

Rational Integration Tester



# Reference Guide for Files

*Version 8.0.0*

**Note**

Before using this information and the product it supports, read the information in “Notices” on page 16.

This edition applies to version 8.0.0 of Rational Integration Tester and to all subsequent releases and modifications until otherwise indicated in new editions.

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# About this Publication

## **Contents**

### **Intended Audience**

### **Scope**

### **Typographical Conventions**

### **Contacting IBM Support**

This guide describes how to configure and use the File transport in IBM® Rational® Integration Tester, which provides access to files as a source for subscription (reading) and publication (writing).

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## Intended Audience

This document intended to be read by those with a fair understanding and exposure to the concepts involved in both testing and development and in enterprise integration.

## Scope

This document discusses the configuration and use of the File transport in IBM Rational Integration Tester. Information about other features and functionality in Rational Integration Tester is beyond the scope of this document.

If you wish to familiarise yourself with Rational Integration Tester, please refer to the online help or any of the documentation that is provided with the product.

## Typographical Conventions

The following typographical conventions are observed throughout this document:

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Type	Usage
Constant Width	Program output, listings of code examples, file names, commands, options, configuration file parameters, and literal programming elements in running text.
<i>Italic</i>	Document title names in statements that refer you to other documents. Also used to highlight concepts when first introduced.
<b>Bold</b>	Menu items in graphical user interface windows (such as Microsoft Windows-based or UNIX X Window applications) from which you select options or execute macros and functions.  Submenus and options of a menu item are indicated with a “greater than” sign, such as <b>Menu &gt; Submenu</b> or <b>Menu &gt; Option</b> .

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## Contacting IBM Support

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# File Transport

## **Contents**

### **Creating the File Transport**

### **Configuring the File Transport**

Rational Integration Tester provides access to files as a source of publication and subscription using the File transport. Using the publish and subscribe actions in Rational Integration Tester it is possible to create files for use in triggering a system process and reading files for validating the expected output from a system

This chapter provides an overview of how the transport can be used and how to configure it.

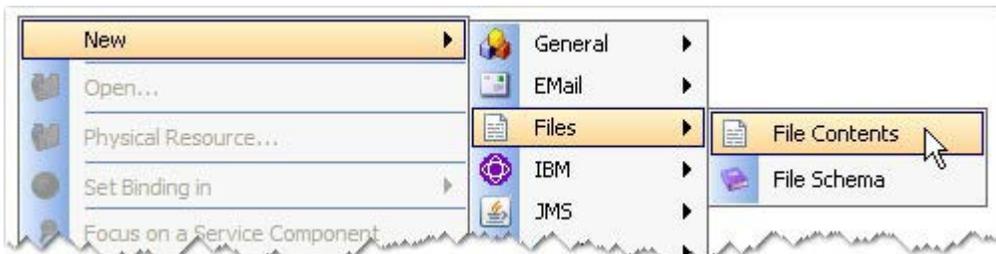
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## 1.1 Creating the File Transport

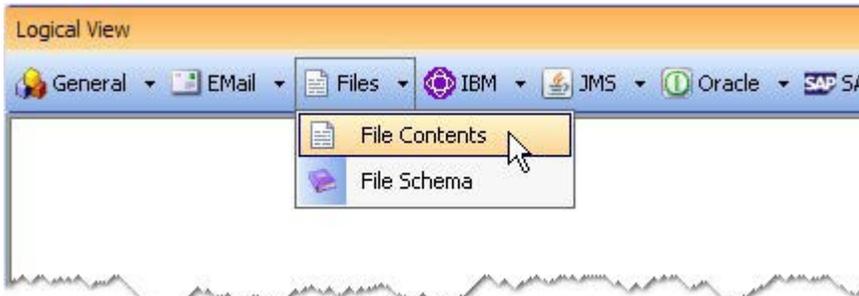
A file transport is created when you create a File Contents resource in the Logical View of Rational Integration Tester's Architecture School.

In Architecture School's Logical View, you can create a new file resource in two ways:

- Right-click on an existing component or on the blank drawing palette and select **New > Files > File Contents** from the context menu.



- Select an existing component or click the blank drawing palette and select **Files > File Contents** from the main component toolbar.

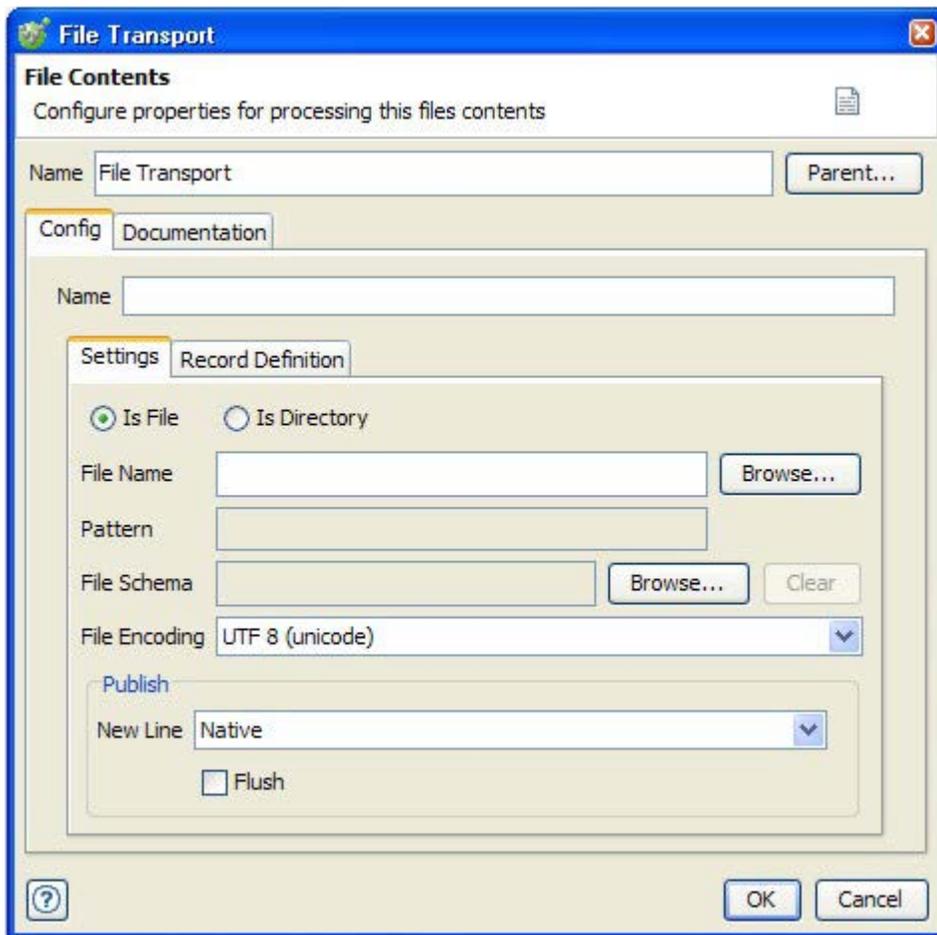


Each File Contents resource represents a unique file transport that can be selected and configured later on.

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## 1.2 Configuring the File Transport

The file transport provides read and write access to the contents of a file on the file system. To configure a transport, double-click the appropriate File Contents resource in Architecture School's Logical View.



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## 1.2.1 Transport Properties

The general properties of the transport include its name and parent.

- To change the name of the transport, simply enter the desired name in the **Name** field.
- To change the transport's parent, click **Parent** and select the logical component that should contain the transport.

## 1.2.2 File Settings

The options under the **Config** tab allow the user to define a specific file or directory of files, the pattern to match for a directory, an optional file schema that should be applied to the file or files, and the encoding type and new line option to use for publishing, which may vary depending on the system under test and the operating system in use.

The screenshot shows a software interface with a 'Config' tab selected. The interface is divided into two sub-tabs: 'Settings' and 'Record Definition'. The 'Settings' sub-tab is active and contains the following elements:

- A 'Name' text input field.
- Two radio buttons: 'Is File' (selected) and 'Is Directory'.
- A 'File Name' text input field with a 'Browse...' button to its right.
- A 'Pattern' text input field.
- A 'File Schema' text input field with 'Browse...' and 'Clear' buttons to its right.
- A 'File Encoding' dropdown menu currently set to 'UTF 8 (unicode)'.
- A 'Publish' section containing:
  - A 'New Line' dropdown menu currently set to 'Native'.
  - A 'Flush' checkbox, which is currently unchecked.

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The configuration options for the transport **Config** tab are described in the following table:

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Is File	Select this option if you want to specify a single file for the transport.
Is Directory	Select this option if you want to specify a directory of files for the transport.
File Name	The full path to the default file to be written (publish) or read (subscribe). Enter the path manually or click <b>Browse</b> to locate and select a file.
Pattern	When using the Is Directory option, use this field to specify a matching filename pattern that will determine the files to be used.
File Schema	If desired, click <b>Browse</b> to select an existing file schema that defines the contents of the selected file or files.
File Encoding	<p>The encoding type to apply when using the file. You may select one of the preset types from the dropdown menu, or enter any type supported by Java from the Basic or Extended Encoding Set. Supported types can be found in <b>charsets.jar</b>, located in the <code>jre\lib</code> directory of your Rational Integration Tester installation (by default, <code>C:\Program Files\IBM\RationalIntegrationTester\jre\lib\</code>).</p> <p>If an invalid type is entered, a red border is displayed around the File Encoding dropdown menu. The border disappears once a valid type has been entered.</p>
New Line	<p>For publishing actions (writing), select the new line character to use, as follows:</p> <ul style="list-style-type: none"><li>• native (utilizes the default option according to the platform)</li><li>• Unix (line feed)</li><li>• Windows (carriage return - line feed)</li><li>• Mac (carriage return)</li></ul>
Flush	Enable this option to flush the output buffer before writing to the file.

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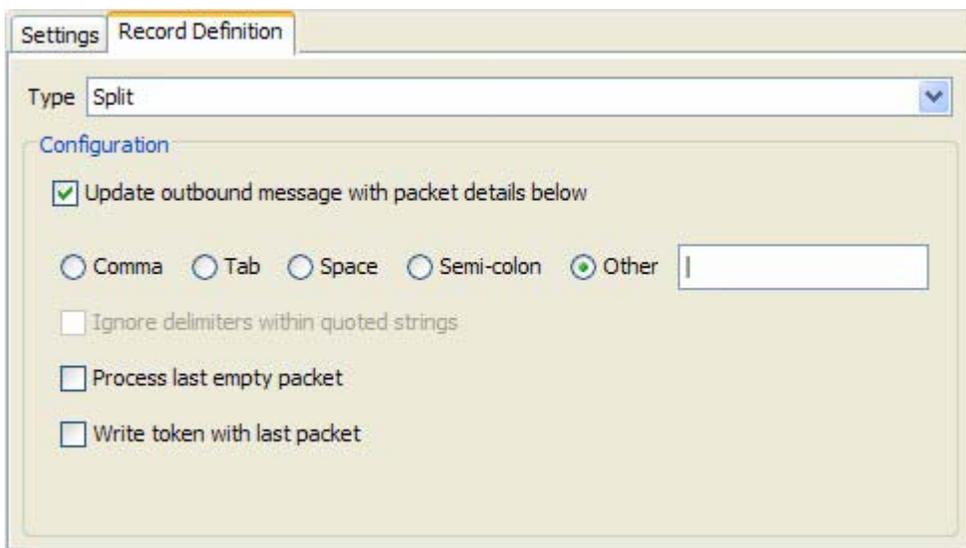
### 1.2.3 Record Definition

The settings under the **Record Definition** tab let you configure how Rational Integration Tester should treat the contents of the file.

**NOTE:** For all record definition types, you have the option to update outbound messages with relevant packet information (that is, the length of the remaining data) according to the record type. To include this information in outbound messages (that is, when publishing), enable the **Update outbound message with packet details below** option.

#### Split

The **Split** option can packetize (split) the contents of files based on a user-defined delimiter.



You can select one of the existing delimiter types (comma, tab, space, semi-colon), or select **Other** and enter the delimiter character(s) in the field provided.

When reading records, use the **Process last empty packet** option depending how the record ends. Enable this option if the record ends with your delimiter and you want to process one more packet as an empty string (that is, ""). Disable this option if the delimiter indicates that there are no more packets.

When writing to a record, enable the **Write token with last packet** if you want the packetizer to write out the delimiter as the last character, so the record ends with a

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delimiter. For example: “...|myfieldvalue|” when enabled and “...|myfieldvalue” when disabled.

## Length

The Length option can be used to iterate over the contents of a file to extract multiple records.

The image shows a dialog box titled "Settings" with a sub-tab "Record Definition". The "Type" dropdown menu is set to "Length". Under the "Configuration" section, there are four radio button options: "Fixed Length" (with a value of 24), "Token", "Offset" (which is selected and has a value of 16), and "Prefix". Below these options, there is a "Size" field with the value 4, a "Format" dropdown menu set to "Bytes", and a "Swap Bytes" checkbox which is currently unchecked.

- 
- |              |  |
|--------------|--|
| Fixed Length | Each record will be the same designated size.  |
| Token        | The string of characters that marks the start of each record.  |
| Offset       | Each record starts after the entered number of bytes. In the above example, 16 bytes of data precede the length information. |
| Prefix       | A number of bytes / characters at the start of the record that denote the length of the record.                              |
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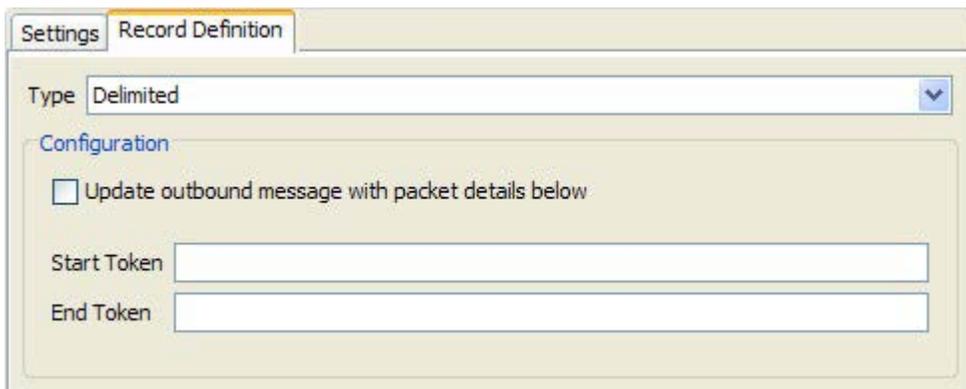
When using the **Token**, **Offset**, or **Prefix** modes, the following options control how the actual packet length will be read from the stream of information.

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- |            |  |
|------------|--|
| Size       | The number of bytes or characters that contain the length information.   |
| Format     | Indicates whether the prefix values should be treated as raw values ( <b>Bytes</b> ) or translated from their ASCII equivalent ( <b>ASCII</b> ). |
| Swap Bytes | Indicates whether the transport should swap the order of the bytes before treating the data as the length of the record.                         |
- 

## Delimited

The **Delimited** option can be used to iterate over the contents of a file to extract multiple records that are designated by a start and end token.



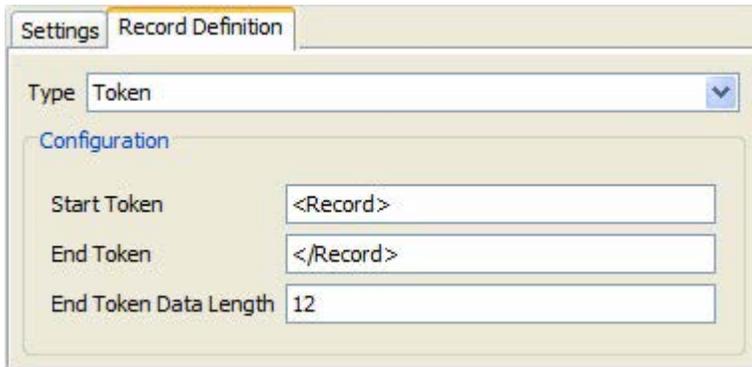
The screenshot shows a software interface for defining record types. It has two tabs: 'Settings' and 'Record Definition'. The 'Record Definition' tab is active. A dropdown menu labeled 'Type' is set to 'Delimited'. Below this is a 'Configuration' section with a checkbox labeled 'Update outbound message with packet details below' which is currently unchecked. At the bottom of the configuration section are two empty text input fields labeled 'Start Token' and 'End Token'.

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- |             |  |
|-------------|--|
| Start Token | A series of characters that denotes the start of a record. |
| End Token   | A series of characters that denotes the end of a record.   |
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## Token

The **Token** option is similar to the Delimited option, but can be used when you need to specify additional data after the end token.



The screenshot shows a dialog box with two tabs: "Settings" and "Record Definition". The "Record Definition" tab is active. Under the "Type" dropdown, "Token" is selected. Below this is a "Configuration" section with three input fields: "Start Token" containing "<Record>", "End Token" containing "</Record>", and "End Token Data Length" containing "12".

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**Start Token** A series of characters that denotes the start of a record.

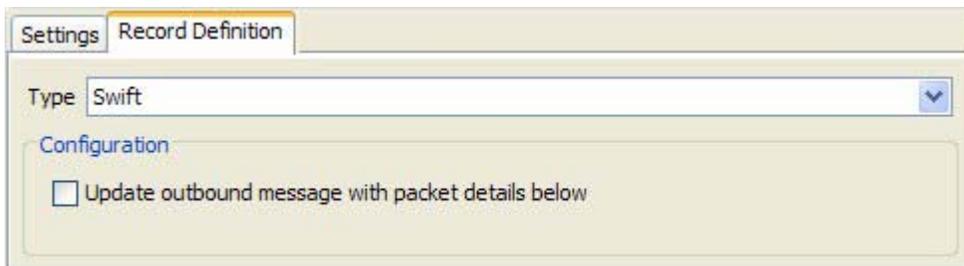
**End Token** A series of characters that denotes the end of a record.

**End Token Data Length** An optional quantity of data that can be present following the end token.

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## Swift

The Swift option can be used to break up the contents of the file into a Swift message based on simple Swift rules (that is, {n:...}).

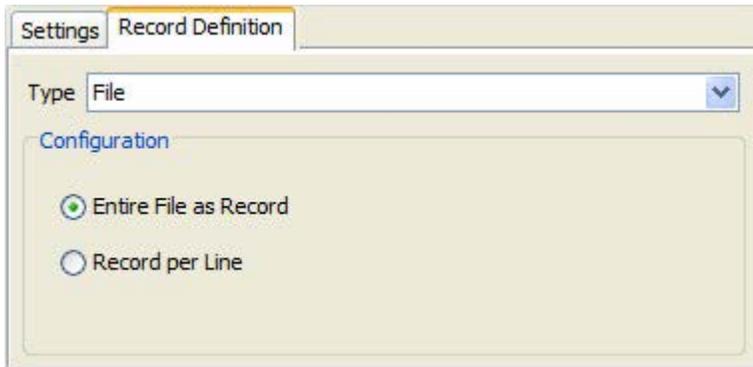


The screenshot shows a dialog box with two tabs: "Settings" and "Record Definition". The "Record Definition" tab is active. Under the "Type" dropdown, "Swift" is selected. Below this is a "Configuration" section with a single checkbox labeled "Update outbound message with packet details below", which is currently unchecked.

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## File

When using a file as a single record, the record definition can be configured to use the entire file as a single record, or to treat each line as a record.



# File Messages

## **Contents**

### **Overview**

### **Publishing**

### **Subscribing**

This chapter provides information about using the File transport to write (publish) and read (subscribe) file contents.

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## 2.1 Overview

When publishing or subscribing to files as a part of an automated test, the file transport can be used like a message source from a queue, topic or other endpoint. A publisher can utilize Rational Integration Testers message formatters to write XML, SOAP, or other formats to disk, and a subscriber follow the same mechanism to validate content and format when reading.

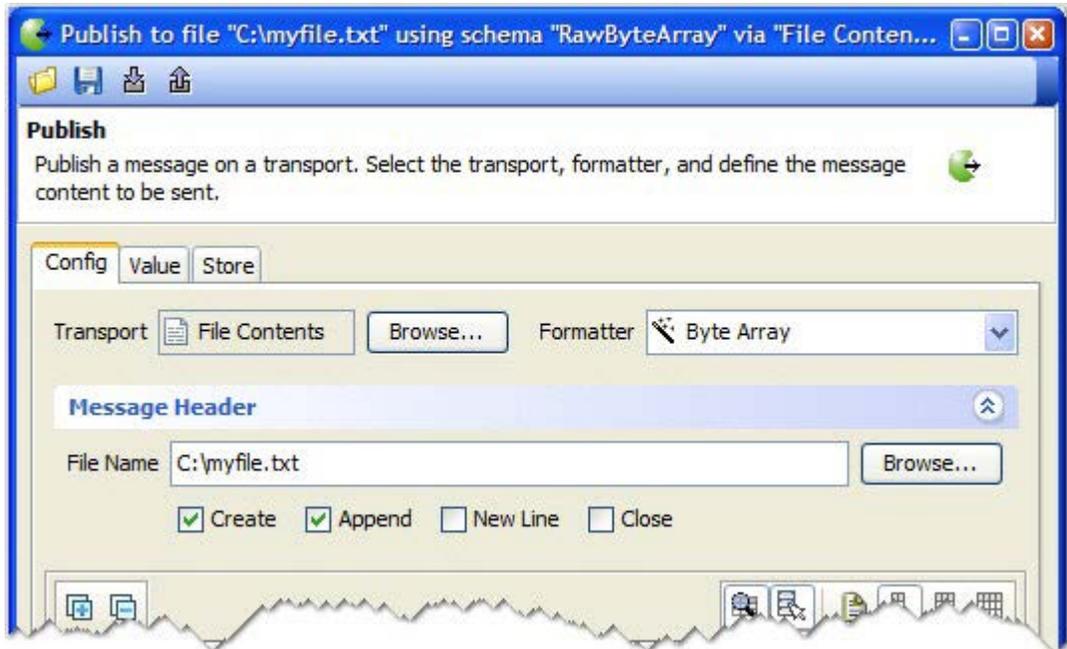
The standard field options (filtering, validation, tag storage) are available when publishing or subscribing with the file transport. For more information about this, refer to *IBM Rational Integration Tester Reference Guide*.

- [Publishing](#)
- [Subscribing](#)

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## 2.2 Publishing

You can use the file transport in a publish action to write data to a file.



After specifying the transport, select the formatter to be used, as follows:

- **Byte Array** - used for fields that contain non-encoded strings
- **Text** - used for text-based fields

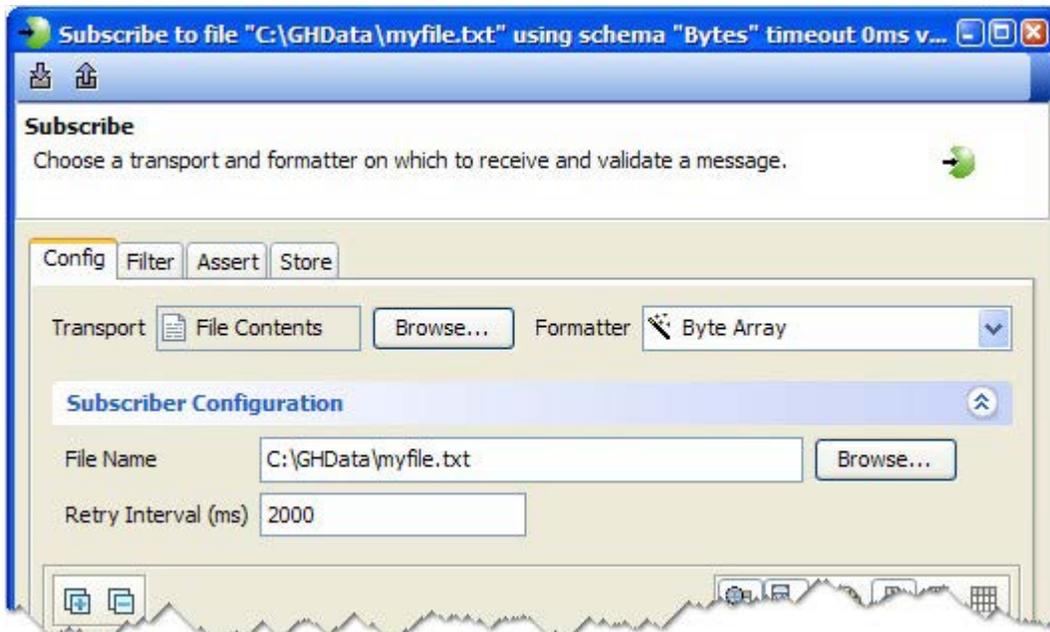
You can override the file location that is defined in the transport under **File Name**, and tags can be used to select the file location and name dynamically. The following options can be enabled or disabled when writing to a file using the publish action.

- **Create** will create the specified file if it does not currently exist.
- **Append** leaves existing file contents intact and appends new data to the end of the file when writing.
- **New Line** appends new line characters to the end of the file after writing, using the New Line option specified in the transport.
- **Close** explicitly closes the file after writing, releasing the file handle between test iterations. If left unchecked, the file will be closed only at the end of the test.

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## 2.3 Subscribing

You can use the file transport in a subscribe action to read data from a file.



After specifying the transport, select the formatter to be used, as follows:

- **Byte Array** - used for fields that contain non-encoded strings
- **Text** - used for text-based fields

You can override the file location that is defined in the transport under **File Name**, and tags can be used to select the file location and name dynamically.

**Retry Interval** is used in conjunction with the subscriber **Timeout** setting to control how often Rational Integration Tester will attempt to read the file and for how long it should try.

- In **Retry Interval**, set the amount of time (in milliseconds) that Rational Integration Tester should wait between attempts to read from the file. Retries will be attempted until the file is read successfully or until the timeout period expires.
- Under **Timeout**, enter the amount of time (in milliseconds) after which the test action should fail if Rational Integration Tester is unable to read from the file.

**NOTE:** You can validate an empty file (that is, one that contains zero bytes) by selecting the **Byte Array** formatter and leaving the **data (ByteArray)** field empty.

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# Glossary

The following table below lists some of the key terms used in this document, and provides a description of each.

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<b>Term</b>	<b>Description</b>
Field	A bit of data constituent to a message. Most fields are scalar and therefore unitary, equivalent to data attributes. Vector fields are an aggregation of fields both scalar and vector, and are usually referred to as Messages. See also Message.
Message	A unit of information made up of a header consisting of meta-information and a body consisting of the message data.
Host	The computer on which a software process runs.
Publisher-Subscriber	A messaging paradigm whereby a messaging network consists of Publishers and Subscribers.
Transport	Informally, the messaging software in use. For instance, TIBCO Rendezvous, TIBCO ActiveEnterprise, IBM WebSphere® MQ (JMS).
Publishing	Making a message (data) available on a message channel.
Subscribing	Receiving a stream of messages (data) on a given message channel.
Server	A host computer on a network shared by more than one user.

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