



BigFix Development Environment™ (BDE)

**A Guide to Creating
Fixlet® Sites and Messages**

BigFix, Inc.
Emeryville, CA

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Preface

This guide to the BigFix[®] Development Environment (BDE) uses simple step-by-step instructions to demonstrate the creation of Fixlet[®] messages. With this guide -- and some help from the *Windows Inspector Library* and the *Fixlet Action Commands* -- you will be able to create Fixlet Messages that can identify and correct problems on targeted computers and across extended networks.

Audience

This guide is for people who want to author Fixlet messages for an internal network or for public distribution. Fixlet authors may be administrators of large computer networks, requiring a managed roll-out of software patches, or they may be hardware or software vendors, wishing to support their products in the field with regular updates. To get the most out of this guide, it helps to have some experience in the following:

- BigFix Relevance Language
- BigFix Windows Inspectors
- BigFix Action Commands

Organization of this Guide

- **BigFix Development Environment Overview:** Introduces the BigFix Development Environment and explains how to navigate in the BDE.
- **Site Development:** Shows how to create a Fixlet site to serve up Fixlet digests and messages.
- **Digest Development:** Shows how to group Fixlet messages into digests.
- **Template Development:** Shows how to create HTML templates for your Fixlet messages. These speed development and provide a consistent look to your Fixlet site.
- **Fixlet message Development:** Shows how to create a Fixlet message that will target only the computers affected by a given issue.
- **Action Buttons:** Shows how to insert actions into Fixlet messages to fix the problem.
- **Other Fields:** Shows how to insert special developer-defined fields to relate back to a knowledge base or other sources of information.
- **Propagating Fixlet messages:** Explains how to move the Development Fixlet messages to a Fixlet server for testing or deployment.

Conventions Used in this Guide

This document makes use of the following conventions and nomenclature:

Convention	Use
Mono-space	A mono-spaced font is used to indicate the contents of a Fixlet File. It can refer to MIME, HTML or expressions in the Relevance Language.
<i>Bold Italics</i>	Bold Italics are used for the titles of manuals and other cited literature.
[brackets]	Brackets are used to indicate <i>optional</i> items in an expression. For instance, [of (reference expression)] means that an of statement may be included in the expression at your option.

Code Examples:

Square bullets denote examples of relevance expressions, action scripts, HTML or other code. If you have a color version of this file, these square bullets are also red:

- exists folder "fonts" of folder "c:\windows"

Common Terms:

Agent: This is the BigFix end-user program running on a node in a network or BigFix Enterprise deployment.

User, Subscriber or Client: The person using the BigFix agent. A typical user may have several Fixlet site subscriptions in addition to yours.

Author: The author is the person creating Fixlet messages and posting them to a Fixlet site. If you're reading this document so that you can write your own Fixlet messages, this refers to you.

BDE Administrator: The person in charge of deploying and maintaining the BigFix Development Environment, including the Fixlet database. This person is often the same as the author, but may also be a network administrator. The administrator will provide authorization levels to the various Fixlet authors.

BDE Introduction

Launching the BDE

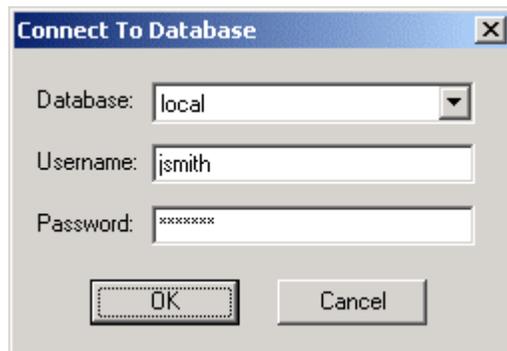
The BigFix Development Environment is designed to interface with a Database Management System (DBMS). A default database, local_bde.mdb, is supplied to get you started.

Typically, the BDE administrator will create a database and an ODBC data source to access it. When you launch the BigFix Development Environment, you then select which database to use.

- 1 Launch the BDE program. Depending on your desktop configuration you can launch the BDE from Start / Programs / BigFix Development Environment or from the desktop icon.

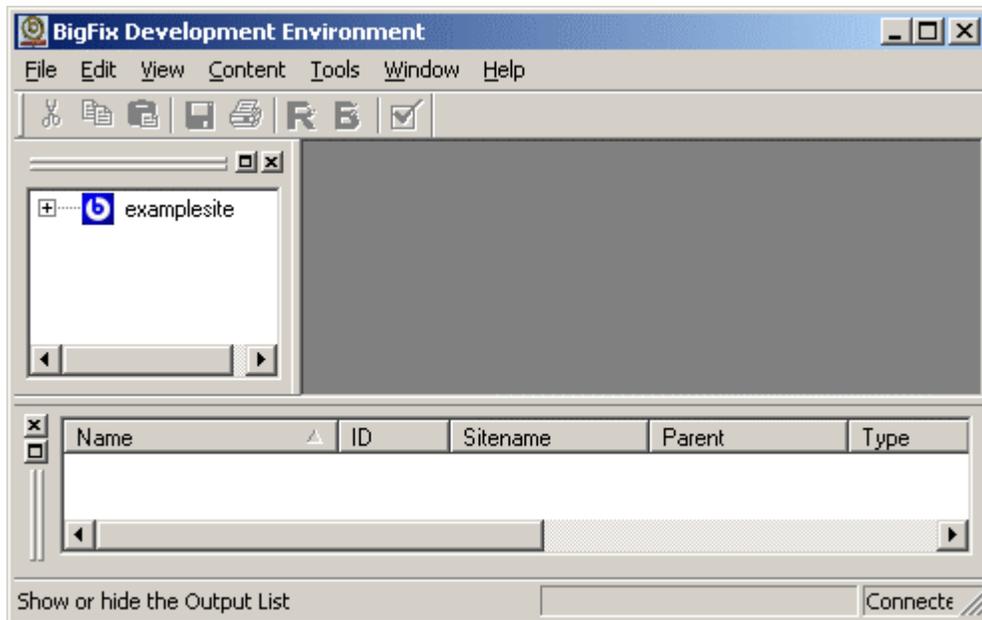


- 2 When the **Connect to Database** dialog appears, select the name of the database you want to use and enter the DBMS username and password (if any). Select local to use the supplied default database -- in which case no user name or password is required.



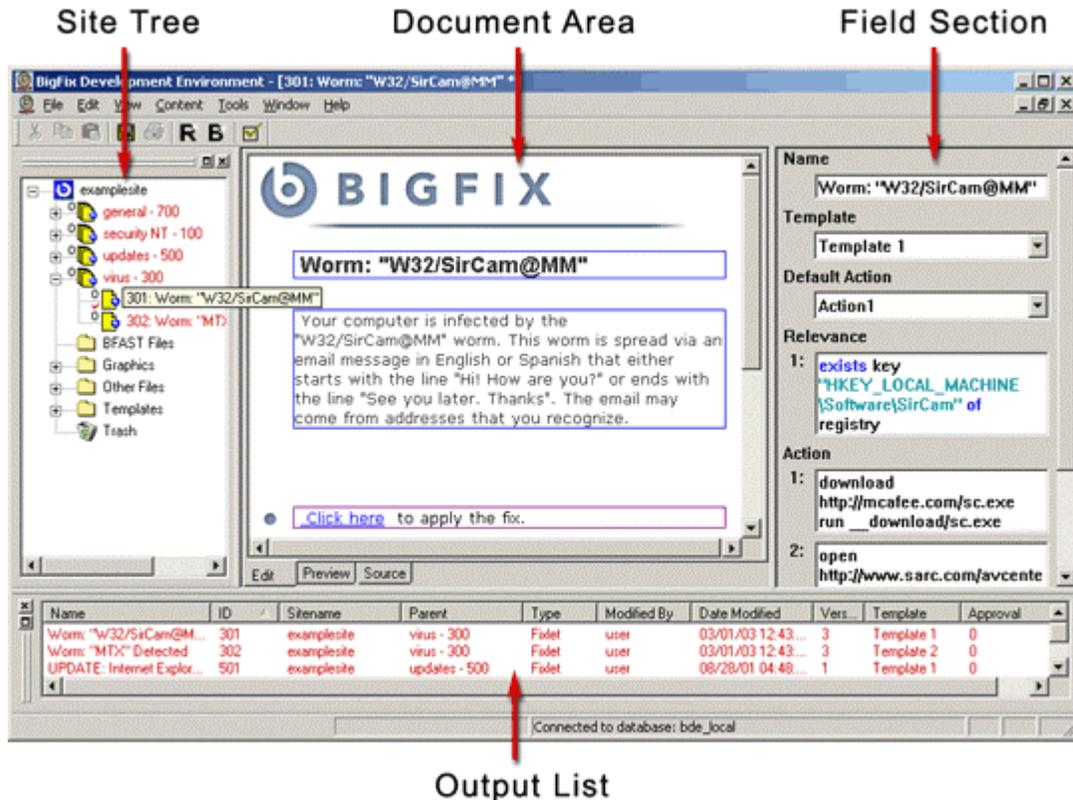
- 3 Click OK to continue loading the BigFix Development Environment.

- 4 If the login is successful, the BigFix Development Environment will appear. The exact appearance of this screen will differ depending on what views were open when the product was last closed.



BDE Overview

The BigFix Development environment is an Integrated Development Environment that should be immediately familiar and comfortable to most users. The interface includes a menu bar, a tool bar, and various panes to display data.



Site Tree

A hierarchical display of the Fixlet site, including its Fixlet messages, digests and associated folders. Use the site tree to display an individual Fixlet message. The site tree is a detachable dialog.

Document Area

Displays the body of a Fixlet message or template. The body is typically an HTML document, and this is where you can create and edit it. There are three tabs at the bottom of the display area that let you edit the HTML, view the HTML or view the source.

Field Section

Displays the relevance clauses, the actions and the other fields associated with the currently displayed Fixlet message or digest.

Output List

Displays the results of the "Find Objects" option from the Edit menu. The output list is a detachable dialog.

BDE Menus

The File Menu

The File Menu lets you deal with the various files and databases that make up a Fixlet site. It offers the following commands:

Save Ctrl+S	Save the current set of Fixlet messages and digests.
Import from XML...	Imports an XML document which may contain Fixlet messages, Digests, Templates or other files.
Connect...	Connect to the Fixlet database.
Disconnect	Disconnect from the current Fixlet database.
Preferences...	Set various database, propagation and program preferences.
Exit	Exit the BDE program

The Edit Menu

The Edit Menu has the traditional clipboard commands for manipulating and finding text and other objects. It offers the following commands:

Cut Ctrl+X	Cut text and put in clipboard.
Copy Ctrl+C	Copy text and put in clipboard.
Paste Ctrl+V	Insert the contents of the clipboard at the current cursor position.
Clear	Clears the contents of the clipboard.
Find Objects...	Brings up a dialog to find text in various Fixlet fields. You must be connected to a database before you can select Find Objects.

The View Menu

The View menu allows you to select which of the BDE windows you want to display and how you want to display them. It offers the following commands:

- √ **Site Tree** Toggle the Site Tree panel.
- √ **Output List** Toggle the Fixlet Output List panel.
- √ **Toolbar** Toggle the Toolbar display containing the tool icons.
- √ **Status Bar** Toggle the Status Bar display.
- HTML Editor**
 - Show Tags** Show HTML tags in the Fixlet editor.
 - Show Borders** Show borders around the editable fields in the Fixlet editor.
- Refresh (F5)** Refresh the site tree and the output Fixlet list to reflect any recent file additions or modifications.

The Content Menu

The Content Menu offers the following commands:

New Digest...	Create a new digest. <i>Only available when a Fixlet database is connected.</i>
New Fixlet...	Create a new Fixlet message. <i>Only available when a digest is selected in the site tree.</i>
New Template...	Create a new Fixlet template. <i>Only available when a template folder is selected in the site tree.</i>
Add File...	Add a file to one of the Fixlet site folders. <i>Only available when a Graphics, BFAST, or Other Files folder is selected in the site tree.</i>
Insert Relevance Ctrl+R	Create a new relevance clause for the currently open Fixlet message or digest. <i>Only available when a Fixlet message, template or digest is open for editing in the document area.</i>
Insert Embedded Action	In addition to buttons, you can insert actions as links in the html. These are typically in a template, but may also exist in individual Fixlet messages. <i>Only available when a Fixlet message or template is open for editing in the document area.</i>
Edit Embedded Actions...	Edit the embedded actions. Brings up a list of embedded actions to choose from.
Insert Other... Ctrl+O	Create a named field for the Fixlet message or digest that is open in the document area. <i>Only available when a Fixlet message or digest is open in the document area.</i>
New Button... Ctrl+N	Create a new button for the Fixlet message that is open in the document area. <i>Only available when a Fixlet message is open for editing in the document area.</i>
Edit Buttons...	Edit an existing button for the Fixlet message that is open in the document area. <i>Only available when a Fixlet message is open for editing in the document area.</i>
Approve...	Approve the Fixlet message, digest or template that is open in the document area. <i>Only available when a message, digest or template is open for editing in the document area.</i>

The Tools Menu

The Tools Menu offers the following commands:

Relevance Evaluator... Ctrl+E	Launch the QnA relevance evaluator to test the relevance expressions in the currently open Fixlet message or digest. <i>Only available when a message or digest is open.</i>
New Site...	Create a new site in the site tree. <i>Only available when the database is connected.</i>
Import Site...	Imports a site into the site tree. <i>Only available when the database is connected.</i>
Propagate...	Propagates the contents of a site. <i>Only available when a Fixlet site is selected in the site tree.</i>
Version History... Ctrl+H	Launch the History dialog to compare past and present Fixlet messages and dialogs. <i>Only available when a message or digest is open.</i>

The Window Menu

The Window Menu provides Cascade and Tile options to quickly arrange the open documents in the main window. You can also use Ctrl+Tab to cycle through each document sequentially.

Close All	Close all the windows in the workspace
Cascade	Overlap all the open windows in the workspace
Tile	Tile all the open windows in the workspace
Arrange Icons	Convert open windows to title bar icons and arrange them along the bottom of the Document Area.
1 Window #1	Each open window is listed in this menu for easy selection.

The Help Menu

The Help Menu offers the following commands:

Contents	Provide online help.
About BDE...	Display the version number and other information about this program.

Sites

Introduction

There are several factors to consider when creating a Fixlet site. At a minimum, a site has digests, which are collections of Fixlet messages containing descriptive html files, relevance expressions and action scripts. For ideas on how to organize a site, refer to the example site that ships with BDE, or import an existing site from BigFix. Here are some general guidelines to follow when creating your Fixlet site:

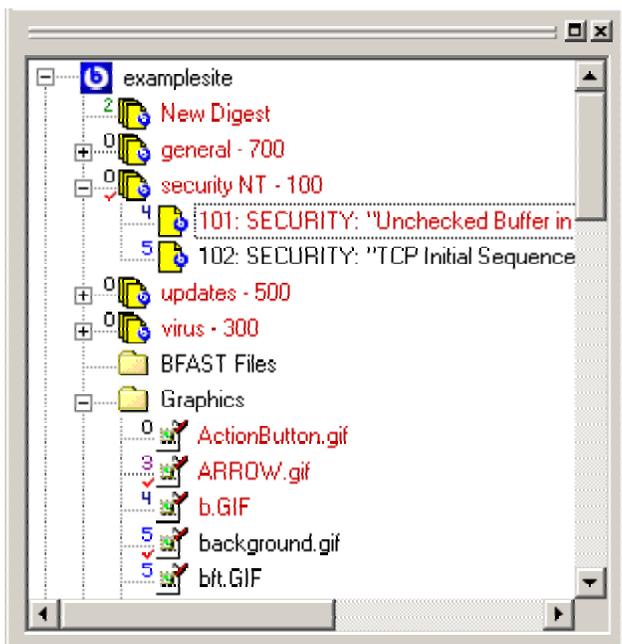
- 1 Define the scope of your site(s).** A Fixlet site can address thousands of issues, including security holes, patches, bug reports, upgrades, virus alerts, driver updates, registry settings and more. As a Fixlet author, your job is to find an optimal way to structure and present your content. You have three basic levels of hierarchy to work with: sites, digests and messages. Sites generally address an issue like security or a product like WinNT. Digests let you group Fixlet messages that share relevance or have similar urgency. Here are some possible scenarios:
 - **An IT manager** may decide to maintain only one internal Fixlet site to provide security updates and to enforce company-wide standards. For complete coverage of Microsoft vulnerabilities, the manager will subscribe to the BigFix site. The manager may also subscribe to certain manufacturer's sites to ensure that all the most current drivers and applications are deployed across the network. For added security, some managers may create a local site and dedicate a group of computers to test outside Fixlet messages before deploying them company-wide.
 - **A hardware manufacturer** may decide to maintain a single Fixlet site for all its product lines, since its users typically have more than one of those products, and the products are easy to support. Should they need to do a recall or a driver update, only those computers with the affected hardware will be notified.
 - **A software manufacturer** may want to create a Fixlet site for each product and package it with the software. This gives them a chance to fix bugs in the field and to offer timely updates.
 - **A software VAR** may decide to create a Fixlet site for each product line it sells to increase its response time and lower its support costs. Each site provides an opportunity to target specific customers with notices of upgrades and related software, add-ons, plug-ins, etc. For each product, the VAR may work with the software developers on a shared, private development site.
- 2 Define your digests.** If you have several Fixlet messages with similar relevance clauses, you should consider grouping them into digests. Properly done, this will reduce multiple relevance evaluations to a single evaluation at the digest level, improving efficiency. Another technique is to group Fixlet messages by urgency. The most urgent messages would reside in a Fixlet digest with a short delay, while non-

essential upgrades, for example, might reside in a digest that is evaluated only once a day.

- 3 Define your templates.** Templates let you maintain a consistent look and feel across all the Fixlet messages in a site. Anything you wish to offer across a range of Fixlet messages should be placed in the template, including your corporate logo, standard links, background graphics, etc. Or you could create a *series* of templates with slightly different styles to distinguish different types of Fixlet message at your site.

Using the Site Tree

The Site Tree, at the left side of the screen, represents Fixlet sites and all their associated files in a hierarchical, or tree, structure. The top level of the hierarchy is the Fixlet site. Clicking on the plus sign to the left of a site or a digest icon will expand it to expose its children. Depending on your preferences (**File / Preferences**), double-clicking on a digest will either open it for editing or expand it.



Fixlet sites are a collection of digests and associated files, such as graphics. Notice that Fixlet objects have a number to the left of their icon. This corresponds to the current level of approval for the object. You may also see a red check mark indicating that the associated Fixlet object is checked out for editing in an external program.

There is a **right-click menu** available for each selectable object in the site tree. Depending on the highlighted object, the menu may include one or more of the following:

- | | |
|------------------------|---|
| Edit | When a Fixlet message, template or digest is selected, this menu item will open it for editing in the main document area. When any other type of file is chosen, it will be edited in the default program for its data type, as determined by its extension. When an external program is used for editing, the file is checked out of the database and a red check-mark is placed to the left of its icon in the site tree. |
| Edit With... | Brings up the Windows Open With dialog, where you can select a program to edit the selected file. <i>Available for graphics, html, text, bat and other files.</i> |
| Save As... | Brings up the Windows Save As dialog, where you can save the currently selected file in another folder or with a different name. <i>Not available for Fixlet messages, templates or digests.</i> |
| Rename | Rename Fixlet messages, templates and digests, as well as other file types. <i>Not available for renaming a Fixlet site.</i> |
| Check In | Check the highlighted Fixlet object back in after editing it in another program, such as a graphics application. When you check a file in, the red check next to its icon disappears to show that it is no longer checked out for editing. |
| Undo Checkout | Undo the checkout of the highlighted Fixlet object. The original data will remain unchanged and the red check next to its icon will disappear to show that it is no longer checked out. |
| New Digest... | Create a new digest in the selected site or within the selected digest. <i>Only available when a Fixlet site or digest is selected.</i> |
| New Fixlet... | Create a Fixlet message in this digest. <i>Only available when a digest is selected.</i> |
| New Template... | Add a template to the Template folder. <i>Only available when a Fixlet site or a Template folder is selected.</i> |
| Add File... | Brings up the Windows Open dialog to browse for a file to add to the selected folder. <i>Only available when the Graphics, BFAST or Other Files folder is selected.</i> |

- Send to List** Send the selected object to the output list. If the object has children, they are all expanded in the output list. *Available when any item in the site tree is selected.*
- Copy** *Available when a Fixlet message, digest, template or other file is selected.*
- Paste** *Only available when something has been copied to the clipboard.*
- Delete** Delete the Fixlet message, digest, template or other file. *Not available to delete folders within a Fixlet site.*
- Write out files** *Only available when a Fixlet site is selected.*
- Propagate...** *Only available when a Fixlet site is selected.*
- Export to XML...** *Available when a Fixlet message, template, digest or other file is selected.*
- Approve...** Set the approval level for the selected site object. *Available when a Fixlet message, template, digest or other site file is selected.*

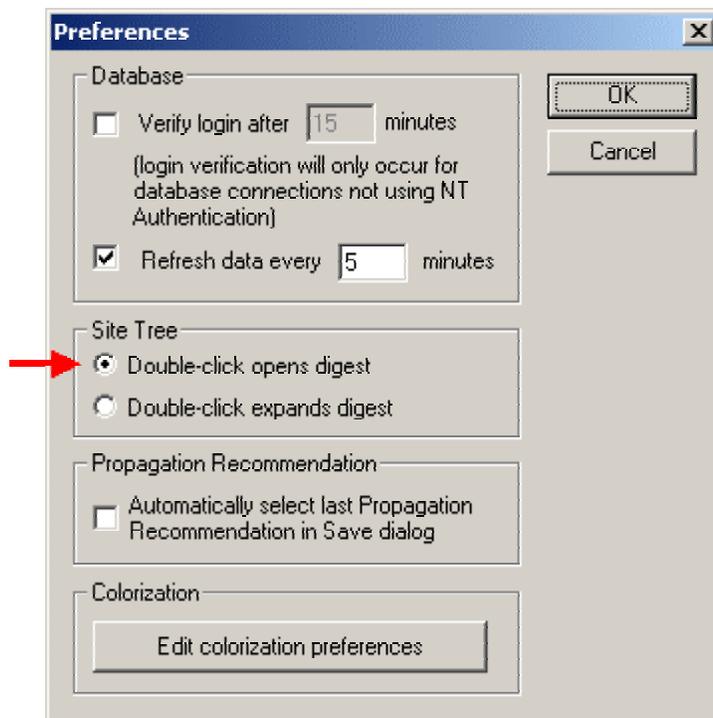
Setting Preferences for the Site Tree

In the site tree, you can expand a digest icon  in two ways:

- Click on the plus sign to the left of the icon.
- Double-click on the icon.

This is the default behavior, but if you prefer, you can change the double-click behavior to *open* the digest instead of *expanding* it. Here's how:

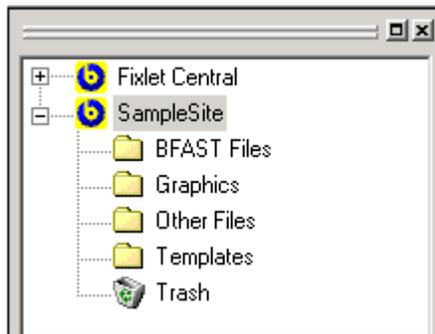
- 1 From the **File** menu, choose **Preferences**.
- 2 In the **Site Tree** section, click on the **Double-click opens digest** radio button.



Creating a Fixlet Site

You can create a new Fixlet site by following these steps:

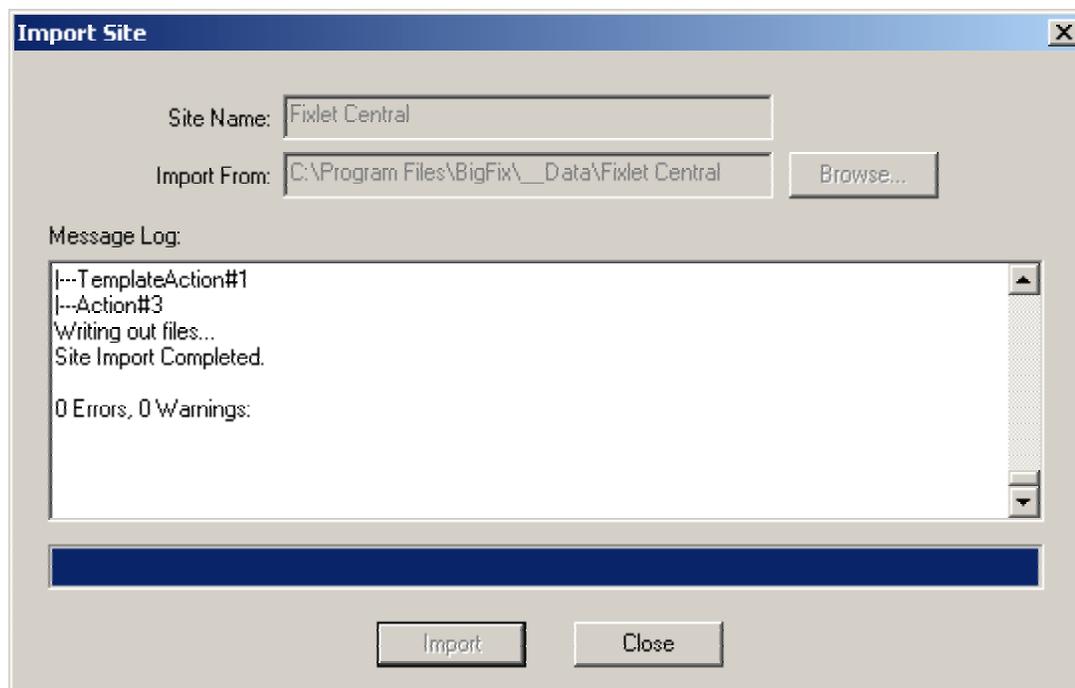
- 1** Select **Tools / New Site**.
- 2** Key in the name of your Fixlet site at the **Site Name** prompt.
- 3** Click **OK**. Your site will be entered in the site tree along with a base set of site folders: **Graphics**, **BFAST files**, **Other Files** and **Templates**.



Importing a Fixlet Site

You can import an existing Fixlet site by following these steps:

- 1 Select **Tools / Import Site**.
- 2 If the BigFix agent is running, you will be prompted to close it before continuing. Right-click on the BigFix icon in the task bar and select **Exit BigFix** from the pop-up menu.
- 3 The **Browse for Folder** dialog is displayed as a standard directory tree.
- 4 Select the folder that contains the MIME-encoded Fixlet files that you want to import, and click **OK**. The **Import Site** dialog is displayed.
- 5 Change the **Site Name** if desired.
- 6 Click **Import**. As the site is imported, you can monitor its progress in the **Message Log** area. If the import is successful, the imported Fixlet site is added to your site tree, along with all its associated files and folders.



Exporting a Fixlet Site to XML

You may want to export your Fixlet files to another program, for instance a third-party database program. If that program can import XML files, BDE provides an interface to pass the data. XML provides a standard for information transfer that is accepted by a wide variety of applications. Here's how to export a Fixlet site (or any other Fixlet object) as XML data:

- 1** Right-click on the Fixlet site (or other Fixlet object) you want to export and choose **Export to XML** from the pop-up menu.
- 2** A Windows **Save As** dialog will appear, prompting you for a name for the XML file. Choose a folder and enter a name for the file. Click the **Save** button. The file will be saved with named field for each object followed by its value.
- 3** The saved file can now be imported as XML by another program. Typically, upon importing, the receiving program will display the field names and let you arrange them as you wish.

Importing an XML File

You can import XML files created in other programs, or by BDE itself. This might be useful for importing data from an existing knowledge base or another Fixlet site. You may only import a file into an appropriate location in your existing Fixlet sites. Here's how:

- 1** Select **File / Import from XML**.
- 2** A Windows **Open** dialog will appear. Locate the file you want to import and click the **Open** button.
- 3** The **Import From File** dialog will open. The information is extracted from the XML file and displayed as a Fixlet tree structure in the left panel.
- 4** Open the tree to any level desired and click on any entry to import.
- 5** The right panel has a tree representing the currently connected sites. Select the Fixlet site, digest, message or folder where you want the imported file to reside. Note that the **Import** button will not become active until an appropriate residence is selected. For instance, a Fixlet message can only be imported into a digest, not a site or a folder.

Deleting a Fixlet Site

Only a BDE administrator may delete a Fixlet site. When deleted, the site and all its contents are permanently removed from the BigFix Development Environment database. If you expect to restore the site later, you should archive it before you delete the site.

- 1** In the site tree panel, right-click on the Fixlet site you want to delete and select **Delete** from the pop-up menu.
- 2** Select **Yes** from the **Confirm Deletion** dialog.
- 3** The **Verify Login** dialog is displayed. Enter your administrative password and click **OK** to delete the Fixlet site.

Digests

Overview

Fixlet messages are packaged into digests, allowing you to fine-tune their evaluation schedule, improve efficiency and reduce the overhead of multiple file fetches. Digests are hierarchical, helping you to organize your Fixlet site while promoting even greater efficiency. The digest properties that accomplish these feats include:

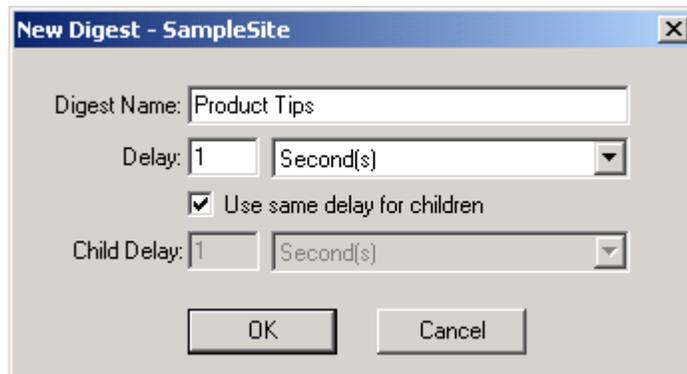
Delay: Digests are scheduled using a delay field. By default, Fixlet messages within a digest will be evaluated once a second. You can increase this delay for digests containing less urgent messages, like product updates. You might also set a longer delay for digests containing resource-intensive Fixlet messages which you want to be evaluated infrequently.

Relevance: Great efficiencies are achieved by adding relevance expressions to an entire digest, not just the individual Fixlet messages. If a group of Fixlet messages shares a relevance clause, the wise Fixlet author will encapsulate them in a single digest and move the clause up to the digest level. The relevance clause will then be evaluated once for the whole group instead of multiple times.

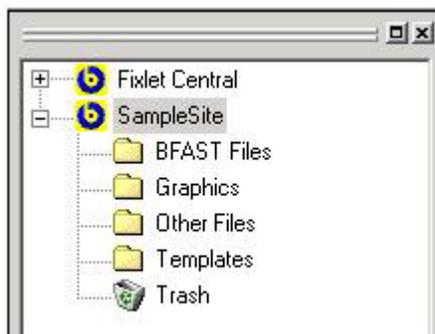
Creating a Digest

Before you can create a Fixlet message, you must define the digest that will contain it. To create a new digest, follow these steps:

- 1 From the site tree at the left of the screen, highlight the site (or the digest) where you want your new digest to reside.
- 2 Right-click on the icon, and select **New Digest**. (Or select **Content / New Digest**.)



- 3 Type in the your desired **Digest Name**.
- 4 Enter the **Delay** parameters, which indicate how often BigFix should evaluate the digest. The default is to evaluate all the children in the digest on the same schedule. If you want a different evaluation period for the Fixlet messages within the digest, uncheck the “Use same delay for children” option and choose the appropriate values from the **Child Delay** fields. If the child delay is longer than the digest delay, this object will be evaluated less often. If the child delay is shorter than the digest delay, it will override the digest delay.
- 5 Press **OK** to add the new digest to the site tree.



Adding Relevance to a Digest

You may discover you have several Fixlet messages that include the same relevance clause, such as:

- `name of operating system = "WinNT"`

These messages should be packaged into a single digest. Move the relevance expression up a level; out of the Fixlet messages and into the digest. That way, the test will only be performed once for all the Fixlet messages in the digest, sparing system resources.

To add relevance expressions to a digest, follow these steps:

- 1 From the site tree, right-click the desired digest icon and choose **Edit** from the pop-up menu. Or (depending on your Preferences settings) double-click on the digest icon.
- 2 Click the **Insert Relevance** icon from the toolbar (or select **Content / Insert Relevance**). It will create a text-entry box labeled **Relevance** in the field section at the right of the screen.



- 3 In the Relevance field, key in the appropriate clause. See the *BigFix Windows Inspectors Library* documentation for more information on the syntax of the Relevance language.

Name
Windows 2000 Updates

Relevance
1: name or operating system = "Win2000"

Delay
3 Hour(s)

Child Delay
3 Hour(s)

Setting the Delay on a Digest

The digest delay field dictates the time between successive Fixlet evaluations. A short delay will cause urgent Fixlet messages to be evaluated more frequently, while a long delay is used for less urgent messages that can wait, reducing the use of system resources. Here's how to set the digest delay:

- 1 From the site tree, right-click a digest icon and choose **Edit** from the pop-up menu. Or (depending on your Preferences settings) double-click on the digest icon.
- 2 In the field section, you may set the evaluation period for the digest and the items contained within it. This determines how often the digest and its children (if any) are evaluated on the user's computer. In the general case, you will want to set the **Delay** and **Child Delay** to the same value.
- 3 The units of time in the delay fields include **millisecond(s)**, **second(s)**, **minute(s)**, **hour(s)** and **day(s)**.

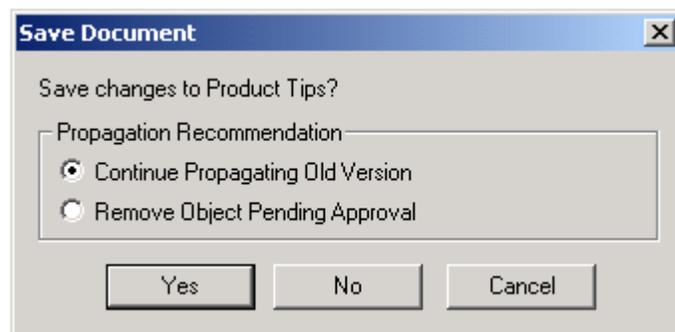
Saving a Digest

Whenever you make changes to a digest, an asterisk (*) will appear in the BDE Title bar to the right of the digest name. Changes that you make to the digest will not be committed to the database until you close the digest itself.

- 1 Click the **Save** icon in the toolbar, select **File / Save** or click the **Close Window** icon.



- 2 If any changes were made to the digest, a confirmation message may appear.



- 3 If the digest has previously been propagated, select **Continue Propagating Old Version** to recommend that the currently propagated version continues to be published

while the digest is being edited. Select **Remove Object Pending Approval** to recommend that the digest and all Fixlet messages inside be removed from the published site while the digest is being edited.

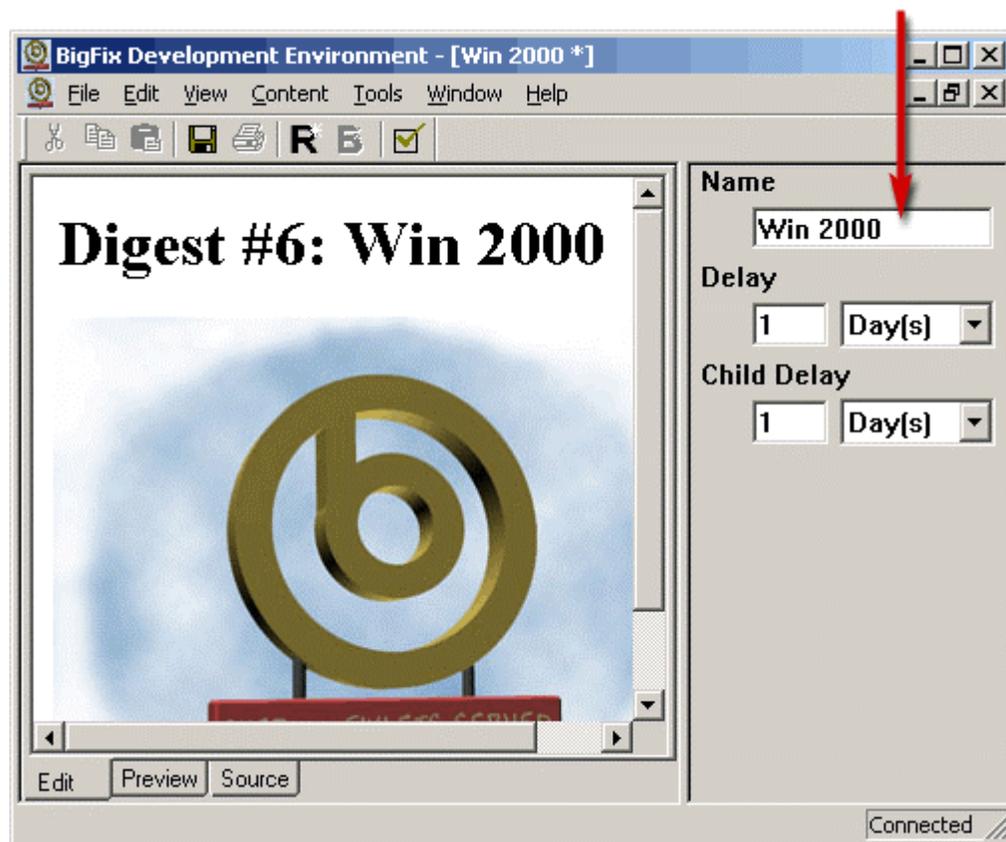
- 4 Select **Yes** to commit your changes to the database and exit, **No** to abandon your changes and exit, or **Cancel** to return to the document you were editing.

Renaming a Digest

- 1 Click on the name of the digest in the site tree to select it.
- 2 Click a second time to make the name field editable or right-click on the digest name and select the **Rename** option from the pop-up menu.

In addition, you can rename a digest from within the Digest Edit function

- 1 From the site tree, right-click a digest icon and choose **Edit** from the pop-up menu. Or (depending on your Preferences settings) double-click on the digest icon.
- 2 Change the **Name** in the Field Section at the right of the screen.



Moving or Copying a Digest

For easier maintenance or more efficient evaluation, you may want to move one digest within another. Or you may want to copy a digest from one site to another. Both operations follow these steps:

- 1 Click on the digest to move or copy and drag it to the desired location.
- 2 Once you have the mouse pointer over a site icon or digest icon, release the mouse to drop the digest into its new location.

The final location of the digest will determine whether a Move or Copy function is performed:

- If you drop the digest within the same site, it will move the digest.
- If you drop the digest on a different site, it will copy the digest.

Deleting a Digest

One of the folders contained within each site is labeled **Trash**. When you delete a digest, the digest and all of its contents will be sent to the Trash folder, which saves a copy of it which can be reclaimed later if necessary.

- 1 Right-click on the digest you want to delete and select **Delete** from the pop-up menu.
- 2 From the delete confirmation menu, select **Yes** to send the digest and all of its contents to the site trash folder or **No** to cancel the delete process.

Restoring a Deleted Digest

If you accidentally delete a digest, you can retrieve it from the trash:

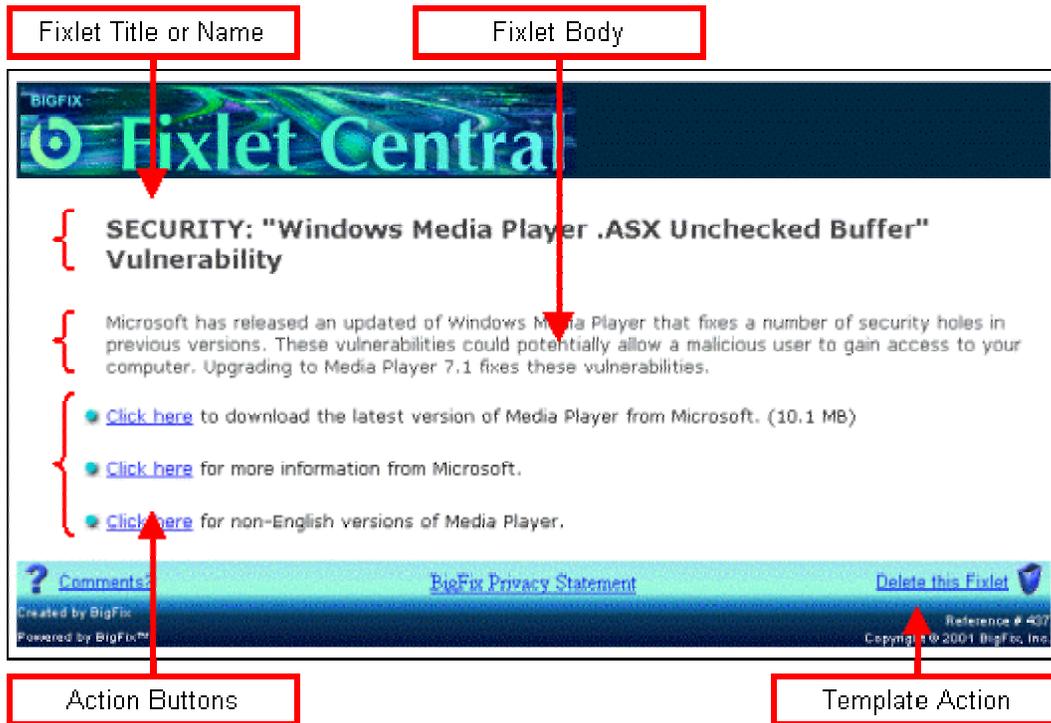
- 1 Expand the **Trash** icon within the respective site.
- 2 Right-click on the digest to be restored and select **Undelete** from the pop-up menu. The digest will be restored to the exact location within the site from which it was originally deleted.

Templates

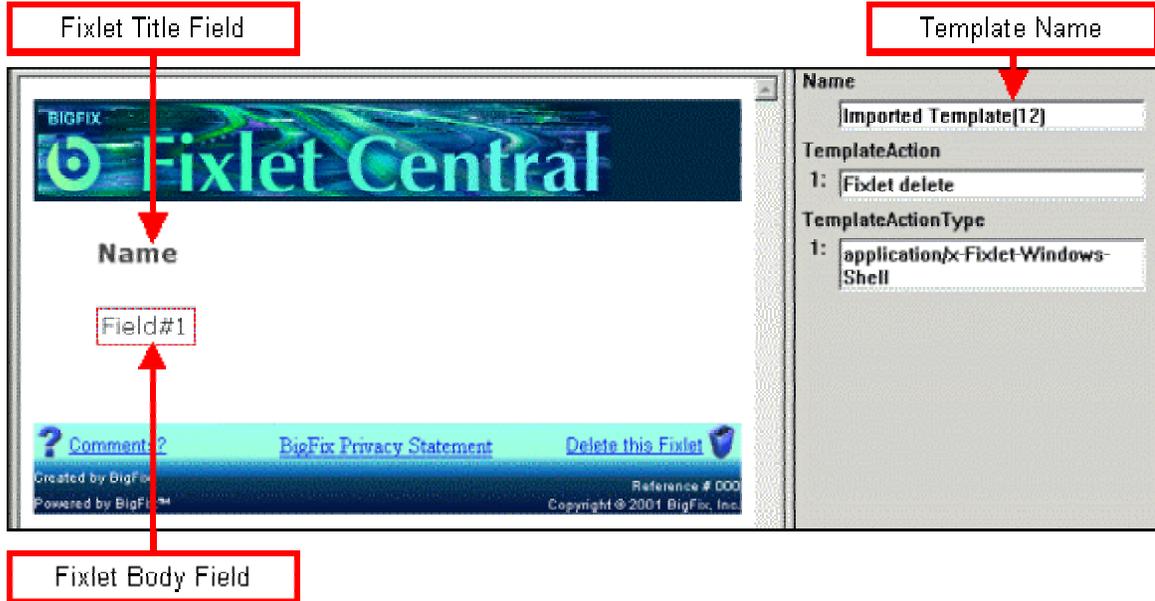
Introducing Fixlet Templates

The Fixlet template facilitates rapid development of new Fixlet messages and provides a consistent look and feel to your site. The template is a web page that uses HTML comments (<!--comment-->) to embed named fields. These named fields will hold the variable Fixlet information, including the title, description and action buttons.

Since the template is defined using standard HTML, you may already have the graphics, links, and assorted boilerplate you need to quickly assemble a Fixlet template. If you have a web page that currently addresses support problems, you might want to start with that as your prototype template. You'll just need to insert your template fields where you want them to show up in the web page.



This is the template used to create the above Fixlet message:



The **Name** field is required and serves as the title of the Fixlet message. If you click on the Source tab at the bottom of the display area, you can find the HTML comments that define the Name field:

- `<!--StartFixletField$Name$-->Name<!--EndFixletField-->`

The word in between the two HTML comment tags (Name) is the default value for this field. When data is being entered into this field of the template, the information will be mirrored in the field section.

The red outlined box (with **Field#1** in it), is a numbered description field for the fixlet message. This place-holder is also defined in the HTML source:

- `<!--StartFixletField$__Field#1$-->Field#1<!--EndFixletField-->`

Because this field name starts with two underscores (`__Field#1`) the information will not be mirrored to the field section during data entry. This lets you control how much of your data you want to be reflected in the field section. Large fields, especially those with HTML elements, are easier to deal with in the display area than the field section.

There is a place holder in the HTML source to identify the placement of the action buttons, which typically follow directly after the description field. The HTML looks like:

- `<!--StartFixletButtonArea--><!--EndFixletButtonArea-->`

Notice that there is no default value for the button, which has its own template and will be added later.

This template includes the **Delete this Fixlet** option (near the trashcan icon). Because it is defined at the template level, it will be in effect for each Fixlet message that uses it. The HTML for the Delete command looks like:

- `Delete this Fixlet`

Notice that delete is not an input field, but an action. Actions are numbered, and this action refers to **TemplateAction 1**, which is listed in the field section. The action is the simple BigFix action command **Fixlet delete**. Actions are discussed in greater detail elsewhere in this document.

Naming Template Fields

A template field can be a simple text field, or it can be a full-fledged section of HTML. Text fields can satisfy many of your needs, but most Fixlet authors use HTML for the Fixlet *description* field. This lets them include illustrations, tables and different fonts to better describe the issue at hand. An HTML field will have a name like `HTML_name` to distinguish it from a text field.

When you start to enter data using your templates, you'll notice that the data is mirrored in the field section (at the right side of the BDE window). When you define a field in a template, you can also choose **not** to mirror it, saving room in the field section. If you don't want the field data mirrored, start the field name with two underscores, like `__name`.

The following chart explains the naming convention for all four combinations of these two field types:

	Mirrored in Field Section	Not mirrored in Field Section
HTML	<code>HTML_ <i>fieldname</i></code>	<code>__HTML_ <i>fieldname</i></code>
Text	<code><i>fieldname</i></code>	<code>__ <i>fieldname</i></code>

Here's how you might define a simple text field named **Title**:

- `<!--StartFixletField$Title$-->Enter Title<!--EndFixletField-->`

You can't *enter* HTML into a text field, but you can apply an HTML style to the entire field by embedding it between tags, like these header tags:

- `<h2><!--StartFixletField$Title$-->Enter Title<!--EndFixletField--></h2>`

Here's what a non-mirroring HTML field called **Description** would look like:

- `<!--StartFixletField$__HTML_description$-->Enter description here.<!--EndFixletField-->`

Customizing a Fixlet Template

By far the easiest way to get a Fixlet site up and running is to customize an existing set of templates. However, while they provide the foundation for your Fixlet messages, templates themselves are not propagated. Find a template that has an appropriate set of fields, and edit it with an HTML editor like FrontPage or DreamWeaver. These programs leave HTML comments intact, which means that the field definitions will survive the editing process. Don't use programs like Word to edit your HTML, because they bloat the code and may introduce errors into your Fixlet template.

- 1 Find an existing template, say `template.htm`, and copy it to a staging folder.
- 2 Copy all the graphics you need to this staging folder. Don't include any subdirectories in this folder – the program that displays Fixlet messages is expecting a flat directory structure. Images and other external files should be linked as relative siblings, rather than with absolute pathnames:

- ``

Not:

- ``

- 3 **Launch an HTML editor**, like FrontPage or DreamWeaver, and edit the template for the proper look, always linking to graphics and other related files as siblings in the staging folder.
- 4 Save the template to the staging folder.
- 5 **Copy** the HTML source of the template into the **paste buffer**.
- 6 Launch or switch to the BDE from your HTML editing program.
- 7 Right-click on the desired template folder and select **New Template** from the pop-up menu.
- 8 At the **New Template** dialog, enter a **Template Name** and click **OK**.
- 9 Select the **Source Tab** beneath the display area.
- 10 Press **Ctrl+A** to highlight the existing text and mark it for replacement.
- 11 Press **Ctrl+V** (or **Edit / Paste**) to replace the existing default text with the edited template that you placed in the paste buffer.

Inserting Template Fields

You can insert fields into a template using the HTML source editor:

- 1** In the site tree, right-click the desired template and select **Edit** from the pop-up menu.
- 2** Select the **Source Tab** beneath the display area.
- 3** Click in the HTML code where you want to place the field.
- 4** Insert the following text to create a field named **myfield**:
 - `<!--StartFixletField$myfield$-->Enter myfield<!--EndFixletField-->`
- 5** Check the results by clicking on the **Preview** tab beneath the display area.

Deleting a Fixlet Template

One of the folders contained within each site is labeled **Trash**. When you delete a digest, the digest and all of its contents will be sent to the Trash folder, where it can be reclaimed later if necessary.

- 1** Right-click on the digest you want to delete and select **Delete** from the pop-up menu. (Or just drag it into the Trash icon).
- 2** From the delete confirmation menu, select **Yes** to send the template to the site trash folder.

Fixlet messages

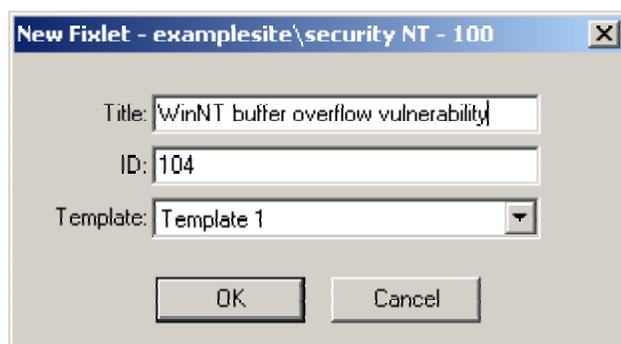
Creating Fixlet Messages

A Fixlet message has three basic elements:

- **Relevance:** The relevance clause determines if the message applies to the user's machine.
- **Text:** This explanatory HTML page is what the user will see if the message is relevant.
- **Action:** The actions are commands provided for the user to resolve the issue or conflict.

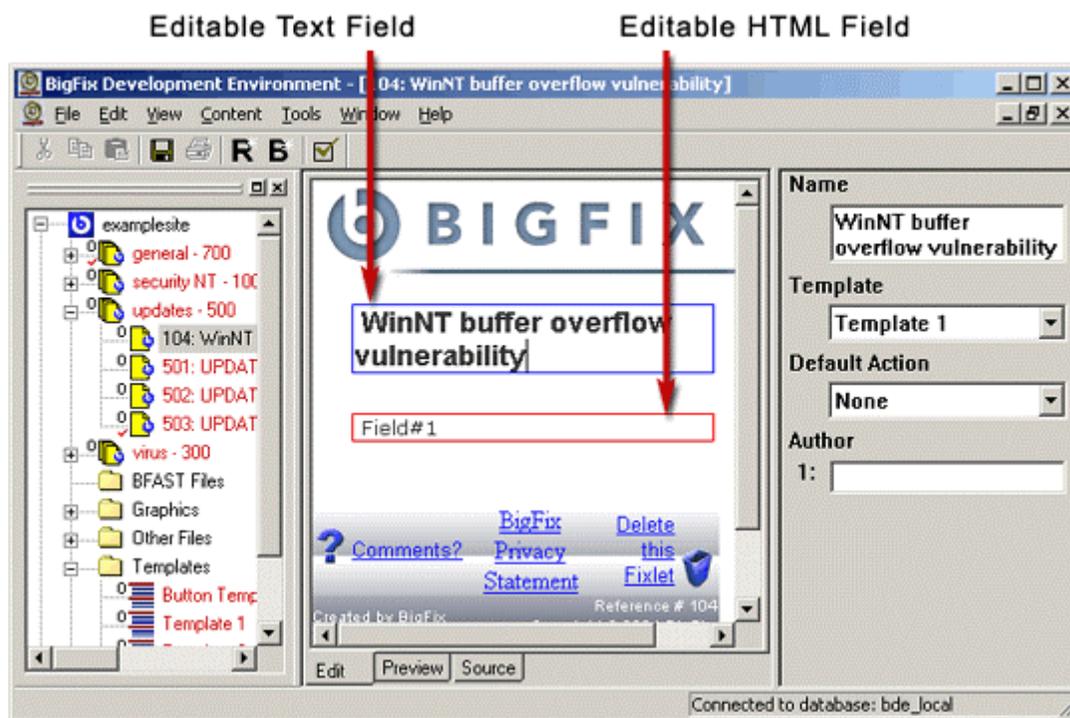
The Fixlet messages are packaged in digests, which can contain one or more messages. So first a digest must be created (see [Creating a Digest](#)). Here are the steps to creating a Fixlet Message:

- 1 In the site tree, click on the digest which should contain the new Fixlet.
- 2 From the Content menu, select **New Fixlet**. (You can also right-click on the digest and choose **New Fixlet** from the pop-up menu). The **New Fixlet** Dialog will appear.



- 3 In the **Title** field, enter a name for the Fixlet message. This title will become the default title of the HTML page the user will see. If you wish, you can change that title later from the Document editor.
- 4 Use the **ID** field to uniquely number each Fixlet message you create. Each time you create a new Fixlet message within a digest, the ID field will be automatically incremented by one. If you need to change the ID—to match a Knowledge Base ID number, for example—modify it now: *Once you set an ID number for a Fixlet message, you can't change it.* You may, however, issue the same Fixlet message with a new ID number.

- 5 Use the **Template** field drop-down list to select the appropriate HTML template for the message body.
- 6 After you press **OK** the Fixlet message will be added to the site tree and a new document based on the chosen HTML template will appear in the document area.



A typical template has at least two editable fields:

- The **Title** area is a text field bounded by a blue box. You may enter any text values you want.
- The **Description** area is an HTML field bounded by a red box. It will support any standard HTML syntax.

The number of editable fields that appear, the type of entry each supports, and the default value that appears within a field are controlled by the template. You may change any values inside the editable field areas; the template areas are safely locked for editing in this window. (To change the template, find the desired template in the **Template** folder and double-click to open it in the editor.)

Defining Relevance Clauses

Each Fixlet message has one or more relevance clauses. This is the heart of a Fixlet message; the part that determines whether or not the message is pertinent to a particular PC.

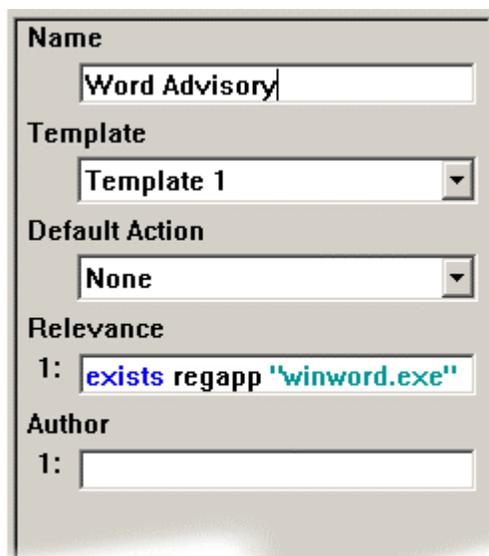
1 There are three ways to insert a relevance clause into a Fixlet message:

- From the **Content** menu, select **Insert Relevance**.
- From the toolbar, click the **Relevance** icon.



- Within the field section, right-click and choose **Insert Relevance** from the pop-up menu.

2 A new text box will be added to the field section where you can type in a **Relevance** clause. (See the *Windows Inspectors Library* documentation for information on the syntax of the relevance language.)



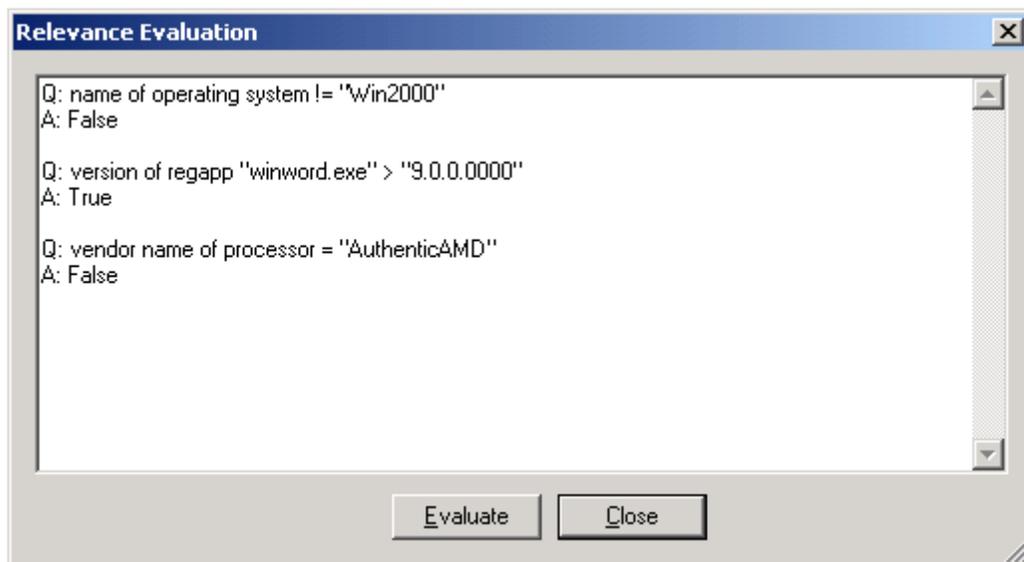
The screenshot shows a configuration dialog box with the following fields:

- Name:** Word Advisory
- Template:** Template 1
- Default Action:** None
- Relevance:** 1: exists regapp "winword.exe"
- Author:** 1: (empty text box)

Evaluating Relevance Clauses

At any time, you can dynamically execute any relevance clause. This is useful to test the syntax or to evaluate the clause on your local machine. Here's how:

- With focus in any field within the field section, select **Relevance Evaluator** from the **Tools** menu, or press **Ctrl+E**. The **Relevance Evaluation** tool will launch with the currently viewed relevance clause or clauses copied into the window and evaluated. You can modify the relevance statements and re-evaluate them by clicking the **Evaluate** button or pressing **Ctrl+E**. You can also test new statements by preceding them with "Q:"



Note: When the Relevance Evaluation window is closed its contents will be discarded. If you have modified the Relevance statements and wish to save the results, be sure to copy them from the window before closing it.

Creating the Fixlet Body

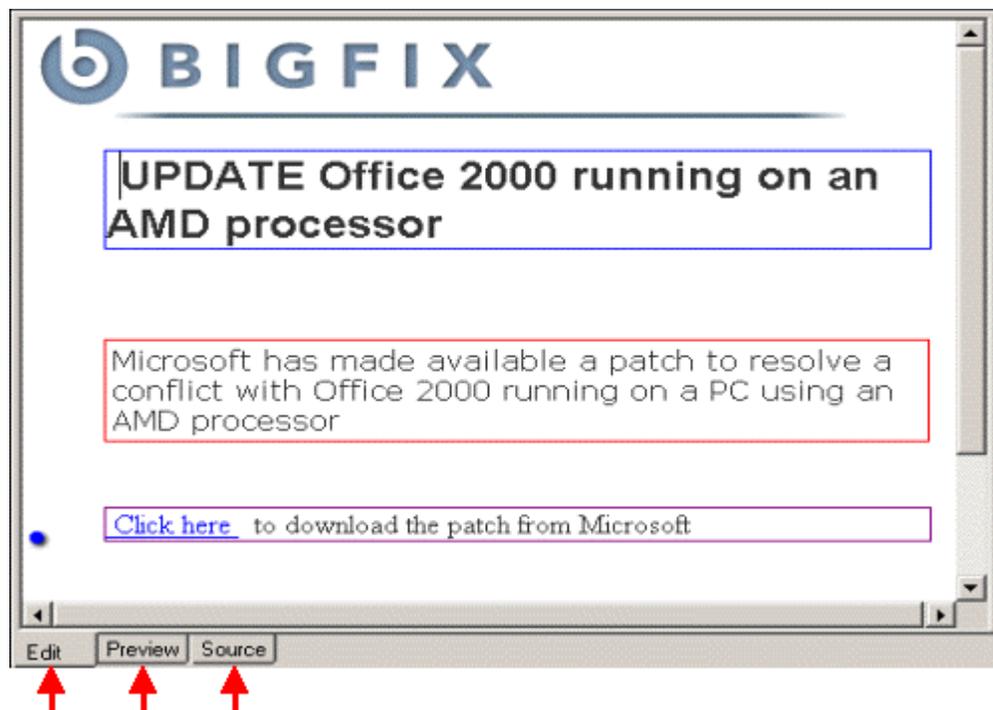
The Fixlet display appears to the user as an HTML document within the BigFix Agent browser. The basic structure of the display is provided by the templates that have been created for the site. Typically, the HTML display will include three parts:

- **Title:** Describes the essence of the Fixlet message.
- **Description:** Provides a brief background of the issue.
- **Action Button(s):** Enables the end-user to resolve the issue.

As an HTML document, the display may also include graphics for illustrative purposes and to provide branding. A folder labeled **Graphics** is automatically provided to hold image files when you create a new digest.

To create or edit the Fixlet display:

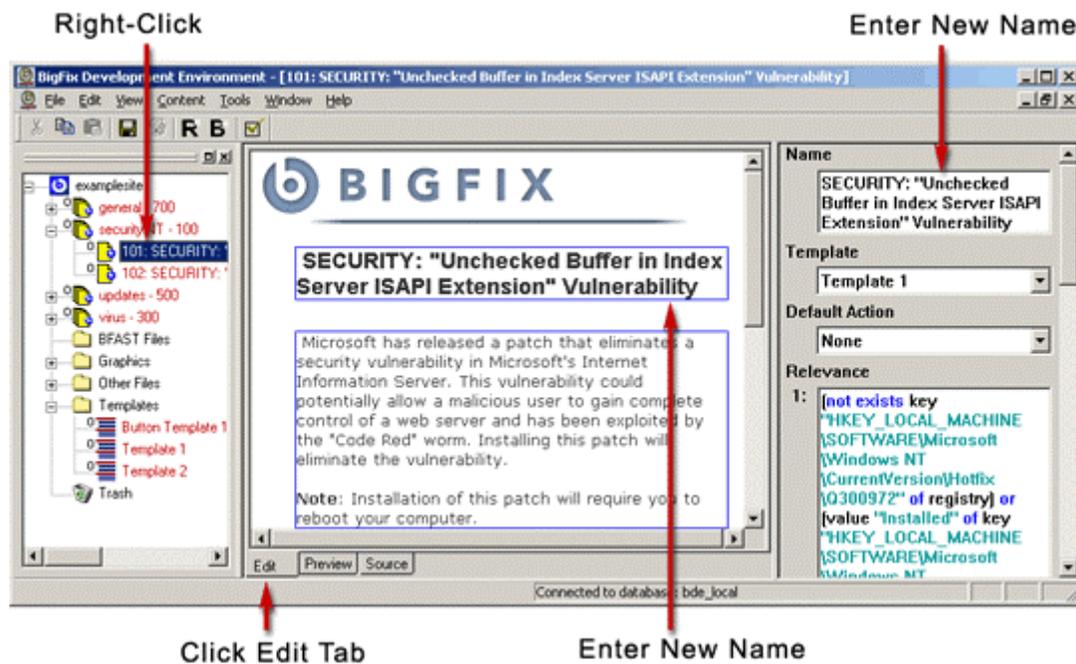
- 1 Double-click on the Fixlet message in the site tree. The template, along with any existing content, will be displayed in the document area.
- 3 Make sure the **Edit** tab at the bottom of the document area is selected and then enter or edit the display.
- 4 Select the **Preview** tab to see what the final HTML display will look like.
- 5 Select the **Source** tab to view or edit the HTML code.



Renaming the Fixlet Message

When you add a new Fixlet message to the site tree, the title area of the HTML document defaults to the name of the Fixlet message. There are three ways to change the Fixlet name (and title) and they are all linked. Changing any one of them changes them all:

- To change the name in the field section, click in the **Name** field and make the desired changes.

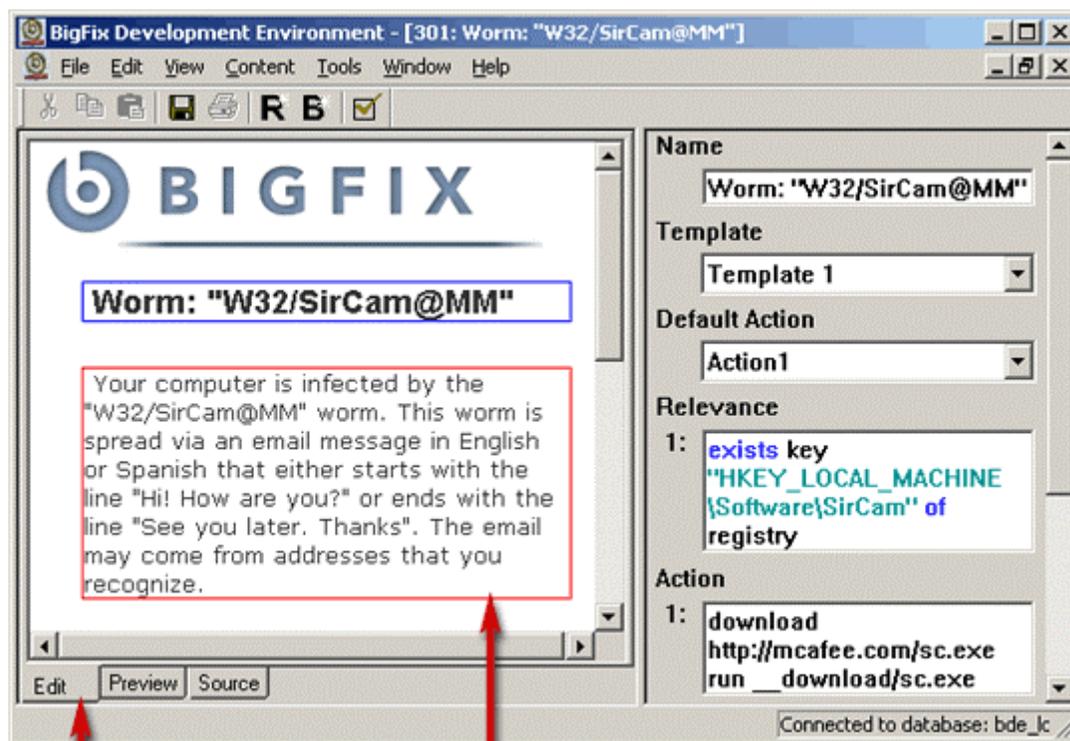


- Select the **Edit** tab and modify the text in the Title area.
- To change the name in the site tree, right-click on the Fixlet name and select **Rename** from the pop-up menu, or click twice on the name to enter an edit mode.

Modifying the Fixlet Description

The description in your Fixlet message should briefly explain the detected condition to the user. To avoid overwhelming a user with unnecessary information, you'll want to keep your descriptions brief. For expert users who want to know all the facts surrounding a fix, you can always provide a link that will take the user to a page with more detailed information. To add or modify a Fixlet description, follow these steps:

- 1 Select the **Edit** tab below the document area
- 2 Enter the Fixlet description in the body box of the document area.



Click Edit Tab

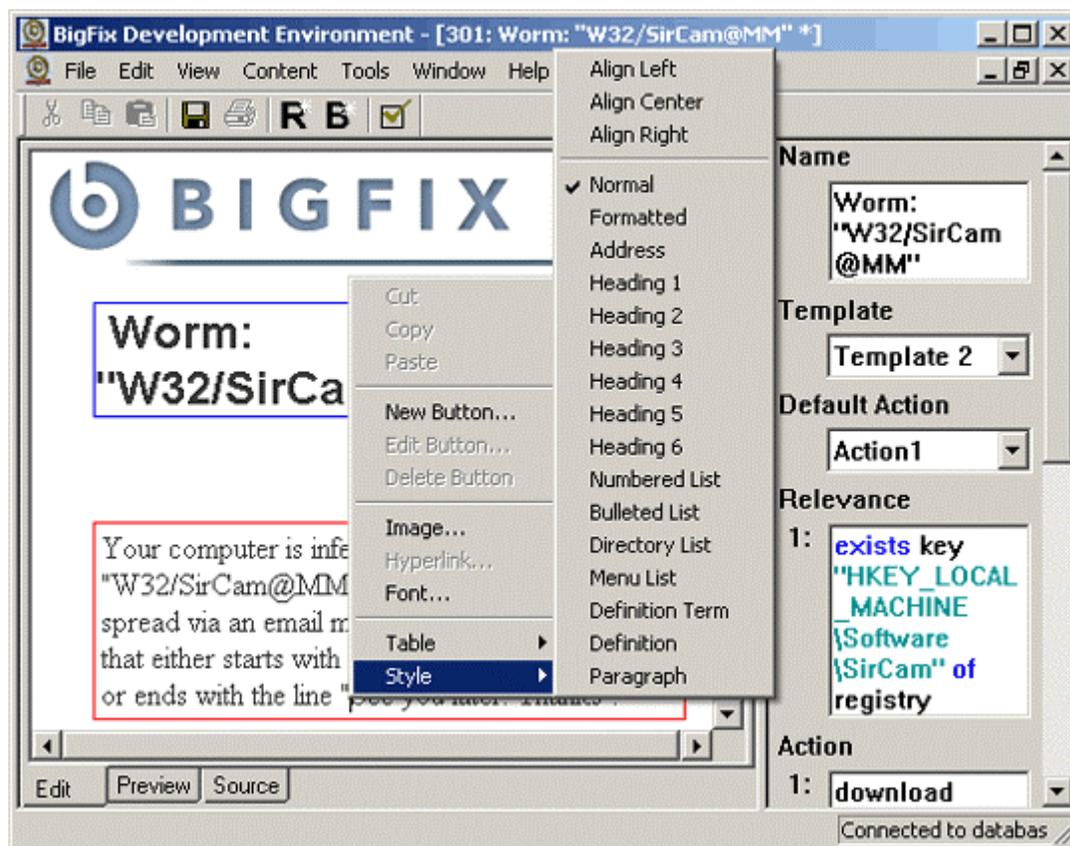
Enter New Description

- 3 Depending on the design of the template you selected, you will have different options for entering text into the Fixlet message area.
 - A **blue** box designates a Text area, that is, only text—no HTML commands—may be entered.
 - A **red** box designates an HTML area in which you may use any valid HTML syntax to enhance the appearance of your text.

Adding HTML Tags

For more control over the appearance of your Fixlet description, you can add HTML tags:

- 1 Select the **Edit** tab beneath the document area.
- 2 Right-click within an HTML field in the document area. A pop-up menu will appear.



- 3 Select from **Image**, **Hyperlink**, **Font**, **Table** and **Style** to add an HTML tag to the given section of text.

Editing HTML Tags

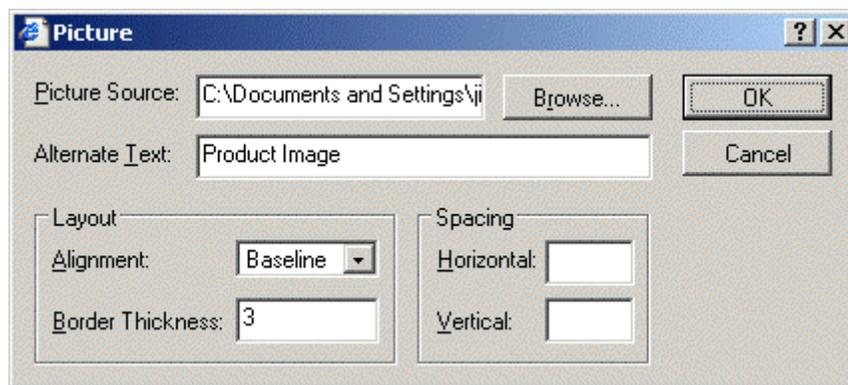
After adding HTML tags to a Fixlet message, you may need to edit them. Here's how:

- 1 Open the desired Fixlet message. (Double-click on the desired Fixlet message in the site tree.)
- 2 Click the **Source** tab beneath the document area.
- 3 Edit the appropriate HTML tags.

Adding Images

You can add images to the Fixlet description and they will automatically be added to the Graphics folder for this site. Here's how:

- 1 Select the **Edit** tab beneath the document area.
- 2 Right-click in an HTML area in the Fixlet display.
- 3 From the pop-up menu, select **Image**. The Picture dialog will appear.



- 4 Type in the full pathname of a **Picture Source** or click the **Browse** button to find the image in the file system.
- 5 Fill in any of the other optional fields for the image. These include:
 - Any **Alternate Text** you want to accompany the image. (This text will show up in browsers that don't display images.)
 - The **Alignment** of the image. Alignment choices include Left, Right and Center, among others. The default is Baseline, which places the graphic on the current text line.
 - The **Border Thickness**. Set this value to zero (0) to eliminate the border.
 - The **Horizontal** and **Vertical** white space around the image. Use spacing along with alignment to position the image in a box embedded in the surrounding text.
- 6 Click OK. If the image file is not already stored at this site, a dialog will pop up and offer to copy the image into the site graphics folder.
- 7 Click OK to copy the file. The image will be displayed in the appropriate HTML section of the document area.

Modifying Images

You can modify the optional fields associated with an image. Here's how:

- 1 Right-click on the image.
- 2 Select **Image** from the pop-up menu.
- 3 Modify the desired image options.
- 4 Click **OK**.

Adding Tables

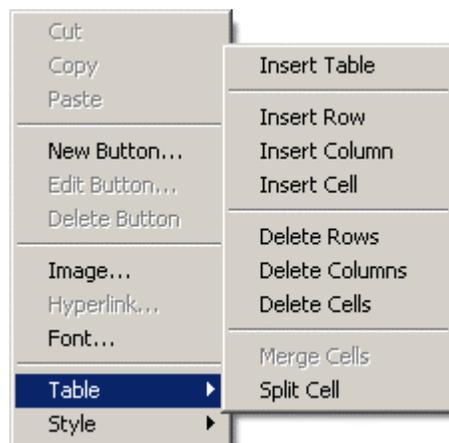
You can add tables to the HTML sections of the Fixlet message. Here's how:

- 1 Select the **Edit** tab beneath the document area.
- 2 Right-click in an HTML area in the Fixlet display.
- 3 From the pop-up menu, select **Table / Insert Table**. A two-by-two table will be placed in the HTML section of the Fixlet display, and a default table caption will be placed above it.

Modifying Tables

You can modify the tables that appear in the HTML sections of the Fixlet display. Here's how:

- 1 Select the **Edit** tab beneath the document area.
- 2 Right-click in a table in an HTML area of the Fixlet display.
- 3 Select **Table** from the pop-up menu.

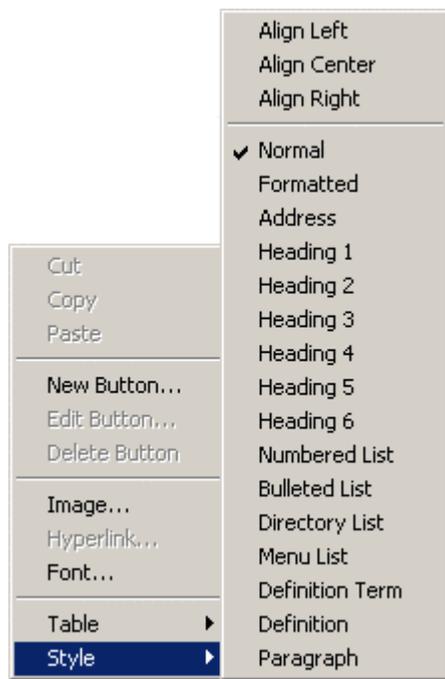


- 4 From the submenu, select the desired modifier to insert, delete, split or merge the table elements.

Applying Styles

You can apply several standard HTML styles to the text in the Fixlet description. You can align the text and set styles like headers and lists. Here's how:

- 1 Select the **Edit** tab beneath the document area.
- 2 Right-click an item in an HTML area of the Fixlet display.
- 3 From the pop-up menu, select **Style**.

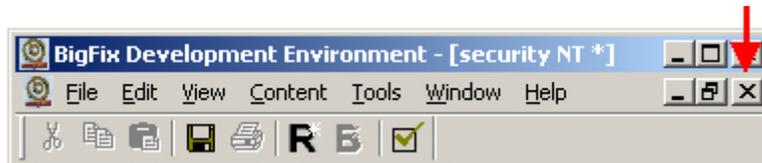


- 4 From the sub-menu select the desired style.

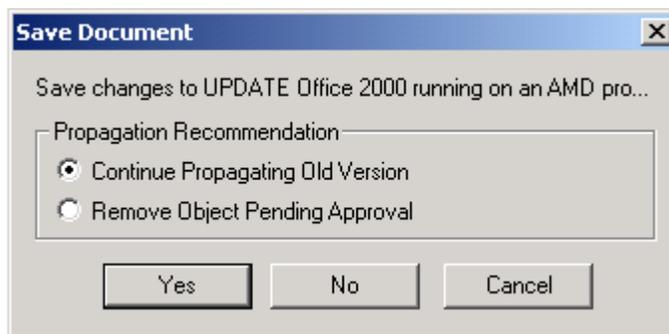
Saving a Fixlet Message

Whenever you make changes to a Fixlet message, an asterisk (*) will appear in the BDE Title bar to the right of the Fixlet name. Changes that you make to the Fixlet message will not be committed to the database until you close the Fixlet itself.

- 1 Click the **Close Window** icon.



- 2 If any changes were made to the Fixlet, a confirmation message will appear when you close the window.



- 3 If the Fixlet has previously been propagated, select **Continue Propagating Old Version** to recommend that the currently propagated version continue to be published while the Fixlet undergoes editing. Select **Remove Object Pending Approval** to recommend that the Fixlet be removed from the published site while it is being edited.
- 4 Select **Yes** to commit your changes to the database and exit, **No** to abandon your changes and exit, or **Cancel** to return to the document you were editing.

Moving/Copying a Fixlet Message

Moving or Copying Fixlet messages can be accomplished using the same techniques as moving and copying a digest.

- 1** Click on the Fixlet message to move or copy and drag it to the desired digest.
- 2** Release the mouse button to drop the Fixlet message into its new location.
- 3** The location of the digest the Fixlet is dropped in will determine whether a **Move** or **Copy** function is performed.
 - If you drop the Fixlet message in a digest within the *same* site, it will **move** the Fixlet.
 - If you drop the Fixlet message into a digest on a *different* site, it will **copy** the Fixlet message to that location.

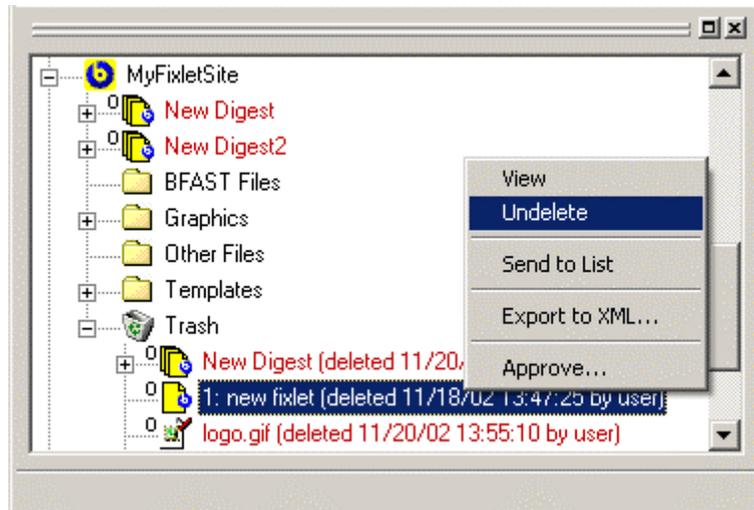
Deleting a Fixlet Message

One of the folders contained within each site is labeled **Trash**. When you delete a Fixlet message, the Fixlet and all of its contents will be sent to the Trash folder so that it can be reclaimed later if necessary.

- 1** Right-click on the Fixlet message to delete and select **Delete** from the pop-up menu.
- 2** From the delete confirmation menu, select **Yes** to send the Fixlet message and all of its contents to the site trash folder or **No** to cancel the delete process.

Restoring a Deleted Fixlet Message

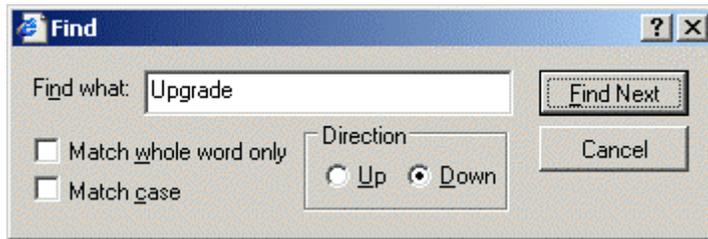
- 1 Expand the Trash icon within the respective site
- 2 Right-click on the Fixlet message to be restored and select Undelete from the pop-up menu. The Fixlet will be restored to the exact location within the site from which it was originally deleted.



Finding Text within a Fixlet Message

To search for a text string within a Fixlet message:

- 1 Click anywhere within the document pane.
- 2 Press Ctrl+F to bring up the **Find** dialog box.

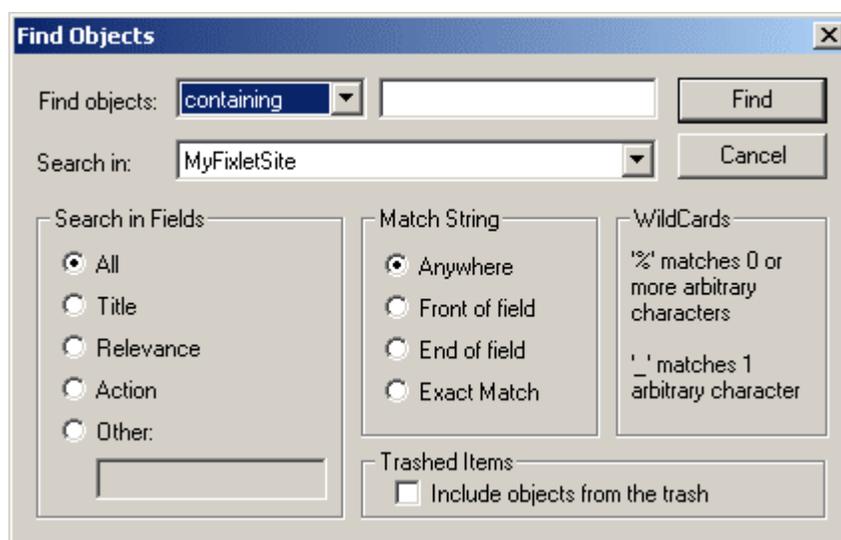


- 3 Key in the text you want to find and click the **Find Next** button.

Finding Objects

As you are developing and maintaining Fixlet messages, you may want to locate Fixlet messages that share a particular characteristic. The Find Object capability will enable you to quickly locate any Fixlet based on the text in the **Title**, **Relevance**, or **Action** fields. Here's how:

- 1 Select **Find Objects** from the **Edit** menu. The **Find Objects** dialog will be displayed, with the current site as the default.
- 2 Key the appropriate search criteria into the **Find Objects** dialog. You can choose to **Find Objects containing** or **not containing** the value. The value itself may include the % or _ characters as described in the WildCard section.

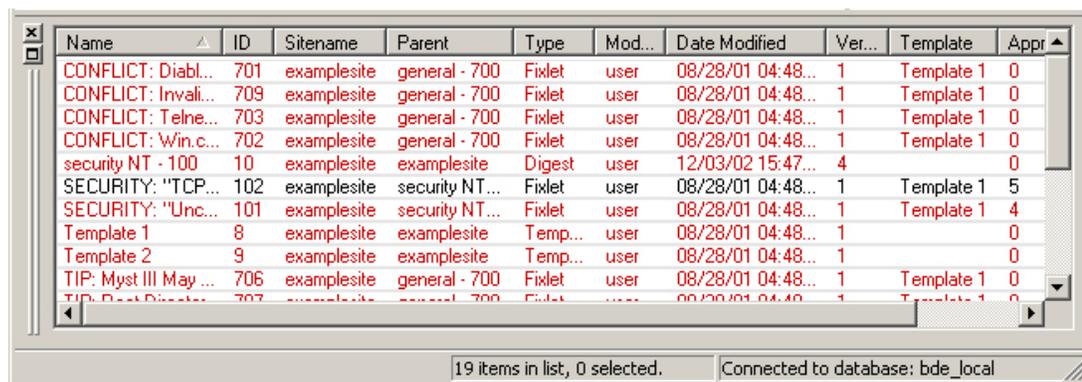


- 3 Select the Fixlet site you want to search from the pull-down menu.
- 4 Select the fields you want to search for the specified value:
 - **All** will search for the text in *any* part of the Fixlet message: Title, Relevance, Action and the underlying HTML.
 - **Title** will search only in the Fixlet title text field.
 - **Relevance** will search only in the Fixlet relevance clauses.
 - **Action** will search only in the Fixlet action fields.
 - **Other** will allow you to find data in the specified field.
- 5 Select where in the field you expect to find the string in the **Match String** section.
- 6 Click **Find**. The results returned from the search will be displayed in the output list at the bottom of the screen.

Using the Output List

The output list window holds the results of the **Find Objects** operation as well as the **Send to List** function. In addition to the ability to open a Fixlet message from the output list, you can sort the output list by any column of the window. Here are some of the features of the output list:

- To populate the output list from the site tree, right-click on a Fixlet message in the site tree and select **Send to List** from the pop-up menu.
- Click on any heading label to sort the list.



The screenshot shows a window titled 'Output List' with a table of messages. The table has columns: Name, ID, Sitename, Parent, Type, Mod..., Date Modified, Ver..., Template, and Appr. The messages listed include several 'CONFLICT' and 'SECURITY' entries, as well as 'Template' entries. The status bar at the bottom indicates '19 items in list, 0 selected.' and 'Connected to database: bde_local'.

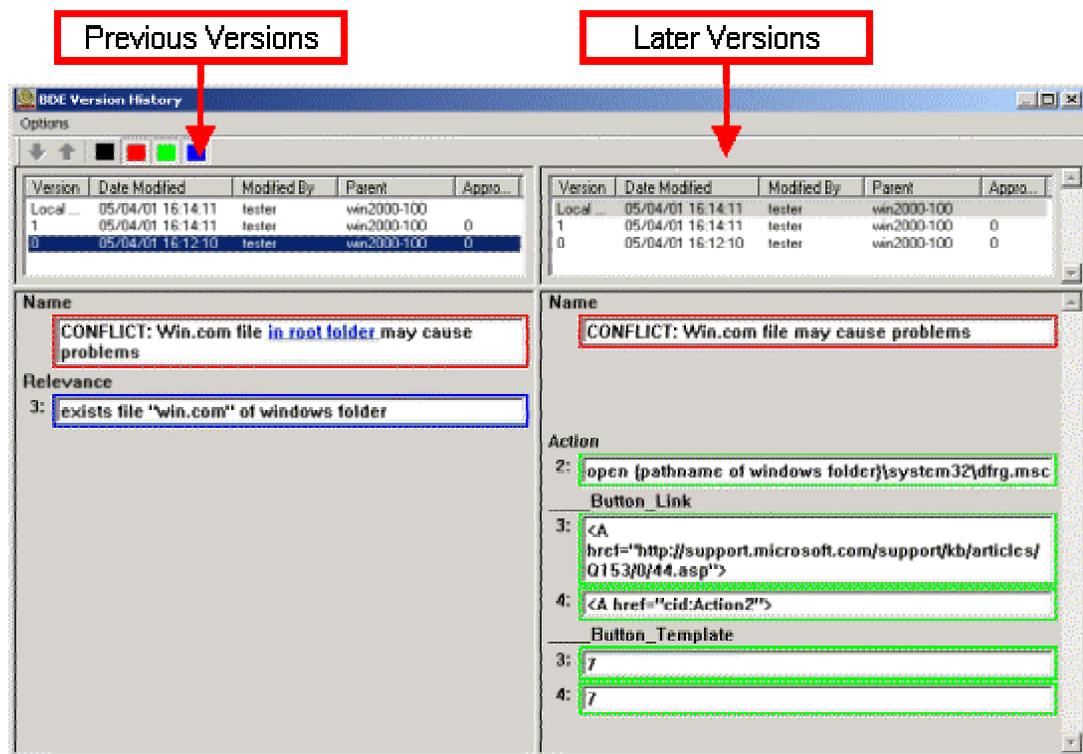
Name	ID	Sitename	Parent	Type	Mod...	Date Modified	Ver...	Template	Appr
CONFLICT: Diabl...	701	examplesite	general - 700	Fixlet	user	08/28/01 04:48...	1	Template 1	0
CONFLICT: Invali...	709	examplesite	general - 700	Fixlet	user	08/28/01 04:48...	1	Template 1	0
CONFLICT: Telne...	703	examplesite	general - 700	Fixlet	user	08/28/01 04:48...	1	Template 1	0
CONFLICT: Win.c...	702	examplesite	general - 700	Fixlet	user	08/28/01 04:48...	1	Template 1	0
security NT - 100	10	examplesite	examplesite	Digest	user	12/03/02 15:47...	4		0
SECURITY: "TCP...	102	examplesite	security NT...	Fixlet	user	08/28/01 04:48...	1	Template 1	5
SECURITY: "Unc...	101	examplesite	security NT...	Fixlet	user	08/28/01 04:48...	1	Template 1	4
Template 1	8	examplesite	examplesite	Temp...	user	08/28/01 04:48...	1		0
Template 2	9	examplesite	examplesite	Temp...	user	08/28/01 04:48...	1		0
TIP: Myst III May...	706	examplesite	general - 700	Fixlet	user	08/28/01 04:48...	1	Template 1	0
TIP: Best Disast...	707	examplesite	general - 700	Fixlet	user	08/28/01 04:48...	1	Template 1	0

- Open any Fixlet message by double-clicking on it.
- To expand the parents of the selected item in the site tree, right-click on a Fixlet message and choose the **Select In Tree** option.
- The pop-up menu **Send to List** option will repopulate the output list as if the item had been selected from the tree view and expanded into the list.
- Select **Refresh** from the **View** menu or press the **F5** shortcut key to update the entries in the output list to reflect any recent file additions or modifications.
- Shift- and ctrl- click on the items in the list to select them. You may then copy and paste your selection into Excel.

Viewing the Version History

As you are developing your Fixlet messages, the BDE maintains a version history that you can access to better understand the changes you or others have made. The **Version History** dialog will let you compare a previous version of a Fixlet message to the current version.

- 1 Double-click a Fixlet message in the site tree to open it.
- 2 From the **Tools** menu, choose **Version History** or press **Ctrl+H**.
- 3 From the left column, select an older version of the Fixlet message for comparison. Select a later version from the second column.



- 4 Use the **Options** menu selections (or the toolbar icons) to view specific differences:
 - Elements **Identical** in both versions.
 - Elements **Changed** in both versions (highlighted in **red**).
 - Elements **Added** to the later version (highlighted in **green**).
 - Elements **Deleted** from the previous version (highlighted in **blue**).

Action Buttons

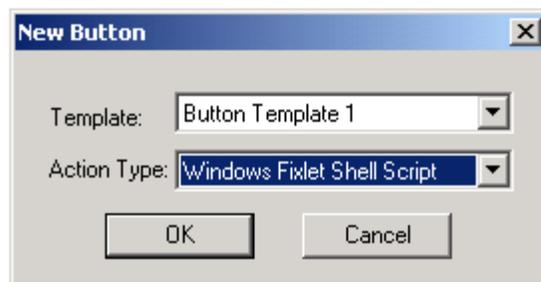
Creating Action Buttons

Typically, after a Fixlet message becomes relevant, it will offer one or more actions to address the problem. In addition, a Fixlet message might also provide links to a more detailed explanation of the problem, links to the respective support pages for the products involved, or links to the appropriate on-line store so the user can purchase any required software or hardware to resolve the issue.

Ideally, a relevance expression is coded in such a way that once the fix has been applied, the Fixlet message will automatically disappear. If that's not possible, the Fixlet message should include an action button to delete itself after the action has been taken.

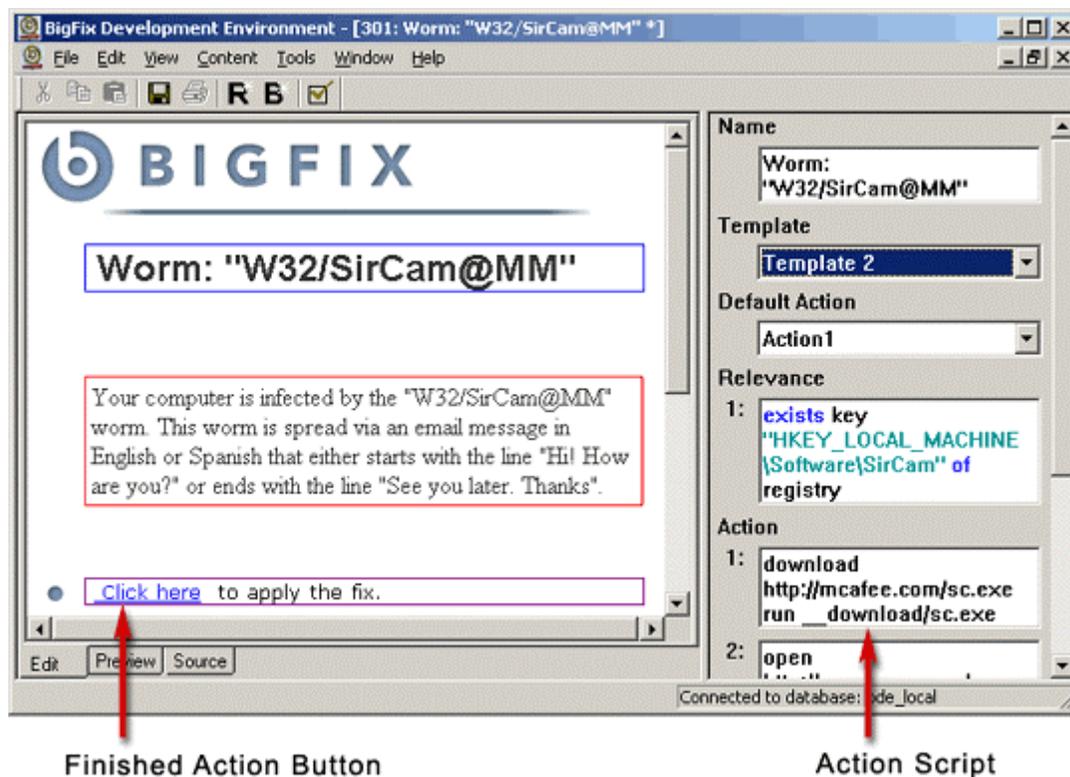
To create an action button, follow these steps:

- 1 Create a new action button in one of two ways:
 - From the Content menu, select **New Button**
 - From the toolbar, choose the **Button** icon: 
- 2 Using either method, a dialog will appear for you to define the characteristics of the new button. From the **Template** dropdown list, select a pre-defined template to use. This template determines the image that will appear next to the action.



- 3 Select the **Action Type**. The default is a Windows Fixlet Shell Script, but you can also select FindFile, Registry files, Visual BASIC and JavaScript, among others.

- 4 Click **OK**. An entry will be made in the Fixlet HTML document for you to add descriptive text to the button. An entry will also be made in the Field section, where you can define the action script for this button.



- 5 Modify the default text in the Fixlet display to provide an informative prompt for the user.
- 6 In the **Action** field, describe the action you want to execute. This can take one of several forms. Here are two common action types:
 - Add a BigFix action command or list of commands that will execute when the button is selected by the user. See the documents *Authoring Fixlet messages* and *The BigFix Action Commands* for a complete explanation.
 - Key in the full URL of a web page you want the user to link to when the button is selected by the user.

Note: Action Button numbers correspond to their order in the Fixlet Body. Thus, Action #3 is the third action in the HTML, starting from the top.

Choosing a Default Action

After you've created an Action Button or two, you can choose to set one of them to be a default Action. The default is your recommendation for which action should be applied. This will allow users to select it as an automatic action, if they so choose.

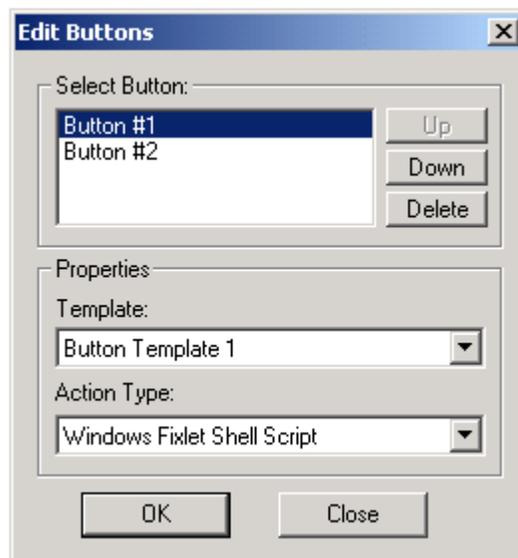
To choose a default,

- From the drop-down list labeled **Default Action**, select an action to be the default.

Modifying an Existing Action Button

You can modify existing buttons with the **Edit Buttons** dialog. Here's how:

- 1 Right-click on the text of an existing action button or from the **Content** menu, choose **Edit Buttons**. The **Edit Buttons** dialog is displayed.

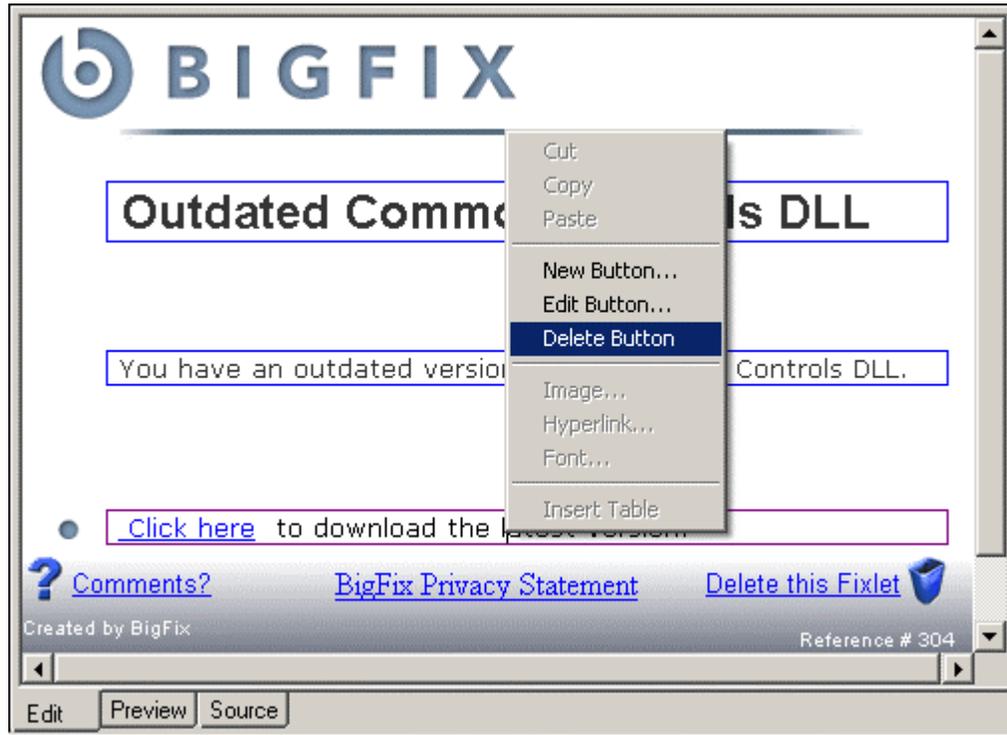


- 2 From the the **Select Button** list, highlight the button you want to change.
- 3 If you want to use a different template for this button, choose it from the **Template** drop down list.
- 4 If you want to associate the button with a different action type, select the **Action Type** dropdown list and make the appropriate change.

Deleting an Action Button

There are three ways to delete an action button from a Fixlet message.

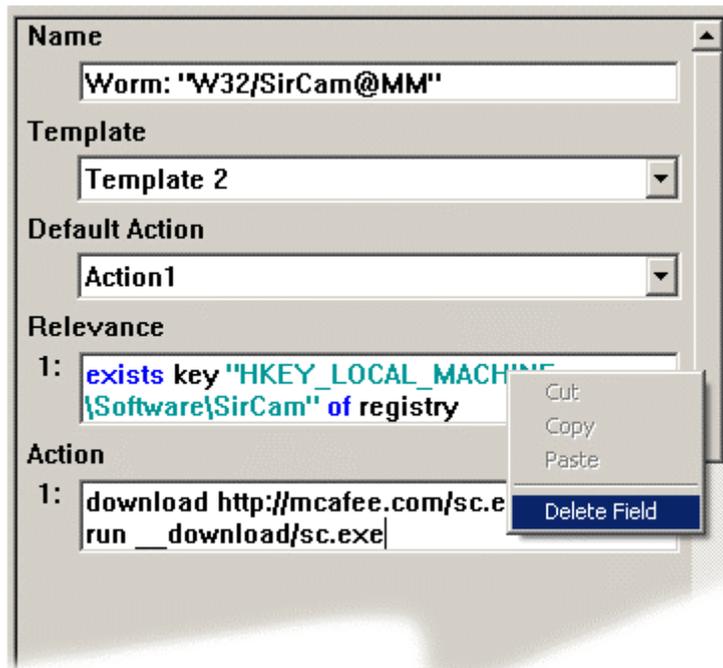
- Right-click on the text of the button and choose **Delete** from the pop-up menu.



- Or, choose **Edit Buttons** from the **Content** menu. Highlight the button you want to delete from the **Select Button** list and click **Delete**.



- Or, right-click in the action field and choose **Delete Field** from the pop-up menu.



Other Fixlet Fields

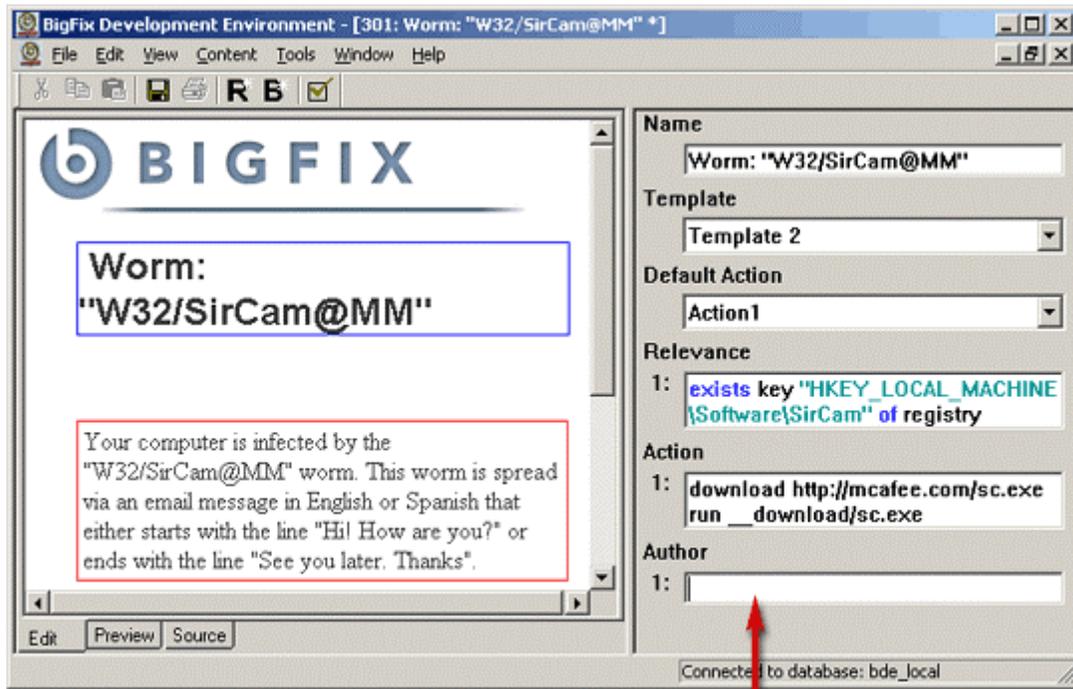
Adding Developer-Defined Fields

In creating Fixlet messages, you may find a need to add your own fields. For example, an “Author” field could be created to identify the creator of the Fixlet. A “Changes” field might be used to document the modifications that have been made to a Fixlet since its original creation. Or you may want to display some text data to the end users such as an incident number or knowledge-base ID associated with the Fixlet message they are viewing.

- 1 Choose the **Insert Other** option from the **Content** menu or from the right-click pop-up menu of the field section. You will be prompted to give your new field a name.



- 2 Key in a name for the field and press **OK**. Your new custom field will be added to the field section after your Relevance and Action statements.



Developer-Defined Field

- 3 Type in an appropriate value for the field.

Displaying Developer-Defined Fields

Usually a developer-defined field is hidden from the user, but if you want its value to be displayed as part of the Fixlet message, then a reference to the field should be defined as part of the Fixlet template. This could be used to display a knowledge-base number or a checklist of fields to be filled out by the author. Here's how:

- 1 In the site tree, double-click on a template to select it.
- 2 Click the **Source** tab beneath the document area.
- 3 Position your cursor in the HTML where you want the developer-defined field to be displayed.
- 4 Enter a line of HTML to create a numbered Fixlet field called *name*:
 - `<!--StartFixletField$name#1$--><!--EndFixletField-->`
- 5 To use this template, right-click on a digest and choose **New Fixlet** from the pop-up menu.
- 6 Name the Fixlet message and select the template with the developer-defined field. Click **OK**.
- 7 You'll notice an extra field in the display. When you type into it, it will automatically create a developer-defined field that will show up in the field section.

Defining Keywords and Header Fields

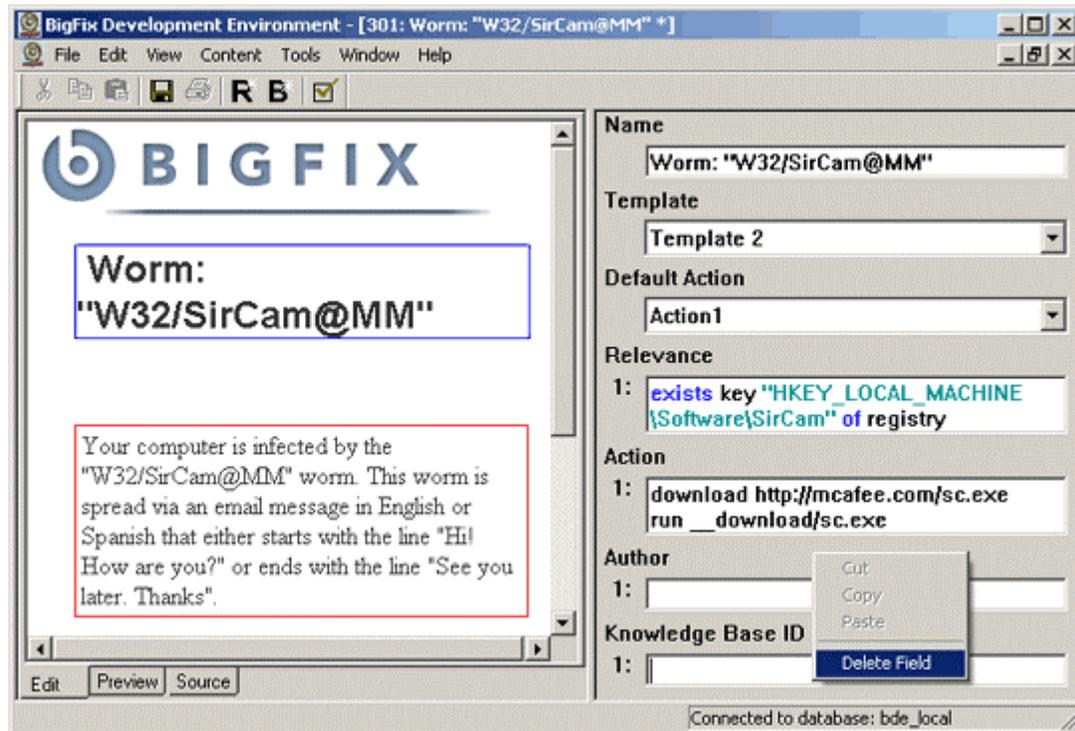
Developer-defined fields named "Keyword", "Keywords" or of the form "MIME_anything" will be exported in the Fixlet MIME header. These fields will then be viewable to the user in the Fixlet message's header. Here's how to create a keyword:

- 1 Choose the **Insert Other** option from the **Content** menu or from the pop-up menu of the field section. You will be prompted to give your new field a name.
- 2 Type in the phrase **Keyword** and press **OK**. Your new keyword field will be added to the field section after your Relevance and Action statements.
- 3 Type in an appropriate value for the field.

Deleting a Developer-Defined Field

Remove a developer-defined field as you would a relevance clause or action:

- Right-click inside the field you want to delete and choose **Delete Field** from the pop-up menu.



Propagation

The Approval Process

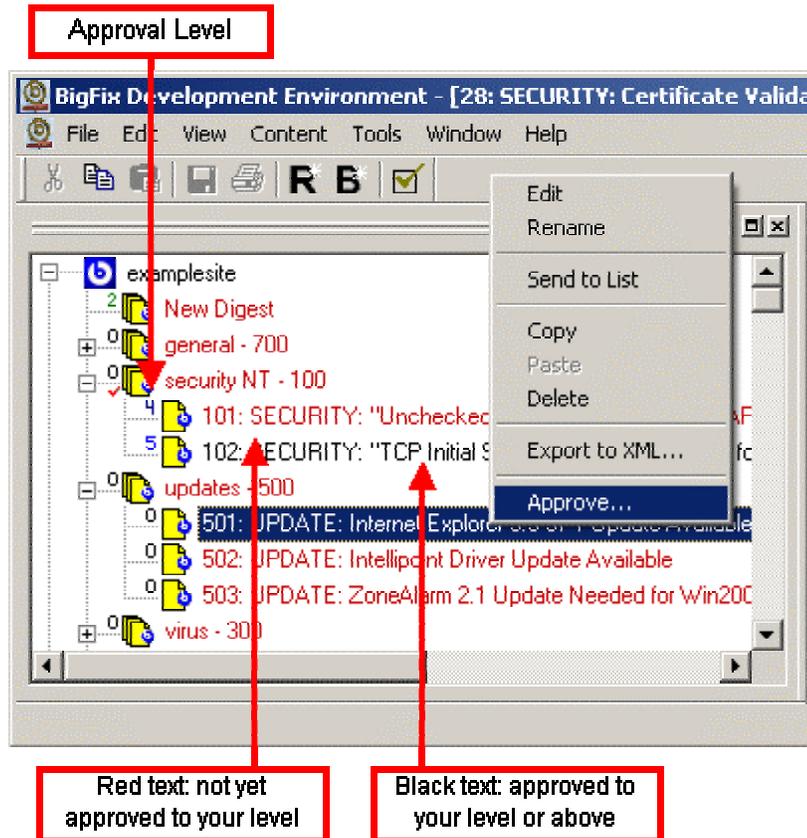
Typically, you will set a designated minimum approval level for each stage of the Fixlet development process, including authoring, development, testing, QA and production. For example, you might designate the following approval levels:

<i>Level Number</i>	<i>Stage</i>
0	Authoring
1	Testing
2	Integration Testing
3	Regression Testing
4	Quality Assurance
5	Production

The BDE administrator will define the highest level to which each individual is allowed to promote content.

Approving a Site Element

- 1 From the site tree, right-click on the digest, Fixlet message, or related file and select the **Approve** option from the pop-up menu (or press Ctrl-P). To approve more than one site element at a time, select them using shift and ctrl click.



- 2 Key in your password and designate the level to which the Fixlet site element should be approved.



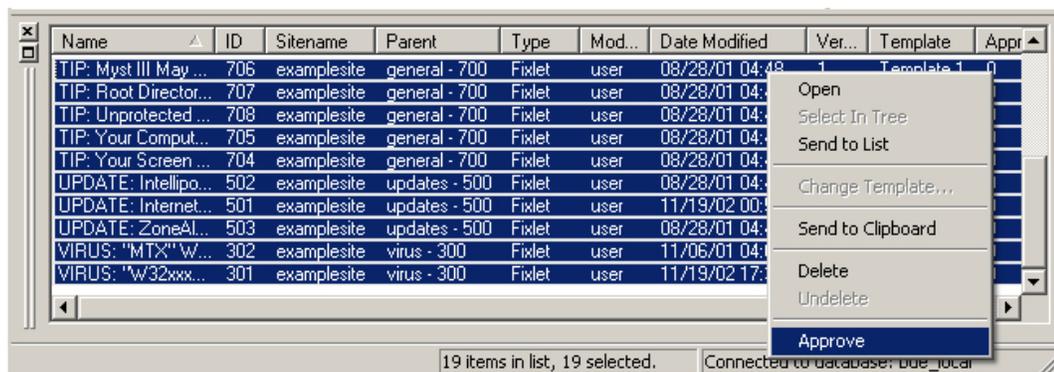
- 3 If the Fixlet site element has previously been propagated, the approver can make a recommendation as to whether or not that prior version of the element should be pulled from propagation while the current version is being edited and re-approved.

Note: The Approval options will *not* be available if the content element has already been approved to a level higher than the one assigned to the developer.

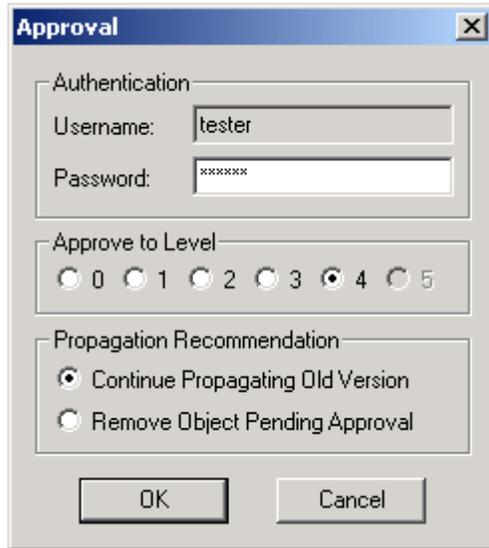
Approving Multiple Site Elements

Use the output list to select and approve multiple items at once for approval:

- 1 From the site tree, right-click on the desired site elements and select Send to List.
- 2 From the output list, shift and ctrl-click to select and highlight the items to be approved.



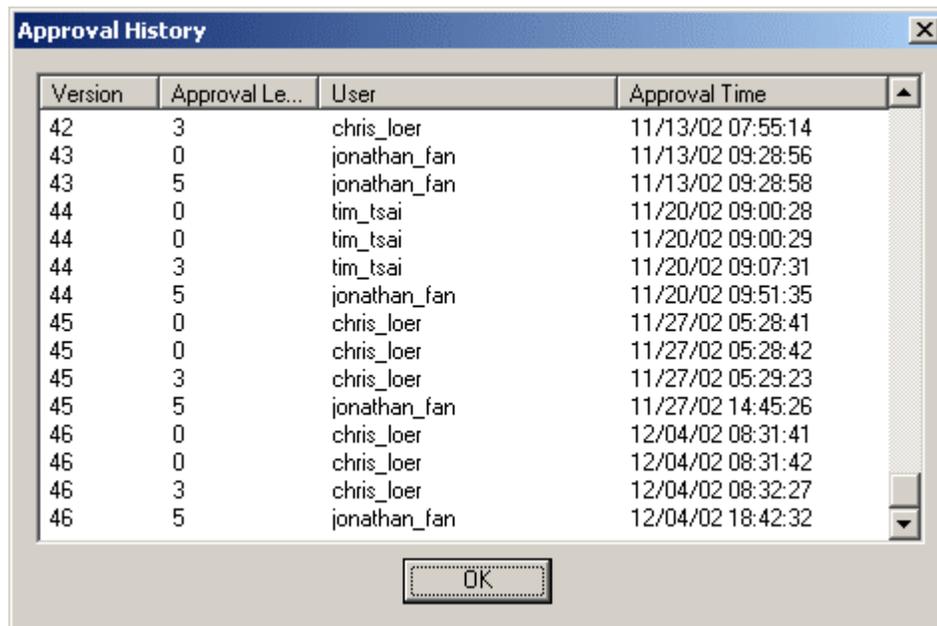
- 3 Right-click the highlighted items and choose Approve from the pop-up menu.
- 4 Key in the appropriate password and designate the correct approval level and propagation recommendation.



Viewing Approval History

To track the progress of a Fixlet object as it gets approved to higher levels, follow these steps:

- 1 Select **Tools / Version History**, or press **Ctrl+H**. The Version History dialog is displayed.
- 2 From the pull-down menu in upper left corner, select **Approval History**. A complete list of all approvals ever made on this object is displayed.



The screenshot shows a dialog box titled "Approval History" with a close button (X) in the top right corner. The dialog contains a table with four columns: "Version", "Approval Le...", "User", and "Approval Time". The table lists 16 rows of approval data. At the bottom of the dialog is an "OK" button.

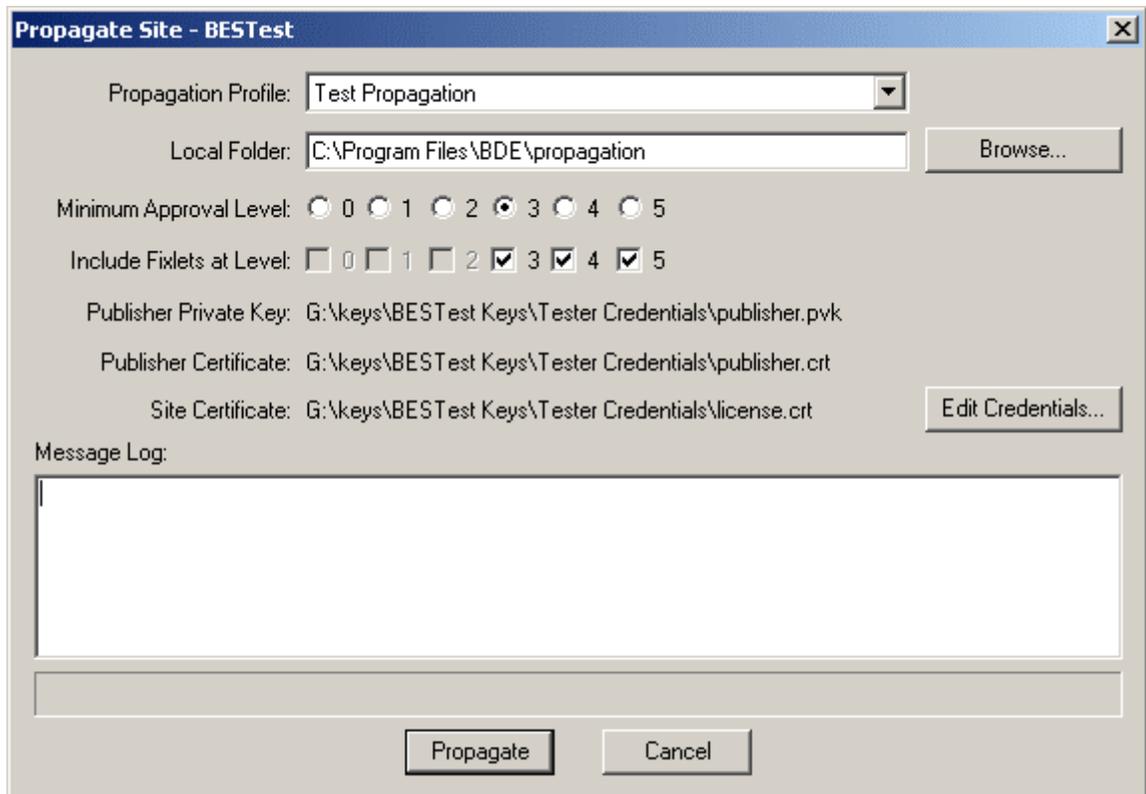
Version	Approval Le...	User	Approval Time
42	3	chris_loer	11/13/02 07:55:14
43	0	jonathan_fan	11/13/02 09:28:56
43	5	jonathan_fan	11/13/02 09:28:58
44	0	tim_tsai	11/20/02 09:00:28
44	0	tim_tsai	11/20/02 09:00:29
44	3	tim_tsai	11/20/02 09:07:31
44	5	jonathan_fan	11/20/02 09:51:35
45	0	chris_loer	11/27/02 05:28:41
45	0	chris_loer	11/27/02 05:28:42
45	3	chris_loer	11/27/02 05:29:23
45	5	jonathan_fan	11/27/02 14:45:26
46	0	chris_loer	12/04/02 08:31:41
46	0	chris_loer	12/04/02 08:31:42
46	3	chris_loer	12/04/02 08:32:27
46	5	jonathan_fan	12/04/02 18:42:32

Propagating a Fixlet Site

Site Propagation often involves several different people, including IT managers, network administrators, BDE administrators and Fixlet authors. In order to coordinate this inevitable overlap of interests, BDE helps you to create local staging areas and batch-style scripts to automate the process.

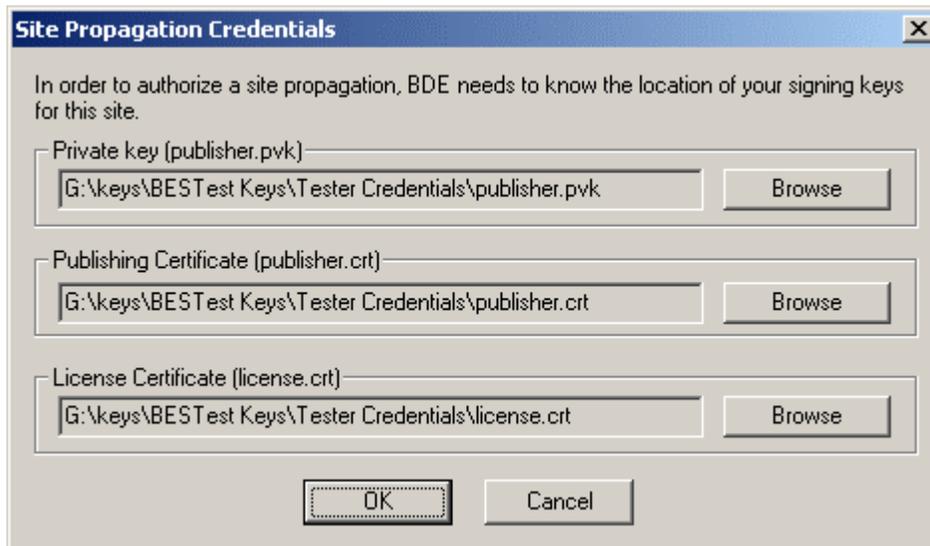
Propagating the site extracts the Fixlet information you've created and generates all the Fixlet files you need for deployment on your Fixlet server. These files will be written to the folder specified by the **Local Folder** parameter of the **Propagate Site** dialog. Because the process of digitally signing the Fixlet content and transferring the files to another location can take several steps to complete, most authors will want to codify the procedure in a script. If a script is indicated, it will be executed after the Fixlet site files have been written to the local folder.

- 1 From the site tree, right-click on the site you want to propagate.
- 2 Choose **Propagate** from the pop-up menu (or choose **Tools / Propagate**). The Propagate Site dialog will be displayed.



- 3 Select a **Propagation Profile** from the pull-down menu. Propagation profiles contain information about your Fixlet server, and are made available by the Fixlet site administrator.

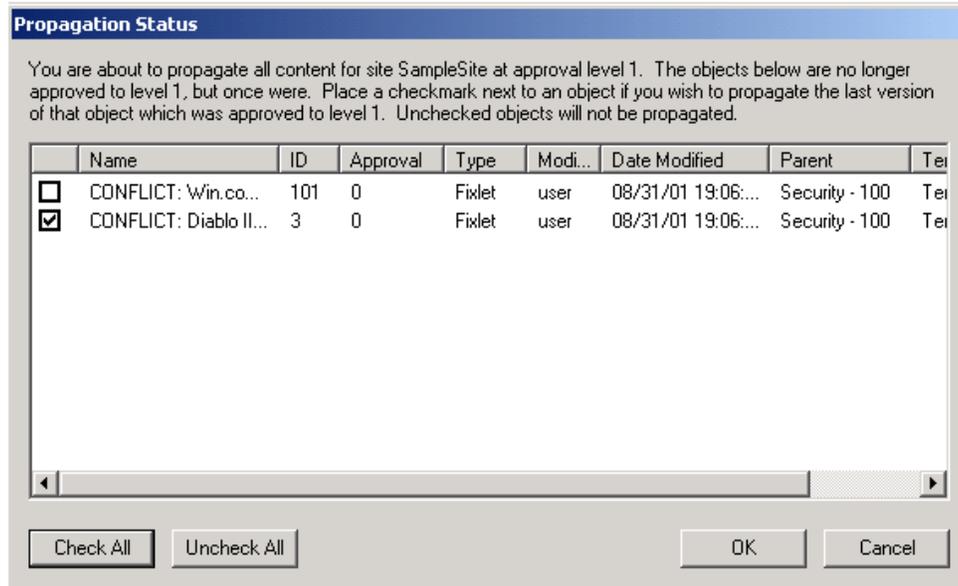
- 4 In the **Local Folder** field, type in the pathname, or Browse for the local folder that will act as a staging area for the final propagation to the server.
- 5 Select the **Minimum Approval Level** to filter the Fixlet content to be propagated. For example, if you set the minimum approval level to 4, all digests, Fixlet messages, and all related files that have been approved to level 4 or above would be propagated. Content approved from levels 0 through 3 would be ignored, and not moved to the local staging area.
- 6 The **Include Fixlets at Level** boxes will be automatically checked, according to your approval setting, to indicate which levels will be propagated. These boxes apply only to Fixlet messages, not other content, like graphics or templates. In general, you should accept these levels. However, there may be instances where you wish to specify that only certain levels of Fixlet messages should be propagated. This can be very useful for creating test sites. For instance you might want to create a site that only includes Fixlet messages at approval level 2 -- ready for testing but not yet ready for release.
- 7 If propagating to a propagation server, as opposed to a local site, you will need to supply your publishing credentials to authorize the propagation. Fixlet sites may need a Publisher Private Key, a Publisher Certificate and a Site Certificate. If this data is not properly filled out, you will need to click the button labeled **Edit Credentials**.



Browse to your site credentials, and click **OK**.

- 8 Press the **Propagate** button. The **Message Log** window provides a running account of each file as it is propagated. If any error messages show up, you can fix the problem and click the propagate button again.
- 9 If any Fixlet site elements have previously been approved to the selected minimum approval level or higher but are currently at a lower approval level, the Propagation Status dialog will appear. This window gives you the option of removing Fixlet site elements that were previously propagated but are currently undergoing revisions. If an

item is checked, the previously propagated version of that item will continue to be propagated, even though the current version of the item in the database is below the minimum propagation level. If an item is unchecked then it will be pulled from propagation and will no longer appear for users who are subscribed to the site. An item will initially be checked or unchecked based on the propagation recommendation entered when the item was saved or approved.



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