolic strings, including information about each language translation and replacement strings. This file is for information purposes. It is not a log file. It is not necessary to review the contents of this file.

How the Conversion Import Utility Converts Strings

To convert the records that use the new symbolic strings, you can use a utility that performs inserts, updates, and deletes on the Siebel database. For input, this utility uses the output file that the conversion export creates. This utility does the following:

1. Creates a new symbolic string record and child symbolic string locale records for each string according to the string values in the target objects. The export file includes information about each string, including a unique name and information about each child locale object.
2. Adds a reference to the new symbolic string in the relevant property of each original object. For example, 10 applets exist and the title for each of these applets is My Big Service Requests. The non-ENU values for these titles all use the same value. In this example, the export file includes information about one new symbolic string and instructions for each of the 10 applets to use this new symbolic string as the title. The conversion import does the following:
    - Creates a symbolic string with an ENU value of My Big Service Requests.
    - Sets the Title - String Reference property for each of the 10 applets to the name of this new symbolic string.

  - Clears redundant values for child locale objects. Each of the 10 applets now include a value in the String Reference property and a value in the String Override property. The value in the String Override property is redundant and the conversion import clears this value for each child locale object.

3. Deletes any records that the object locale records no longer reference.

For more information, see *Converting Symbolic Strings*.

How Siebel CRM References Symbolic Strings at Run Time

Siebel CRM uses the same repository before and after a conversion. For example, an applet gets the value for the Title property from a child applet locale record. During conversion, Siebel Tools does the following:

1. Creates a symbolic string.
2. Places the reference for this symbolic string in the Title - String Reference property of the applet.
3. Removes the applet locale record.

After Siebel Tools finishes conversion it gets the applet title from the symbolic string. The display value for the title that it compiles is the same value that this title contained before the conversion. Siebel Tools compiles strings into object definitions in the repository. Siebel CRM reads symbolic strings from these object definitions. It does not read them from the S_SYM_STR table at run time.

Consolidating Symbolic Strings

Consolidating symbolic strings eliminates duplicate symbolic strings that the conversion utility might create when it converts these strings. The conversion utility converts all the symbolic strings for one object type, and then converts all the symbolic strings for the next object type. It does this until it finishes converting all the symbolic strings that you specify. It creates multiple symbolic string records for the same display value that occurs in multiple object types. Duplicate symbolic strings can include identical sets of locale records or one symbolic string might include more child locale records than another string. The strings that these objects use in common are identical. Consolidation can remove these duplicates.

To consolidate symbolic strings

1. Review the important caution information described in *Caution About Converting and Consolidating Symbolic Strings*.
2. Convert symbolic strings.

   For more information, see *Converting Symbolic Strings*.
3. Run the following command to merge duplicate symbolic strings:

```
consoleapp "ConsolidationExport:Filename=ConsExp.txt,Repository=Siebel
Repository,LogFile=ConsolidationLog.txt,Language=ENU,MatchMin=2"
```

   Use the values from the following table. For more information, see *Running the Console Application Executable*.

Parameter	Description
Filename	The name of the export file.

Parameter	Description
Repository	The name of the repository.
LogFile	The name of the log file.
Language	Same as the Language parameter that you use to export candidates for an object type. For more information, see *Separating Conversion Files into Smaller Files*.
MatchMin	The minimum number of matches that the utility must find in a set of matching symbolic strings before it writes them to the file. The default value is 2.
SkipSBLStrings	You can use one of the following values: ◦ **TRUE.** Ignore all strings that include the SBL_ prefix in the Name property. ◦ **FALSE.** Consolidate all strings that include the SBL_ prefix and all custom strings that you create. ◦ **MasterOnly.** Do not consolidate strings that include the SBL_ prefix, but use them as master strings. The default value is TRUE.

After you convert locale strings to symbolic strings, you can use the consolidation utility to find duplicate symbolic strings and merge them and their references into a single symbolic string. As input, this utility uses the file that the consolidation export creates. It deletes redundant symbolic strings. It replaces all references that objects make to these strings with a reference to the master string. This consolidation might consume a significant amount of time because the object types in the repository include approximately 80 translatable string properties.

4. Import consolidated strings using the ConsolidationImport business service method.

   For example:

```
consoleapp "ConsolidationImport:Filename=ConsExp.txt,Repository=Siebel
Repository,
 LogFile=ConsolidationLog.txt,UnlockProjects=false,SkipParentUpdates=true"
```

   These parameters are the same parameters that you use to import the symbolic strings in Step 8 of *Converting Symbolic Strings*. For more information, see *Running the Console Application Executable*.

5. (Optional) Separate a consolidation export file into smaller files.

   To separate a consolidation export file into smaller files, you use the same parameters that you use to separate a conversion export file. You can then do Step 4 to import each of these smaller files. For more information, see *Separating Conversion Files into Smaller Files*.

Using a Batch File to Consolidate Strings

You can use a batch file to consolidate strings.

To use a batch file to consolidate strings

1. Navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.
2. Enter the following command:

```
strcons
Action

User_Id

Password
```

You use the same parameters that you use when you use a batch file to convert strings. The only difference are:

- If you set the action parameter to Import, then the utility imports the files from the working folder that the TEST_LOCATION parameter in the batch file identifies.
- You do not specify an object type.

For more information, see *Using a Batch File to Convert Strings*.

Using a Batch File to Convert Strings

You can run the conversion utility from a batch file.

CAUTION: If the Siebel Tools installation path includes a space, then you must enclose this path in quotes.

To use a batch file to convert strings

1. Navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.
2. Enter the following command:

```
strconv "
object_type
"
action

user_Id

password
```

For example:

```
strconv "Applet" export user_Id

 password
```

The following table describes the parameters you can use to run the strconv.bat (string conversion) batch file. You set other parameters in the batch file. For information about the batch file, see comments that the batch file contains.

Parameter	Description
object_type	Object type to convert. For example: ◦ `Applet` ◦ `Control` ◦ `List Column`
action	You can use one of the following values: ◦ **Export.** The utility exports all convertible locale records. ◦ **Import.** The utility imports the file that the object_type parameter identifies.
user_Id	The user name that you use to log in to the Siebel application.
password	The user password that you use to log in to the Siebel application.

Configuring Locale Data

This topic describes how to configure locale data. It includes the following information:

- *Configuring Nontranslatable Locale Object Properties*
- *Displaying Controls and List Columns According to Locale*
- *Fixing Orphaned String References After an Upgrade*

Configuring Nontranslatable Locale Object Properties

A locale can be one of the following:

- **Translatable.** For example, a text string that defines a control label.
- **Nontranslatable.** For example, the HTML Sequence property, HTML Height property, or HTML Width property of a control.

User interface conventions can vary by locale. For example, one locale might require a different sequence of fields from another locale. To configure a nontranslatable object property for a locale, you can enable language override mode. This mode allows you to store a nontranslatable, locale property as a child locale record of the parent object.

In the following example, a Siebel enterprise requires Japanese (JPN) and four Western European languages. Japanese does not use middle names but Western European languages do use middle names. Japanese uses the family name first. Western European languages use the family name last.

To configure nontranslatable locale object properties

1. Set the language mode to JPN.

   For more information, see *Setting the Language Mode*.
2. Enable language override.

   If you do not enable language override, and if you compile any of the Western European languages, then Siebel CRM uses the Japanese configuration of no middle name and family name first. For more information, see *Setting the Language Mode*.
3. In the Object List Editor, locate the object you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
4. To define locale values, modify the object properties:

   a. To hide the middle name, remove the value from the Title-String Override property.
   b. Reverse the order of the first name and last name.

      You modify these locale values to meet the needs that this example requires. The locale values you must modify depend on your business requirements. You can use the Object List Editor or the Siebel IDE editors.
5. Deploy your changes to the Siebel runtime repository.

Displaying Controls and List Columns According to Locale

You can control how Siebel CRM displays a control or list column according to the locale requirements.

CAUTION: To hide or display a control or list column, it is recommended that you modify a property. If you delete a control or list column, then Siebel Tools deletes it from all languages even if you enable language override.

The following example displays locale objects in an applet.

To display controls and list columns according to locale

1. Set the language mode.

   For more information, see *Setting the Language Mode*.
2. In the Object Explorer, expand the Applet tree.
3. Do one of the following:

   a. Click Control.
   b. Expand the List tree, and then click List Column.
4. In the Object List Editor, locate the object you want to modify.

   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
5. Use the values from the following table to modify a property.

Object Type	Property	Description
Control	Visible	If TRUE, then Siebel CRM displays this control in the Siebel client in the parent language and in all other languages that it supports.
	Visible-Language Override	If you enable language override, then you can set this property to one of the following values: ◦ **FALSE.** Hides the control in the Siebel client. ◦ **TRUE.** Displays the control in the Siebel client. For more information, see *Setting the Language Mode*.
List Column	Show in List	If TRUE, then Siebel CRM displays this column in the Siebel client in the parent language and in all other languages that it supports.
	Show in List-Language Override	If you enable language override, then you can set this property to one of the following values: ◦ **FALSE.** Hides the column in the Siebel client. ◦ **TRUE.** Displays the column in the Siebel client. For more information, see *Setting the Language Mode*.

Fixing Orphaned String References After an Upgrade

An upgrade from one release of Siebel CRM to another release can result in some string references disappearing. The Fix Strings Utility allows you to locate these orphaned strings and update them with new references. This utility uses the Siebel Tools Fix String References business service and the FixStringReferences business service method.

To fix orphaned string references after an upgrade

1. Navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.
2. Open a Windows command line.
3. Enter the following command:

```
consoleapp config_file
 app_lang
 user_Id
 password "Siebel Tools Fix String
References""FixStringReferences:Repository=repository_name,PriorRepository=prior_r
epository_name,LogFile=log_file_name.log,FixReferences=true_or_false,VerboseOutput
=true_or_false,Object=object_type"
```

Use the values from the following table.

Parameter	Description
config_file	Specify the path to and name of the Siebel Tools configuration file.
app_lang	Specify the current language, such as ENU.
user_Id	Specify the user Id for the repository that this utility searches.
password	Specify the password for the repository that this utility searches.
repository_name	Required. Specify the name of the repository that includes the string references to fix.
PriorRepository	Specify the name of the repository that your deployment used before the upgrade. If you set the FixReferences parameter to TRUE, then you must include the PriorRepository parameter.
log_file_name	Required. Specify the name of the log file. This utility writes this log file to the current working folder. You can enter an explicit path for this log file.
FixReferences	You can set this parameter to one of the following values: ◦ **TRUE.** Fix invalid references. ◦ **FALSE.** Save invalid references to the log file. This is the default value.
VerboseOutput	You can set this parameter to one of the following values: ◦ **TRUE.** Write progress information to the command line. ◦ **FALSE.** Do not write progress information to the command line. This is the default value.
object_type	Specify the object type, such as Applet. The utility finds invalid string references that this object type references. If you do not include this parameter, then the utility finds invalid string references for all object types.

Example Commands That Fix Orphaned String References After an Upgrade

The following example runs the utility for the Business Service object type, writes progress output to the command line, and writes information to the fixstrings.log file:

```
consoleapp SIEBEL_TOOLS_ROOT\bin\enu\tools.cfg ENU jgolding db2 "Siebel Tools Fix
String References" "FixStringReferences:Repository=Siebel
Repository,LogFile=fixstrings.log,FixReferences=false,VerboseOutput=true,Object=Bu
siness Service"
```

The following example runs the utility for all object types and writes the results to the fixstrings.log file:

```
consoleapp SIEBEL_TOOLS_ROOT\bin\enu\tools.cfg ENU jgolding db2 "Siebel Tools Fix
String References" "FixStringReferences:Repository=Siebel
Repository,LogFile=d:\temp\fixstrings.log,FixReferences=false"
```

Using the Locale Management Utility

This topic describes how to use the Locale Management Utility. It includes the following information:

- *Finding Untranslated Text Strings*
- *Finding Existing Translations*
- *Finding Objects That the Locale Management Utility Modifies*
- *Finding Objects Modified Since the Last Export*
- *Exporting Text Strings and Locale Properties to a File*
- *Importing Text Strings and Locale Properties*
- *Modifying the Value in All Strings for a Language*
- *Using the Command Line to Run the Locale Management Utility*

The *Locale Management Utility* (LMU) is a utility in Siebel Tools that you can use to manage how you configure Siebel CRM to localize text strings, such as field labels, and other locale properties, such as the height and width of controls. You can use it to export text strings to a file. After Siebel Tools modifies or translates these strings in the file, you can use the Locale Management Utility to import them back into the repository. The Locale Management Utility also includes search and comparison tools.

Finding Untranslated Text Strings

You can use the Locale Management Utility to find text strings in the repository that Siebel CRM has not translated or to find text strings that Siebel Tools must retranslate because Siebel CRM modified the source string since the last translation. The Locale Management Utility searches or compares objects. It does not search or compare properties. If a locale object includes multiple string properties, then the search returns all strings that the locale object contains, even if only one of them is translated.

To find untranslated strings

1. Click the Tools menu, Utilities, and then click Locale Management.
2. In the Locale Management dialog box, in the Options tab, in the Languages section, choose the source language and the target language.
3. In the Objects section, choose the applications or projects that you want to localize.
4. Click the Untranslated Strings tab.

   The Untranslated Strings tab includes an Attribute column. Siebel CRM uses the terms attribute and property. These terms have the same meaning.
5. (Optional) To display strings that are marked as Redo, make sure the following check box contains a check mark:

   Report String Attributes of Objects Marked With 'Redo' Fag

For more information, see *How the Locale Management Utility Indicates That Siebel CRM Modified a Record Since the Last Export*.

6. Click Find Strings.

   The Locale Management Utility searches the properties of the string objects. It searches the objects only in the application or project you choose. It displays object definitions that include strings that are not translated. If you choose to display Redo objects in Step 6, then it also displays the strings that you must retranslate.
7. (Optional) To do more, you can click the following buttons:

   - **Find Views.** Find the views that reference the untranslated strings.
   - **Go To.** You choose an object in the Results list, and then click Go To. The Object Explorer displays the object definition that includes the string.
   - **Export.** Export all untranslated strings to a file.
8. (Optional) Determine if an existing translation exists that you can use for the untranslated strings that the Locale Management Utility shows in Step 7.

   For more information, see *Finding Existing Translations*.

Finding Existing Translations

To find an existing translation that you can use for an untranslated string, you can use the Locale Management Utility to search the objects in the repository. You can reuse an existing translation for an object that you create or modify.

To find existing translations

1. Click the Tools menu, Utilities, and then click Locale Management.
2. In the Locale Management dialog box, in the Options tab, in the Languages section, choose the source language and the target language.
3. In the Objects section, choose the application or project that you want to localize.
4. Click the Untranslated Strings tab.
5. Click the Find Translations button.

   After a few moments, the Locale Management Utility displays the results. For more information, see *How the Locale Management Utility Finds Existing Translations*.

How the Locale Management Utility Finds Existing Translations

The Locale Management Utility compares an untranslated string to the properties that might contain this string in other objects in the repository. If it finds an object that includes the same string, then it searches for a translation in the language that you choose as the target language. If it finds a translation, then it displays the best candidates for translation in the Results list and allows you to export it to a file.

For example, you choose English-American as the source language and Spanish as the target language. You create an applet with a title of Customer that is not translated. If you click Find Translation in the Locale Management dialog box, then the Locale Management Utility searches the repository for other objects that include a property that includes the Customer text string. If it finds a match, then it searches for a Spanish translation of this string. If a translation already exists, then it displays this translation and you can export it to a file.

How the Locale Management Utility Chooses Among Multiple Translations

If the Locale Management Utility finds more than one translation for a source string, then it does the following:

- If the source string resides in the property of an object that is related to a business component, such as Control Caption or List Column Display Name, then the Locale Management Utility examines translations from the same business component first, and then does the following:
  - If multiple translations exist in the same business component, then it chooses the string that occurs most frequently.
  - If no translations exist in the same business component, then it chooses the translation that occurs most frequently in all business components.

    For example, Applet A references the Account business component. Applet A includes a control caption with the value of Account, and this value is translated to Account_FRA for French. You create a new applet, Applet B, that also references the Account business component, and Applet B also includes a control caption with the value of Account. If you run Find Translations, then the Locale Management Utility finds Account_FRA as an existing translation and chooses it as the best candidate for this string.
- If the source string is not a property related to a business component, such as Menu Item Caption, then the Locale Management Utility chooses the translation that occurs most frequently.

Finding Objects That the Locale Management Utility Modifies

This topic describes how to find objects that the Locale Management Utility modifies.

To find objects that the Locale Management Utility modifies

1. Click the Tools menu, Utilities, and then click Locale Management.
2. In the Locale Management dialog box, in the Options tab, in the Languages section, choose the source language and the target language.
3. In the Objects section, choose the application or project that you want to localize.
4. Click the Modified Objects tab.
5. In the Search Criteria section, make sure the Changed Since check box includes a check mark.
6. Click the Changed Since drop-down arrow, and then choose the date that the Locale Management Utility must use as the starting date for the search.
7. Click Start.

Finding Objects Modified Since the Last Export

You can use the Locale Management Utility to find objects in the repository that were modified since the last time you exported strings. This search might be useful if your development and localization efforts occur simultaneously. It helps you keep strings in the repository synchronized with the strings that you export to a file for localization.

To find objects modified since the last export

1. Click the Tools menu, Utilities, and then click Locale Management.
2. In the Locale Management dialog box, in the Options tab, in the Languages section, choose the source language and the target language.
3. Click the Modified Objects tab.

4. (Optional) In the Search Criteria section, set the Locale Management Utility to search from a date:
    - Make sure the Changed Since check box includes a check mark.
    - Click the Changed Since drop-down arrow, and then choose the date that the Locale Management Utility must use as the starting date for the search.

      If you use the Changed Since option, and if you click Start, then the Locale Management Utility marks all records it returns for a modified project as Redo regardless of whether Siebel CRM modified a locale property. It does this because it searches for modifications that reside at the object level, not at the property level. For more information, see *How the Locale Management Utility Indicates That Siebel CRM Modified a Record Since the Last Export*.
5. (Optional) In the Search Criteria section, set the Locale Management Utility to compare objects in the repository to objects in a source file:
    - Make sure the Different From File check box includes a check mark.
    - Click Browse, and then choose the source file.
6. Click one of the following buttons:
    - **Start.** Finds records that match the search criteria, flags the records that it returns as Redo, and then displays the results.
    - **Preview.** Finds records that match the search criteria and displays the results. It does not flag records as Redo.
7. (Optional) To do more, you can click the following buttons:
    - **Save.** Saves a result set in a log file.
    - **Go To.** The Object Explorer displays the parent object of the string or property.
    - **Load.** Imports a result set from a previously saved file. After the Locale Management Utility displays this result set in the Results list, you can use Go To to examine each record.

How the Locale Management Utility Indicates That Siebel CRM Modified a Record Since the Last Export

If Siebel CRM modified a record in the repository since the last export, then it might require another translation. The Locale Management Utility uses the Redo flag to mark this record.

If you use the Locale Management Utility to import records, then it compares the source language records in the repository with the source language records in the import file. If Siebel CRM modified the records in the repository since the export occurred, then this utility uses the Redo flag to mark the target language records. This configuration helps you identify records that might require another translation. For more information, see *Importing Text Strings and Locale Properties*.

Exporting Text Strings and Locale Properties to a File

You can use the Locale Management Utility to export strings and other locale properties to a file. This file can use any one of the following file types:

- .slf
- .txt
- .xlf

You cannot use the Locale Management Utility to export to a Microsoft Excel.xls file.

To export text strings and locale properties to a file

1. In Siebel Tools, click the Tools menu, Utilities, and then click Locale Management.
2. In the Locale Management dialog box, in the Options tab, in the Languages section, choose the source language and the target language.

   To export text strings and locale properties, the language mode and the Locale Management Utility source language must use the same language. For more information, see *Setting the Language Mode*.
3. In the Objects section, choose the application or project that the Locale Management Utility must export.
4. Click the Export Tab.
5. Click String Attributes Only or All Localizable Attributes.

   A localizable property can include translatable strings and other locale properties, such as the width and height of controls. Each locale property might contain a different value that meets the need for a specific locale. Siebel CRM uses the terms attribute and property. These terms have the same meaning.
6. Click Export.
7. In the Save As dialog box, choose the folder where the Locale Management Utility must export the file.

   For example, choose SIEBEL_TOOLS_ROOT\OBJECTS\language_code where *language_code* is the target language you choose in Step 2.
8. Enter a file name, choose a file type, and then click Save.
   - If you click String Attributes Only in Step 5, then the available file types are .txt or .xlf.
   - If you click All Localizable Attributes in Step 5, then the available file type is .slf.

Importing Text Strings and Locale Properties

You can use the Locale Management Utility to import translated strings and other locale properties into the repository. You can preview the import before the utility actually does the import.

To import text strings and locale properties

1. Click the Tools menu, Utilities, and then click Locale Management.
2. In the Locale Management dialog box, in the Options tab, in the Languages section, choose the source language and the target language.
3. Click the Import tab.
4. Enter the name of the file that the utility must import.

   You can use the Browse button to choose the file. The default file name is one of the following:
   - `Results.txt` if the file includes strings only
   - `Results.slf` if the file includes all locale properties

   If you import an XML Localization Interchange Field file (.xlf), then make sure a working Internet connection exists during the import.
5. (Optional) To preview the import, do the following:
   a. Enter the path and name of the file where the utility must store the results for previewing.

The default file name is `preview.log`.

b. Click Preview.

   The Locale Management Utility writes the results of the import to the log file. It does not write the results to the repository. It does not mark modified records with a Redo flag during preview.

6. (Optional) To mark records that Siebel CRM modified since the export occurred, make sure the following check box contains a check mark:

   Mark Changed Records with Redo Flag

   For more information, see *How the Locale Management Utility Indicates That Siebel CRM Modified a Record Since the Last Export*.

7. Click Import.

   The utility imports the locale properties into the repository. It creates the following log file in the *SIEBEL_TOOLS_ROOT* `\OBJECTS` folder:

   ```
   LMUImportTruncation.log
   ```

   This file includes detailed information and error messages about records that the utility did not import.

Modifying the Value in All Strings for a Language

You can use the Locale Management Utility to replace strings in bulk. For example, you want to configure Siebel CRM to modify all text strings that include Accounts to Companies for the English locale. You can use the Locale Management Utility to export the strings to a file, modify the file so that it includes only Companies instead of Accounts, and then import these strings into the repository.

Using the Locale Management Utility to replace strings is most useful for strings that Siebel CRM stores in string-override fields. For information about modifying symbolic strings, see *Modifying a Symbolic String to Globally Update Display Values*.

To modify the value in all strings for a language

1. Export the strings you want to modify to a file.

   The source language and the target language cannot be the same language. For more information, see *Exporting Text Strings and Locale Properties to a File*.

2. Use a text editor to modify the strings in the file that you created in Step 1:

   - Remove strings that you do not want to replace from the file.
   - In the Target String column of the file, enter the new string that replaces the old value.

3. Import the file.

   For more information, see *Importing Text Strings and Locale Properties*.

Using the Command Line to Run the Locale Management Utility

You can use the command line to run the Locale Management Utility. The commands that this topic describes use the following format:

- *xxx*. A placeholder for a required parameter.
- `[` *xxx* `]`. A placeholder for an optional parameter.
- *xxx* `|` *yyy*. An OR condition (for example, `xxx` or `yyy)`.

You must include the absolute path with any file name that you specify. For example, if you specify the export file as `results.txt`, then the utility creates this file in the current folder. In this example, if the installation folder is `C:\Program Files\Siebel\8.0\Tools`, then the utility creates this file in the following folder:

```
C:\Program Files\Siebel\8.0\Tools\BIN
```

It does not create it in the following folder:

```
C:\Program Files\Siebel\8.0\Tools\OBJECTS
```

Using the Command Line to Export Strings and Locale Properties

The command that this topic describes allows you to export localizable properties for all projects or for all applications. You can specify one of the following values:

- **all.** Export all translatable properties and language override properties to a file that uses an .slf extension.
- **string.** Export only string properties to a file that uses a .txt or .xlf extension. If you do not specify a file name, then the utility displays an error.

Format

This command uses the following format:

```
/lmu source_language target_language export proj|app
 all|string
 file [project_file]
```

Project Parameter

The Locale Management Utility includes the following parameter:

```
project_file
```

You can use it to identify the projects to export. This parameter identifies the name of an ASCII text file that includes a list of projects that are delimited by a line feed. If you do not include the project_file parameter, then the utility exports all projects.

You can use the `proj|app` parameter to identify the projects or applications that include the strings to export. If you use the project_file parameter, then you must choose `proj`. If you choose `app`, and if you include the project_file parameter, then the utility ignores this file.

Example

The following command exports properties:

Example1:

```
Siebdev /c tools.cfg /u sadmin /p sadmin /d serverdatasrc /lmu ENU DEU export proj
string C:/lmu/lmu_1.xlf /ws "ws1" "Siebel Repository"
```

This example exports all string properties and language override properties for the projects that the following file lists:

```
 C:temp\proj_to_exp.txt
```

It exports these properties to the following file:

```
 C:\temp named my_proj_results.txt
```

The source language of the file is English-American (ENU) and the target language is French (FRA).

Using the Command Line to Import a File

The command that this topic describes allows you to import a file. If the source string in the import file is different than the source string in the repository, then it marks the target locale object as Redo.

Format

This command uses the following format:

```
/lmu source_language
 target_language import file
```

Example

The following command imports a file:

```
siebdev /u sadmin /p db2 /d server /lmu ENU FRA import "C:\Program
Files\Siebel\8.0\Tools\objects\results.slf"
```

This example imports the `results.slf` file from the following folder. This folder is the installation folder for an earlier version of Siebel Tools:

```
 C:\Program Files\Siebel\8.0\Tools\objects
```

The source language of the file is English-American (ENU) and the target language is French (FRA).

The file includes all localizable string properties and language override properties.

Using the Command Line to Export Strings That Require Translation

The command that this topic describes allows you to export all untranslated strings and strings marked with the Redo flag to a file. It can export all projects or all applications. The exported file includes the related view names.

Format

This command uses the following format:

```
/lmu source_language
 target_language todo proj|app [file]
```

Example

The following command exports strings that require translation:

```
Siebdev /c tools.cfg /u sadmin /p sadmin /d serverdatasrc /lmu ENU DEU export proj
string C:/lmu/lmu_1.xlf /ws "ws1" "Siebel Repository"
```

This example finds all untranslated strings and redo strings for all applications. It exports the results to the following file:

```
 C:\Program Files\Siebel\8.0\Tools\objects\results.txt
```

The source language is English-American (ENU) and the target language is French (FRA).

11 Testing and Troubleshooting Your Customizations

Testing and Troubleshooting Your Customizations

This chapter describes how to use Siebel Tools to test and troubleshoot your customizations. It includes the following topics:

- *Testing and Troubleshooting Your Modifications*

Testing and Troubleshooting Your Modifications

This topic includes the following information:

- *Setting Debug Options to Open the Siebel Client*
- *Recovering from a Failed Development Server*

To test your modifications, you can use a local instance of the Siebel Web Client that runs on your computer. If you compile objects and test the results locally, then consider the following:

- If you compile modifications to a repository, then any local instances of the Siebel Web Client that are open and that read this repository automatically close, reopen, and then display the modified configuration.
- You can configure Siebel Tools to automatically open the Siebel Web Client and read the most current repository.
- To display your modifications in a local instance of the Siebel Web Client, this client must read the repository that you compile.

This task is a step in *Roadmap for Setting Up and Using Siebel Tools*.

For more information about installing the Siebel Web Client, see the *Siebel Installation Guide* for the operating system you are using.

For information about using debug windows, see the following information:

- *Using the Calls Window*
- *Using the Watch Window While it Monitors a Script*

Setting Debug Options to Open the Siebel Client

The debug options allow you to modify the run time settings that open an instance of the Siebel Web Client in the following situations:

- You enable Auto-start Web Client.
- You click the Debug menu, and then click Start to start an instance of the Siebel Web Client. You typically do this if you want to debug Siebel eScript or Siebel VB. For more information, see *Siebel eScript Language Reference* or *Siebel VB Language Reference* .

To set debug options to open the Siebel client

1. In Siebel Tools, click the View menu, and then click Options.
2. In the Development Tools Options dialog box, click the Debug tab.
3. Set the debug options.

   Make sure you set the following options:

   - Executable
   - CFG File
   - Browser
   - Working Directory

   For more information, see *Development Options for Debugging*.

Recovering from a Failed Development Server

This topic describes how to recover from a failed development server or failed repository when you cannot access a backup copy of this server or repository. It requires that a recent image of the repository exist on the computer that a remote user uses, and that this user performed a full Get to create this repository.

To recover from a failed development server

1. Log in to Siebel Tools on the remote computer that includes the intact repository.
2. Archive the projects that this repository contains.

   For more information, see *Exporting Objects to an Archive*.
3. Create a new repository:

   - To create a repository record, you can add a new repository object in Siebel Tools.
   - To create the schema in the database for the repository, you can run imprep.ksh for Linux or UNIX.

     For more information, see *Exporting and Importing Repositories*.
4. Import the archive you created in Step 2 into the repository you created in Step 3.

   For more information, see *Importing Objects from an Archive*.
5. Test the repository you created in Step 3 and make sure it includes the expected functionality.
6. Check projects into the Siebel Server.

12 Archiving Objects

Archiving Objects

This chapter describes how to archive objects. It includes the following topics:

Overview of Archiving Objects

Archiving is a process where you export objects from the repository to an archive file. You can then import objects from the archive file back into the repository. You can use an archive to back up sets of objects or move them to another environment that shares the same physical database schema as the source environment. Note the following:

- An archive does not depend on a database because it includes only repository information. You can use it to exchange repository data between environments with different database platforms, including local and server databases, as long as these databases use the same schema.
- If you import objects from an archive, then you can specify conflict resolution rules for each object. You can configure Siebel Tools to ignore an imported object, replace an existing object with an imported object, or merge two objects according to object properties.
- You can archive individual objects or entire projects to an archive.
- You can use code control software to control an archive.
- If you want to back up or move the entire repository to another environment, then see *Exporting and Importing Repositories*.

For more information about the files that you use when archiving objects, see *Files That You Use to Manage Repositories*.

Using Export and Import for Different Versions of Siebel CRM

If you export objects from one version of Siebel CRM to another version, then do not import these objects through .sif files into a different version of Siebel CRM because Siebel CRM might modify object definitions between these versions. If you import an object that is not valid, then an invalid configuration might result. Oracle does not support an invalid configuration.

Exporting Objects to an Archive

You can export top-level objects to an archive, such as business components, applets, views, and projects. Siebel Tools exports and imports child objects with their parents. For information about top-level object types, see *Displaying Object Types in the Object Explorer*.

Note: Web Tools supports only export in Innovation Pack 2017.

Do not export the repository object to export an entire repository. If you do this, then the export file is too large and it degrades performance. For more information, see *Exporting Repositories*.

This task is a step in *Roadmap for Setting Up and Using Siebel Tools*.

To export objects to an archive

1. In the Object List Editor, locate the object you want to export.
   For more information, see *Locating and Modifying Object Definitions in the Object List Editor*.
2. Click the Tools menu, and then click Add To Archive.
   Siebel Tools displays the Export to Archive File dialog box. The status bar in this dialog box indicates the child objects that Siebel Tools includes in the export. When the process finishes, this dialog box displays the top-level objects in the Objects to Archive list.

   Tip: The dialog box displays as Add To Archive in Web Tools. The Objects textbox displays the name of the selected object. You can archive only one object at a time.
3. If you want to add more objects, then repeat Step 1 through Step 2 for each object. Do not close the Export to Archive File dialog box while you add these objects.
   You can add objects of the same object type or you can add objects of another object type.
4. In the Export to Archive file dialog box, in the Archive File window, enter the path and file name of the archive file.
   For example, enter `c:\Siebel\8.2\Tools_1\objects\objects.sif`.
5. Click Save.
   Siebel Tools creates a SIF file in the location that you specify in Step 4. Web Tools creates the same file and exports using the browser functionality.

   Note: Use Siebel Tools to import an archive.

Using the Command Line to Export Objects to an Archive

You can use the command line to export objects to an archive.

To use the command line to export an archive

1. Open a command line, and then navigate to the *SIEBEL_TOOLS_ROOT* `\BIN` folder.

2. Use the following command to run the siebdev.exe file:

   ```
   siebdev /c config_file /d database /u user_name /p password /ws workspace_name /
   batchexport repository_name input_file_name log_file
   ```

   The following example exports the objects that the `obj.txt` input file specifies. It logs results to the `export.log` file:

   ```
   siebdev /c tools.cfg /d sample /u sadmin /p sadmin /ws MAIN /batchexport "siebel
   repository" obj.txt export.log
   ```

   For more information about the input file, see *Input File That Batch Export Uses*.

Input File That Batch Export Uses

The batch export switch uses an input file that specifies the objects to export. This input file uses the following format. You cannot use a space before or after a comma in this file:

```
object_type,object_name,query_expression,file_name.sif
```

where:

- *object_type* identifies the object type to export, such as Business Component.
- *object_name* identifies the name of the object to export, such as Account.
- *query_expression* can include any query that Siebel Tools can use. For more information, see *Using the Query Menu to Run a Query*.
- *file_name*.sif can use an absolute file path or a relative file path to the current folder.

You can include multiple lines in the input file and each of these lines can specify to export multiple objects to a different SIF file. If you specify the same SIF export file in multiple lines, then batch export uses only the last export that you specify.

For example, consider the following line from an input file. In this example, the batch export switch exports all business components where the Name property is like *Account* to a repository file named export.sif:

```
Business Component,*Account*,export.sif
```

Importing Objects from an Archive

This topic describes how to import objects from an archive. It includes the following information:

- *Preparing the Siebel Tools Environment to Import Objects from an Archive*
- *Importing an Archive*
- *Importing Multiple Archives*
- *Using the Command Line to Import an Archive*
- *Using the Review Conflicts and Actions Dialog Box of the Import Wizard*

Preparing the Siebel Tools Environment to Import Objects from an Archive

You must prepare the Siebel Tools environment before you import an archive.

To prepare the Siebel Tools environment to import objects from an archive

1. Make sure the local computer can access the import file through a network or local drive.
2. Make sure the repository you use to create the archive and the repository to which Siebel Tools imports the archive use the same schema version.

   You can export or import an archive only among repositories that use the same schema version. To determine the schema version that a repository uses, see *Viewing Information About the Current Repository*.
3. Make sure the repository is open in Siebel Tools and is the active repository.

   For more information, see *Viewing Information About the Current Repository*.
4. Make sure the projects that the import affects are checked out.

   For more information, see *Locking Projects Before You Import an Archive*.

Locking Projects Before You Import an Archive

For non-workspace enabled objects, you need to lock the project before importing an archive file. The Import wizard informs you of any unlocked projects that you must lock. It does this after it analyzes the objects in the archive and compares them to the objects that reside in the repository. For workspace-enabled objects, object locking is done at the database level. Therefore, there is no need to lock any project or object for importing.

Importing an Archive

This topic describes how to use Siebel Tools to import an archive.

To import an archive

1. Prepare the Siebel Tools environment to import an archive.

   For more information, see *Preparing the Siebel Tools Environment to Import Objects from an Archive*.
2. Click the Tools menu, and then click Import From Archive.
3. In the Select Archive To Import dialog box, choose the archive file, and then click Open.

   Siebel Tools displays the Import Wizard - Preview dialog box. It lists the projects and other top-level objects that the archive file you opened contains.
4. Specify the work that Siebel Tools does if it determines that the archive and the repository both contain the same top-level object. In the Conflict Resolution section, choose an option.

   For more information, see *Options You Can Choose to Resolve a Conflict*.
5. Click Next.

   Siebel Tools does one of the following:

- If the objects in the archive already exist in the repository, and if Siebel Tools finds no conflicts, then it makes no modifications. It displays a dialog box that describes that it found no conflicts and made no modifications to the repository. In this situation, click OK and exit this procedure.
- If any object involved in this import is not locked, or if any project that this object references is not locked, then Siebel Tools displays a warning message. You must cancel the import, lock the objects and projects, and then restart the Import wizard.
- If the objects in the archive already exist in the repository, and if Siebel Tools finds a conflict, or if the objects do not exist in the repository, then it displays the Import Wizard - Review Conflicts and Actions dialog box. This dialog box includes information about the differences. In this situation, go to next step.

6. In the Import Wizard - Review Conflicts and Actions dialog box, in the Conflicting Objects section, choose an object.

   If you choose an object, then Siebel Tools displays differences in the Object Differences and Attribute Differences sections. Siebel CRM uses the terms attribute and property. These terms have the same meaning. For more information, see *Using the Review Conflicts and Actions Dialog Box of the Import Wizard*.
7. To make an adjustment, right-click a difference, and then choose an action.
8. Click Next.

   Siebel Tools displays the Summary dialog box and starts the import.
9. When Siebel Tools finishes the import, you can click Finish.

   Siebel Tools creates a log file named importlog.txt in the following folder:

   ```
   SIEBEL_TOOLS_ROOT
   \TEMP
   ```

   It includes the list of messages that it displayed in the Summary dialog box. To maintain a record of this import, you can modify the importlog.txt file name to the current date.

Options You Can Choose to Resolve a Conflict

A *conflict* is a situation that occurs if an object that Siebel Tools attempts to import from an archive does not match the corresponding object in the repository. Siebel Tools examines these objects to determine if they include the same properties, property values, and child objects. If these items are not the same, then Siebel Tools recognizes this situation as a conflict.

The following table describes options you can choose to resolve a conflict that occurs during an import. It describes the work that Siebel Tools does if it determines that the archive and the repository both contain the same top-level object.

Option	Description
Overwrite the Object in the Repository	Siebel Tools deletes the object in the repository and the child objects of this object, and then copy the object and child objects from the archive to the repository.
Merge the Object Definitions From the Archive With the Definition in the Repository	Siebel Tools does the following: • Replaces the properties that are different in the repository with the properties that the archive contains.

Option	Description
	• If the archive includes child objects that the repository does not contain, then it copies these objects from the archive to the repository. • Does not modify child objects in the repository that are not also in the archive. When Siebel Tools finishes this merge, the top-level objects in the repository include the same properties and child objects that the object in the archive includes. It also includes any child objects that already exist in the repository. Siebel Tools merges objects, by default. This option is typically the safest option.
Do Not Import the Object Definition From the Archive	Siebel Tools does not modify the objects in the repository.

Importing Multiple Archives

This topic describes how to import multiple archives.

To import multiple archives

1. Prepare the Siebel Tools environment to import an archive.

   For more information, see *Preparing the Siebel Tools Environment to Import Objects from an Archive*.
2. Click the Tools menu, and then click Import from Archives.
3. In the Select Archives to Import dialog box, choose one or more SIF files to import, and then click OK.
4. In the Conflict Resolution section of the Import from Archives dialog box, choose an option.

   You specify the work that Siebel Tools must do if it determines that the archive and the repository both contain the same top-level object. For more information, see *Options You Can Choose to Resolve a Conflict*.

   You can also do the following, as necessary:

   - To control the order that Siebel Tools uses to import the archive, choose a row, and then click the up arrow or down arrow.
   - To add more archive files, click Add, choose the files you want to add, and then click OK.

     Siebel Tools does not add duplicate files to the import list.
   - To remove an archive, choose the archive you want to remove, and then click Remove.
   - To view the objects that a SIF file includes, choose this SIF file in the SIF Files list, and then click Preview. After you finish previewing, click OK.
5. In the Import from Archives dialog box, Click Import.

   Siebel Tools begins the import in the order that you specify. You can click Cancel to cancel the import.

   Siebel Tools displays Done in the status bar at the end of the Import from Archive(s) dialog box when the import finishes. It displays the following status for a SIF file in the SIF Files list:

   - **Completed.** Import for this SIF file completed successfully.
   - **Failed.** Import for this SIF file encountered an error and did not complete successfully.

6. If a conflict occurs, then review the Import from Archive(s) - Review Conflicts and Actions dialog box, and then click Continue.

Using the Command Line to Import an Archive

You can use the command line to import objects from an archive. You can also use the command line to do other work.

To use the command line to import an archive

1. If the archive file contains non-workspace enabled objects, such as Table objects, use Siebel Tools to lock the projects for these objects. It is not possible to lock projects from the command line.
2. Use the following command to run siebdev.exe:

   ```
   siebdev.exe /c tools.cfg /d ServerDataSrc /u SADMIN /p MSSQL /ws dev_sadmin_m9 /
   batchimport "Siebel Repository" merge "C:\Tools75\import.sif" import.log
   ```

   Here /ws refers the workspace name and this workspace needs to be in the editable state for import to be successful. You can use the full path or the relative path to the current folder to specify the SIF file and the log file.

   To import, also note the following options:

   - *import_mode* determines how to handle a conflict. You can use one of the following values with it:

     - overwrite.
     - merge.
     - skip. If you use `skip`, and if a corresponding object does not exist in the repository, then there is no conflict and the utility imports the record.

     For information, see *Options You Can Choose to Resolve a Conflict* .
   - *sif_files* specifies the name of one or more sif files that contains the objects that batchimport imports, such as *sif_file1*, *sif_file2*, *sif_file_n,* or the path to a folder that includes .sif files.
   - *log_file* specifies the name of the file that siebdev uses to log information.

Example of Using the Command Line to Import an Archive

The following example imports an archive:

```
siebdev.exe /c tools.cfg /d ServerDataSrc /u SADMIN /p MSSQL /ws dev_sadmin_m6 /
batchimport "Siebel Repository" overwrite import1.sif, import2.sif" import.log
```

It uses the overwrite option for conflict resolution. It logs the results to the import.log file. For more information, see *Options You Can Choose to Resolve a Conflict*.

Example of Importing All Files

The following example imports all files:

```
siebdev.exe /c tools.cfg /d ServerDataSrc /u SADMIN /p MSSQL /ws dev_sadmin_m4 /
batchimport "Siebel Repository" merge C:\23075\Tools\importfiledir import.log
```

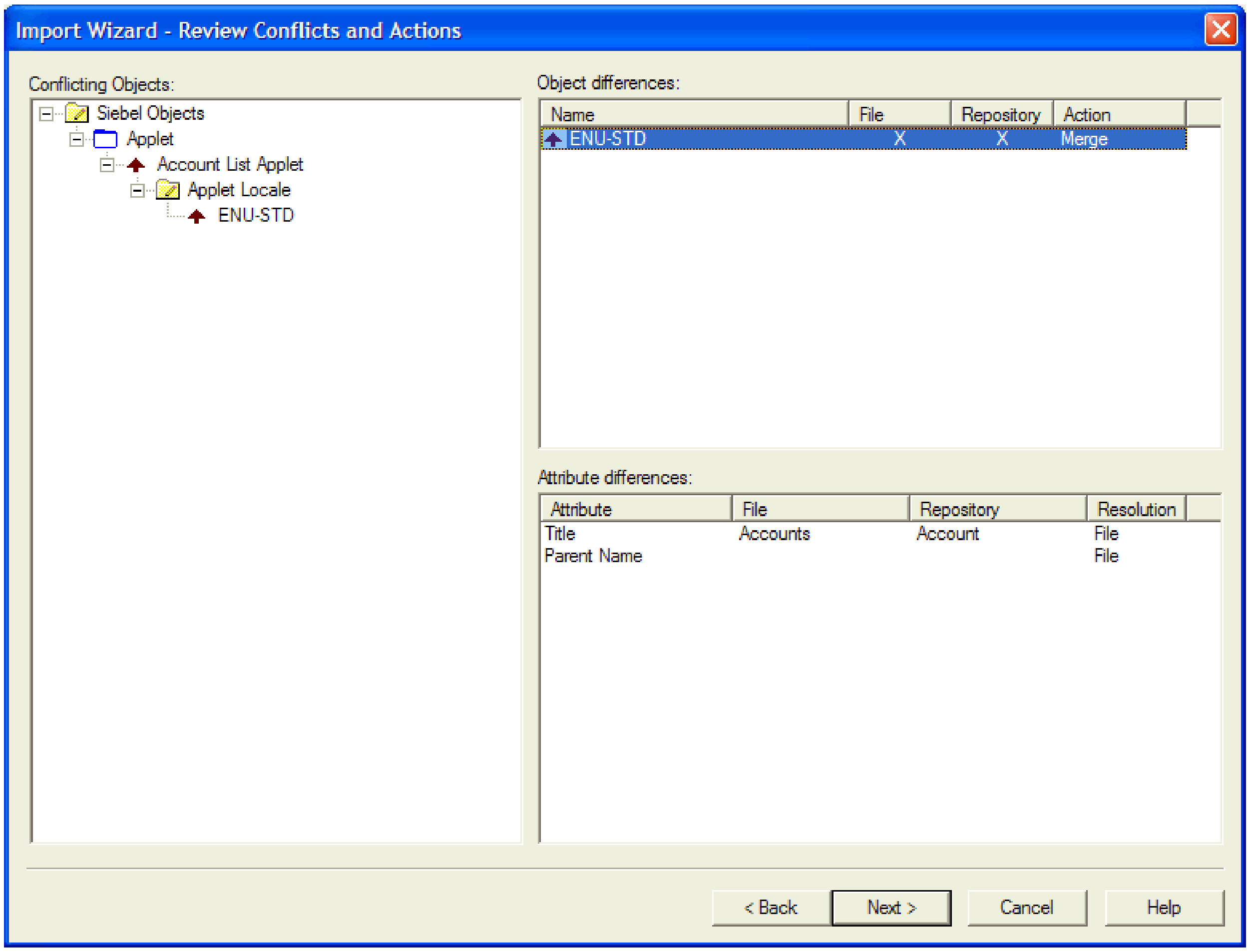
This command imports all files in the following folder:

```
    C:\23075\Tools\importfiledir
```

It uses the merge option for conflict resolution. It logs the results to the import.log file.

Using the Review Conflicts and Actions Dialog Box of the Import Wizard

The following image includes the dialog box that appears if Siebel Tools determines that a difference exists between an object in the repository and an object in the archive. You can use this dialog box to review differences and to modify the work that Siebel Tools does to resolve the conflict.



Name	File	Repository	Action
ENU-STD	X	X	Merge

Attribute	File	Repository	Resolution
Title	Accounts	Account	File
Parent Name			File

Conflicting Objects Section

The Conflicting Objects section displays the hierarchy of objects that include differences. This hierarchy uses the same structure as the object type hierarchy in the repository but it displays only objects that include conflicts rather than all repository objects. The objects in the Object Differences dialog box include objects for all hierarchical levels, not just top-level objects.

Object Differences Section

The Object Differences section lists the objects that include a difference. It includes the following columns:

- **File column.** An X in this column indicates that the object exists in the archive.
- **Repository column.** An X in this column indicates that the object exists in the repository. An object can exist in the archive and in the repository. These columns provide only information. You cannot modify them.
- **Action column.** Indicates the proposed resolution for the object. Siebel Tools uses the choices you make in the Conflict Resolution section of the Preview pane to determine the work that it does to display information in this column. To modify this work, you can right-click the value in the Action column, and then choose another action. For a description of these values, see *Options You Can Choose to Resolve a Conflict*.

Attribute Differences Section

The Attribute Differences section displays the property value conflicts for the object you choose in the Object Differences section. It lists only the properties that include a conflict. Siebel CRM uses the terms attribute and property. These terms have the same meaning.

The following table describes the columns in the Attribute Differences section.

Column	Description
Attribute	Name of the object.
File	Value of the object in the archive.
Repository	Value of the object in the repository.
Resolution	Includes one of the following values: • **File.** Siebel Tools deletes the value in the repository during the import and replaces it with the value from the archive. • **Repository.** Siebel Tools does not modify the value in the repository. You can modify this resolution depending on the following value that the Action column in the Object Differences contains: • **Merge.** You can modify the resolution. To modify it, you can right-click the value in the Resolution column, and then click Repository or File. • **Not Merge.** You cannot modify the resolution.

Using the Application Deployment Manager

The *Application Deployment Manager* (ADM) is a feature that you can use to administer a Siebel CRM deployment. Siebel Tools supports ADM through the following business service:

Siebel Tools Export Support for ADM

It allows you to export individual objects to a hotfix or to export all objects that Siebel CRM modified after a particular date and time to a mid-level release. For more information, see *Siebel Application Deployment Manager Guide* .

13 Glossary

Glossary

Advanced Compile

A feature in Siebel Tools that you can use to assist with localization.

Applets window

A window that displays information about a view and allows you to add applets to that view.

Application Deployment Manager (ADM)

A feature that you can use to administer a Siebel CRM deployment.

bookmark

A feature that allows you to return directly to an item.

Bookmarks window

A window that allows you to navigate directly to an object that you use frequently.

breakpoint

A marker in a line of code that stops code from running at that line.

canvas

A background that appears in different designers.

collection function

A type of function that includes a finite set of values.

compound query

A type of query that locates records according to more than one condition.

conflict

A situation that occurs if an object that Siebel Tools attempts to import from an archive does not match the corresponding object in the repository.

Controls/Columns window

A window that displays the controls and list columns that you can add to an applet layout if you use the Applet Web Template Editor.

custom object

A new object that you create.

declarative configuration

A type of programming technique that uses objects and object properties in the Siebel repository to implement the logic that your business requires.

developer conflict

An error that occurs if two separate groups or developers update the same object.

full get

A type of Get that copies all projects from the server repository to your local repository.

get

The act of copying a project from the server repository to your local repository.

hidden object type

An object type that Siebel CRM does not show in the Siebel Web Client.

hotfix

A Siebel Tools feature you can use to quickly update the production environment.

Incremental Repository Merge

A feature that allows you to merge multiple repositories and apply patches.

language mode

A mode that allows you to configure Siebel CRM to display text in a language other than English.

language override

A nontranslatable locale property that you can configure differently for different locales.

Locale Management Utility (LMU)

A utility in Siebel Tools that you can use to manage how you configure Siebel CRM to localize text strings, such as field labels, and other locale properties, such as the height and width of controls.

mid-level release

A type of release that includes objects you modify from a time frame that you specify.

modified object

A predefined or custom object that you modify.

new object wizard

A feature you can use that guides you through the steps of creating a new object.

object definition

Implements one piece of the software. It consists of object properties, which are characteristics of this piece of software.

Object Explorer

A window in Siebel Tools that displays the Siebel object hierarchy.

Object List Editor

A window in Siebel Tools that displays the object definitions of the object type that you choose in the Object Explorer.

object property

A characteristic of a piece of software.

object tagging

A version control feature that Siebel Tools uses to associate a repository modification with a tag or group. You can use it to export all the work that a group of developers performs.

object type

An entity that includes a predefined set of properties.

Palettes window

A window that allows you to add items to an object.

parent and child relationship

A type of hierarchical relationship between one object type and another object type.

predefined object

An object that comes already defined when you first install Siebel CRM or Siebel Tools.

predefined symbolic string

A string that comes predefined with Siebel CRM.

prior standard repository

The repository that comes predefined with Siebel CRM. Siebel Tools uses it to determine if you modified any object in the repository since the prior release.

project

An object type that your development team can use to help make sure only one developer works on an object at one time.

property value

Information that you enter into the column of an object definition.

Properties window

A window that displays the properties and the property value for the object that you choose in the Object List Editor.

pseudolocalization prefix

A prefix that Siebel Tools uses to test the appearance of string in a language.

reference repository

A prior version of the repository.

right-click menu

A type of context-sensitive menu that appears if you right-click an object or an element.

script library

A part of the ST eScript Engine that allows you to call a business service method from a script.

Siebel Application Upgrader

A utility you can use to get new features from the latest software release while preserving the custom configuration you created in the current repository.

Siebel Delta File (SDF)

A type of file that is similar to an SIF file except that an SDF file contains only information about modifications to an object.

Siebel Repository

A set of tables that includes Siebel objects and server scripts.

Siebel repository patch file (SPF)

A type of file that includes exported objects.

Siebel Script Editor

An editor that allows you to create and maintain scripts that use Siebel VB, Siebel eScript, or Browser Script.

Siebel Tools

An integrated development environment that you can use to configure Siebel CRM.

simple query

A type of query that locates records according to one condition.

symbolic string

An object that you can use to store the value of a string.

symbolic string reference

A reference to a symbolic string.

top-level object type

An object type at the start of the object hierarchy.

Touch

A version control feature in Siebel Tools that allows you to tag an object even if you do not modify this object.

translatable string

A type of string that Siebel CRM can translate to another language.

Type deduction

A feature of the ST eScript Engine that determines the type of local variables that a script uses.

Validate Tool

An error correction tool you can use to validate the semantic consistency of an object.

Web template editor

An application external to Siebel Tools that allows you to edit a Web template.

Web Template Explorer window

A window that displays the HTML code of a Siebel Web Template.

14 Reference Materials for Siebel Tools

Reference Materials for Siebel Tools

This chapter includes reference information for Siebel Tools. It includes the following topics:

- *Menus and Menu Items on the Menu Bar*
- *Buttons on the Toolbars*
- *Dialog Boxes That Validate Objects*
- *Dialog Boxes That Compare Objects*
- *Dialog Boxes That Set Development Options*
- *Parameters That Convert Symbolic Strings*

Menus and Menu Items on the Menu Bar

This topic describes the menus and menu items that you can click from the menu bar in Siebel Tools. For more information, see *Using the Menu Bar*.

This topic includes the following information:

- *File Menu*
- *Edit Menu*
- *View Menu*
- *Screens Menu*
- *Go Menu*
- *Query Menu*
- *Tools Menu*
- *Workspace Menu*
- *Help Menu*

File Menu

The following table describes the menu items that you can click from the File menu. To use this menu, you click the File menu on the Menu Bar.

Menu Item	Description
Open Repository	If multiple repositories reside in the development database, then this menu item allows you to open a repository other than the repository that is currently open. Siebel Tools sets the repository you choose from the Open Repository menu item as the default repository that it opens each time you open Siebel Tools.

Menu Item	Description
New Object	Starts the New Object Wizard that allows you to create a list applet, form applet, chart applet, tree applet, business component, report, table, command, picklist, MVG, or view.
Close (CTRL+F4)	Closes the Object List Editor.
Save (CTRL+S)	Saves modifications that the current editing window contains if you edit in one of the following windows: Layout, Menu, or Basic Scripts.
Save All	Saves modifications in all open editing windows.
Import	Imports text from an external text file into the Siebel VB Editor window. This text must use an SBL file format. Siebel Tools creates this format when it exports text from the Siebel VB editor.
Export	Allows you to create a text file in delimited or HTML format that lists the property values of an object or all objects that the Object List Editor currently shows.
Print Setup	Modifies the printer and printing options for printing diagrams from the object visualization view.
Print Preview	Opens a print preview window that displays an object visualization view.
Print (CTRL+P)	Prints the active object visualization view diagram.
Exit	Closes Siebel Tools.

Edit Menu

The following table describes the menu items that you can click from the Edit menu. The Edit menu items apply to individual objects in the Object List Editor. You can right-click an object in the Object List Editor to display a list of menu items.

Menu Item	Description
Undo (CTRL+Z)	Reverses the last modification you made to a property value in the Object List Editor or the Property window before you save the object.
Redo (CTRL+Y)	Reapplies modifications after the Undo command runs.
Undo Delete	Siebel Tools displays this menu item if you delete a record in the Object List Editor. It allows you to undo the deletion.
Undo Record	If you have not saved the record, then this menu item removes a new object that you create or reverses modifications you made to an existing object.

Menu Item	Description
New Record (CTRL+N)	Creates a new object in the Object List Editor and positions the cursor in the first required property.
Copy Record (CTRL+B)	Creates a new object that is a copy of the object that you choose. It also creates copies of all child objects. It is recommended that you use the Copy Record menu item only if reusing an existing object is not practical.
Delete Record (CTRL+D)	Deletes the object that you choose and the child objects of the object you choose. It is recommended that you do not use the Delete Record menu item. Instead, use the Inactive property. For more information, see *Using the Inactive Property*.
Cut (CTRL+X)	If you use this menu item while your cursor is in a property that contains text, then Siebel Tools copies the text you choose to the clipboard and deletes the existing text. In the Applet Designer, it copies the control you choose to the clipboard and deletes the existing control.
Copy (CTRL+C)	If you use this menu item while your cursor is in a property that contains text, then Siebel Tools copies the text you choose to the clipboard. In the Applet Designer, it copies the control you choose to the clipboard.
Paste (CTRL+V)	Inserts text from the clipboard into a property at the insertion point. Inserts a control from the clipboard in the Applet Designer.
Delete (DEL)	If you use this menu item while your cursor is in a property that contains text, then Siebel Tools deletes the text you choose. In the Applet Designer, it deletes the control you choose.
Select All (CTRL+A)	Chooses all items. In the Applet Designer, it chooses all controls that the applet contains.
Change Records	Modifies multiple records simultaneously.
Find (CTRL+F)	Finds the text that you specify in the Siebel Script Editor window.
Replace (CTRL+H)	Replaces the text that you specify with different text in the Siebel Script Editor window.

View Menu

The following table describes the menu items that you can click from the View menu. You use these menu items to display windows, toolbars, or visualization views.

Menu Item	Subitem	Description
Windows	Palette	Displays the Palettes window.
	Properties Window	Displays the Properties window.

Menu Item	Subitem	Description
	Applets Window	Displays the Applets window.
	Controls Window	Displays the Controls/Columns window.
	Bookmarks Window	Displays the Bookmarks window.
	Web Templates Window	Displays the Web Templates Explorer window.
	Multi Value Properties Window	Displays the Multi Value Property Window.
	Refresh Windows	Requeries and updates the state of dockable windows.
	Reset Windows	Closes all dockable windows except the Object Explorer for the currently active editor. Does not close editor windows.
Editors	Web Applet Editor	Opens the applet you choose in the Applet Web Template Editor, including the Controls/Columns and Palettes windows.
	Server Script Editor	Opens the Siebel Script Editor. You can specify the editor to use or you can use the default.
	Browser Script Editor	Opens the Siebel Web Script Editor that you use to access the scripts that control the presentation and behavior of applet controls and list columns in a Web applet template.
Visualize	View Details	For more information, see *Viewing Object Relationships*.
	View Relationships	
	View Descendents	
	View Web Hierarchy	
Debug Windows	Calls (CTRL+L)	Opens the Calls window. This window displays the call stack of the Siebel VB script or the Siebel eScript script that you are currently debugging.
	Watch (SHIFT+F9)	Opens the Watch window. This window displays the values of local variables for items you are currently debugging, such as Siebel VB script, Siebel eScript, or Siebel Workflow.
	Errors	Opens the Errors window. This window displays the run- time errors in the Siebel VB script or Siebel eScript script that you are currently debugging.

Menu Item	Subitem	Description
Preview	Not applicable	Displays a preview of a Web view layout. This preview approximates how Siebel CRM displays the container page, screen bar, and view bar.
ActiveX Methods		Allows you to view the methods for the current ActiveX control in the Applet Designer.
Toolbars		Displays the following toolbars: Edit, History, List, Debug, Web Controls, and Configuration Context.
Status Bar		Displays the Status bar at the end of the Siebel Tools window.
Object Explorer (CTRL+E)		Displays the Object Explorer.
Options		Opens the Development Tools Options dialog box. For more information, see *Development Options for Debugging*.

Screens Menu

The following table describes the menu items that you can click from the Screens Menu. Siebel Tools displays the Screens menu only if you log on to Siebel Tools as a system administrator.

Menu Item	Subitem	Description
Application Upgrader	Application Upgrade Object List	Displays the Application Upgrades list, Object Differences list, or Attribute Differences list in the Object List Editor. In the Attribute Differences list, you can right-click and select an option to show critical conflicts, non-critical conflicts, and all changes for the item selected in the Object Differences list.
	Application Upgrade Database Version	For internal Oracle use.
	Application Upgrade Attribute List	Displays the Application Upgrades list and the Attribute Differences list in the Object List Editor. In the Attribute Differences list, you can right-click and select an option to show critical conflicts, non-critical conflicts, and all changes for the item selected in the Application Upgrades list.
System Administration	System Preferences	Displays system preferences in the Object List Editor. This information is similar to the information that Siebel CRM shows in the System Preferences view in the Administration - Application screen in the Siebel client.

Menu Item	Subitem	Description
		Note: In Web Tools, click the Tools menu and then click the System Preferences menu item.
	Analytics Strings	For internal Oracle use.
	List of Values	Displays the lists of values that the development database contains.

Go Menu

The following table describes the menu items that you can click from the Go menu. The Go menu allows you to navigate records in a list.

Menu Item	Description
Back	Displays the previous screen in a sequence.
Forward	Displays the next screen in a sequence.
Previous Record (CTRL+UP)	Navigates to the first object that is preceding the current selection.
Next Record (CTRL+DOWN)	Navigates to the first object that is succeeding the current selection.
First Record (CTRL+PAGE UP)	Navigates to the first object in the list.
Last Record (CTRL+PAGE DOWN)	Navigates to the last object in the list.
Add Bookmark	Displays the Add Bookmark dialog box that allows you to create a bookmark to the object you choose. You can use this menu item to create a *bookmark*, which is a feature that allows you to return directly to an item.
Bookmark List	Displays the Bookmarks dialog box that allows you to choose an existing bookmark. You can also use this dialog box to rename or delete an existing bookmark.

Query Menu

The following table describes the menu items that you can click from the Query menu. This menu allows you to create and refine an Object List Editor query. You can use this query to filter the list of objects that appear in the current Object List Editor.

Menu Item	Description
New Query (CTRL+Q)	Allows you to filter the set of objects that appear in the Object List Editor.
Refine Query (CTRL+R)	Allows you to add more filters to the current query.
Execute Query (ENTER)	Runs the query.
Sort Order	Opens the Sort Order dialog box. This dialog box allows you to specify the order that the Object List Editor uses to display the records.

Tools Menu

The following table describes the menu items that you can click from the Tools menu.

Menu Item	Subitem	Description
Compile (F7)		Opens the Object Compiler dialog box to compile one or more projects to a repository.
Compile Selected Objects (CTRL+F7)		Opens the Object Compiler dialog box to compile the objects you choose to a repository.
Lock Project (ALT+L)		Locks the project that the object you choose references.
Unlock Project (ALT+U)		Unlocks the project that the object you choose references.
Add To Archive		Opens the Export To Archive dialog box to add the top-level objects that you choose or projects to an archive.
Import From Archive		Starts the Import wizard to import objects from an archive.
Compare Objects	Selected	Compares two objects that you choose. It uses a list of object names and properties to display similarities and differences.
	Selected vs. Repository	Compares the object you choose to the corresponding object in the repository and displays similarities and differences.
	Selected vs. Archive	Compares the object you choose to the corresponding object in an archive and displays similarities and differences.
	Archive vs. Archive	Compares two files that you choose and displays similarities and differences.

Menu Item	Subitem	Description
Convert to Grid Layout		Converts a form applet that uses a nongrid layout to grid layout.
Search Repository		Opens the Search Repository dialog box to search for objects according to the object name, another property, or the object type.
Validate Object		Validates the object you choose. Lists errors according to severity, rule number, object name, and error description. Allows you to modify options for rules, severity, and enforcement.
Upgrade	Maintenance Update	Not applicable starting with Siebel CRM version 8.0.
	Prepare Repository	Used to upgrade from a Siebel CRM version that occurs before version 7.x to version 8.0. The Prepare Repository utility runs before it does a repository merge. It migrates strings from the S_MSG table, merges labels and fields, and merges templates to applets for the language that you specify. For more information, see *Siebel Database Upgrade Guide* .
	Migrate ICL Objects to Standard	Applicable if you choose the Incorporate Custom Layout (ICL) option. You choose this option to preserve the layouts of custom objects during a previous upgrade. Before you can perform a subsequent upgrade, you must migrate the ICL objects to the predefined repository. For more information, see About Predefined Objects and *Siebel Database Upgrade Guide* .
	Upgrade Application	Displays the Application Objects Upgrade List in the Application Upgrader screen of Siebel Tools and opens the Merge Repositories dialog box. You use this menu item to merge predefined and custom repositories. For more information, see *Siebel Database Upgrade Guide* .
	Generate EIM Processing Columns	Opens the EIM Processing Column Generator dialog box. You can use this dialog box to create missing EIM processing columns and indexes after you merge the repository.
	Web Client Migration	Used to upgrade from Siebel CRM version 6.x to version 7.x or version 8.0. It associates Web templates to a group of applets and views so that Siebel CRM can use them in the Siebel client. For more information, see *Siebel Database Upgrade Guide* .
Utilities	Generate Help IDs	Oracle uses this subitem internally to create the sshelp.hm file for Siebel Tools Online Help. This file includes information about context Id numbers and text help identifiers that the Help Id objects specify.
	Locale Management	Allows you to use the Local Management Utility to import or export translatable strings and locale properties.
	Map Fax Properties	If you click business component in the Object Explorer, then this menu item opens the Map Fax Properties dialog box for the business component that you choose. You can use this dialog box to create mappings between fields in the business component and sheet

Menu Item	Subitem	Description
		properties for the fax software. These mappings allow you to customize the fax cover sheet and the fax message.
	Export View Previews	Exports the view that the Preview mode of the View Layout Editor shows to an HTML file.
	Case Insensitivity	Opens the Case and Accent Insensitivity Wizard. It allows you to do a case-insensitive or accent-insensitive search on columns in the Siebel schema. For more information, see *Configuring Siebel Business Applications* and *Siebel Database Upgrade Guide* .
	Build Patch	Starts the Patch Builder wizard that allows you to create a patch file.
	Apply Patch	Opens the Apply Patch window that allows you to apply the patch.

Workspace Menu

When you select the Workspace menu, a list of different menu items that are used to configure and manage workspaces appears. The following table describes the menu items under the Workspace menu.

Menu Item	Description
Create	Select this option to create a new workspace. For more information, see *Creating New Workspaces*.
Checkpoint	Select this option to check in the changes that you made to the current version of the workspace. For more information, see *Performing the Checkpoint Version Process*.
Revert	Select this option to revert the changes that you made to the current version of that workspace. For more information, see *Reverting to Previous Workspace Versions*.
Rebase	Select this option to apply and up-take the changes that were made in the parent workspace into the current workspace. For more information, see *Rebasing Workspaces*.
Merge Reports	Select this option to view and resolve the conflicts that occurred during the rebase process. For more information, see *Rebasing Workspaces*and *Detecting Conflicts in Workspaces and Applying Resolutions*.
Submit for Delivery	Select this option to change the status of the workspace and make it ready for delivering the changes to the MAIN workspace.

Menu Item	Description
	For more information, see *Submitting Workspaces for Delivery*.
Deliver	Select this option to deliver the changes in the workspace to the MAIN workspace. **Note:** This option is available only to the user who is also the owner of the MAIN workspace. For more information, see *Delivering Workspaces*.
Compare	Select this option to view the differences that are made to the objects in two selected workspace versions. For more information, see *Comparing Workspace Versions*.
Undo Submit for Delivery	Select this option to cancel the workspace delivery process. For more information, see *Canceling the Workspace Delivery Process*.
Workspace Explorer	Select this option to display the Workspace explorer pane.

Window Menu

The Window menu lists the currently open Object List Editor, Application Designer, visualization view, and other windows, and allows you to navigate to windows that Siebel Tools does not currently show. If one of these windows is open, then Siebel Tools displays the Close menu item as the first item. The Close menu item closes the window that is currently active.

Help Menu

The following table describes the menu items that you can click from the Help menu.

Menu Item	Description
Contents	Opens the Siebel Tools Online Help.
Using Help	
Technical Support	Displays the Technical Support Information dialog box that includes information that Technical Support might require, such as the version number of your Siebel Tools installation.
About Record	Opens a dialog box that displays information about the current object, including the object creator and creation date.

Menu Item	Description
About SRF	Opens a dialog box that displays information about the most recent full incremental compile.
About View	Opens a dialog box that displays information about the current screen, business object, and view, including applet layout.
About Visible Views	Displays the list of views in the repository and if each view is visible. Visibility for each view depends on the license key you use when you install Siebel Tools. For more information, see *Description of the About Visible Views Dialog Box*.
About Siebel Tools	Opens a dialog box that identifies the version of Siebel Tools.

Description of the About Visible Views Dialog Box

The following table describes the information that the About Visible Views dialog box shows. To view this dialog box, you click the Help menu and then click About Visible Views.

Column	Description
View Name	Displays the view name. The views in this column are not the predefined views in Siebel Tools.
Visible	Shows whether or not the view is visible in Siebel Tools.
Application	Shows whether or not the view is associated with Siebel Tools.
View	Shows whether or not the view always appears as a view in Siebel Tools.
Responsibility	Shows whether or not the view is associated with user responsibilities.
License	Shows whether or not the view visibility depends on the license key that you use when you install Siebel Tools.
Platform	Shows whether or not the view visibility depends on the platform that Siebel Tools uses.

Buttons on the Toolbars

This topic describes the buttons that you use on the toolbars in Siebel Tools. For more information, see *Using the Toolbars*.

This topic includes the following information:

- *Edit Toolbar*
- *List Toolbar*
- *History Toolbar*
- *Simulate Toolbar*
- *Format Toolbar*
- *WF/Task Editor Toolbar*
- *Configuration Context Toolbar*

Edit Toolbar

The following table describes the buttons that you can click on the Edit toolbar.

Button	**Description**	
📄	New	Starts the New Object Wizard that allows you to create applets, views, charts, and other objects.
💾	Save	Saves modifications in the current editing window if you use Layout, Menu, or Basic Scripts.
💾	Save All	Saves modifications in all open editing windows.
✂	Cut	If you use this button while the cursor is in a property that contains text, then Siebel Tools copies the text you choose to the clipboard and deletes the existing text. In the Applet Designer, it copies the control you choose to the clipboard and deletes the existing control.
📄	Copy	If you use this button while the cursor is in a property that contains text, then Siebel Tools copies the text you choose to the clipboard. In the Applet Designer, it copies the control you choose to the clipboard.
📋	Paste	Inserts text from the clipboard to a text property at the insertion point. In the Applet Designer, it inserts a control from the clipboard.

Button	Description	
↶	Undo	If you have not saved the object, then this button reverses the last modification you made to a property value in the Object List Editor or Property window.
↷	Redo	Reapplies modifications after the Undo command runs.

List Toolbar

The following table describes the buttons that you can click on the List toolbar.

Button	Description	
▤	Add New Record	Creates a new object in the Object List Editor and positions the cursor in the first required property.
⏮	First Record	Goes to the first object in the list.
◀	Previous Record	Goes to the object preceding the current selection.
▶	Next Record	Goes to the object succeeding the current selection.
⏭	Last Record	Goes to the last object in the list.

Button	Description	
🔍	New Query	Allows you to specify one or more filters on the set of objects that the Object List Editor shows.
🔍	Execute Query	Runs the query you specify. This button does the same as pressing ENTER.
A Z ↓	Sort Ascending	Modifies the order that Siebel Tools uses to display objects. It sorts them in ascending order according to the currently chosen property column.
Z A ↓	Sort Descending	Modifies the order that Siebel Tools uses to display objects. It sorts them in descending order according to the currently chosen property column.
▽	Filter Version	Displays only the most recent version of each workflow process or task UI that the Object List Editor shows.

History Toolbar

The following table describes the buttons that you can click on the History toolbar.

Button	Description	
⬅	Go Back	Returns to the previously displayed screen.
➡	Go Forward	Returns to the subsequent displayed screen.
+	Add Bookmark	Displays the Add Bookmark dialog box that allows you to create a bookmark to the object you choose. You can use this menu item to create a *bookmark*, which is a feature that allows you to return directly to an item.

Button	Description	
	Bookmark List	Displays the Bookmarks dialog box that allows you to choose an existing bookmark. You can also use this dialog box to rename or delete an existing bookmark.

Simulate Toolbar

The following table describes the buttons that you can click on the Simulate toolbar.

Button	Description	
▶	Start Simulation	Starts the simulation of a workflow process.
▶	Simulate Next	Simulates the next workflow process step.
⏭	Complete Simulation	Completes the simulation of a workflow process.
🟥	Stop Simulation	Stops the Workflow Simulator.

Format Toolbar

The following table describes the buttons that you can click on the Format toolbar.

Button	Description
	Aligns the near edges of controls.
	Aligns the centers of controls along a vertical axis.

Button	Description
	Aligns the far edges of controls.
	Aligns the highest points of controls.
	Aligns the middles of controls along a horizontal axis.
	Aligns the lowest points of controls.
	Makes the controls the same width.
	Makes the controls the same height.
	Makes the controls the same size.
	Makes the horizontal spacing between controls equal.
	Increases the horizontal spacing between controls.
	Decreases the horizontal spacing between controls.
	Removes the horizontal spacing between controls.
	Makes the vertical spacing between controls equal.
	Increases the vertical spacing between controls.
	Decreases the vertical spacing between controls.
	Removes the vertical spacing between controls.
	Centers the controls vertically.
	Centers the controls horizontally.

Button	Description
	Aligns the labels to the near margin.
	Centers the labels.
	Aligns the labels to the far margin.

WF/Task Editor Toolbar

The following table describes the buttons that you can click on the WF/Task Editor toolbar.

Note: All the buttons apply only to Tasks and not to Workflows.

Button	Description	
	Publish/Activate	Publishes and activates a task UI in a single step. This button is available only with the Siebel Web Client. You cannot use it to activate a task UI in the production environment.
	Publish	Makes a task UI available to activate from the Siebel client.
	Revise	Revises a task UI.
	Expire	Makes a task UI inactive.

Configuration Context Toolbar

The following table describes the items that you can use on the Configuration Context toolbar.

Drop-Down List	Description
Target Browser	Allows you to choose a target browser for layout editing and for scripting.
Application	Allows you to configure objects for a specific Siebel application. Typically, you use All Applications. If you choose a single application from the list, then you can configure objects, such as applets or views, to show or behave differently for only the application you choose.
Variable	Allows you to specify a display style for an applet for previewing, such as parent, child, or grandchild. Siebel Tools might display an applet differently depending on the underlying Web template. For example, an applet header might not appear if Siebel Tools displays it as a grandchild.

Dialog Boxes That Validate Objects

This topic describes dialog boxes that you use to validate objects. For more information, see *Validating Objects*.

This topic includes the following information:

- *Elements of the Validate Dialog Box*
- *Elements of the Validation Options Dialog Box*

Elements of the Validate Dialog Box

The following table describes the elements of the Validate dialog box.

Element	Description
Errors List	Displays the results of the validation process. Each row in the list identifies a rule violation for an object. You can do the following: • Double click the error in the Errors list to drill down on the object that causes the error. • Click a column heading to sort the rows. • Resize the border of the heading cell to adjust columns.
Severity Column	Includes an icon that indicates one of the following: • **Warning.** Yellow icon with an exclamation mark. • **Error.** Red icon with a minus sign. This error might cause a problem in Siebel CRM at run time.
Rule Column	Displays an integer that identifies the number of the violated rule. Siebel Tools lists rules sequentially according to the rule number.
Object Column	Displays the name of the object that failed validation.
Description Column	Displays a description of the error or warning.

Element	Description
Details Window	Displays more information about the error or warning message for the row that you choose in the Errors list.
Go To Button	To drill down on the object that causes an error, you can choose an error in the Error section, and then click Go To. You can also double-click the error message.
Log File Window	Displays the path and file name of the log file that includes the same list of validation errors and warnings that the Errors List shows. To save this list as a log file, you can click Save As, navigate to where you want to save the file, and then specify a file name.
Load Button	Loads the contents of the log file that Siebel Tools saves when you use Save As in the Log File section. You can use the Load button to load the list of error and warning validations back into the Validation Tool at a later time.
Save As Button	Saves the list of validation rows that Siebel Tools currently shows in the Errors List as a log file.

Elements of the Validation Options Dialog Box

The following table describes the Rules area of the Validation Options dialog box. If you click Options in the Validate dialog box, then Siebel Tools displays the Validation Options Dialog box. To avoid validating objects that your configuration does not use, you must use the repository validator only in conjunction with the time filter.

Element	Description
Rules List	Lists the rules that Siebel Tools enforces during validation. You can click a column heading to sort the rows. You can resize the heading cell to adjust columns.
Severity Column	Displays an icon that indicates one of the following: • **Warning.** Yellow icon with an exclamation mark. • **Error.** Red icon with a minus sign. This error can cause a problem in Siebel CRM at run time.
Rule Column	Displays an integer that identifies the number of the violated rule. Siebel Tools lists rules sequentially according to the rule number.
Object Column	Displays the object type that Siebel Tools examines.
Description Column	Displays a description of the rule.
Enforce Column	Indicates if Siebel Tools enforces the rule. A Yes value validates all objects of the object type that the Object column identifies. If you use any of the following buttons in the Validation Options dialog box, then Siebel Tools modifies the value in the Enforce column:

Element	Description
	• Enforce • Ignore • Enforce All • Ignore All
Save Button	Saves all the values for the current set of rules to a text file that you specify. If you press ENTER, and if the Validation Options dialog box is open, then Siebel Tools saves other settings to a preferences file.
Enforce Button	Modifies the value in the Enforce column in the row that you choose from No to Yes.
Ignore Button	Modifies the value in the Enforce column in the row that you choose from Yes to No.
Enforce All Button	Modifies all values in the Enforce column to Yes.
Ignore All Button	Modifies all values in the Enforce column to No. If you click Ignore All, then Siebel Tools does not validate any objects.
Details Text Box	Displays more information about the error or warning message for the row that you choose in the Errors list.
Last Validated Option	If this check box includes a check mark, then Siebel Tools validates only objects that Siebel CRM modified since the date you enter in the Last Validated window.
Custom Option	If this check box includes a check mark, then Siebel Tools validates only the objects that Siebel CRM modified according to the date range that you enter in the date and time fields next to the Custom option.
Do Not Report Warnings Option	If this check box includes a check mark, then Siebel Tools reports only errors. It does not report warnings. It also modifies the value in the Enforced column of all warning rules to No.
Abort Validation Option	If this check box includes a check mark, and if you enter a number in the Errors window that appears after this option, then it stops validating after it reaches the number of errors you specify. If Siebel Tools identifies the number of errors that you specify in this window, then it stops validating the object and displays the Error dialog box.

Dialog Boxes That Compare Objects

This topic describes the dialog boxes that you use to compare objects.

Elements of the Compare Objects Dialog Box

The following table describes the elements of the Compare Objects dialog box.

Element	Description
First Selection Section	Displays the object hierarchy as a tree. To expand a tree, you can use the controls in the First Selection window or the Second Selection window. For example, if you expand the tree in the First Selection window, then Siebel Tools does the following: • Expands the tree in the First Selection window. • Expands the tree in the Second Selection window. • Displays the child object types that each parent object contains. • Displays a dashed line to represent a child object that does not exist in an object.
Second Selection Section	
Properties Section	Displays the properties that are different for the objects that Siebel Tools compares.
Display Section	Determines how Siebel Tools displays items in the Compare Objects dialog box. You can choose the following options: • **Show All Objects.** Displays all child objects in the First Selection section and the Second Selection section. • **Show All User Properties.** Displays all user properties in the Properties section. • **Show System Properties.** Displays system properties in the Properties section (for example Created, Created By, Updated, and Updated By).
→	Synchronizes objects from the repository that the First Selection section represents with the repository that the Second Selection section represents. For more information, see *Comparing and Synchronizing Objects Between Repositories and Archives*.
←	Synchronizes objects from the repository that the Second Selection section represents with the repository that the First Selection section represents. For more information, see *Comparing and Synchronizing Objects Between Repositories and Archives*.
++	Expands the entire tree in the First Selection section and the Second Selection section.
−−	Collapses the entire tree in the First Selection section and the Second Selection section.
Delete Button	Deletes objects after a comparison.

Dialog Boxes That Set Development Options

This topic describes the dialog boxes that you use to set development options. It includes the following information:

- *Development Options for Visualization Views*
- *Development Options for Scripting*
- *Development Options for Debugging*

Development Options for Visualization Views

The following table describes the development options that you can set for visualization views. For information about using this dialog box, see *Viewing Object Relationships*.

Option	Description
Use System Font	Uses a system font for the visualization views.
Use a Custom Font	You can use the Font, Size, and Zoom drop-down lists to choose your preferred font.
Boxes with 3D borders	Displays boxes with a three dimensional border.
Icon and name only	Displays the object name and the same object icon that the Object Explorer shows.
Simple outline boxes	Displays each object name in a simple box.
Always print outline style	Displays visualization details in outline style.

Development Options for Scripting

The following table describes the development options that you can set for scripting. For more information, see *Setting Options for the Siebel Script Editor*.

Section	Option	Description
Font	Name	Sets the font name that appears for a script.
	Size	Sets the font size that appears for a script.
Script Assist	Allows you to set Script Assist options.	

Section	Option	Description
	Enable Method Listing	Allows Script Assist to display a drop-down list that includes the methods and properties that are available for a declared object.
	Tab Width	Specifies the number of spaces that Siebel Tools uses for a tab character in the script. The default value is four spaces.
	Enable Auto Complete	If this check box contains a check mark, then Siebel Tools auto completes a method name or property name. It does this if you enter the minimal number of unique characters that are required to complete the name. If it locates strings that are not unique, then it displays a drop-down list.
	Auto Indent	If this check box contains a check mark, then Siebel Tools indents each succeeding line of script to the position that the current line sets.
	Enable Favorites	If this check box contains a check mark, then Siebel Tools displays the object, method, or property name that you use most frequently in italics at the start of the Script Assist window.
	Engine Settings	For more information, see *Setting Options for the ST eScript Engine*.
Language	Default Language for New Scripts	You can choose eScript or Visual Basic.
Debugging	Allows you to set options for the Siebel Debugger. For more information, see *Setting Debug Options to Open the Siebel Client*.	
	Adjust Breakpoint to Next Valid Line	If this check box contains a check mark, and if you delete a breakpoint on an invalid code line, then Siebel Tools creates a breakpoint at the next valid line.
	Make Debugger Window Active When Debugging	If this check box contains a check mark, then Siebel Tools displays the Siebel Debugger window when it is in debug mode.
	Always Enter the Debugger When an Error Occurs	If this check box contains a check mark, and if a script error occurs, then Siebel Tools displays the Siebel Debugger window.

Development Options for Debugging

The following table describes the development options that you can set for debugging. To access this dialog box in Siebel Tools, you click the View menu, click Options, and then click the Debug tab. Siebel Tools stores the settings you make on the Debug tab in the following user preference file:

```
loginId&SiebelTools.spf
```

It stores this file in the *SIEBEL_TOOLS_ROOT* `\BIN` folder.

Option	Description
Executable	Enter the name of the Siebel Web Client executable. For example: `siebel.exe` The default value is siebel.exe. Siebel Tools runs this executable in debug mode or automatically after compile finishes.
CFG File	Enter the name of the configuration file that the Siebel client uses. For example: `C:\Program Files\Siebel\8.0\web client\BIN\ENU\uagent.cfg`
Browser	Enter the path to the browser executable. For example: `C:\Program Files\Internet Explorer\iexplore.exe`
Working Directory	Enter the Siebel root folder. This folder includes the Siebel executable and the DLLs (dynamic link libraries). For example: `C:\Program Files\Siebel\8.0\web client\BIN`
Arguments	Enter the options that Siebel Tools uses when it opens the watch window: • **/h.** Enables local debugging of server scripts. • **/s file name .** Enable SQL spooling.
Prompt for This Information Each Time	If this check box contains a check mark, then Siebel Tools displays information each time it runs a debug operation. For example, it can display the name of the executable, the name of the CFG file, the browser configuration, and so on.
Show Workflow Primary Business Component Data	If this check box contains a check mark, then the Watch window in the Workflow Simulator displays information about the workflow process. It displays the name of each business component field and the value for each of these fields. These fields include fields from the primary business component of the business object that the workflow process references.
User Name	Enter the user name that Siebel CRM requires to log in to the Siebel application you are debugging.
Password	Enter the password that Siebel CRM requires to log in to the Siebel application you are debugging.
Data Source	Choose a default data source. The values you can choose depend on Oracle's Siebel Tools configuration file that you specify in the CFG File option. The Siebel Web Client connects to this local database.

Parameters That Convert Symbolic Strings

This topic describes the parameters that you can use to convert a symbolic string. You use these parameters with a conversion utility. For more information, see *Converting Symbolic Strings*.

This topic includes the following information:

- *Parameters You Use with the Conversion Export Utility*
- *Parameters That You Can Use with the Conversion Import Utility*

Parameters You Use with the Conversion Export Utility

The following table describes the parameters that you can use with the conversion export utility.

Parameter	**Description**
Filename	Required. Specifies the name of the export file.
Repository	Required. Specifies the name of the repository. The repository name is case sensitive.
Object	Required. Specifies the object type that contains the strings that this utility exports. For example: `Control` The object name is case sensitive.
LogFile	Specifies the name of the log file.
Language	Specifies the language that this utility uses as the primary language to match when it searches for duplicate symbolic strings. For example, each symbolic string includes the following child records: • English (ENU) • French (FRA) • German (DEU) If you set the Language parameter to ENU, then the conversion export searches for matches between the ENU records. If it finds matches, then it examines the other child records of the other languages. If all child records match, or if one language includes a superset of one of the other languages, then this utility considers them as matching symbolic strings.
MatchMin	Specifies the minimum number of matches in a set of matching symbolic strings before this utility writes them to the file. The default value is 2.
SQLLog	Specifies the SQL log file name. If you set this parameter, then this utility logs all SQL that it runs to this file.
ExcludeNull	Specifies a TRUE or FALSE value. If TRUE, then this utility excludes null values for conversion consideration. The default value is TRUE.

Parameter	Description
UseFullMatch	Specifies a TRUE or FALSE value. If TRUE, then this utility matches records against all the other possible match candidates before it discards them. The default value is TRUE.
UseExactMatch	Specifies a TRUE or FALSE value. If TRUE, then this utility considers records as a match only if all of the records include the same number of language records, and if the same values exist for each language. It does not consider partial matches. The default value is FALSE.
SkipInactive	Specifies a TRUE or FALSE value. If TRUE, and if the Inactive property of the record is set to Y, then this utility skips this record. The default value is TRUE.

Parameters That You Can Use with the Conversion Import Utility

The following table describes the parameters that you use with the conversion import utility.

Parameter	Description
Filename	Required. Specifies the name of the import file. You must use the same name that you use when you export symbolic strings.
Repository	Required. Specifies the name of the repository.
LogFile	Specifies the log file.
UnlockProjects	Specifies a TRUE or FALSE value. If TRUE, then this utility unlocks all projects when the conversion finishes. This configuration is useful if multiple instances of the conversion service run against the same database. The default value is TRUE.
SkipParentUpdates	Specifies a TRUE or FALSE value. If TRUE, then this utility does not update parent objects to use the symbolic string. The default value is FALSE. Set SkipParentUpdates to TRUE only if you do not simultaneously run multiple instances of the import. If you set SkipParentUpdates to TRUE, and if you run multiple instances, then errors might occur. The utility might abort an update or delete records because another instance updates the project at the same time.
SQLLog	Specifies the log file name. If you use this parameter, then this utility logs all SQL that it runs to the file you specify.
Project	Required. Specifies the name of the project in the repository that includes the new strings. Predefined symbolic strings reside in the Symbolic Strings project. You can configure this utility to import custom strings. For more information, see *About Predefined Objects*.
DeleteLocales	Specifies a TRUE or FALSE value. If TRUE, and if all translatable strings are NULL, and if language override is not enabled, then this utility deletes locale records. If FALSE, then this utility sets the locale record to Inactive. The default value is TRUE. For more information, see *Setting the Language Mode*.

Parameter	Description
CheckTranslateFlag	Specifies a TRUE or FALSE value. If TRUE, and if the Translate property for the object is N, then this utility does not convert this object. The default value is TRUE.
LogErrorRecords	Specifies a TRUE or FALSE value. If TRUE, then this utility exports all error records to a separate log file. The default value is FALSE.