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The Release Notes can be found in the OpenEdge installation directory and online at: https://community.progress.com/technicalusers/w/openedgegeneral/1329.openedge-product-documentation-overview.aspx.

For the latest documentation updates see OpenEdge Product Documentation on Progress Communities: (https://community.progress.com/technicalusers/w/openedgegeneral/1329.openedge-product-documentation-overview.aspx).

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Table of Contents

Preface.........................................................................................................................13
Purpose............................................................................................................................14
Audience.........................................................................................................................14
Organization..................................................................................................................14
Using ABL documentation...........................................................................................15
  References to ABL compiler and run-time features..................................................16
  References to ABL data types.....................................................................................16
Typographical conventions..........................................................................................16
Examples of syntax descriptions...................................................................................17
  Long syntax descriptions split across lines.............................................................19
  Complex syntax descriptions with both required and optional elements..............19
OpenEdge messages.....................................................................................................20
  Obtaining more information about OpenEdge messages........................................20

Chapter 1: Supporting OpenEdge Servers, Messengers, DataServers, and
Adapters.......................................................................................................................23
Overview.......................................................................................................................23
  AppServer...............................................................................................................25
  NameServer.............................................................................................................25
  WebSpeed Transaction Server...............................................................................26
  WebSpeed Messenger.............................................................................................26
  AppServer Internet Adapter....................................................................................26
  SonicMQ Adapter....................................................................................................26
  Web Services Adapter (for OpenEdge SOAP Web Services)....................................26
  DataServers for ODBC, Oracle, and MS SQL Server..............................................27
  Managing broker resources.....................................................................................27
  The ubroker.properties file.....................................................................................27
  Server and agent details...........................................................................................28
  Log file monitors and log file viewers......................................................................28
Features supporting OpenEdge server, DataServer, Messenger, and Adapter resources...29
  OpenEdge Management monitoring prerequisites................................................29
  Installation...............................................................................................................29
  Discovering and enabling local resources.............................................................30
  Discovering and enabling remote resources..........................................................30
  Role authorization and OpenEdge Management tasks...........................................30

Chapter 2: Getting Started.........................................................................................33
Chapter 3: Managing WebSpeed Transaction Server Data

Overview
Reviewing WebSpeed broker status
Modifying WebSpeed control settings
WebSpeed Control page content
Changing WebSpeed broker controls
Viewing broker process details
Agent Pool Control page content
Adding or trimming agents
Killing a WebSpeed agent process
Accessing and reviewing WebSpeed-related log file data
Getting started with log files for WebSpeed resources
Characteristics of WebSpeed resource log file monitors
WebSpeed log file monitor default values
Reviewing predefined log file monitor search criteria
Customizing a WebSpeed broker log file monitor
Using the WebSpeed log file viewers
Refreshing log file data
Examining WebSpeed-related Operational views
Accessing and reviewing the Broker Performance View
Accessing and reviewing the Agents Performance View
Examining WebSpeed-related Informational views

Chapter 4: Managing AppServer Data
AppServer overview
## Contents

Reviewing AppServer broker status .....................................................................................................76  
Modifying AppServer control settings...................................................................................................77  
  
  AppServer Control .....................................................................................................................78  
  Changing AppServer broker controls .........................................................................................79  
Accessing and reviewing AppServer-related log file data.....................................................................90  
  
  Getting started with log files for AppServer resources...............................................................91  
  Characteristics of AppServer resource log file monitors ...........................................................91  
  AppServer log file monitor default values ..................................................................................92  
  Reviewing predefined log file monitor search criteria ..............................................................93  
  Customizing an AppServer broker log file monitor .................................................................94  
Using the AppServer log file viewers ....................................................................................................96  
  Refreshing log file data..............................................................................................................98  
Examining AppServer-related Operational views...............................................................................98  
  Accessing and reviewing the Broker Performance View ...........................................................99  
  Accessing and reviewing the Servers Performance View .......................................................101  
Examining AppServer-related Informational views .............................................................................103

### Chapter 5: Managing NameServer Data.................................................................105

NameServer overview...........................................................................................................................105  
Reviewing NameServer status ...........................................................................................................106  
Modifying NameServer control settings..............................................................................................106  
  
  NameServer Control .............................................................................................................108  
  Changing NameServer controls ............................................................................................108  
Accessing and reviewing NameServer-related log file data ...............................................................109  
  
  Getting started with NameServer log files..............................................................................109  
  Characteristics of a NameServer log file monitor .....................................................................110  
  NameServer log file monitor default values .............................................................................110  
  Reviewing predefined log file monitor search criteria ............................................................111  
  Customizing a NameServer log file monitor ...........................................................................111  
Using the NameServer log file viewer ................................................................................................113  
  Refreshing log file data............................................................................................................115  
Examining NameServer Operational and Informational views...........................................................115  
  Accessing and reviewing Operational views........................................................................115  
  Accessing and reviewing Informational views .....................................................................118

### Chapter 6: Managing DataServer Data.................................................................121

DataServer overview ..........................................................................................................................121  
  
  ODBC, Oracle, and MS SQL Server DataServers ..................................................................122  
Reviewing DataServer broker status .................................................................................................122  
Modifying DataServer control settings.............................................................................................123  
  
  DataServer Control page content ..........................................................................................124  
  Changing DataServer broker controls ...................................................................................125  
Viewing broker process details............................................................................................................125
Chapter 7: Managing AppServer Internet Adapter Data...............137
AppServer Internet Adapter overview ..................................................137
Configuring AppServer Internet Adapter properties..............................138
Working with AppServer Internet Adapter control settings......................138
AppServer Internet Adapter Control page content....................................139
Accessing and reviewing AppServer Internet Adapter log file data .............140
Getting started with log files for AIA resources....................................140
Characteristics of an AppServer Internet Adapter resource log file monitor ....140
AppServer Internet Adapter log file monitor default values ....................141
Reviewing predefined log file monitor search criteria.............................142
Customizing an AppServer Internet Adapter log file monitor ..................142
Using the AppServer Internet Adapter log file viewer ..........................144
Refreshing log file data.........................................................................145

Chapter 8: Managing SonicMQ Adapter Data.................................147
SonicMQ Adapter overview .....................................................................147
Configuring SonicMQ Adapter properties..............................................148
Reviewing SonicMQ Adapter broker status ...........................................148
Modifying SonicMQ Adapter control settings.........................................148
SonicMQ Adapter Control........................................................................150
Changing SonicMQ Adapter controls.....................................................151
Viewing broker process details...............................................................152
Killing a SonicMQ Adapter broker process and threads .........................154
Accessing and reviewing SonicMQ Adapter log file data .........................155
Getting started with log files for SonicMQ Adapter resources...............155
Characteristics of SonicMQ Adapter resource log file monitors .................156
SonicMQ Adapter log file monitor default values...................................157
Reviewing predefined log file monitor search criteria............................157
Customizing a SonicMQ Adapter broker log file monitor .......................158
Using the SonicMQ Adapter log file viewers ........................................160
Refreshing log file data.........................................................................161
Examining SonicMQ Adapter Operations views.......................................161
Accessing and reviewing SonicMQ Adapter status..................................162
Chapter 9: Managing Web Services Adapter (for OpenEdge SOAP Web Services) Data.................................................................................................165

Web Services Adapter (for OpenEdge SOAP Web Services) overview .............................................165
Configuring Web Services Adapter (for OpenEdge SOAP Web Services) properties..................166
Reviewing Web Services Adapter (for OpenEdge SOAP Web Services) status ...............................166
Modifying Web Services Adapter (for OpenEdge SOAP Web Services) control settings...........167
Web Services Adapter (for OpenEdge SOAP Web Services) Control ....................................168
Logging in to or logging off from the Web server ....................................................................168
Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) log file data .168
Getting started with log files for Web Services Adapter (for OpenEdge SOAP Web Services) resources............................................................................................................................169
Characteristics of Web Services Adapter (for OpenEdge SOAP Web Services) resource log file monitors .........................................................................................................................................169
Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor default values ..170
Reviewing predefined log file monitor search criteria...............................................................170
Customizing a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor .171
Using the Web Services Adapter (for OpenEdge SOAP Web Services) log file viewer ....................173
Refreshing log file data............................................................................................................174
Examining Web Services Adapter (for OpenEdge SOAP Web Services) Operations views..............174
Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) status.174
Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) statistics..........................................................175
Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) run-time properties............................................................................................................................175

Chapter 10: Managing WebSpeed Messenger Data.................................................................177

Messenger overview ..........................................................................................................................177
Configuring WebSpeed Messenger properties........................................................................178
CGIIP, WSASP, WSISA, and WSNSA Messengers.................................................................178
Working with Messenger control settings..................................................................................178
Messengers Control.....................................................................................................................179
Accessing and reviewing Messenger log file data ....................................................................180
Getting started with log files for Messenger resources..........................................................180
Characteristics of a Messenger resource log file monitor .......................................................180
Messenger log file monitor default values .............................................................................181
Reviewing predefined log file monitor search criteria...............................................................182
Customizing a Messenger log file monitor ..............................................................................183
Using the Messenger log file viewer ..........................................................................................184
Refreshing log file data............................................................................................................185
Chapter 11: Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters .........................................................187
  OpenEdge Management resource monitoring overview.........................................................187
  Key terms and definitions........................................................................................................188
  Default polling and trend values..........................................................................................189
    Trend default values for WebSpeed and AppServer brokers............................................190
  Default monitoring plan details............................................................................................191
  Monitoring plan default values.............................................................................................191
  OpenEdge default monitoring plan examples......................................................................192
  Maintaining monitoring plans ..............................................................................................193
    Updating monitoring plans...............................................................................................193
  General rule conventions......................................................................................................197
    Understanding and using resource monitor rules..............................................................198
      Common rule characteristics.........................................................................................198
      Average Procedure Duration High rule .......................................................................199
      Rejected Request Percent High rule ............................................................................200
      Queued Request Percent High rule .............................................................................201
      Agent (Server) Unavailable rule ....................................................................................201
  Working with rule sets...........................................................................................................203
    Benefits of using rule sets...............................................................................................203
    Editing a rule set...............................................................................................................204
    Copying a rule set.............................................................................................................205
    Deleting a rule set.............................................................................................................205
    Adding rule sets that have one or more rules in common..............................................206
    Associating a rule set with a monitoring plan.................................................................206

Chapter 12: Calculating Rule Threshold Settings Using the Configuration Advisor ....................................................................................207
  Configuration Advisor overview...........................................................................................207
    Rule details.........................................................................................................................208
    Data analysis and recommended values overview...........................................................209
    Generating and applying threshold rule settings..............................................................211
  Setting rules-related criteria.................................................................................................212
  Understanding the recommended threshold settings.........................................................214
    Evaluating recommended settings..................................................................................215
    Comparing and selecting threshold settings....................................................................217
    Submitting your threshold setting selections..................................................................218
    Determining the effectiveness of your selections.............................................................219

Chapter 13: Analyzing OpenEdge Application Performance.................................221
  Overview................................................................................................................................221
Preface

For details, see the following topics:

• Purpose
• Audience
• Organization
• Using ABL documentation
• Typographical conventions
• Examples of syntax descriptions
• OpenEdge messages
Purpose

This guide describes how OpenEdge® Management supports monitoring and managing specific resources associated with these Server, DataServer, Messenger, and Adapter products:

- AppServer
- WebSpeed®
- Transaction Server
- NameServer
- OpenEdge® DataServer for ODBC
- OpenEdge® DataServer for Oracle
- OpenEdge® DataServer for Microsoft SQL Server
- WebSpeed® Messengers (CGIIP, WSASP, WSISA, WSNSA)
- AppServer Internet Adapter
- SonicMQ® Adapter
- Web Services Adapter (for OpenEdge SOAP Web Services)
- OE Web Server

**Note:** The OpenEdge database is documented separately in *OpenEdge Management: Database Management*.

Audience

This manual is designed for system administrators, database administrators, and any other personnel responsible for the administrative and daily activities associated with managing an OpenEdge-based application environment that uses OpenEdge Management.

Organization

- Supporting OpenEdge Servers, Messengers, DataServers, and Adapters on page 23
  Presents an overview of the OpenEdge Management features that support the OpenEdge Servers, DataServers, Messengers, and Adapters.
- Getting Started on page 33
  Describes how to navigate the OpenEdge Management console.
- Managing WebSpeed Transaction Server Data on page 49
  Explains how to use OpenEdge Management features with WebSpeed Transaction Servers.
- Managing AppServer Data on page 75
Explains how to use the OpenEdge Management features with AppServers.
Managing NameServer Data on page 105
Explains how to use the OpenEdge Management features with NameServers.
Managing DataServer Data on page 121
Explains how to use the OpenEdge Management features with DataServers.
Managing AppServer Internet Adapter Data on page 137
Explains how to use the OpenEdge Management features with AppServer Internet Adapters.
Managing SonicMQ Adapter Data on page 147
Explains how to use the OpenEdge Management features with SonicMQ Adapters.
Managing Web Services Adapter (for OpenEdge SOAP Web Services) Data on page 165
Explains how to use the OpenEdge Management features with Web Services Adapters.
Managing WebSpeed Messenger Data on page 177
Explains how to use the OpenEdge Management features with WebSpeed Messengers.
Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187
Describes how to set up OpenEdge Management monitoring plans and rules for OpenEdge server, DataServer, Messenger, and Adapter resources.
Calculating Rule Threshold Settings Using the Configuration Advisor on page 207
Describes how to use the Configuration Advisor to generate recommended threshold rule settings for specific WebSpeed and AppServer rules.
Analyzing OpenEdge Application Performance on page 221
Describes how you can use OpenEdge Management features to analyze OpenEdge server application performance.
Managing OE Web Server Data on page 237
Describes how you can use OpenEdge Management features related to the OE Web Server.

Using ABL documentation

OpenEdge provides a special purpose programming language for building business applications. In the documentation, the formal name for this language is ABL (Advanced Business Language). With few exceptions, all keywords of the language appear in all UPPERCASE, using a font that is appropriate to the context. All other alphabetic language content appears in mixed case.

For the latest documentation updates see the OpenEdge Product Documentation Overview page on Progress Communities:

References to ABL compiler and run-time features

ABL is both a compiled and an interpreted language that executes in a run-time engine. The documentation refers to this run-time engine as the ABL Virtual Machine (AVM). When the documentation refers to ABL source code compilation, it specifies ABL or the compiler as the actor that manages compile-time features of the language. When the documentation refers to run-time behavior in an executing ABL program, it specifies the AVM as the actor that manages the specified run-time behavior in the program.

For example, these sentences refer to the ABL compiler's allowance for parameter passing and the AVM's possible response to that parameter passing at run time: "ABL allows you to pass a dynamic temp-table handle as a static temp-table parameter of a method. However, if at run time the passed dynamic temp-table schema does not match the schema of the static temp-table parameter, the AVM raises an error." The following sentence refers to run-time actions that the AVM can perform using a particular ABL feature: "The ABL socket object handle allows the AVM to connect with other ABL and non-ABL sessions using TCP/IP sockets."

References to ABL data types

ABL provides built-in data types, built-in class data types, and user-defined class data types. References to built-in data types follow these rules:

- Like most other keywords, references to specific built-in data types appear in all UPPERCASE, using a font that is appropriate to the context. No uppercase reference ever includes or implies any data type other than itself.
- Wherever integer appears, this is a reference to the INTEGER or INT64 data type.
- Wherever character appears, this is a reference to the CHARACTER, LONGCHAR, or CLOB data type.
- Wherever decimal appears, this is a reference to the DECIMAL data type.
- Wherever numeric appears, this is a reference to the INTEGER, INT64, or DECIMAL data type.

References to built-in class data types appear in mixed case with initial caps, for example, Progress.Lang.Object. References to user-defined class data types appear in mixed case, as specified for a given application example.

Typographical conventions

This documentation uses the following typographical and syntax conventions:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>Bold typeface indicates commands or characters the user types, provides emphasis, or the names of user interface elements.</td>
</tr>
<tr>
<td><em>Italic</em></td>
<td>Italic typeface indicates the title of a document, or signifies new terms.</td>
</tr>
<tr>
<td>SMALL, BOLD CAPITAL LETTERS</td>
<td>Small, bold capital letters indicate OpenEdge key functions and generic keyboard keys; for example, GET and CTRL.</td>
</tr>
<tr>
<td>Convention</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>KEY1+KEY2</td>
<td>A plus sign between key names indicates a <strong>simultaneous</strong> key sequence: you press and hold down the first key while pressing the second key. For example, <strong>CTRL+X</strong>.</td>
</tr>
<tr>
<td>KEY1 KEY2</td>
<td>A space between key names indicates a <strong>sequential</strong> key sequence: you press and release the first key, then press another key. For example, <strong>ESCAPE H</strong>.</td>
</tr>
</tbody>
</table>

**Syntax:**

- **Fixed width**
  - A fixed-width font is used in syntax, code examples, system output, and file names.
- **Fixed-width italics**
  - Fixed-width italics indicate variables in syntax.
- **Fixed-width bold**
  - Fixed-width bold italic indicates variables in syntax with special emphasis.
- **UPPERCASE fixed width**
  - ABL keywords in syntax and code examples are almost always shown in uppercase. Although shown in uppercase, you can type ABL keywords in either uppercase or lowercase in a procedure or class.
- **Period (.) or colon (:)**
  - All statements except **DO**, **FOR**, **FUNCTION**, **PROCEDURE**, and **REPEAT** end with a period. **DO**, **FOR**, **FUNCTION**, **PROCEDURE**, and **REPEAT** statements can end with either a period or a colon.
- **[ ]**
  - Large brackets indicate the items within them are optional.
- **[]**
  - Small brackets are part of ABL.
- **{ }**
  - Large braces indicate the items within them are required. They are used to simplify complex syntax diagrams.
- **{}**
  - Small braces are part of ABL. For example, a called external procedure must use braces when referencing arguments passed by a calling procedure.
- **|**
  - A vertical bar indicates a choice.
- **...**
  - Ellipses indicate repetition: you can choose one or more of the preceding items.

**Examples of syntax descriptions**

In this example, **ACCUM** is a keyword, and **aggregate** and **expression** are variables:
Syntax

ACCUM aggregate expression

FOR is one of the statements that can end with either a period or a colon, as in this example:

FOR EACH Customer NO-LOCK:
  DISPLAY Customer.Name.
END.

In this example, STREAM stream, UNLESS-HIDDEN, and NO-ERROR are optional:

Syntax

DISPLAY [ STREAM stream ] [ UNLESS-HIDDEN ] [ NO-ERROR ]

In this example, the outer (small) brackets are part of the language, and the inner (large) brackets denote an optional item:

Syntax

INITIAL [ constant [, constant ] ]

A called external procedure must use braces when referencing compile-time arguments passed by a calling procedure, as shown in this example:

Syntax

{ &argument-name }

In this example, EACH, FIRST, and LAST are optional, but you can choose only one of them:

Syntax

PRESELECT [ EACH | FIRST | LAST ] record-phrase

In this example, you must include two expressions, and optionally you can include more. Multiple expressions are separated by commas:
Syntax

```
MAXIMUM ( expression, expression [ , expression ] ... )
```

In this example, you must specify `MESSAGE` and at least one `expression` or `SKIP [ ( n ) ]`, and any number of additional `expression` or `SKIP [ ( n ) ]` is allowed:

Syntax

```
MESSAGE { expression | SKIP [ ( n ) ] } ... 
```

In this example, you must specify `{include-file, then optionally any number of argument or &argument-name = "argument-value", and then terminate with }:

Syntax

```
{ include-file
  [ argument | &argument-name = "argument-value" ] ... }
```

Long syntax descriptions split across lines

Some syntax descriptions are too long to fit on one line. When syntax descriptions are split across multiple lines, groups of optional and groups of required items are kept together in the required order.

In this example, `WITH` is followed by six optional items:

Syntax

```
WITH [ ACCUM max-length ] [ expression DOWN ]
[ CENTERED ] [ n COLUMNS ] [ SIDE-LABELS ]
[ STREAM-IO ]
```

Complex syntax descriptions with both required and optional elements

Some syntax descriptions are too complex to distinguish required and optional elements by bracketing only the optional elements. For such syntax, the descriptions include both braces (for required elements) and brackets (for optional elements).

In this example, `ASSIGN` requires either one or more `field` entries or one `record`. Options available with `field` or `record` are grouped with braces and brackets:
Syntax

ASSIGN  
  { [ FRAME frame ] { field [ = expression ] } 
    [ WHEN expression ] } . . . 
  | { record [ EXCEPT field . . . ] } 

OpenEdge messages

OpenEdge displays several types of messages to inform you of routine and unusual occurrences:

- **Execution messages** inform you of errors encountered while OpenEdge is running a procedure; for example, if OpenEdge cannot find a record with a specified index field value.

- **Compile messages** inform you of errors found while OpenEdge is reading and analyzing a procedure before running it; for example, if a procedure references a table name that is not defined in the database.

- **Startup messages** inform you of unusual conditions detected while OpenEdge is getting ready to execute; for example, if you entered an invalid startup parameter.

After displaying a message, OpenEdge proceeds in one of several ways:

- Continues execution, subject to the error-processing actions that you specify or that are assumed as part of the procedure. This is the most common action taken after execution messages.

- Returns to the Procedure Editor, so you can correct an error in a procedure. This is the usual action taken after compiler messages.

- Halts processing of a procedure and returns immediately to the Procedure Editor. This does not happen often.

- Terminates the current session.

OpenEdge messages end with a message number in parentheses. In this example, the message number is 200:

** Unknown table name table. (200)

If you encounter an error that terminates OpenEdge, note the message number before restarting.

Obtaining more information about OpenEdge messages

In Windows platforms, use OpenEdge online help to obtain more information about OpenEdge messages. Many OpenEdge tools include the following Help menu options to provide information about messages:

- Choose **Help > Recent Messages** to display detailed descriptions of the most recent OpenEdge message and all other messages returned in the current session.

- Choose **Help > Messages** and then type the message number to display a description of a specific OpenEdge message.

- In the Procedure Editor, press the HELP key or F1.
On UNIX platforms, use the OpenEdge **pro** command to start a single-user mode character OpenEdge client session and view a brief description of a message by providing its number.

**To use the pro command to obtain a message description by message number:**

1. Start the Procedure Editor:

   ```
   OpenEdge-install-dir/bin/pro
   ```

2. Press **F3** to access the menu bar, then choose **Help > Messages**.
3. Type the message number and press **ENTER**. Details about that message number appear.
4. Press **F4** to close the message, press **F3** to access the Procedure Editor menu, and choose **File > Exit**.
Supporting OpenEdge Servers, Messengers, DataServers, and Adapters

This chapter provides an overview of OpenEdge Management support for the OpenEdge server products (AppServer, WebSpeed Transaction Server, and NameServer), DataServers (for ODBC, Oracle, and Microsoft SQL Server), AppServer Internet Adapter, SonicMQ Adapter, OE Web Servers and Web Services Adapter (for OpenEdge SOAP Web Services).

Note: Throughout this guide, references to OpenEdge servers are commonly interchanged with these references: OpenEdge, OpenEdge server-related resources, and OpenEdge resources.

For details, see the following topics:

- Overview
- Features supporting OpenEdge server, DataServer, Messenger, and Adapter resources
- OpenEdge Management monitoring prerequisites

Overview

You can use OpenEdge Management to configure and manage various OpenEdge resources. Refer to the following table for an overview of which features you can use with each server, DataServer, Messenger, or Adapter resource.

An overview of each of the resources follows.
<table>
<thead>
<tr>
<th>Feature available</th>
<th>App Server</th>
<th>Name Server</th>
<th>Web Speed Server</th>
<th>App Server Internet Adapter</th>
<th>SonicMQ Adapter</th>
<th>Web Services Adapter (for OpenEdge SOAP Web Services)</th>
<th>Data Server</th>
<th>Web Speed Msngr</th>
<th>OE Web Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Control (start/stop instances)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Enable/ disable</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Status</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Operational views</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes₁</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Log file viewer</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Log file monitor</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Monitoring plans</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Configuration Advisor</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Job support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Report templates</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Creating rule sets</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No²</td>
<td>No²</td>
<td>No²</td>
<td>No²</td>
<td>No²</td>
<td>No²</td>
</tr>
<tr>
<td>Using rules and rule sets</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes³</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes³</td>
<td>Yes</td>
</tr>
<tr>
<td>Alerts support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Scheduling and polling support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes³</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes³</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1 A Deployed SOAP Web service view is provided for the Web Services Adapter (for OpenEdge SOAP Web Services).
2 Although you cannot create new rules sets for this resource, you can add existing rules to its default rule set.
3 For log file monitor only.
<table>
<thead>
<tr>
<th>Feature available</th>
<th>App Server</th>
<th>Name Server</th>
<th>Web Speed Server</th>
<th>App Server Internet Adapter</th>
<th>SonicMQ Adapter</th>
<th>Web Services Adapter (for OpenEdge SOAP Web Services)</th>
<th>Data Server</th>
<th>Web Speed Msngr</th>
<th>OE Web Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graph support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Trend support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>My Dashboard support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Collections support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Note:** OpenEdge database monitoring is documented in *OpenEdge Management: Database Management.*

## AppServer

The AppServer is an OpenEdge application that allows you to build and deploy complex distributed applications using ABL. Each AppServer consists of an Application broker (also known as an AppServer broker, or broker) and one or more Application servers. AppServers work with the AdminServer and an optional, integrated OpenEdge NameServer. OpenEdge Management supports configuring, discovering, and monitoring AppServer brokers and managing activities associated with their respective servers from the OpenEdge Management console.

## NameServer

The NameServer is an administrative component that can be integrated with the Transaction Server and AppServer. The NameServer works with a pool of brokers to identify and distribute client requests to register specific application services. For example, an AppServer broker can register Application Services with a NameServer; a WebSpeed broker can register WebSpeed Services that it provides with a NameServer. Also, a NameServer can connect a client request for a WebSpeed Service that is registered with the NameServer with an available WebSpeed broker. The NameServer can also provide location transparency.

OpenEdge Management supports configuring, discovering, and monitoring NameServers. You can also manage activities associated with NameServers from the OpenEdge Management console.

**Note:** The NameServer can also be configured to work with other OpenEdge products such as OpenEdge DataServers and the SonicMQ Adapter. For more information, see the relevant OpenEdge product documentation.
WebSpeed Transaction Server

The WebSpeed product includes WebSpeed Messengers, WebSpeed brokers, and WebSpeed agents. WebSpeed Transaction Servers work with the AdminServer and NameServer. The WebSpeed brokers launch WebSpeed Agents to drive your Web applications.

OpenEdge Management supports configuring, discovering, and monitoring WebSpeed brokers and managing activities associated with their respective agents from the OpenEdge Management console.

Note: OpenEdge Management supports monitoring and managing the WebSpeed Transaction Server product. Throughout this guide, the WebSpeed Transaction Server is commonly referred to as either the Transaction Server or WebSpeed.

WebSpeed Messenger

The WebSpeed Messenger resides on the Web server machine. It is a process that handles the transfer of data between the Web server and the WebSpeed agent during a single Web transaction. The Messenger is either a CGI program, or an ISAPI or NSAPI process.

There are four different WebSpeed Messengers:

- **CGIIP Messenger** — Runs on almost all Web servers, but tends to have the slowest response times.
- **WSASP Messenger** — Calls WebSpeed applications from a Microsoft Active Server Page. It cannot coexist with any other Messenger on your Web server.
- **WSISA Messenger** — Runs on Microsoft IIS Web servers.
- **WSNSA Messenger** — Runs on Netscape Web servers.

You can use OpenEdge Management to edit the Messenger’s properties. You cannot, however, create or delete WebSpeed Messengers from OpenEdge Management.

AppServer Internet Adapter

With the AppServer Internet Adapter (AIA), you can make AppServer or SonicMQ Adapter application services available over the Web to ABL applications, and you make AppServer application services available over the Web to .NET and Java Open Clients. The AIA is a Java Servlet that is invoked by a Java Servlet Engine (JSE).

SonicMQ Adapter

The SonicMQ Adapter allows OpenEdge applications to communicate via JMS Messaging through SonicMQ.

Web Services Adapter (for OpenEdge SOAP Web Services)

The Web Services Adapter (WSA) (for OpenEdge SOAP Web Services) is a Java servlet that exposes AppServer applications as SOAP Web services. The WSA is installed and runs in the context of a Java servlet engine (JSE) that, in turn, runs independently or in the context of a Web server.

To expose AppServer applications as SOAP Web services, the WSA serves a dual role:
• As a gateway between the Simple Object Access Protocol (SOAP) request messages, which SOAP Web services and SOAP Web service clients exchange, and ABL applications on the AppServer, which execute SOAP Web service requests

• As an application server that hosts, manages, and provides communications and run-time support for multiple deployed SOAP Web service applications

DataServers for ODBC, Oracle, and MS SQL Server

The OpenEdge ODBC DataServer allows the OpenEdge Application Development Environment (ADE) and applications created with OpenEdge to access certain ODBC-compliant databases, such as DB2 and Sybase.

Note: This is applicable only for existing ODBC DataServer instances running on remote AdminServers prior to OpenEdge Release 11.7.

The OpenEdge Oracle DataServer allows the OpenEdge Application Development Environment (ADE) and applications created with OpenEdge to access Oracle databases.

The OpenEdge MS SQL Server DataServer allows the OpenEdge Application Development Environment (ADE) and applications created with OpenEdge to access Microsoft SQL Server.

Managing broker resources

On systems that support shared processes, a broker is a main server process. A broker functions like a traffic director, handling client requests for specific resources that support the business logic associated with an application. A broker identifies and accounts for resource availability and consumption. The broker accomplishes these tasks by processing a pool of servers or agents and attempting to fulfill specific resource requests.

For example, an AppServer broker manages connection requests initiated by its clients for the business logic and processes located on an AppServer. In this context, a broker executes its tasks somewhat in isolation, only executing and performing according to its defined configuration properties and parameters.

Using OpenEdge Management you can configure brokers to optimize performance. The OpenEdge Management console supports viewing status details, and controlling, monitoring, and managing broker components to ensure appropriate resources are available.

The ubroker.properties file

The ubroker.properties file stores all the configuration definitions for each instance of the AppServer Internet Adapter, AppServer, DataServers, Messengers, NameServer, SonicMQ Adapter, WebSpeed Transaction Server, and the Web Services Adapter (for OpenEdge SOAP Web Services). Each configuration definition contains environment variables, registry entries (in Windows), and property settings for each product instance. OpenEdge Management references and displays this configuration data.

Note: When you delete a broker in OpenEdge Management, OpenEdge Management/Explorer removes the broker instance from the ubroker.properties file, but retains the environment variables associated with the broker in the file. This is because environment variables are shared configuration settings in the ubroker.properties file.
You can use OpenEdge Management, OpenEdge Explorer, or the command line to customize configuration details stored in the `ubroker.properties` file. Any property modifications you make to instances of OpenEdge servers, DataServers, Messengers, or Adapters in OpenEdge Management are automatically reflected in `ubroker.properties`. Likewise, any changes you make in `ubroker.properties` are automatically reflected in OpenEdge Management or OpenEdge Explorer.

**Note:** A space is not a valid delimiter for setting properties in the `ubroker.properties` file.

**Note:** Although making manual edits to `ubroker.properties` file is possible, Progress Software recommends that you use OpenEdge Management, OpenEdge Explorer, or the Mergeprop utility to make property changes. For more information about the Mergeprop utility, see *OpenEdge Getting Started: Installation and Configuration.*

### Server and agent details

In association with each broker, OpenEdge Management displays server and agent data. This information provides you additional performance data to better manage your connection workload. You can add or trim servers or agents to maximize the use of your existing resources and respond to fluctuations in processing demands.

The OpenEdge server resource discovery process begins with the discovery of resources and the automatic creation of default monitoring plans for these resources. As part of this process, OpenEdge Management creates log file monitors not only for the primary local resources, but also for the server and agent resources associated with these resources. For example, OpenEdge Management creates an AppServer broker server log file for each local AppServer broker resource.

Log file monitors, in general, are information tools that can help you to analyze the data you can collect from within their associated files. These details can help you determine performance expectations and examine trends.

### Log file monitors and log file viewers

Log file monitors and log file viewers are available for each of the supported OpenEdge Management and OpenEdge resources. For specifics about each resource's log file monitor or log file viewer, see the section listed in the following table:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSpeed</td>
<td>Managing WebSpeed Transaction Server Data on page 49</td>
</tr>
<tr>
<td>AppServer</td>
<td>Managing AppServer Data on page 75</td>
</tr>
<tr>
<td>NameServer</td>
<td>Managing NameServer Data on page 105</td>
</tr>
<tr>
<td>DataServer</td>
<td>Managing DataServer Data on page 121</td>
</tr>
<tr>
<td>AppServer Internet Adapter</td>
<td>Managing AppServer Internet Adapter Data on page 137</td>
</tr>
<tr>
<td>SonicMQ Adapter</td>
<td>Managing SonicMQ Adapter Data on page 147</td>
</tr>
<tr>
<td>Web Services Adapter (for OpenEdge SOAP Web Services)</td>
<td>Managing Web Services Adapter (for OpenEdge SOAP Web Services) Data on page 165</td>
</tr>
</tbody>
</table>
Features supporting OpenEdge server, DataServer, Messenger, and Adapter resources

The following OpenEdge Management features support servers, DataServers, Messengers, and Adapters:

- Automatic discovery of each server, DataServer, Messenger, and Adapter resource that is locally defined. Specific configuration tasks are not required for these resources because OpenEdge Management recognizes the configuration data already established in the `ubroker.properties` file. If you want to configure or reconfigure one of these instances, you can do so using OpenEdge Management (or OpenEdge Explorer). Configuration changes you make in OpenEdge Management are automatically reflected in the `ubroker.properties` file and vice versa.

- Automatic discovery of each WebSpeed, AppServer, and NameServer resource that is remotely defined. However, remote monitoring requires some additional steps before this feature is available. See *OpenEdge Management and OpenEdge Explorer: Getting Started* for details.

- Integration into the OpenEdge Management console and accessibility using OpenEdge Management features, functionality, and navigational conventions. See *Overview* on page 23 for additional details about the features and functionality for each resource.

- Use of the Configuration Advisor feature for WebSpeed and AppServer broker resources. This feature helps you determine optimum settings for threshold values used for defined rules. The Configuration Advisor suggests values by analyzing data stored in the OpenEdge Management Trend Database.

- For WebSpeed and AppServer brokers resources, OpenEdge Management supports the collection of statistical data. This data can be used to generate OpenEdge Management-based reports and graphs.

OpenEdge Management monitoring prerequisites

This section highlights the criteria that must be met to enable OpenEdge Management to recognize and monitor OpenEdge server resources.

Installation

An OpenEdge Management installation and configuration process must include a Transaction Server product and/or AppServer product, depending on the specific product resource monitoring capabilities you intend to use. Trending is not required in order monitor OpenEdge resources. In order to trend and run reports, however, a trend database must be configured either locally or remotely against another OpenEdge installation. (This requirement assumes that the other installation has a database license.)
Discovering and enabling local resources

Once you complete the installation and configuration steps, OpenEdge Management automatically creates an OpenEdge Management resource monitor for each AppServer Internet Adapter, AppServer broker, NameServer instance, WebSpeed broker, DataServer broker, Messenger, SonicMQ Adapter, and Web Services Adapter (for OpenEdge SOAP Web Services) that it detects.

This discovery process occurs any time OpenEdge Management detects new OpenEdge resource instances. This process will initially take place after you install and configure OpenEdge Management, and any time new OpenEdge resources are introduced.

As part of this discovery process, OpenEdge Management enables each locally defined broker or instance and begins monitoring them immediately. You can elect to disable any resources, implement data collection (for brokers only), and modify the default monitoring plan and rules as needed.

Note: OpenEdge Management runs as a managed service in the AdminServer. Therefore, a *local resource* is defined as a resource recognized by OpenEdge Management and running in the AdminServer on the same machine where OpenEdge Management is installed.

Discovering and enabling remote resources

If you have performed the necessary steps to monitor remote resources, OpenEdge Management will also create a resource monitor for each remote broker or instance it detects.

As in the discovery process for local resources, OpenEdge Management enables each remotely defined broker or instance and begins monitoring each of them immediately. This discovery process occurs any time OpenEdge Management detects new OpenEdge resource instances. This process will initially take place after you install and configure OpenEdge Management, and any time new OpenEdge resources are introduced.

As needed, you can elect to disable any resources, implement data collection (for brokers only), or modify the default monitoring plan and rules.

Note: OpenEdge Management runs as a managed service in the AdminServer. Therefore, a *remote resource* is defined as an OpenEdge Management-recognized resource that runs in an AdminServer that is not running OpenEdge Management. This resource might be on a machine that is physically separate from the machine where OpenEdge Management is installed, or it could be a different instance of an AdminServer running on the same machine on which OpenEdge Management is running.

Role authorization and OpenEdge Management tasks

Users with Administrator privileges can automatically perform all of the following OpenEdge Management tasks:

- Starting and stopping brokers
- Adding and trimming agents
- Adding and trimming servers
- Stopping, or killing, processes
- Configuring and modifying properties for AppServer Internet Adapter, AppServer, NameServer, DataServer, Messenger, Sonic MQ Adapter, WebSpeed Transaction Server, and Web Services Adapter (for OpenEdge SOAP Web Services) resource instances
• Initiating OpenEdge rule threshold calculations using the Configuration Advisor (applicable for AppServer and WebSpeed Transaction Server instances)

• Deleting AppServer Internet Adapter, AppServer, DataServer, NameServer, SonicMQ Adapter, WebSpeed Transaction Server, and WebSpeed Server Transaction instances

For users with Operator privileges, the OpenEdge Management Administrator must grant explicit authorization to perform any of the tasks in the previous list.
Getting Started

This chapter describes how to navigate the OpenEdge Management console to access OpenEdge resource-related details. Information presented in this chapter assumes that you have a working knowledge of the management console functionality described in *OpenEdge Management: Resource Monitoring*.

For details, see the following topics:

- OpenEdge Management console
- Using the OpenEdge Management resource details page
- Accessing OpenEdge Management resource information
- Deleting OpenEdge Management resources
- Effects of an AdminServer warm start on OpenEdge Management
- Understanding OpenEdge server graphs

**OpenEdge Management console**

The menu bar and toolbar available from the OpenEdge Management console allow you to access features and functionality.

This section highlights:

- OpenEdge Management menu bar and toolbar on page 34
- Using the management console menu bar for OpenEdge server tasks on page 35
OpenEdge Management menu bar and toolbar

OpenEdge Management provides a management console menu bar and a toolbar.

Management console menu bar

The management console menu bar, shown in the following figure, appears at the top of the management console. The bar consists of several tabs that allow you to work with different features.

Figure 1: Menu bar

Clicking a tab changes the content that appears in the management console’s list frame (the left pane) and detail frame (the right pane), allowing you to perform tasks associated with that feature.

See Using the management console menu bar for OpenEdge server tasks on page 35 for more information about the OpenEdge tasks you can perform.

Management console toolbar

The detail frame toolbar appears at the top of the detail frame, and the list frame toolbar appears at the top of the list frame in the management console.

The following figure shows the detail menu bar that appears on the My CollectionsHome Default page when you click My Dashboard on the management console menu bar.

Figure 2: Toolbars in the Collection view

The Collection and View options allow you to access specific activities associated with setting up and managing collections. These options supplement the other management console menu bar options.

For more details about menu bars and how to navigate through the OpenEdge Management console, see the appropriate section of OpenEdge Management and OpenEdge Explorer: Getting Started.
Using the management console menu bar for OpenEdge server tasks

The following table describes how to use the management console menu bar to perform OpenEdge server-related tasks. For a broader definition of each menu bar’s functional area and its associated activities, see the appropriate section of Getting Started.

Table 2: Performing OpenEdge Management activities

<table>
<thead>
<tr>
<th>Click this tab . . .</th>
<th>To perform these activities . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Configure properties; access and update resource details. When OpenEdge Management is installed, local and remote OpenEdge resources are automatically discovered as <strong>Enabled</strong> and initial status information is reported. For more information about this topic, see Accessing OpenEdge Management resource information on page 39. Additional specific management and monitoring tasks can be performed using the OpenEdge Management Details page. For more information, see Using the OpenEdge Management resource details page on page 35.</td>
</tr>
<tr>
<td>Library</td>
<td>Access and perform the library-based functions available for a particular resource. See the relevant chapters in this guide for library options, such as creating and deleting rule sets for specific OpenEdge resources.</td>
</tr>
<tr>
<td>Reports</td>
<td>Access and generate reports.</td>
</tr>
<tr>
<td>Note: Report templates are not available for all resources.</td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td>Review and update authorization features related to OpenEdge resources. For a summary of OpenEdge Management authorization options, see Role authorization and OpenEdge Management tasks on page 30.</td>
</tr>
</tbody>
</table>

**Note:** For details about the **Job** category and jobs, see the appropriate sections of OpenEdge Management and OpenEdge Explorer: Configuration. For details about managing and working with databases enabled for multi-tenancy, see OpenEdge Management and OpenEdge Explorer: Configuring Multi-tenancy

Using the OpenEdge Management resource details page

The OpenEdge Management resource Details page is the central user interface of the management console. From the Details page you can access information for each OpenEdge resource. Each resource instance has its own Details page (also called Home page); and each Details page provides the controls, activities, and data associated with the resource.
Note: This guide references the OpenEdge Management Details page when addressing functionality common to the OpenEdge Management resource-related Details pages. However, for a discussion of functionality unique to a product, the specific Details page is referenced, as appropriate.

See Accessing OpenEdge Management resource information on page 39 for information about how to access the OpenEdge Details page.

Details page format and content

The following figure shows a WebSpeed Details page.

Figure 3: WebSpeed Details page

Each details page follows the OpenEdge Management title page naming conventions. That is, the specific resource type, container name, and resource name appear in the upper-left corner of the Details page. For example, in the above figure, the title WebSpeed: nbaspauldixp2.wsbroker1 identifies the default wsbroker1 broker discovered on the container (host) nbaspauldixp2 as a Transaction Server.
An AdminServer represents a named instance of an AdminServer that is either running OpenEdge Management or configured to be monitored by OpenEdge Management. There is a one-to-one relationship between the host name and container name, unless there are multiple AdminServers running OpenEdge Management on the same host.

The following table identifies and provides a general description of the four sections on the typical Details page in OpenEdge Management.

**Table 3: Sections of the OpenEdge Management Details page**

<table>
<thead>
<tr>
<th>This section . . .</th>
<th>Identifies information you use to . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status</strong></td>
<td>Review the current operational statistics for a specific resource</td>
</tr>
<tr>
<td><strong>Command and control</strong></td>
<td>Perform various tasks associated with a resource, including:</td>
</tr>
<tr>
<td></td>
<td>• Modifying the start and stop controls for a specific resource, or adding and/or trimming a resource's pool of available agents (WebSpeed) or servers (AppServer)</td>
</tr>
<tr>
<td></td>
<td>• Accessing and examining log file monitor and viewer details</td>
</tr>
<tr>
<td></td>
<td>• Configuring monitoring plans and rules</td>
</tr>
<tr>
<td></td>
<td>• Generating recommended rule threshold settings using the Configuration Advisor (WebSpeed brokers and AppServer brokers polled rules only)</td>
</tr>
<tr>
<td></td>
<td>• Configuring the broker/resource's properties</td>
</tr>
<tr>
<td></td>
<td>• List AppServer Client Connections (AppServer resource only)</td>
</tr>
<tr>
<td><strong>Operational views</strong></td>
<td>Help analyze the performance of AppServers, NameServers, WebSpeed Transaction Servers, SonicMQ Adapters, Web Services Adapters (for OpenEdge SOAP Web Services), and DataServers</td>
</tr>
<tr>
<td><strong>Informational views</strong></td>
<td>Review the static configuration values for a resource as they are defined in the ubroker.properties file</td>
</tr>
</tbody>
</table>
Polling and statistical details on the OpenEdge Management Details page

As shown in the following figure, the upper-right corner of the page shows summarized resource polling information pertinent to the currently displayed resource monitor. This section can also report broker resource status details.

Figure 4: Broker statistics not available information

The above shows the additional line of information—**Statistics collection not enabled**—in the upper-right corner. This message indicates that this resource is not currently collecting statistical data. Therefore, no trending, polling, or graphing can occur.

The **WebSpeed** and **AppServer** Details pages also present the collection status information in the **Status** section.

For more information about collecting statistics and specific OpenEdge resources, see:

- **Data collection details** on page 54, as it describes using this field with WebSpeed broker resources
- **Data collection details** on page 54, as it describes using this field with AppServer broker resources
Accessing OpenEdge Management resource information

From the management console, you can display OpenEdge Management resources and their associated data. There is a unique Details page for each instance of an OpenEdge resource type.

This section describes how to access:

- OpenEdge Management resource information from the list frame
- A specific Details page

For more details about navigating the OpenEdge Management console, see OpenEdge Management console on page 33.

Accessing OpenEdge resources from the grid frame

This section describes how to access OpenEdge resources from the grid frame.

To access OpenEdge resources from the grid frame:

1. Click Resources in the management console menu. All resources managed by your console appear in the grid frame. By default, the resources are grouped by their current status.

2. From the grid frame, you can:
   - Select multiple resources to perform a Start or Stop operation (depending on the resource type) or view their overall status.
   - Search for resources using a keyword, wildcard characters, or tags.
   - Filter resources based either on their Type or their current Status, or both.
   - Group resources based on the Container (local or remote), Status, or Type.
   - Sort resources by Resource, Type, Status, or Alerts. You can also sort resources by Container. To add or remove columns to sort resources, refer to OpenEdge Management and OpenEdge Explorer: Getting Started.
   - View a resource's detail by clicking the Edit icon for the resource.
   - View the summary of a specific resource and perform Start or Stop operation (based on the resource type) in the Resource Summary section.
   - View alerts associated with a resource in the Alerts section.

Accessing an OpenEdge Management Details page

This section describes the procedure to access an OpenEdge Management Details page.

To access an OpenEdge Management Details page:

1. Click Resources in the management console menu. All resources managed by your console appear in the grid frame.

2. Search, sort, or filter for the OpenEdge resource whose details page you want to access.
Note: The OpenEdge resource categories predefined in the local container of your OpenEdge Management and OpenEdge Explorer console are **AppServer Internet Adapter**, **AppServer**, **Database**, **Messengers**, **MSS DataServer**, **NameServer**, **ODBC DataServer**, **Oracle DataServer**, **SonicMQ Adapter**, **WebSpeed**, **OE Web Server** and **Web Services Adapter** (for OpenEdge SOAP Web Services).

3. Click the Edit icon for the specific resource. The resource’s details page appears.

### Starting or Stopping OpenEdge resources

You can start or stop a single or multiple OpenEdge resource(s) from the **Resources** panel in the grid frame, the **Resource Summary** section, or the resource details page.

To start or stop OpenEdge Resources from the Resources panel:

1. Click **Resources** in the management console menu. All resources managed by your console appear in the grid frame.
2. Select the check box for the OpenEdge resource(s) you want to start or stop.

   **Note:** You can start or stop OpenEdge resources depending on what their current status is.

3. From the **Resources** panel in the grid frame, click the **Start brokers** icon or the **Stop brokers** icon to start or stop a single or multiple OpenEdge broker instance(s).
4. Click the **Refresh page** icon on the resources panel to view the change in status of the OpenEdge resource(s) in the grid frame.

### To Start or Stop an OpenEdge Resource from the Resource Summary section

To start or stop an OpenEdge Resource from the Resource Summary section:

1. Click **Resources** in the management console menu. All resources managed by your console appear in the grid frame.
2. Select the OpenEdge resource you want to start or stop. The **Resource Summary** section displays the resource properties along with its current status. Notice that based on the current status of the resource, the **Start** or the **Stop** button is grayed out.
3. From the **Resource Summary** section, do one of the following:

   - If the status indicates **Not Running** or if the **Stop** button is grayed out, click the **Start** button to start the OpenEdge resource.
   - If the status indicates **Running** or **Active**, or if the **Start** button is grayed out, click the **Stop** button to stop the OpenEdge resource.

   The status of the OpenEdge resource automatically changes on the **Resource Summary** section depending on your action.

4. Click the **Refresh page** icon on the resources panel to view the change in the status of the OpenEdge resource in the grid frame.
Starting or stopping an OpenEdge Resource from the resource details page

To start or stop an OpenEdge Resource from the resource details page:

1. Click **Resources** in the management console menu. All resources managed by your console appear in the grid frame.
2. Search, sort, or filter for the OpenEdge resource whose details page you want to access.
3. Click the Edit icon for the specific resource you want to start or stop. The resource's details page appears.
4. In the **Command and control** section of the details page, click **Control** or **Broker control** depending on the type of OpenEdge resource you access.
5. From the resource's details page, depending on the status of the resource, do one of the following:
   - Click the **Start** button to start the OpenEdge resource. For example, to start an AppServer broker, click **Start AppServer** in the **AppServer control** page.
   - Click the **Stop** button to stop the OpenEdge resource. For example, to stop an AppServer broker, click **Start AppServer** in the **AppServer control** page.

   Notice that the status of the OpenEdge resource changes in the **Summary** section of the OpenEdge resource's control page.

6. Click the **Resources** link on the breadcrumb trail to go back to the Resources grid frame.

Accessing and reviewing log file data

OpenEdge Management supports monitoring log files and their associated viewers for all the OpenEdge resources.

The following table identifies where you can find information about the log file viewer and monitor for OpenEdge resources.

**Table 4: Log file viewer and monitor information for OpenEdge resources**

<table>
<thead>
<tr>
<th>For details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSpeed broker and agent pool log file monitors and viewers</td>
<td>Accessing and reviewing WebSpeed-related log file data on page 63</td>
</tr>
<tr>
<td>AppServer broker and agent pool log file monitors and viewers</td>
<td>Accessing and reviewing AppServer-related log file data on page 90</td>
</tr>
<tr>
<td>NameServer log file monitors and viewers</td>
<td>Accessing and reviewing NameServer-related log file data on page 109</td>
</tr>
<tr>
<td>DataServer broker and server log file monitors and viewers</td>
<td>Accessing and reviewing DataServer-related log file data on page 129</td>
</tr>
<tr>
<td>AppServer Internet Adapter file monitor and viewer</td>
<td>Accessing and reviewing AppServer Internet Adapter log file data on page 140 and Using the AppServer Internet Adapter log file viewer on page 144</td>
</tr>
</tbody>
</table>
For details about . . . | See . . .
--- | ---
Progress Application Server for OpenEdge (PAS for OpenEdge) host manager and Catalina log file monitors and viewers | The Changing PAS for OpenEdge instance control settings section in OpenEdge Management: Progress Application Server for OpenEdge Configuration.
SonicMQ Adapter broker and server log file monitors and viewers | Accessing and reviewing SonicMQ Adapter log file data on page 155
Web Services Adapter log file monitors and viewers | Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) log file data on page 168
WebSpeed Messenger log file monitors and viewers | Accessing and reviewing Messenger log file data on page 180 and Using the Messenger log file viewer on page 184

Additionally, you can view the log file data for other resources and features:

Table 5: Log file viewer information

| For details about . . . | See . . . |
--- | ---|
Database log file monitors and viewers | The Database log file monitors and Using the log file viewer sections in OpenEdge Management: Database Management.
Trend Database log file viewer | The Viewing compaction statistics section in OpenEdge Management: Trend Database Guide and Reference.
OpenEdge Management diagnostic reports | The Viewing OpenEdge Management log files section in OpenEdge Management: Reporting.

Dealing OpenEdge Management resources

Note the following considerations before attempting to delete any resource:

- You cannot delete a remote resource when the container in which it resides is currently offline. The container must be back online before you can delete a remote resource of this kind.
- Before attempting to delete a resource, you must stop it.
- OpenEdge Management cannot recognize specific requests, including resource deletions, while an AdminServer warm start process is occurring. For more details about initiating an AdminServer warm start and its implications for OpenEdge Management functionality, see the Effects of an AdminServer warm start on OpenEdge Management on page 43.

To delete a resource:

1. Click Resources in the management console menu. All resources managed by your console appear in the grid frame.
2. Search, sort, or filter for the OpenEdge resource you want to delete.
3. Click the Edit icon for the specific resource. The resource's details page appears.
4. Verify that the resource you want to delete is stopped or disabled.
5. Click **Delete**. This action removes the configuration data stored in the `ubroker.properties` file.

6. Confirm the deletion when prompted.

   The resource instance that you deleted no longer appears in the grid frame.

---

**Effects of an AdminServer warm start on OpenEdge Management**

An AdminServer warm start is a user-initiated process that allows you to manually edit the `ubroker.properties` file while the AdminServer is running. Performing this type of activity is reserved for making small, simple changes to an individual resource's configuration properties stored in the `ubroker.properties` file.

To do this, you can use the Mergeprop utility. For more information, see the information about using the Mergeprop utility in *OpenEdge Getting Started: Installation and Configuration*.

**Stages of a warm start**

The general stages in an AdminServer warm start are:

1. An advanced user works with the Mergeprop utility to modify the `ubroker.properties` file, making minimal configuration property changes.

2. The user saves the changes.

3. The AdminServer loads the changes.

   OpenEdge Management cannot accept any other broker-related requests that users might try to initiate. This situation means that you, and other users logged in to OpenEdge Management at this time, might see as unavailable links that are normally available.

4. Complete OpenEdge Management functionality is restored when the AdminServer completes the warm start. This includes the availability of all temporarily disabled links.

**Understanding OpenEdge server graphs**

OpenEdge Management displays OpenEdge server data in a graphical format for:

- WebSpeed and AppServer resources on **Performance View** pages
- OpenEdge resource members on user-selected viewlets in collections

**Graphs available on Performance View pages**

OpenEdge resources that have defined monitoring plans can display certain data in graphical formats. The following table identifies various OpenEdge resource types, the data that can appear in individual graphs, and the performance data page on which the graphs appear.
Table 6: Performance pages and their graphical content

<table>
<thead>
<tr>
<th>For this OpenEdge resource type . . .</th>
<th>Data addressing each of these topics . . .</th>
<th>Appears as an individual graph on this page . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSpeed brokers</td>
<td>• Broker Request Activity</td>
<td>Broker Performance View</td>
</tr>
<tr>
<td></td>
<td>• Broker Activity Status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Client Connections</td>
<td></td>
</tr>
<tr>
<td>WebSpeed Agents</td>
<td>• Agents State</td>
<td>Agents Performance View</td>
</tr>
<tr>
<td></td>
<td>• Total Agents CPU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Total Agents Memory</td>
<td></td>
</tr>
<tr>
<td>AppServer brokers</td>
<td>• Broker Requests</td>
<td>Broker Performance View</td>
</tr>
<tr>
<td></td>
<td>• Client Connections</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Last Run Procedures</td>
<td></td>
</tr>
<tr>
<td>AppServers</td>
<td>• Servers State</td>
<td>Servers Performance View</td>
</tr>
<tr>
<td></td>
<td>• Server pool summary</td>
<td></td>
</tr>
</tbody>
</table>

For an explanation of each graph’s content, see the performance view sections in Managing WebSpeed Transaction Server Data on page 49 and Managing AppServer Data on page 75.

**Note:** The production of graphs is CPU-intensive. If you are monitoring CPU usage, an alert may fire when the graph is generated. To avoid the firing of such an alert, increase the number of failed polls after which OpenEdge Management throws an alert.

**Launching graph pinup pages**

To launch a separate graph pinup page for any of the individual graphs identified in Graphs available on Performance View pages on page 43, select the binoculars icon, as shown in the following figure, associated with that graph on its respective performance page.

**Figure 5: Binoculars Icon**

As needed, you can change the displayed characteristics of the graph that appears in the pinup. See Changing OpenEdge pinup graphical views on page 47 for details.
Additional graph-related considerations

Depending on the browser in which you are viewing a graph, the graph type and its property settings, and the number of data points displayed, you can display pop-up content details from within the graph. Review the pop-up content to inspect resource activity in greater detail.

To pop up content from within a graph, place the mouse over regions of the graph.

Displaying OpenEdge viewlets on a Collection view

Collections allow you to define and organize OpenEdge resource details and to prominently display these details in OpenEdge Management. Specifically, you can define OpenEdge resource viewlets to display resource information in a graphical form on a collections page. In Table 6: Performance pages and their graphical content on page 44, the second column, titled “Data addressing each of these topics,” identifies some of the graphs that the OpenEdge viewlets support.

You can define viewlets for any OpenEdge resource that is a member of a collection.

To access and select OpenEdge resource viewlets for display on a collections page:

1. Click My Dashboard on the management console menu bar. The My Collections.Home:Default page appears in the detail frame:

   ![My Collections.Home:Default page]

2. If you are updating the My Collections.Home:Default page, go to Step 4 on page 45. Otherwise, from the list frame, expand the collections category (My Collections or Shared Collections) that contains the collection page you want to update.

3. Click the collection. The collections page appears in the detail frame.

4. From the toolbar on the collections page, click View Content > Customize View > View. (The check mark in the drop-down menu list identifies the currently active view.)

   The Edit My Collections page for the collection appears, as shown in the following excerpt:
For each OpenEdge server resource type defined for the collection, the **Resource viewlets to show** section displays the associated viewlet options.

**Note:** The **Resource viewlets to show** section also supports these AppServer viewlets that are not available on the **AppServer Performance View** page: **AS Total Servers CPU**, **AS Broker Queued Requests (percent)**, and **AS Broker Rejected Requests (percent)**. The NameServer-related viewlet provides access to the NameServer instance's Details page; there are no graphs associated with NameServer resources.

5. Click the box associated with a viewlet option to select it.

6. Click **Save**. The main view of the collections page reappears with the selected viewlets. Use the scroll bar to view all items you defined, as shown in the following example:
Changing OpenEdge pinup graphical views

You can modify a particular graph by displaying it as a pinup graph. A pinup graph is a graph that appears in a separate window and whose appearance you can customize. For example, you can choose elements such as the graph's size, style, and how often it refreshes.

To access the pinup graph to change the appearance of a graph:

1. Click the binoculars icon in the lower right of the graph whose view you want to modify. The pinup graph window opens, displaying the graph.

2. Drag the lower-right corner of the window. The page expands, as shown:

![Pinup Graph Example]

Data label at the top of the graph serves as the graph's legend.

3. From the pinup you can, depending on the graph, customize the graph properties described in the following table.

**Table 7: Graph properties and options for time-based graphs**

<table>
<thead>
<tr>
<th>Property</th>
<th>Options</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graph Size</strong></td>
<td>Very small, Small, Medium, Large</td>
<td>If you have a graph with small statistics, you can choose to have the pinup graph larger so you can better see its details.</td>
</tr>
<tr>
<td><strong>Graph Style</strong></td>
<td>Line, hi/low, Column, Area, Stacked Area, Stacked Column</td>
<td>Depending on the kind of graph you are viewing in the pinup, you can change its style to another recognized style.</td>
</tr>
<tr>
<td><strong>Graph Data Averaging</strong></td>
<td>Off, On</td>
<td>The default is Off. If you select On, data appears as a weighted average for the time period set for the Graph max time option. Setting this option to On reduces the number of data points displayed.</td>
</tr>
<tr>
<td>Property</td>
<td>Options</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Graph Dimension</td>
<td>2D</td>
<td>Changes the display from 2-dimensional to 3-dimensional.</td>
</tr>
<tr>
<td></td>
<td>3D</td>
<td></td>
</tr>
<tr>
<td>Grid</td>
<td>Off</td>
<td>The default is Off.</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td></td>
</tr>
<tr>
<td>Graph max time</td>
<td>A number of options, from 5</td>
<td>Controls how much time the graph spans. Note that this value does not</td>
</tr>
<tr>
<td></td>
<td>minutes to 2 days.</td>
<td>affect how often or how much data is collected for graphing. However,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the ranges for the specific value options from which you can select are</td>
</tr>
<tr>
<td></td>
<td></td>
<td>governed by the settings you define for the Graph cache option. For</td>
</tr>
<tr>
<td></td>
<td></td>
<td>details, see the appropriate section in OpenEdge Management and OpenEdge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explorer: Getting Started.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graph start time</td>
<td>Select the check box.</td>
<td>Identifies the start date and time for the graph. The purpose of this</td>
</tr>
<tr>
<td></td>
<td>Provide year/month/day/time</td>
<td>start information is to help you drill deeper into the resource activity</td>
</tr>
<tr>
<td></td>
<td>start time settings.</td>
<td>details recorded for a specific time frame. To select this option,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>click in the check box on the side left of the field label. Select the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>year/month/day/time settings from the fields displayed on the right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>side of the field label.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To ensure a meaning graphing of data, review the Graph cache option</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and the Graph max time setting values as you determine the value for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>this start time setting.</td>
</tr>
<tr>
<td>Refresh rate</td>
<td>None</td>
<td>The refresh rate is the rate at which the resource is checked to see if</td>
</tr>
<tr>
<td></td>
<td>15 seconds</td>
<td>there is more information to put in the graph.</td>
</tr>
<tr>
<td></td>
<td>30 seconds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 minute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 minutes</td>
<td>The refresh rate should not be less than the polling rate for the</td>
</tr>
<tr>
<td></td>
<td>3 minutes</td>
<td>resource. For example, if you set the refresh rate to 1 minute and the</td>
</tr>
<tr>
<td></td>
<td>4 minutes</td>
<td>polling rate is at 5 minutes, you do not get new graph data every</td>
</tr>
<tr>
<td></td>
<td>5 minutes</td>
<td>minute; you get it only at the same rate as the polling occurs.</td>
</tr>
<tr>
<td></td>
<td>10 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 minutes</td>
<td></td>
</tr>
</tbody>
</table>

4. Click **Change Pinup** when you finish making your selections. The graph appears in the pinup with the new characteristics.

---

**Note:** You cannot save the pinup graph settings.
Managing WebSpeed Transaction Server Data

This chapter presents OpenEdge Management features and functionality related to the WebSpeed Server.

For details, see the following topics:

• **Overview**
• **Reviewing WebSpeed broker status**
• **Modifying WebSpeed control settings**
• **Accessing and reviewing WebSpeed-related log file data**
• **Using the WebSpeed log file viewers**
• **Examining WebSpeed-related Operational views**
• **Examining WebSpeed-related Informational views**

**Overview**

OpenEdge Management supports a variety of tasks that you can perform to manage a Transaction Server, including:

• Reviewing your current operating status and associated details.
- Modifying broker-related control settings, such as starting and stopping a broker, and adding or trimming agents.
- Accessing and viewing broker- and agent-specific data collected through log file resource monitors.
- Monitoring and managing WebSpeed brokers using monitoring plans and rules.
- Generating rule threshold values for rules using the Configuration Advisor.
- Working with OpenEdge resource-related data that is available through broker- and agent-specific information and operational views. WebSpeed information views provide data in both text and graph formats.

You must have appropriate OpenEdge Management role authorization to perform several of these tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.

You can also use OpenEdge Management to configure WebSpeed properties. For details, see OpenEdge Management and OpenEdge Explorer: Configuration.

### Reviewing WebSpeed broker status

The **WebSpeed Status** section of the **WebSpeed** Details page summarizes current operational details about the WebSpeed broker. The following figure shows an example of the **WebSpeed Status** section.

**Figure 6: WebSpeed Status section**

<table>
<thead>
<tr>
<th>WebSpeed Status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host:</strong></td>
<td>NBA$PAUL$IXP2</td>
</tr>
<tr>
<td><strong>Broker:</strong></td>
<td>ACTIVE</td>
</tr>
<tr>
<td><strong>Operating mode:</strong></td>
<td>Stateless</td>
</tr>
<tr>
<td><strong>Broker statistics available:</strong></td>
<td>True</td>
</tr>
<tr>
<td><strong>Servers available:</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Should register with NameServer?</strong></td>
<td>True</td>
</tr>
</tbody>
</table>

The following table describes each of the WebSpeed broker status details.

**Table 8: WebSpeed Status details**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host</strong></td>
<td>The host machine's name.</td>
</tr>
<tr>
<td><strong>Broker</strong></td>
<td>The running status of the broker. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• <strong>ACTIVE</strong> — The broker is currently running.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Not Running</strong> — The broker is not currently running.</td>
</tr>
<tr>
<td></td>
<td>The broker can also report <strong>Starting</strong> and <strong>Shutting Down</strong> values.</td>
</tr>
<tr>
<td></td>
<td>depending on the speed of the machine on which your management console is</td>
</tr>
<tr>
<td></td>
<td>running, you may not see these intermediary states.</td>
</tr>
<tr>
<td><strong>Operating mode</strong></td>
<td>The operating mode of the broker. This mode determines how client requests</td>
</tr>
<tr>
<td></td>
<td>are dispatched to individual agent processes running on the WebSpeed</td>
</tr>
<tr>
<td></td>
<td>instance.</td>
</tr>
<tr>
<td><strong>Broker statistics available</strong></td>
<td>The status of the broker as it relates to data collection. The possible</td>
</tr>
<tr>
<td></td>
<td>states are <strong>True</strong> or <strong>False</strong>. See Data collection details on page 54</td>
</tr>
<tr>
<td></td>
<td>for more information.</td>
</tr>
</tbody>
</table>
The number of servers running and available to fulfill a connection request from a client through this broker when the broker's status is **ACTIVE**. This value can change frequently, reporting the real-time changes in number of agents available.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Servers available</strong></td>
<td>The status of <strong>True</strong> or <strong>False</strong> to indicate whether the broker resource is registered with a NameServer.</td>
</tr>
</tbody>
</table>

These points relate to the fields listed in the first column in the above table:

- Broker-related changes that you can make, using either the **Broker Control** or **Agent Pool Control** options in the **Command and control** section of the **WebSpeed** Details page, can affect the broker and agent values that appear in the status section.

- The values that appear in the **WebSpeed Status** section are obtained from either the ubroker.properties file or the current, real-time status of the broker (if it is running).

**Modifying WebSpeed control settings**

The **Command and control** section of the **WebSpeed** Details page allows you to:

- Start and stop a WebSpeed broker, and change its associated property settings
- Add or trim the pool of available agents associated with the broker
- Obtain and review WebSpeed-related data collected through broker- and agent-specific log files for which you can set up resource monitors
- Monitor and manage WebSpeed brokers using monitoring plans and rules, including the option to use Configuration Advisor rule-recommended threshold settings
- Configure the WebSpeed server's properties

The following figure shows an example of the **Command and control** section of the **WebSpeed** Details page.

**Figure 7: Command and control section**

The information in this section presents functional descriptions and procedural details related to the **WebSpeed Control** and **Agent Pool Control** pages.

The following table identifies where you can find information about other functionality related to the **Command and control** section.
Table 9: Additional WebSpeed information

<table>
<thead>
<tr>
<th>For WebSpeed-related details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broker and agent pool log file monitors and viewers</td>
<td>Accessing and reviewing WebSpeed-related log file data on page 63</td>
</tr>
<tr>
<td>Broker monitoring plans and rules</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Broker rule sets</td>
<td>Customizing a WebSpeed broker log file monitor on page 65</td>
</tr>
<tr>
<td>Configuration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>

WebSpeed Control page content

The WebSpeed Control page summarizes details about a specific WebSpeed broker resource. From this page, you can start and stop a WebSpeed broker, and change some broker-related properties, as needed.

The following figure shows an example of the WebSpeed Control page.

Figure 8: WebSpeed Control page

![WebSpeed Control page](image)

**Note:** The values associated with the Collect Statistics property and the Broker statistics available field are interdependent. See the for details.

The WebSpeed Control page consists of two distinct sections:

- Broker summary on page 53
- Properties on page 53
Broker summary

The Broker summary section displays read-only values for these fields: the broker name, its host machine's name, associated port number and process identification number (PID), the broker's current status, operating mode, and whether the broker is currently set to collect broker-related statistical data.

Note the following additional details about these fields:

- The Broker name, Host (machine name), Port (number), and Operating mode fields display values as they are defined in the ubroker.properties file.

- The Broker PID and Status fields reflect real-time values based on the broker’s current status. The Broker PID is also a link to more broker process details. See Viewing broker process details on page 55 for more details.

- The Broker statistics available field also reflects a current, real-time value. However, the value displayed in this field depends on additional factors. See Data collection details on page 54 for more details.

Properties

The Properties section displays the status of two user-defined, broker-related properties, Enabled and Collect Statistics:

- The Enabled option indicates that this broker resource recognizes a monitoring plan and its associated rules when the broker resource is active.

  During the discovery process, all WebSpeed brokers that OpenEdge Management discovers and lists in the list frame under the WebSpeed category are enabled by default. Once a broker is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

- The Collect Statistics option enables data collection to occur in the WebSpeed broker. OpenEdge Management uses this data to identify the broker's performance. If you do not select the Collect Statistics option (that is, True status) for a specific broker, OpenEdge Management displays only non-statistical data such as Status and PID (pid number) on the various WebSpeed broker pages. Polled rules are not evaluated and data is not trended.

- The Collect Statistics value plays a central role in data collection. See the Data collection details on page 54 for more information.

A check mark indicates that the individual property is set.

Note: To set the Broker statistics available option to a True status for a specific broker, you must enable the Collect Statistics option. See the procedure in the Data collection details on page 54.

Changing WebSpeed broker controls

You can change WebSpeed broker controls.

To change the WebSpeed broker's property settings:

1. From the grid frame for Resources, click the Edit icon to display the details page for the WebSpeed broker you want to start.

2. Click Broker Control in the Command and control section to display the WebSpeed Control page, as shown:
You can make the following changes:

- To change the current setting of the Enabled property, click Edit. Then select or deselect the Enabled property to add or remove the check mark. You must also restart the WebSpeed broker so that the property change is recognized.

  **Note:** A check mark appears to indicate that the Enabled property is set. To clear this option, click the check mark in the box associated with the option. The check mark is deleted to indicate that the option is no longer set.

- To change the current setting of the Broker statistics available property displayed in the Broker Summary section of the WebSpeed Control page, see Data collection details on page 54.

- To exit this page without changing any values and return to the WebSpeed Details page, click either Back in the browser, or the WebSpeed broker instance link on the breadcrumb trail.

You can also change the WebSpeed broker controls by starting or stopping the broker instance. To start or stop a WebSpeed broker instance, see Starting or Stopping OpenEdge resources on page 40.

**Data collection details**

Data collection ensures that broker-related performance statistics can be trended to the OpenEdge Management Trend Database. Options and conditions available on the WebSpeed Control page and the WebSpeed broker resource monitoring plan must be fulfilled to successfully implement data collection.

On the WebSpeed Control page, these conditions include:

- Selecting the Collect Statistics check box.
- Starting, or stopping and restarting the WebSpeed broker. You must explicitly perform this step on the WebSpeed Control page to effect this change.
- Verifying that the value True appears in the Broker statistics available field. (OpenEdge Management automatically updates this field when it detects that the Collect Statistics option is enabled after you have started, or stopped and restarted, the WebSpeed broker.)

In the WebSpeed broker monitoring plan definition, you must also check the Trend Performance Data option.
Note: You are not required to use trending with the data collection activity. However, without the Trend Performance Data option selected, you cannot trend data. Data trended to the OpenEdge Management Trend Database is required for WebSpeed-related rule evaluation, graphical displays, and report generation.

For information about the Trend Performance Data option and monitoring plans for WebSpeed broker resources, see the same information for AppServer brokers in Managing AppServer Internet Adapter Data on page 137.

Note: Using data collection might cause the Web Speed broker to exhibit some level of performance degradation, memory degradation, or both.

To set the options to perform data collection in a WebSpeed broker:

1. Review the current setting of the Collect Statistics field in the Properties section of the WebSpeed Control page; a check mark indicates that the property is set.
   If the Collect Statistics field is not checked, click Edit. Select the Collect Statistics option. Click Save.

2. Stop and restart the WebSpeed broker you want to update.

Note: The Collect Statistics field can be modified dynamically, provided you have selected the Enable dynamic property updates option in the WebSpeed broker's configuration properties. For details, see OpenEdge Management and OpenEdge Explorer: Configuration.

The Broker statistics available field in the Broker summary section will display True if the broker restarted successfully. The True value indicates that you have successfully set data collection and that broker statistical data is now available to be stored in the OpenEdge Management Trend Database.

Viewing broker process details

You can also access real-time details and statistics that provide you with snapshot information about an individual broker at the point you access this information from the WebSpeed Control page. Review this information to help you assess a broker's performance.

To access broker processing details:

1. From the Resources grid, click the WebSpeed broker to view the details page for the WebSpeed broker instance whose processing details you want to access.

2. Click Broker Control in the Command and control section to display the WebSpeed Control page, as shown:
3. Click the unique PID number associated with the Broker PID field to display a Broker PID page. This page contains summary and real-time statistics about the broker, as shown:

![Broker PID page](image)

The two sections that comprise the Broker PID page present relevant information about the WebSpeed broker and its current operations:

- The Process summary section identifies the Process name and Process start time. User id and Group id values appear with UNIX-based data. The Parent pid indicates the identifier number associated with the process that spawned this current process.

- The Process statistics section presents details about the broker's real-time operational status. Values presented without parentheses identify that the processing time determined since the last scheduled polling interval has occurred. Values presented within parentheses have been calculated based on information obtained since the start of the process. The following table identifies and describes these attributes.
### Table 10: Process statistics operational data

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident size</td>
<td>The physical size of the process as defined by the host system.</td>
</tr>
<tr>
<td>Virtual size</td>
<td>The virtual size of the process as defined by the host system.</td>
</tr>
<tr>
<td>CPU</td>
<td>The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll.</td>
</tr>
<tr>
<td>Weighted CPU</td>
<td>The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll divided by the number of CPU processors on the system. This value appears only when there is more than one CPU process on the system where the process is running.</td>
</tr>
<tr>
<td>User time</td>
<td>The amount of CPU time spent in the user mode since the last scheduled poll.</td>
</tr>
<tr>
<td>Kernel time</td>
<td>The amount of CPU time spent in the kernel mode since the last scheduled poll.</td>
</tr>
<tr>
<td>Process time</td>
<td>The sum of the values that appear in the User time and Kernel time fields.</td>
</tr>
</tbody>
</table>

### Agent Pool Control page content

The following figure displays the Agent Pool Control page. The page shows data relevant to your current WebSpeed workload and allows you to add or reduce the number of WebSpeed agents currently running.
Use this page to add agents when agent requests are high. You can add agents to the maximum number of agents that your license recognizes. Also, use this page to reduce the agent count during a lag in agent requests. Using the trim feature, you can reduce agents down to the **Minimum agents** property setting.

**Figure 9: Agent Pool Control page example**

The **Agent Pool Control** page comprises these sections:

- An **Add** or **Trim** selection that you use to specify which activity you want to perform. When you initiate a manual trim request, OpenEdge Management determines which agents to remove. See Adding or trimming agents on page 60 for detailed steps.

- The following three distinct, agent-related data summary tables that allow you to review relevant agent-pool specific data quickly:
  - **Agent pool initial configuration**
  - **Agents state**
  - **Agent pool summary**

The changes that you make through add/trim activities can affect the data that appears in these summary tables. The **Agent pool summary** also allows you to kill a specific agent process. See Killing a WebSpeed agent process on page 61 for the detailed steps.

See Adding or trimming agents on page 60 the for details about how to add or trim agents.

### Agent pool initial configuration

The **Agent pool initial configuration** section identifies WebSpeed broker configuration properties set in the ubroker.properties file (which are also reflected in the configuration settings within OpenEdge Management). These values appear as read-only.
The following table identifies and describes each field that displays in the Agent pool initial configuration section.

Table 11: Agent pool initial configuration field definitions

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial number of agents to start</td>
<td>The value OpenEdge Management references when the WebSpeed broker starts agents. Depending on your license agreement and your strategy for setting up your configuration information, this value may be the same as the value displayed in the Licensed agents field.</td>
</tr>
<tr>
<td>Minimum agents</td>
<td>The minimum number of agents that must be simultaneously running before the WebSpeed broker will start additional agents. The broker strives to maintain this specified minimum. If at any time the number of agents falls below the specified minimum, the broker will automatically start the additional agents necessary to maintain this minimum. If you set a trim value that would require OpenEdge Management to trim the number of agents below the number specified for this field, OpenEdge Management displays a message.</td>
</tr>
<tr>
<td>Maximum agents</td>
<td>The maximum number of WebSpeed processes that can be running simultaneously. OpenEdge Management will not fulfill add requests you initiate that exceed this specified maximum. OpenEdge Management will display a message to state this condition so that you can reconsider your request and, if necessary, initiate a new request.</td>
</tr>
</tbody>
</table>

Agents state

The Agents state section provides a snapshot of the total number of agents currently associated with a specific agent state. The details related to agents and the number of agents reported reflect real-time data. This data can fluctuate due to changes in the agents' workflow and changes you initiate using the add and trim feature.

The following table describes each field presented in the Agents state section.

Table 12: Agents state field definitions

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active agents</td>
<td>The name of agents currently running</td>
</tr>
<tr>
<td>Busy agents</td>
<td>The name of agents currently serving ABL client requests</td>
</tr>
<tr>
<td>Locked agents</td>
<td>The name of agents currently servicing a bound connection</td>
</tr>
<tr>
<td>Available agents</td>
<td>The name of agents currently available to handle broker requests</td>
</tr>
</tbody>
</table>

Agent pool summary section and the Kill process option

The Agent pool summary section provides:
• Detailed data about each individual agent in the WebSpeed pool associated with a specific WebSpeed broker. The following table identifies and describes each field displayed in the Agent pool summary section.

• Access to:
  • More data about a specific agent
  • A control to terminate, or kill, the agent process

Use the PID field to access these features.

The following table provides more information about PID.

Table 13: Agent pool summary field definitions

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PID</td>
<td>The process identifier for this agent. Click on the specific PID number to display a detail page that provides specific information about this agent process and, as necessary, kill the process. See Killing a WebSpeed agent process on page 61 for more information.</td>
</tr>
<tr>
<td>State</td>
<td>The current execution state of the agent process.</td>
</tr>
<tr>
<td>Port</td>
<td>The TCP/IP port number that the agent process uses.</td>
</tr>
<tr>
<td>nRq (Number of Requests)</td>
<td>The number of messages sent to the agent process.</td>
</tr>
<tr>
<td>nRcvd</td>
<td>The number of messages received by the agent process.</td>
</tr>
<tr>
<td>nSent</td>
<td>The number of requests sent by the agent process.</td>
</tr>
<tr>
<td>CPU Use</td>
<td>The percentage of CPU user and system time consumed by a process.</td>
</tr>
<tr>
<td>Memory Use</td>
<td>The amount of virtual memory (in Kbytes) consumed by a process.</td>
</tr>
<tr>
<td>Started</td>
<td>The time stamp that indicates when the agent process started. If the broker is restarted for any reason, the PID and the Last Change value might change.</td>
</tr>
<tr>
<td>Last Change</td>
<td>The time stamp that indicates when the agent process last changed execution state.</td>
</tr>
</tbody>
</table>

Adding or trimming agents

This section describes the steps you perform to add and trim agents.

To initiate a WebSpeed agent add and trim request:

1. From the grid frame for Resources, click the Edit icon to display the details page for the WebSpeed broker for which you want to initiate an agent add and trim request.

2. Click Agent Pool Control in the Command and control section to display the Agent Pool Control page, as shown:
3. From the drop-down list box, select Add or Trim.

4. In the agent(s) field, enter the number of agents you want to add or trim. The value you enter must be a positive integer.

When you initiate an add or trim request, OpenEdge Management consults the following two sets of initial configuration details to determine if and how it can honor either request:

- The number of agents for which you are licensed
- The broker property configuration settings stored in the ubroker.properties file

See the for information about the configuration details.

5. Click Submit. Depending on the changes you make and OpenEdge Management's ability to implement them, you might notice updates to the numeric values that appear in the Agents state table. See Agent pool initial configuration on page 58the for more information.

**Note:** Any time you either add or trim WebSpeed agents, it is recommended that you refresh the management console to ensure that you are not viewing stale data.

---

**Killing a WebSpeed agent process**

You might want to manually terminate an agent process under these two circumstances:

- An agent process hangs.
- You determine from the available data that an agent process is a runaway process.

The specific PID on the Agent pool summary section of the Agent Pool Control page allows you to access the necessary page to kill the offending agent's process.

When either of the previously listed circumstances exists and you want to manually terminate an agent process, use this command:

```
kill -9
```
Caution: An agent (or server) process that has database locks can cause a database crash when you kill the process using the `kill -9` command. Therefore, use the command only as a last resort.

The description of the signal for the kill process is as follows:

- **Signal Name** — SIGKILL
- **Signal Number** — 9
- **Signal Description** — Kill program

Note that OpenEdge Management references the specific PID and its associated date and time start details to be sure of a process’ identity before it attempts to kill a process.

You can also kill an AppServer process. For details, see Killing an AppServer process on page 86.

To initiate a kill process:

1. Click the PID associated with the agent process you want to terminate. The specific WebSpeed Broker PID page appears, as shown:

![WebSpeed Broker PID page](image)

Note that the two sections on this page present relevant summary information about this WebSpeed agent and its current operational status. See Viewing broker process details on page 55 for details about this data.

2. Click **Kill** to terminate this process. (Alternatively, you can click **Cancel** at the top of the page to exit the page without terminating the process.)

OpenEdge Management will prompt you once again to verify you want to terminate this process. Click **OK**.

A final status page appears that identifies the status of your kill request and displays one of the following messages:

- **Process xxxx has been terminated** — This message indicates that the process was successfully killed. The PID number previously associated with this process is now available for the operating system to reassign.

- **Process xxxx cannot be killed at this time** — This message indicates that the process could not be killed. In very rare instances, it is possible that you will not be successful in an attempt to kill a process. You can retry the kill process procedure; however, it is possible that the process will persist for a number of unknown reasons.

- **Process xxxx has been reused** — OpenEdge Management has determined that the process PID number and associated time and date stamp do not match the values that the operating system has stored for this same process. Consequently, when you click Kill, the process cannot be destroyed.
Accessing and reviewing WebSpeed-related log file data

OpenEdge Management supports monitoring log files and their associated viewers for these WebSpeed resources:

- An individual WebSpeed broker
- The agents associated with the broker

Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine performance expectations and examine trends related to brokers and agents.

This section presents information related to both types of WebSpeed log file monitors. However, only the procedures specific to a WebSpeed broker log file monitor and its associated viewer are presented. These same procedures will work with a WebSpeed agent log file monitor. For more general information about OpenEdge Management log file monitor features and functionality, see *OpenEdge Management: Resource Monitoring*.

**Note:** Log file monitors are not available for either remote WebSpeed brokers or their associated agents.

Getting started with log files for WebSpeed resources

For each local WebSpeed broker that OpenEdge Management discovers, OpenEdge Management supports the monitoring of its two associated log file monitors. OpenEdge Management provides a log file resource monitor for the WebSpeed broker itself and another for its associated agents. Each of these log file monitors has its own log file monitoring capabilities.

WebSpeed log file resource monitors are not enabled until the WebSpeed broker for which the resource monitors were created is started. When a log file monitor first starts monitoring either a WebSpeed broker or agents, it always starts at the end of the log file.

Naming conventions

OpenEdge Management prepends the broker's name to the name of the broker and agent log file monitors and viewers. For a WebSpeed broker instance named `wsbroker1` and the container named `vesta`, OpenEdge Management generates the following log file monitor and associated viewer names:

- **Broker-related log file names** — Displays `vesta.wsbroker1BrokerLogFileMonitor` and `vesta.wsbroker1WebSpeed Broker Log File Contents`.

- **Agent-related log file names** — Displays `vesta.wsbroker1AgentLogFileMonitor` and `vesta.wsbroker1WebSpeed Server Log File Contents`.

You cannot change these names.

Characteristics of WebSpeed resource log file monitors

Data that you can capture and view using the WebSpeed resources log file monitors and viewers helps you to:
• Ensure the integrity of these log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.

• Use predefined WebSpeed-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predetermines search criteria to support the broker and agent log file monitors.

You can create and maintain the search criteria for each of the WebSpeed resources in two locations:

• At the WebSpeed resource local file monitor instance level. The search text and type cannot be shared at this level. See Customizing a WebSpeed broker log file monitor on page 65 the for details.

• At the OpenEdge Management Component Library level under the appropriate WebSpeed subcategory. The search text and type can be shared at this level. See Working with rule sets on page 203 for details.

Specifically, the predefined search criteria provide:

• Detailed data about the recorded operations of a WebSpeed broker or agents

• A means for extracting the detailed data

WebSpeed log file monitor default values

Once a WebSpeed broker is enabled, OpenEdge Management creates log file monitors for any discovered brokers and their associated agents using several default values. You can modify only the default description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing a WebSpeed broker log file monitor on page 65 the for details.

The default values are as follows:

• The WebSpeed default log file monitor is disabled until the agent is first started.

• The Bookmark is set to Last Line, and it is unique.

• The On First Poll property is set to Search From End.

For detailed information about the Bookmark feature and the On First Poll property as they relate to log file monitors in general, see OpenEdge Management and OpenEdge Explorer: Configuration.

File Resource Defaults

OpenEdge Management also supports a polling interval default value for the WebSpeed broker log file monitor and the WebSpeed agent log file monitor.

To display or update a polling interval default value:


   You can revert back to the original OpenEdge Management-supplied default value set for the Polling Interval field at any time by clicking Restore Defaults.
Reviewing predefined log file monitor search criteria

Each log file provides predefined search criteria that address common WebSpeed broker- or agents-related events. You can use these searches as defined, or you can copy and customize them. Review the predefined search criteria before you customize a WebSpeed log file monitor.

**Note:** It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:

1. Select **Library** from the menu bar.
2. Click the plus (+) icon next to **Search Criteria** in the list frame to expand the category.
3. Click either **WebSpeed Broker** or **WebSpeed Server** in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame. For example, the following screen shows the list of the **WebSpeed Server** default search criteria:

```
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal Memory Error</td>
<td>Captures the following error: Fatal memory error.</td>
</tr>
<tr>
<td>Fatal Transport Failure</td>
<td>Captures the following error: Fatal transport failure (error_code).</td>
</tr>
<tr>
<td>Insufficient Stack Space</td>
<td>Captures the following error: Insufficient stack space, increase the -s startup parameter. (number of bytes) are needed, only (number of bytes) are available.</td>
</tr>
<tr>
<td>Transport Resources Unavailable</td>
<td>Captures the following error: Transport resources unavailable.</td>
</tr>
<tr>
<td>Unexpected Transport Error</td>
<td>Captures the following error: Unexpected transport error (error_code).</td>
</tr>
<tr>
<td>Unknown Transport Error</td>
<td>Captures the following error: Unknown transport error received (error_code).</td>
</tr>
</tbody>
</table>
```

**Note:** You can also create your own search criteria to address a particular WebSpeed error for which you want to monitor a WebSpeed broker or agent. See Customizing a WebSpeed broker log file monitor on page 65 for details.

Customizing a WebSpeed broker log file monitor

You can customize a WebSpeed broker log file monitor (or a WebSpeed agent log file monitor).

To customize a WebSpeed log file monitor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the WebSpeed broker whose log file monitor you want to customize.
2. Click **Log File Monitor of Broker** on the **WebSpeed** details page.
   
   The log file monitor summary monitoring page for the WebSpeed broker you selected appears:
3. Customize or view the contents of a WebSpeed broker log file monitor as follows:

- Click **Add Plan** to add an existing monitoring plan to this resource monitor.
- Click **Edit** at the top of the page to change the description of the log file monitor.
- Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

**Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default_Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default_Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default_Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the **Monitoring plans** section to display the edit page for the log file monitor.

5. Click **Add Rule** under the **Rules selected for this plan** section of the broker monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use a WebSpeed broker rule already defined in the library:
a) Select **WebSpeed Broker** from the drop-down list associated with the **Choose Criteria Category**.
b) Select the appropriate value from the drop-down list associated with the **Choose Search Criteria**.

7. To create a new WebSpeed broker rule:
   a) Click **Create Criterion** to display the **Create Search Criterion** page.
   b) Enter values in the required fields: **Name** (identifies the name of the search criteria you are creating) and **Search Text** (identifies the information you are looking for in the log).
   c) Select the search types: **Literal Search** or **Regular Expression**.
   d) Choose whether to use an existing category or use a new category for the rule. Then select the **WebSpeed Broker** category.
   e) Click **Save**. The **CreateLog File Rule** page reappears.

The values you defined and selected to create a rule on the **Create Search Criterion** page are now available on the **Create Log File Rule** page. The **Choose Search Category** drop-down list displays the name you entered in the **Name** field on the **Create Search Criterion** page. The **Choose Criteria Category** drop-down list displays the category in which you elected to store the new rule.

8. Select the appropriate values from the **Severity** and **On Alert Action Perform** drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click **Save**.

10. To add another individual rule, repeat Step 5 on page 66 through Step 9 on page 67.

11. Click **Select Rule Sets** to create a new log file rule or choose from existing rule sets to add to the monitoring plan.

12. Click **Save**.

13. Click the WebSpeed broker instance's link on the breadcrumb trail to display the broker's detail page again.

14. Click **Log File Monitor of Broker** again to view the new rules updated in the **Rules Summary**.

For more information about editing search criteria for rules, see the appropriate sections of **OpenEdge Management: Resource Monitoring**.

---

**Note:** You can copy the default WebSpeed log file rule set, but you cannot delete it.

---

**Using the WebSpeed log file viewers**

To view the contents of each WebSpeed log file, access the viewer associated with each individual log file. The log file viewer allows you to examine the contents of a WebSpeed-related log file through an HTML interface. You can access these log file viewers from two locations:

- Click the link in the **Command and control** section of the **WebSpeed** Details page. Click **Log File Viewer of Broker** to display the broker's file contents, or click **Log File Viewer of Agents** to display the agents' file contents.
- Click the **Log File Viewer** button that appears at the top of the log file monitor summary monitoring page.
The following figure provides an example of the WebSpeed broker log file viewer, which is showing the contents of a WebSpeed broker log file.

Figure 10: WebSpeed broker log file viewer example

The following information helps you to use the WebSpeed log file viewer:

• Use the **Show** field to control how many WebSpeed log file entries appear at one time. The number entered into the **Show** field must not be less than 10.

• Use the **Overlap** field to control how many entries are repeated from screen to screen.

**Note:** The value in the **Overlap** field must not be more than the number in the **Show** field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

• Click **Reload** after changing the values in either the **Show** field or the **Overlap** field. Note that OpenEdge Management will prompt you to click **Reload**. The warning message that reads **changed, reload needed** appears in the **Log status** field in the **Log file summary** section of the page. If you do not reload, the viewer displays the previous values.

• Click **Go To** to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the **Go To** field will begin the display from the tenth log file entry.

**Note:** You must click **Go To** after entering a value in the **Go To** field, or the viewer will not update its display.
• The default display of entries is in ascending order; choose **Descending** to change the display. Note that the **Show** field dictates the number of entries shown, whether they display in ascending or descending order.

• Click **First** to display the first \( x \) entries, where \( x \) is the value in the **Show** field.

• Click **Prior** to display the previous \( x \) entries, where \( x \) is the value in the **Show** field.

• Click **Next** to display the next \( x \) entries, where \( x \) is the value in the **Show** field.

• Click **Last** to display the last \( x \) entries, where \( x \) is the value in the **Show** field.

• To view additional log file entries without changing your current starting log file entry, leave the **Go To** field blank, change the value in the **Show** field, and click **Reload**.

## Refreshing log file data

Periodically refresh log file data. Select the **Refresh** page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

To set a default value that OpenEdge Management uses to automatically refresh the management console, select **User Preferences > Options**. Click the **Currently** dropdown list, and select the refresh value.

Refresh data to avoid the following situations:

• OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.

• OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you need to renavigate to it, even if you pinned up the view or saved a link to it before the viewer died.

### Examining WebSpeed-related Operational views

The **WebSpeed** Details page provides an **Operational views** section that allows you to access and review data related to the performance of:

• A specific WebSpeed broker

• A pool of agents associated with a specific broker

Data for both the WebSpeed broker and the broker’s agent pool can appear in text and graph formats.

**Note:** The graphs associated with the WebSpeed **Operational views** appear only when the **Broker statistics available** field on the **WebSpeed Control** page displays a **True** status. See Data collection details on page 54 for details.
The following figure shows the **Operational views** section of the **WebSpeed Details** page, which also includes a link to status information.

**Figure 11: WebSpeed Operational views section**

The following sections describe how to access and interpret each of the performance views.

### Accessing and reviewing the Broker Performance View

The WebSpeed **Operational views** section allows you to review information about the WebSpeed broker's performance and the state of the broker's associated agents. Review this data frequently, as it will help you make informed decisions about your use of the broker and agent pool controls.

To display and review this information:

1. From the grid frame for Resources, click the Edit icon to display the details page for the WebSpeed broker you want to review.
2. Click **Broker Performance View** in the **Operational views** section. OpenEdge Management displays the **WebSpeed Broker Performance View** page, which comprises data summary sections and graphs.

### Data summary

The summarized, read-only text data on this page consists of three sections:

- **Broker Requests** — Details about the broker’s connection workload as identified in the following table

  **Table 14: Broker connection workload details**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>Number of broker requests fulfilled</td>
</tr>
<tr>
<td>Queued</td>
<td>Number of broker requests to be processed</td>
</tr>
<tr>
<td>Rejected</td>
<td>Number of broker requests that could not be processed</td>
</tr>
<tr>
<td>Average Busy Time (ms)</td>
<td>Average amount of time that the broker is busy servicing requests (expressed in milliseconds)</td>
</tr>
<tr>
<td>Average Locked Time (ms)</td>
<td>Average amount of time that the broker is locked (expressed in milliseconds)</td>
</tr>
</tbody>
</table>

- **Client Connections** — Identifies the number of client connections that the broker is currently handling and the total number of client connections this broker has processed since the broker started.

- **Last Run Procedures** — Lists the most recent procedures that were run.
Graphs presentation

The graphs presentation section of the Broker Performance View contains three graphs: WS Broker Request, WS Broker Activity Status, and Client Connections. If conditions for data collection are set and the Trend option is selected (in the monitoring plan), the graphically displayed data appears and complements the summarized text data that appears on the WebSpeed Broker Performance View page. See the Data collection details on page 54 for details.

One display format for these graphs, as shown on the Broker Performance View page, is a line graph. This format measures how a particular broker-related activity has changed over a period of time.

The following table briefly describes each of these graphs.

Table 15: WebSpeed Broker performance-related graphs

<table>
<thead>
<tr>
<th>Graph name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS Broker Request Activity</td>
<td>Displays two lines of broker-related performance data over a specified time period. The blue line identifies the number of requests that the broker has completed. The red line identifies the number of requests that this same broker has received in this time period.</td>
</tr>
<tr>
<td>WS Broker Activity Status</td>
<td>Displays two lines of broker-related performance data over a specified time period. The blue line identifies the percent of requests that the broker has rejected, up to and including the last poll OpenEdge Management has completed for this broker resource. The red line identifies the percent of requests in the queue waiting for the broker, up to and including the last poll completed.</td>
</tr>
<tr>
<td>Client Connections</td>
<td>Displays two lines of client connections related to this broker over a specified time period. The blue line identifies the client total number of connections requested. The red line identifies the number of clients currently connected to this broker.</td>
</tr>
<tr>
<td>Note:</td>
<td>It is possible for this graph to accurately show that the number of current connections is higher than the total number of connections. The Clients Total reflects only new connections over the specified time period. In contrast, the Clients Current reflects all current connections, both newly connected and those that might still be connected from a previous polling period, in place when the graph is displayed.</td>
</tr>
</tbody>
</table>

See Changing OpenEdge pinup graphical views on page 47 for details about changing the data appearance of graphs.

Accessing and reviewing the Agents Performance View

The WebSpeed Operational views allow you to display information about agents’ status.

To display and review agents’ status information:
1. From the grid frame for Resources, click the Edit icon to display the details page for the WebSpeed broker whose agents’ status you want to review.

2. Click Agents Performance View in the Operational views section to display the WebSpeed Agents Performance View page, as shown:

   ![WebSpeed Agents Performance View](image)

   **Data summary**

   The summarized read-only text data on this page is comprised of two sections:

   - **Agents state** — Displays the four possible states of the agents that are currently associated with this WebSpeed broker: Active, Busy, Locked, and Available.

   - **Agent pool summary** — Displays detailed data about each individual agent in the WebSpeed agent pool that is associated with a specific WebSpeed broker. You also have access to additional data about a specific agent and a control that allows you to kill a process. See Killing a WebSpeed agent process on page 61 for detailed steps.

   **Graphs presentation**

   The graphs presentation section of the Agents Performance View contains three graphs: Agent States, Total Agents CPU, and Total Agents Memory. Provided that the options for data collection are set and the Trend option is selected, the graphically displayed data complements the summarized text data that appears on the WebSpeed Agents Performance View page. See Data collection details on page 54 for details.

   One display format for these graphs is a line graph. This format measures how a particular broker-related activity has changed over a period of time. The following table identifies and briefly describes each of these graphs.
### Table 16: WebSpeed agents performance-related graphs

<table>
<thead>
<tr>
<th>Graph name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent States</td>
<td>Displays two lines of agents-related performance data over a specified time period. The blue line identifies the number of free agents. The red line identifies the number of busy/locked agents during this same time period.</td>
</tr>
<tr>
<td>Total Agents CPU</td>
<td>Displays one line of agents-related performance data over a specified time period. This single data line indicates the total percent of the agents' CPU usage.</td>
</tr>
<tr>
<td>Total Agents Memory</td>
<td>Displays one line of agents-related performance data over a specified time period. This single data line indicates the total percent of the agents' memory consumption.</td>
</tr>
</tbody>
</table>

See [Changing OpenEdge pinup graphical views](#) on page 47 for details about changing the data appearance of graphs.

### Examining WebSpeed-related Informational views

The following figure shows the **Informational views** section of the **WebSpeed** Details page.

The **WebSpeed** Details page provides an **Informational views** section that allows you to access and review data related to the WebSpeed broker's configuration properties. The values that appear originate from the `ubroker.properties` file.

**Figure 12: WebSpeed Informational views**

To display and review Configuration Properties view information:

1. From the grid frame for Resources, click the Edit icon to display the details page for the WebSpeed broker whose configuration properties you want to review.

2. Click **Configuration Properties** in the **Informational views** section to display the **Configuration Properties** page, as shown in the following excerpt:
3. Review the values. Note that the properties list is quite long. Scroll to see additional properties and their associated values.
Managing AppServer Data

This chapter presents OpenEdge Management features and functionality related to the AppServer. For details, see the following topics:

- AppServer overview
- Reviewing AppServer broker status
- Modifying AppServer control settings
- Accessing and reviewing AppServer-related log file data
- Using the AppServer log file viewers
- Examining AppServer-related Operational views
- Examining AppServer-related Informational views

AppServer overview

OpenEdge Management supports a variety of tasks that you can perform to manage an AppServer, including:

- Reviewing your current operating status and associated details.
- Modifying broker-related control settings, such as starting and stopping a broker, and adding or trimming servers.
- Accessing and viewing broker- and server-specific data collected through log files.
Reviewing AppServer broker status

The **AppServer Status** section of the **AppServer** Details page summarizes current operational details about the AppServer broker. The following figure shows the **AppServer Status** section.

**Figure 13: AppServer Status section**

<table>
<thead>
<tr>
<th>AppServer Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>NBASPAULDIXP2</td>
</tr>
<tr>
<td>Broker</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>Operating mode</td>
<td>State-reset</td>
</tr>
<tr>
<td>Broker statistics available</td>
<td>True</td>
</tr>
<tr>
<td>Servers available</td>
<td>1</td>
</tr>
<tr>
<td>Should register with NameServer?</td>
<td>True</td>
</tr>
</tbody>
</table>

The following table describes each of the AppServer broker details in the **AppServer Status** section of the AppServer Details page.

**Table 17: AppServer status details**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The host machine's name.</td>
</tr>
<tr>
<td>Broker</td>
<td>The running status of the broker. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• <strong>ACTIVE</strong> — The broker is currently running.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Not Running</strong> — The broker is not currently running.</td>
</tr>
<tr>
<td></td>
<td>The broker can also report <strong>Starting</strong> and <strong>Shutting Down</strong> values; however,</td>
</tr>
<tr>
<td></td>
<td>depending on the speed of the machine on which your management console is</td>
</tr>
<tr>
<td></td>
<td>running, you may not see these intermediary states.</td>
</tr>
<tr>
<td>Operating mode</td>
<td>The operating mode of the broker. This mode determines how client requests</td>
</tr>
<tr>
<td></td>
<td>are dispatched to individual Application Server processes running on the</td>
</tr>
<tr>
<td></td>
<td>AppServer instance. One of four possible modes can be reported: <strong>Stateless</strong>,</td>
</tr>
<tr>
<td></td>
<td><strong>State-free</strong>, <strong>State-aware</strong>, or <strong>State-reset</strong>.</td>
</tr>
<tr>
<td>Broker statistics available</td>
<td>The status of the broker as it relates to data collection. The possible</td>
</tr>
<tr>
<td></td>
<td>states are <strong>True</strong> or <strong>False</strong>. See <strong>Data collection details</strong> on page 80</td>
</tr>
<tr>
<td></td>
<td>for more information about data collection.</td>
</tr>
</tbody>
</table>
The number of AppServers running and available to fulfill a connection request from a client to an AppServer through this broker when the broker’s status is **ACTIVE**. This value can change frequently, reporting the real-time changes in number of servers available.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Servers available</strong></td>
<td>The status of <strong>True</strong> or <strong>False</strong> to indicate whether or not the broker resource is registered with a NameServer.</td>
</tr>
</tbody>
</table>

The following points relate to the fields listed in the above table:

- Broker-related changes that you can make, using either the **Broker Control** or **Server Pool Control** options in the **Command and control** section of the **AppServer Details** page, can affect the broker and server values that appear in this status section.
- The values that appear in the **AppServer Status** section are obtained either from the **ubroker.properties** file or the current, real-time status of the broker (if it is running).

### Modifying AppServer control settings

The **Command and control** section of the **AppServer** Details page for an AppServer broker allows you to:

- Start and stop the AppServer broker, and change its associated property settings
- Add or trim the pool of available AppServers associated with the broker
- Obtain and review AppServer-related data collected through broker- and server-specific log files associated with this instance
- Monitor and manage AppServer brokers using monitoring plans and rules, including the option to use Configuration Advisor-recommended settings
- Configure the AppServer’s properties

The following figure shows the **Command and control** section of the **AppServer** Details page.

**Figure 14: Command and control section**

The following table identifies where you can find information about other functionality related to the AppServer **Command and control** section.
### Table 18: Additional AppServer information

<table>
<thead>
<tr>
<th>For AppServer-related details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broker and server pool log file monitors and viewers</td>
<td>Accessing and reviewing AppServer-related log file data on page 90</td>
</tr>
<tr>
<td>Broker monitoring plans and rules</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Broker rule sets</td>
<td>Customizing an AppServer Internet Adapter log file monitor on page 142</td>
</tr>
<tr>
<td>Configuration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
<tr>
<td>AppServer Client connections</td>
<td>Listing AppServer Client connections on page 88</td>
</tr>
</tbody>
</table>

### AppServer Control

The **AppServer Control** page summarizes details about a specific AppServer broker resource. From this page, you can start and stop an AppServer broker, and change some broker-related properties, as needed. The following figure shows an **AppServer Control** page.

**Figure 15: AppServer Control page**

![AppServer Control page](image)

**Note:** The values associated with the **Broker statistics available** field and the **Collect Statistics** property are interdependent. See **Data collection details** on page 80 the procedure in the for additional information.

For details about the WebSpeed Control page, see **WebSpeed Control page content** on page 52.
### Broker summary

The **Broker summary** section presents read-only values for these fields: the broker name, its host machine's name, associated port number and process identification number (PID), the broker's current status, operating mode, and whether the broker is currently set to collect broker-related statistical data.

Note the following additional details about these fields:

- **The Broker name, Host (machine name), Port (number), and Operating mode fields display values as they are defined in the ubroker.properties file.**

- **The Broker PID and Status fields reflect real-time values based on the broker's current status. The Broker PID is also a link to more broker process details. See Viewing broker process details on page 81 for additional information.**

- **The Broker statistics available field also reflects a current, real-time value. However, the value that appears in this field depends on additional factors. See Data collection details on page 80 for more details.**

### Properties

The **Properties** section displays the status of two user-defined, broker-related properties, **Enabled** and **Collect Statistics**:

- **The Enabled option indicates that this broker resource recognizes a monitoring plan and its associated rules when the broker resource is active.**

  During the discovery process, all AppServer brokers that OpenEdge Management discovers and lists in the list frame under the AppServer category are enabled by default. Once a broker is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

- **The Collect Statistics option enables data collection to occur in the AppServer broker. OpenEdge Management uses this data to identify the broker's performance. If you do not select the Collect Statistics option for a specific broker (that is, the True status), OpenEdge Management presents only non-statistical data such as Status and PID (pid number) on the various AppServer broker pages. Polled rules are not evaluated and data is not trended.**

  The Collect Statistics value plays a central role in data collection. See Data collection details on page 80 for more details.

A check mark associated with a property indicates that the property is set.

**Note:** To set the Broker statistics available option to a True status for a specific broker, you must enable the Collect Statistics option. See Data collection details on page 80 procedure in the .

### Changing AppServer broker controls

This section describes how to change AppServer broker controls.

To change the AppServer broker’s property settings:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose property settings you want to change. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Broker Control in the Command and control section to display the AppServer Control page.
You can make the following changes:

- To change the current setting of the **Enabled** property, click **Edit**. Then select or deselect the **Enabled** property to add or remove the check mark. You must also restart the AppServer broker so that the property change is recognized.

**Note:** A check mark appears to indicate that the Enabled property is set. To clear this option, click the check mark in the box associated with the option.

- To change the current setting of the **Broker statistics available** property displayed in the **Broker Summary** section of the **AppServer Control** page, see Data collection details on page 80.

- To exit this page without changing any values and return to the **AppServer** details page, click either **Back** in the browser, or the AppServer broker instance’s link on the breadcrumb trail.

You can also change the AppServer broker controls by starting or stopping the broker instance. To start or stop an AppServer broker instance, see Starting or Stopping OpenEdge resources on page 40.

### Data collection details

Data collection ensures that broker-related performance statistics can be trended to the OpenEdge Management Trend Database. Options and conditions available on the **AppServer Control** page and the AppServer broker resource monitoring plan must be fulfilled to successfully implement data collection.

On the **AppServer Control** page, these conditions include:

- Selecting the **Collect Statistics** option.

- Starting, or stopping and restarting the AppServer broker; you must explicitly perform this step on the **AppServer Control** page to effect this change.

- Verifying that the value **True** appears in the **Broker statistics available** field. (OpenEdge Management automatically updates this field when it detects that the **Collect Statistics** option was enabled after you started, or stopped and restarted, the AppServer broker.)

On the AppServer broker resource monitoring plan, you must also select the **Trend Performance Data** option.

**Note:** You are not required to use trending with the data collection activity. However, without the **Trend Performance Data** option selected, you cannot trend data. Data trended to the OpenEdge Management Trend Database is required for AppServer-related rule evaluation, graphical displays, and report generation.

Using data collection might cause the AppServer broker to exhibit some level of performance degradation, memory degradation, or both.

### Setting the options to perform data collection in an AppServer broker

To set the options to perform data collection in an AppServer broker:

1. Review the current status of the **Collect Statistics** field in the **Properties** section of the **AppServer Control** page; a check mark indicates that the property is set.
   
   If the **Collect Statistics** field is not checked, then click **Edit**. In the **Collect Statistics** field, click in the check box; a check mark appears. Click **Save**.

2. Stop and restart the AppServer broker you want to update.
Viewing broker process details

You can also access real-time details and statistics that provide you with snapshot information about an individual broker at the point you access this information from the AppServer Control page. Review this information to help you assess a broker's performance.

To access broker processing details:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose processing details you want to access. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Broker Control in the Command and control section to display the AppServer Control page, as shown:

   ![AppServer Control](image)

3. Click the unique PID number associated with the Broker PID field to display a Broker PID page. This page contains summary and real-time statistics about the broker.

The two sections that comprise the Broker PID page present relevant information about the AppServer broker and its current operations:

- The Process summary section identifies the Process name and Process start time. User id and Group id values appear when Unix-based data is shown. The Parent pid identifies the identifier number associated with the process that spawned this current process.

- The Process statistics section presents details about the broker's real-time operational status. Values presented without parentheses identify that the processing time determined since the last scheduled polling interval, as noted, has occurred. Values presented within parentheses have been calculated based on information obtained since the start of the process.
The following table identifies and describes the fields of information presented in the Process statistics section.

Table 19: Process statistics operational data

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident size</td>
<td>The physical size of the process as defined by the host system.</td>
</tr>
<tr>
<td>Virtual size</td>
<td>The virtual size of the process as defined by the host system.</td>
</tr>
<tr>
<td>CPU</td>
<td>The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll.</td>
</tr>
</tbody>
</table>
| Weighted CPU   | The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll divided by the number of CPU processors on the system.  
                  This value appears only when there is more than one CPU process on the system where the process is running. |
| User time      | The amount of CPU time spent in the user mode since the last scheduled poll. |
| Kernel time    | The amount of CPU time spent in the kernel mode since the last scheduled poll. |
| Process time   | The sum of the values that appear in the User time and Kernel time fields. |
Server Pool Control

The Server Pool Control page, as shown in the following figure, shows data relevant to your current AppServer workload, and allows you to add or reduce the number of AppServers currently running.

Figure 16: Server Pool Control page

For example, use this page to add agents when agent requests are high; you can add agents to the maximum number of agents that your license recognizes. Also, use this page to reduce the agent count during a lag in agent requests. Using the trim feature, you can reduce agents down to the Minimum agents property setting.

The Server Pool Control page consists of the following:

- An Add or Trim selection that you use to specify the activity you want to perform. When you initiate a manual trim request, OpenEdge Management determines which agent(s) to actually remove. See Adding or trimming AppServers on page 85 for detailed steps.

- Three distinct, agent-related data summary tables that allow you to review relevant AppServer-pool specific data quickly:
  - Server pool initial configuration
  - Servers state
  - Server pool summary

The changes you make through add/trim activities can affect the data shown in these summary tables. The Server pool summary also allows you to kill a specific server process. See the for the detailed steps.
Server pool initial configuration

The Server pool initial configuration section identifies AppServer broker configuration properties set in the ubroker.properties file (and which are also reflected in the configuration settings within OpenEdge Management). These values appear as read-only.

The following table identifies and describes each field that appears in the Server pool initial configuration section.

Table 20: Server pool initial configuration fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial number of servers to start</td>
<td>The value OpenEdge Management references when the AppServer broker starts AppServers.</td>
</tr>
<tr>
<td>Minimum servers</td>
<td>The minimum number of AppServers that must be simultaneously running before the AppServer broker will start additional servers. The broker strives to maintain this specified minimum. If at any time the number of servers falls below the specified minimum, the broker will automatically start the additional servers needed to maintain the minimum. If you set a trim value that requires OpenEdge Management to trim the number of servers below the number specified for this field, OpenEdge Management displays a message.</td>
</tr>
<tr>
<td>Maximum servers</td>
<td>The maximum number of AppServer processes that can be running simultaneously. OpenEdge Management will not fulfill add requests you initiate that will exceed the specified maximum. OpenEdge Management will display a message to state this condition so that you can reconsider your request and, if necessary, initiate a new request.</td>
</tr>
</tbody>
</table>

Servers state

The Servers state section provides a snapshot of the total number of AppServers currently associated with a specific server state. The state details related to agents and the number of agents reported reflect real-time data. This data can fluctuate due to changes in the AppServers' workflow and changes you initiate using the add and trim option.

The following table describes each field presented in the Servers state section.

Table 21: Servers state fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active servers</td>
<td>The number of AppServers currently running</td>
</tr>
<tr>
<td>Busy servers</td>
<td>The number of AppServers currently serving ABL client requests</td>
</tr>
<tr>
<td>Locked servers</td>
<td>The number of AppServers currently servicing a bound connection (This state applies to a stateless AppServer.)</td>
</tr>
<tr>
<td>Available servers</td>
<td>The number of AppServers currently available to handle broker requests</td>
</tr>
</tbody>
</table>
Server pool summary and the kill process option

The Server pool summary provides:

- Detailed data about each individual server in the AppServer pool associated with a specific AppServer broker. The following table identifies and describes each field shown in the section.

- Access to:
  - More data about a specific agent
  - A control to terminate, or kill, the agent process

Use the PID field to access these features. The following table provides more information about PID.

Table 22: Server pool summary fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PID</td>
<td>The process identifier for this AppServer. Click the PID number to view a detail page that provides specific information about this server process and, as necessary, kill the process. See Killing an AppServer process on page 86 for more information.</td>
</tr>
<tr>
<td>State</td>
<td>The current execution state of the AppServer process.</td>
</tr>
<tr>
<td>Port</td>
<td>The TCP/IP port number that the AppServer process uses.</td>
</tr>
<tr>
<td>nRq (Number of Requests)</td>
<td>The number of messages sent to the AppServer process.</td>
</tr>
<tr>
<td>nRcvd</td>
<td>The number of messages received by the AppServer process.</td>
</tr>
<tr>
<td>nSent</td>
<td>The number of requests sent by the AppServer process.</td>
</tr>
<tr>
<td>CPU Use</td>
<td>The percentage of CPU user and system time consumed by a process.</td>
</tr>
<tr>
<td>Memory Use</td>
<td>The amount of virtual memory (in Kbytes) consumed by a process.</td>
</tr>
<tr>
<td>Started</td>
<td>The time stamp that indicates when the AppServer process started. If the broker is restarted for any reason, the PID and the Last Change values might change.</td>
</tr>
<tr>
<td>Last Change</td>
<td>The time stamp that indicates when the AppServer process last changed execution state.</td>
</tr>
</tbody>
</table>

Adding or trimming AppServers

This section describes how to add or trim AppServers.

Adding or trimming AppServers

To initiate an AppServer add or trim request:
1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker for which you want to initiate add or trim request. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Server Pool Control in the Command and control section to display the Server Pool Control page, as shown:

3. From the drop-down list box, select Add or Trim.

4. In the server(s) field, enter the number of servers you want to add or trim. The value you enter must be a positive integer.

When you initiate an add or trim request, OpenEdge Management consults two sets of initial configuration details to determine if, and how, it can honor either request type:

- The number of AppServers for which you are licensed
- The broker property configuration settings stored in the ubroker.properties file

See Server pool initial configuration on page 84 for information about these configuration details.

5. Select Submit. Depending on the changes you make and OpenEdge Management's capability to implement them, you might notice changes to the numeric values shown in the Servers state table. See Servers state on page 84 for more information.

Note: Any time you either add or trim AppServers, it is recommended that you refresh the management console to ensure that you are not viewing stale data.

Killing an AppServer process

You might want to manually terminate an agent process when:

- An agent process hangs
- You determine from the available data that an agent process is a runaway process

The specific PID in the Agent pool summary on the Server Pool Control page allows you to access the page to kill the offending agent's process.
You can choose to kill the process in two ways:

- **Kill**—Terminate the process immediately
- **Stop**—Complete the process and then terminate it.

Because you want to manually terminate an agent process only under the two circumstances listed above, the command used when you kill the process is:

```
kill -9
```

An agent (or server) process that has database locks can cause a database crash when you kill the process using the `kill -9` command. Use the command, therefore, only as a last resort.

The description of the signal for the kill process is as follows:

- **Signal Name** — SIGKILL
- **Signal Number** — 9
- **Signal Description** — Kill program

You can also kill a WebSpeed agent process. For details, see Killing a WebSpeed agent process on page 61.

To initiate a kill process:

1. Click **PID** associated with the server process you want to terminate. The specific AppServer **Agent PID** page appears.
   
   Note that the two sections on this page present relevant summary information about this AppServer agent and its current operational status. See Viewing broker process details on page 81 for details about this data.

2. Click **Kill** to terminate this process. (Alternatively, you can click **Cancel** at the top of the page to exit the page without terminating the process.)

   **Note:** You can also click **Stop** if you want the related process to complete before stopping.

3. OpenEdge Management will prompt you once again to ensure that you want to terminate this process. Click **OK**.

   OpenEdge Management displays a final status page that identifies the status of your kill request. OpenEdge Management displays one of the following messages:

   - **Process xxxx has been terminated** — This message indicates that the process was successfully killed. The PID number previously associated with this process is now available for the operating system to reassign.
• **Process xxxxx cannot be killed at this time** — This message indicates that the process could not be killed. In very rare instances, it is possible that you will not be successful in an attempt to kill a process. You can retry the kill process procedure; however, it is possible that the process will persist for any number of unknown reasons.

• **Process xxxxx has been reused** — OpenEdge Management has determined that the process PID number and associated time and date stamp do not match the values that the operating system has stored for this same process. Consequently, when you click **Kill**, the process cannot be destroyed.

**Listing AppServer Client connections**

You can query a running AppServer to see a list of client systems to which the AppServer is currently connected. This information may be helpful in identifying application components that may not be functioning properly so you can intervene, if necessary.

You can view the information about the current client connections in a Summary page or a Detailed page. The Detailed page provides the information found in the Summary page as well as additional details.

To view AppServer Client connections information in a Summary view:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose client connections’ information you want to view.

2. Click **AppServer Client Connections** in the **Command and control** section. The **Client Connection Summary** page appears:

To see a list of client connections for all AppServers, click **List All**.
The information described in the following table is provided in the view.

Table 23: Client Connection Summary

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Handle</td>
<td>A unique value that identifies the connection. This value is a monotonically increasing number that is assigned when the client connects to the AppServer.</td>
</tr>
<tr>
<td>Username</td>
<td>A string that was passed as the user name parameter in the AppServer CONNECT method. The interpretation of this value is dependent on the application. The value will be blank if no user name was provided in the CONNECT method.</td>
</tr>
<tr>
<td>Remote IP Address</td>
<td>The IP address of the host machine where the client resides.</td>
</tr>
<tr>
<td>Remote Port Number</td>
<td>The port number of the client on the client host machine.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Connection State</td>
<td>A string that identifies the state of the connection at the time the query was performed. The possible values returned are as follows: CONNECTING, CONNECTED, SENDING, RECEIVING, DISCONNECTING</td>
</tr>
<tr>
<td>Connection ID</td>
<td>The globally unique identifier that is assigned to each client connection at the time the client connects to the AppServer. This is usually the same value that is accessible to the ABL client application using the CLIENT-CONNECTION-ID attribute on the server object handle, and to the ABL server application using the SERVER-CONNECTION-ID attribute on the session handle.</td>
</tr>
<tr>
<td>Request Count</td>
<td>The number of requests executed by the client on the connection. This number will include the connection request itself.</td>
</tr>
<tr>
<td>Agent PID</td>
<td>The process identifier of the AppServer agent that is actively servicing a request from the specified client. If the client is not running a request at the time the inquiry is performed, this field is blank.</td>
</tr>
<tr>
<td>Agent Port Number</td>
<td>The listening port number of the AppServer agent that is actively servicing a request from the specified client. If the client is not running a request at the time the inquiry is performed, this field is blank.</td>
</tr>
</tbody>
</table>

**Accessing and reviewing AppServer-related log file data**

OpenEdge Management supports log file monitors and associated viewers for the following AppServer resources:

- An individual AppServer broker
- The AppServers associated with the broker

Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine performance expectations and examine trends related to brokers and AppServers.
This section presents information related to both types of AppServer log file monitors. However, only the procedures specific to an AppServer broker log file monitor and its associated viewer are presented. These same procedures will work with an AppServer agent log file monitor. For more general information about OpenEdge Management log file monitor features and functionality, see OpenEdge Management: Resource Monitoring.

**Note:** Log file monitors are not available for either remote AppServer brokers or their associated AppServers.

### Getting started with log files for AppServer resources

For each local AppServer broker that OpenEdge Management discovers, OpenEdge Management supports monitoring its two associated log file monitors. OpenEdge Management provides a log file resource monitor for the AppServer broker itself and another for its associated AppServer server. Each of these log file monitors has its own log file monitoring capabilities.

The AppServer log file resource monitors are not enabled until the AppServer for which the resource monitors were created is started. When the log file monitor first starts monitoring either an AppServer broker or AppServers, it always starts at the end of the log file.

### Naming conventions

OpenEdge Management prepends the broker’s name to the name of the broker and server log file monitors and viewers. For example, OpenEdge Management generates the following log file monitor and associated viewer names for an AppServer broker instance named `asbroker50` and the container named `vesta`:

- **Broker-related log file names** — Displays `vesta.asbroker1BrokerLogFileMonitor` and `vesta.asbroker1AppServer Broker Log File Contents`

- **AppServer-related log file names** — Displays `vesta.asbroker1ServerLogFileMonitor` and `vesta.asbroker1 AppServer Server Log File Contents`

You cannot change these names.

### Characteristics of AppServer resource log file monitors

Data that you can capture and view using the AppServer resource log file monitors and viewers can help you:

- Ensure the integrity of these log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.

- Use predefined AppServer-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefines search criteria to support the broker and server log file monitors.
The following figure shows an excerpt of the Search Criteria subcategories, including the AppServer Broker and AppServer Server links to the predefined search criteria.

Figure 17: AppServer-related search criteria

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>nbedaspauidi AppServer Internet Adapter</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi AppServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi AppServer Server</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Database</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Messengers</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi MSS DataServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi MSS DataServer Server</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi NameServer</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Odbc DataServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Odbc DataServer Server</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi OE Replication</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Oracle DataServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspauidi Oracle DataServer Server</td>
<td></td>
</tr>
</tbody>
</table>

You can create and maintain the search criteria for each of the AppServer resources in the following two locations:

- At the AppServer resource local file monitor instance level. The search text and type are not shareable at this level. See Customizing an AppServer broker log file monitor on page 94 for details.
- At the OpenEdge Management Component Library level under the AppServer subcategory. The search text and type are shareable at this level.

Specifically, the predefined search criteria provide:

- Detailed data about the recorded operations of an AppServer broker or AppServers
- A means for extracting detailed data

**AppServer log file monitor default values**

Once an AppServer is enabled, OpenEdge Management creates log file monitors for any discovered brokers and their associated AppServers, using several default values. Of all the default AppServer log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing an AppServer broker log file monitor on page 94 for details.

The default values are as follows:

- The AppServer default log file monitor is disabled until the AppServer is first started.
- The **Bookmark** is set to **Last Line**, and it is unique.
- The **On First Poll** property is set to **Search From End**.

For detailed information about the Bookmark feature and **On First Poll** property as they relate to log file monitors in general, see OpenEdge Management: Resource Monitoring.
File Resource Defaults

OpenEdge Management also supports a polling interval default value for the AppServer broker log file monitor and the AppServer server log file monitor.

display or update a polling interval default value:


You can revert back to the original OpenEdge Management-supplied default value set for the Polling Interval field at any time by clicking Restore Defaults.

Reviewing predefined log file monitor search criteria

Each log file provides predefined search criteria that address common AppServer broker- or AppServer-related events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize an AppServer log file monitor.

Note: It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:

1. Select Library from the management console menu bar.

2. Click the plus (+) icon next to Search Criteria in the list frame to expand this category.

3. Click either AppServer Broker or AppServer Server in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame. For example, the following screen shows a partial list of the AppServer Broker default search criteria:
Customizing an AppServer broker log file monitor

The following procedure describes how to customize an AppServer broker log file monitor. Use these same general steps to customize a log file monitor for AppServers.

customize an AppServer broker log file monitor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose log file monitor you want to customize. See Accessing OpenEdge Management resource information on page 39.

2. Click Log File Monitor of Broker in the Command and control section on the AppServer details page. The Log File Monitor summary monitoring page for the AppServer broker you selected appears:

Note: You can also create your own search criteria to address a particular AppServer error for which you want to monitor an AppServer. See Customizing an AppServer broker log file monitor on page 94 for details.
3. Customize or view the contents of an AppServer broker log file monitor as follows:
   
a) Click **Add Plan** to add an existing monitoring plan to this resource monitor.
   
b) Click **Edit** at the top of the page to change the description of the log file monitor.
   
c) Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

**Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default_Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default_Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default_Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the **Monitoring plans** section to view the edit page for the log file monitor.

5. Click **Add Rule** under the **Rules selected for this plan** section of the broker monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use an AppServer broker rule already defined in the library:
a) Select **AppServer Broker** from the drop-down list associated with the **Choose Criteria Category**.
b) Select the appropriate value from the drop-down list associated with **Choose Search Criteria**.

7. To create a new AppServer broker rule:
   a) Click **Create Criterion** to display the **Create Search Criterion** page.
   b) Enter values in the required fields: Name (identifies the name of the search criteria you are creating) and Search Text (identifies the information you are looking for in the log).
   c) Select the search type: **Literal Search** or **Regular Expression**.
   d) Choose whether to use an existing category or use a new category for the rule. Then select the **AppServer Broker** category.
   e) Click **Save**. The **Create Log File Rule** page reappears.

The values you defined and selected to create a rule on the **Create Search Criterion** page are now available on the **Create Log File Rule** page. The **Choose Search Category** drop-down list shows the name you entered in the **Name** field on the **Create Search Criterion** page. The **Choose Criteria Category** drop-down list shows the category in which you elected to store the new rule.

8. Select the appropriate values from the **Severity** and **On Alert Action Perform** drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click **Save**.

10. To add another individual rule, repeat Step 5 on page 95 through Step 9 on page 96.

11. Click **Select Rule Sets** to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose **Select Rule Sets**, you can pick from a list of predefined rule sets to add to the monitoring plan.

12. Click the AppServer broker instance’s link on the breadcrumb trail to display the broker's detail page again.

13. Click **Log File Monitor of Broker** again to view the new rules updated in the **Rules Summary**.

   For more information about editing search criteria for rules, see the appropriate sections of *OpenEdge Management: Resource Monitoring*.

---

**Note:** You can copy the default AppServer log file rule set, but you cannot delete it.

---

**Using the AppServer log file viewers**

To view the contents of each AppServer log file, access the viewer associated with each individual log file.

The log file viewer allows you to examine the contents of an AppServer-related log file through an HTML interface. You can access these log file viewers from the following two locations:

- Click the link in the **Command and control** section of the **AppServer Details** page. Click **Log File Viewer of Broker** to view the broker's file contents and click **Log File Viewer of Servers** to view the AppServer's file contents.

- Click the **Log File Viewer** button that appears at the top of the log file monitor summary monitoring page.
The following figure presents the AppServer broker log file viewer, which is showing the contents of an AppServer broker log file.

**Figure 18: AppServer Broker log file viewer**

The following information will help you use the AppServer log file viewer:

- Use the **Show** field to control how many AppServer log file entries appear at one time. The number entered into the **Show** field cannot be less than 10.
- Use the **Overlap** field to control how many entries are repeated from screen to screen. **Note:** The value in the **Overlap** field must not be more than the number in the **Show** field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

- Click **Reload** after changing the values in either the **Show** field or the **Overlap** field. **Note:** OpenEdge Management will prompt you to click **Reload**. The warning message that reads **changed, reload needed** appears in the **File log status** field in the **log file summary** section of the page.
  
  If you do not reload, the viewer displays the previous values.

- Click **Go To** to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the **Go To** field will begin the display from the tenth log file entry. **Note:** You must click **Go To** after entering a value in the **Go To** field, or the viewer will not update its display.

- The default display of entries is in ascending order. Choose **Descending** to change the display. Note that the **Show** field dictates the number of entries shown, whether they appear in ascending or descending order.

- Click **First** to display the first \( x \) entries, where \( x \) is the value in the **Show** field.
- Click **Prior** to display the previous \( x \) entries, where \( x \) is the value in the **Show** field.
- Click **Next** to display the next \( x \) entries, where \( x \) is the value in the **Show** field.
- Click **Last** to display the last \( x \) entries, where \( x \) is the value in the **Show** field.

To view additional log file entries without changing your current starting log file entry, leave the **Go To** field blank, change the value in the **Show** field, and click **Reload**.
Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

set a default value that OpenEdge Management uses to automatically refresh the management console, select Automatically refresh pages > User Preferences > Options.

Refresh data to avoid the following situations:

• OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically renews the log file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.

• OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.

Examining AppServer-related Operational views

The AppServer Details page provides an Operational views section that allows you to access and review data related to the performance of:

• A specific AppServer broker

• A pool of AppServers associated with a specific broker

Data for both the broker and the broker’s AppServer pool can appear in text and graph formats.

Note: The graphs associated with the AppServer Operational views appear only when the Broker statistics available field on the AppServer Control page displays a True status. See Data collection details on page 80 for details.

The following figure shows the Operational views section of the AppServer Details page.

Figure 19: AppServer Operational views

The Operational views section also provides a link to status information.

The following sections describe how to access and review details associated with each of these performance views.
Accessing and reviewing the Broker Performance View

The AppServer Operational views section allows you to display information about the AppServer broker's performance and the state of the broker's associated servers. Review this data frequently, as it will help you make informed decisions about your use of the broker and server pool controls.

To display and review AppServer Operational views information:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose Operational views information you want to review. See Accessing OpenEdge Management resource information on page 39 for the detailed procedure.

2. Click Broker Performance View in the Operational views section. A page comprising data summary sections and graphs appears, as shown:

Data summary

The summarized, read-only text data on this page consists of three sections: Broker Requests, Client Connections, and Last Run Procedures. Data in these text boxes is determined when the page is initialized or refreshed.

The Broker Requests section provides details about the AppServer broker's connection workload, as identified in the following table.
Table 24: AppServer broker connection workload details

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>The number of broker requests fulfilled</td>
</tr>
<tr>
<td>Queued</td>
<td>The number of broker requests to be processed</td>
</tr>
<tr>
<td>Rejected</td>
<td>The number of broker requests that could not be processed</td>
</tr>
<tr>
<td>Average Busy Time (s)</td>
<td>The average amount of time that the broker is busy servicing requests (expressed in milliseconds)</td>
</tr>
<tr>
<td>Average Locked Time (s)</td>
<td>The average amount of time that the broker is locked (expressed in milliseconds)</td>
</tr>
</tbody>
</table>

The Client Connections section identifies the number of client connections that the broker is currently handling, and the total number of client connections this broker has processed since the broker started.

The Last Run Procedures section lists the most recent procedures that were run.

Graphs presentation

The graphs presentation section of the Broker Performance View contains three graphs: AS Broker Request Activity, AS Broker Activity Status, and Client Connections. Provided that data collection is set and the Trend option is selected (in the monitoring plan), the graphically displayed data complements the summarized text data that appears on the AppServer Broker Performance View page. See Data collection details on page 80 for details.

One display format for these graphs, as shown on the Broker Performance View page, is a line graph. This format measures how a particular broker-related activity has changed over a period of time. The following table identifies and briefly describes each of these graphs.

Table 25: AppServer broker performance-related graphs

<table>
<thead>
<tr>
<th>Graph name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS Broker Request Activity</td>
<td>Displays two lines of broker-related performance data over a specified time period. The blue line identifies the number of requests that the broker has completed since the last poll. The red line identifies the number of requests that this same broker has received in this time period.</td>
</tr>
<tr>
<td>Graph name</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>AS Broker Activity Status</td>
<td>Displays two lines of broker-related performance data over a specified time period. The blue line identifies the percent of requests that the broker has rejected, up to and including the last poll OpenEdge Management has completed for this broker resource. The red line identifies the percent of requests in the queue waiting for the broker, up to and including the last poll completed.</td>
</tr>
<tr>
<td>Client Connections</td>
<td>Displays two lines of client connections related to this broker over a specified time period. For example, data displayed might be related to the last polling activity. The blue line identifies the total number of client connections requested. The red line identifies the number of clients currently connected to this broker.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> It is possible for this graph to accurately show that the number of current connections is higher than the total number of connections. The Clients Total reflects only new connections over the specified time period. In contrast, the Clients Current reflects all current connections in place when the graph is displayed, both newly connected and those that might still be connected from a previous polling period.</td>
</tr>
</tbody>
</table>

See Changing OpenEdge pinup graphical views on page 47 for details about changing the data appearance of graphs.

### Accessing and reviewing the Servers Performance View

The AppServer Operational views allow you to view information about servers' status.

To access and review servers' status information:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose servers' status information you want to review. See Accessing OpenEdge Management resource information on page 39 for the detailed procedure.

2. Click **Servers Performance View** in the **Operational views** section to display the **AppServer Servers Performance View** page:
Data summary

This read-only view comprises two sections:

- **Servers state** — Displays the four possible states of the servers that are currently associated with this AppServer broker: Active servers, Busy servers, Locked servers, and Available servers. See Application Services detail on page 117 for a definition of each of these states.

- **Server pool summary** — Displays detailed data about each individual server in the AppServer pool associated with a specific AppServer broker. See Accessing and reviewing Informational views on page 118 for a description of each field that appears in the Server pool summary section. You also have access to additional data about a specific AppServer and a control that allows you to kill a server process. See Killing an AppServer process on page 86 for the detailed steps.

Graphs presentation

The graphs presentation section of the Servers Performance View contains three graphs: Server States, Total Servers CPU, and Total Servers Memory. Provided that data collection is set and the Trend option is selected, the graphically displayed data appears and complements the summarized text data that appears on the AppServer Servers Performance View page. See Data collection details on page 80 for details.

One display format for these graphs, as previously shown on the Servers Performance View page, is a line graph. This format measures how a particular broker-related activity has changed over a period of time.

The following table identifies and briefly describes each of these graphs.

<table>
<thead>
<tr>
<th>Graph name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server States</td>
<td>Displays two lines of server-related performance data over a specified time period. The blue line identifies the number of free servers. The red line identifies the number of busy/locked servers during this same time period.</td>
</tr>
<tr>
<td>Graph name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Total Servers CPU</strong></td>
<td>Displays one line of server-related performance data over a specified time period. This single data line indicates the total percent of the servers' CPU usage.</td>
</tr>
<tr>
<td><strong>Total Servers Memory</strong></td>
<td>Displays one line of server-related performance data over a specified time period. This single data line indicates the total percent of the servers' memory consumption.</td>
</tr>
</tbody>
</table>

See Changing OpenEdge pinup graphical views on page 47 for details about changing the data appearance of graphs.

### Examining AppServer-related Informational views

The AppServer Details page provides an Informational views section that allows you to access and review data related to the AppServer broker's configuration properties. These values originate from the ubroker.properties file.

The following figure shows the Informational views section of the AppServer Details page.

**Figure 20: AppServer Informational views**

![Informational views](image)

To access and review Configuration Properties view details:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker whose configuration properties you want to review. See Accessing OpenEdge Management resource information on page 39 for the detailed procedure.

2. Click **Configuration Properties** in the Informational views section to display the AppServer Raw Configuration Properties page, as shown in the following excerpt:
3. Review the values that appear. Note that the properties list is quite long. You might need to scroll to see the entire list of properties and their associated values.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>queueLimit</td>
<td>0</td>
</tr>
<tr>
<td>srvr.logFile</td>
<td>$(WorkPath)\asbroker1.server.log</td>
</tr>
<tr>
<td>srvrStartupParam</td>
<td></td>
</tr>
<tr>
<td>brkrUseBrokerAlias</td>
<td>1</td>
</tr>
<tr>
<td>description</td>
<td>A sample AppServer setup for State-reset</td>
</tr>
<tr>
<td>brkrNumLogFiles</td>
<td>3</td>
</tr>
<tr>
<td>rmiWatchdogInterval</td>
<td>60</td>
</tr>
<tr>
<td>mqSrvrNumLogFiles</td>
<td>3</td>
</tr>
<tr>
<td>certStorePath</td>
<td>$(Startup\DLC)\certs</td>
</tr>
<tr>
<td>defaultService</td>
<td>1</td>
</tr>
<tr>
<td>actionDBEnabled</td>
<td>0</td>
</tr>
<tr>
<td>keyStorePath</td>
<td>$(Startup\DLC)\keys</td>
</tr>
<tr>
<td>registrationRetry</td>
<td>30</td>
</tr>
<tr>
<td>brkrDebuggerKeyAliasPassword</td>
<td></td>
</tr>
<tr>
<td>srvrSelectionScheme</td>
<td>0</td>
</tr>
<tr>
<td>controllingNameServer</td>
<td>NS1</td>
</tr>
<tr>
<td>classMain</td>
<td>com.progress.ubrokerbroker.ubroker</td>
</tr>
<tr>
<td>userName</td>
<td></td>
</tr>
<tr>
<td>srvrConnectProc</td>
<td></td>
</tr>
<tr>
<td>operatingMode</td>
<td>State-reset</td>
</tr>
<tr>
<td>srvrShutdownProc</td>
<td></td>
</tr>
<tr>
<td>srvrLogAppend</td>
<td>1</td>
</tr>
<tr>
<td>serverASKActivityTimeout</td>
<td>60</td>
</tr>
<tr>
<td>mqSrvrLogEntries</td>
<td>0</td>
</tr>
<tr>
<td>srvrStartupProcParam</td>
<td></td>
</tr>
<tr>
<td>compressionEnable</td>
<td>0</td>
</tr>
<tr>
<td>mqBrkrLogAppend</td>
<td>1</td>
</tr>
</tbody>
</table>
Managing NameServer Data

This chapter presents OpenEdge Management features and functionality related to NameServers.

For details, see the following topics:

• NameServer overview
• Reviewing NameServer status
• Modifying NameServer control settings
• Accessing and reviewing NameServer-related log file data
• Using the NameServer log file viewer
• Examining NameServer Operational and Informational views

NameServer overview

OpenEdge Management supports a variety of tasks you can perform to manage a specific NameServer, including:

• Reviewing your current operating status and associated details
• Reviewing property settings associated with a NameServer
• Accessing and viewing data collected in a NameServer log file monitor
• Working with NameServer resource-related details available through informational and operational views
Monitoring and managing the NameServer using monitoring plans and rules

For details about using OpenEdge Management to configure NameServer properties, see *OpenEdge Management and OpenEdge Explorer: Configuration*.

You must have the appropriate OpenEdge Management role authorization to perform several of these tasks. For more information, see Role authorization and OpenEdge Management tasks on page 30.

### Reviewing NameServer status

The **NameServer Status** section of the **NameServer Details** page summarizes current operational details about the NameServer. The following figure shows the **NameServer Status** section.

#### Figure 21: NameServer Status section

<table>
<thead>
<tr>
<th>NameServer Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NameServer:</td>
<td>Running</td>
</tr>
<tr>
<td>Host:</td>
<td>NBA5PAULDIXP</td>
</tr>
<tr>
<td>Location:</td>
<td>Local</td>
</tr>
<tr>
<td>Registered Brokers:</td>
<td>2</td>
</tr>
<tr>
<td>Registered Application Services:</td>
<td>3</td>
</tr>
</tbody>
</table>

The following table describes each of these NameServer-related details.

#### Table 27: NameServer Status details

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NameServer</td>
<td>The running status of the NameServer. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• Running</td>
</tr>
<tr>
<td></td>
<td>• Not running</td>
</tr>
<tr>
<td>Host</td>
<td>The host machine's name</td>
</tr>
<tr>
<td>Location</td>
<td>Whether the NameServer is local or remote</td>
</tr>
<tr>
<td>Registered Brokers</td>
<td>The number of brokers currently registered with the NameServer</td>
</tr>
<tr>
<td>Registered Application Services</td>
<td>The number of Application Services (that is, WebSpeed and AppServer) that are registered with the NameServer</td>
</tr>
</tbody>
</table>

### Modifying NameServer control settings

The **Command and control** section of the **NameServer Details** page allows you to:

- Start and stop a specific NameServer instance, and enable or disable the monitoring of it
- Obtain and review data collected through a NameServer log file associated with the instance
- Monitor and manage a NameServer instance using monitoring plans and rules
- Configure a NameServer's properties

**Note:** The NameServer does not use the Configuration Advisor feature because the NameServer does not collect and trend data.

The following figure shows the **Command and control** section of the NameServer Details page.

*Figure 22: Command and control section*

The information in this section presents functional descriptions and procedural details related to the NameServer Control page.

The following table identifies where you can find information about other functionality related to the NameServer Command and control section.

*Table 28: Additional NameServer information*

<table>
<thead>
<tr>
<th>For NameServer-related details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log file monitors and viewers</td>
<td>Accessing and reviewing NameServer-related log file data on page 109</td>
</tr>
<tr>
<td>Monitoring plans and rules</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Rule sets</td>
<td>Customizing a NameServer log file monitor on page 111</td>
</tr>
<tr>
<td>Configuration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>
NameServer Control

The NameServer Control page summarizes details about a specific NameServer resource. From this page, you can start and stop a NameServer instance, and change the Enabled option. The following figure shows the NameServer Control page.

Figure 23: NameServer Control

The following sections describe the two parts of the NameServer Control page.

Broker summary

The Broker summary section shows read-only values for these fields: the Name (NameServer's name), the Host, Port (number), and Status. The NameServer's name and port number are defined in the ubroker.properties file; the Status field reflects real-time values based on the NameServer's current operating status.

Properties

The Properties section shows the state of the Enabled option. The Enabled option indicates that this resource recognizes a monitoring plan and its associated rules when the broker resource is active.

During the discovery process, all NameServers that OpenEdge Management discovers and identifies in the list frame under the NameServer category are enabled by default. (A check mark indicates that the Enabled option is set.) Once you enable a NameServer resource, OpenEdge Management uses its default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

Changing NameServer controls

This section describes how to change NameServer controls.

To change the NameServer’s Enabled property setting:

1. From the grid frame for Resources, click the Edit icon to display the details page for the NameServer instance whose property settings you want to change. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Control in the Command and control section to display the NameServer Control page:
3. You can now:

- Click **Edit** to change the current setting of the **Enabled** property. A check mark appears to indicate that the **Enabled** property is set. To clear this option, click the check mark.
- Click **Cancel** to exit the page without changing any values. The NameServer Details page reappears in the management console.

You can also change the NameServer broker controls by starting or stopping the broker instance. To start or stop a NameServer broker instance, see Starting or Stopping OpenEdge resources on page 40

### Accessing and reviewing NameServer-related log file data

You can access and view log file data generated for each locally defined NameServer instance. Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine NameServer performance expectations and examine trends.

**Note:** Log file resource monitoring cannot be performed for remote NameServers.

This section presents information and provides procedures specific to a log file monitor and viewer. For more general information about OpenEdge Management log file monitor features and functionality, see *OpenEdge Management: Resource Monitoring*.

### Getting started with NameServer log files

OpenEdge Management supports monitoring the associated log file monitor for each local NameServer instance it discovers. OpenEdge Management also provides a log file viewer for each NameServer log file monitor to help you quickly access and review this data.

The NameServer log file monitor is not enabled until the NameServer created is enabled. When the NameServer log file monitor first begins monitoring, it starts at the end of the log file.
Characteristics of a NameServer log file monitor

Data that you can capture and view using NameServer log file monitors and viewers helps you to:

• Ensure the integrity of NameServer log files by monitoring the files for errors and allowing you to define actions that trigger when errors occur.

• Use predefined NameServer-related search criteria, or create your own, to run against the data in a NameServer file. You can create and maintain the search criteria in two locations:
  • At the NameServer local file monitor instance level. The search text and type are not shareable at this level.
  • At the OpenEdge Management Component Library level under the NameServer subcategory. The search text and type are shareable at this level.

The predefined search criteria provide:

• Detailed data about the recorded operations of a NameServer
• A means for you to extract the detailed data

NameServer log file monitor default values

Once a NameServer is enabled, OpenEdge Management creates a NameServer log file monitor, using several default values, for that NameServer resource. Of the default NameServer log file monitor properties, you can modify only the description. However, you have several options regarding the Search Criteria you can use for a NameServer log file monitor. See Customizing a NameServer log file monitor on page 111 for more details.

The default values are set as follows:

• The NameServer default log file monitor is enabled and disabled along with the NameServer instance.
• The Bookmark is set to Last Line, and it is unique.
• The On First Poll property is set to Search From End.

For detailed information about the Bookmark feature and the On First Poll property as they relate to log file monitors in general, see the appropriate section in OpenEdge Management and OpenEdge Explorer: Configuration.

File Resource Defaults

To display or update a polling interval default value:

3. Scroll down the File Resource Defaults page to display the current value set in the Polling Interval field for the NameServer Log File Monitor entry.
   To revert to the original OpenEdge Management-supplied default value, click Restore Defaults.
Reviewing predefined log file monitor search criteria

The NameServer log file monitor provides predefined search criteria that address common NameServer events. Use the search criteria as defined, or copy and customize it. Review this information before you customize a NameServer log file monitor.

**Note:** It is recommended that you not edit or delete the predefined criteria.

To access predefined search criteria for a NameServer log file monitor:

1. Click **Library** from the management console menu bar.
2. Click the plus (+) icon next to the **Search Criteria** in the list frame to expand this category.
3. Click **NameServer**. A list of predefined NameServer search criteria appears in the detail frame as shown:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot_Return Message</td>
<td>Catches the following error: Cannot return message to Client application at host (host).</td>
</tr>
<tr>
<td>ErrorUUID</td>
<td>Catches the following error: ErrorUUID (UUID) received from Broker (name) (host) (port).</td>
</tr>
<tr>
<td>Exceptions_Causing_NS_Shutdown</td>
<td>Catches the following error: Multiple I/O exception errors on port (port), the NameServer is shutting down.</td>
</tr>
<tr>
<td>Invalid_Message_Code</td>
<td>Catches the following error: Request received from (host) (port) contains invalid message code (code).</td>
</tr>
<tr>
<td>Listening_Error</td>
<td>Catches the following error: An error occurred while listening for network input requests on port (port).</td>
</tr>
<tr>
<td>Message_Error</td>
<td>Catches the following error: An error occurred while (marshalling/unmarshalling/sending) message to (client/broker/neighbor).</td>
</tr>
<tr>
<td>Socket_IO_Exception</td>
<td>Catches the following error: An exception occurred. Error message: (message).</td>
</tr>
<tr>
<td>Unhandled_Exception</td>
<td>Catches the following error: An unhandled exception was received. Exception: (Exception)</td>
</tr>
</tbody>
</table>

**Note:** You can also create your own search criteria to address a particular NameServer error for which you want to monitor a NameServer. For additional information, see Customizing a NameServer log file monitor on page 111.

Customizing a NameServer log file monitor

You can make some custom changes to a NameServer log file monitor.

To customize a NameServer log file monitor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the NameServer instance whose log file monitor you want to customize. The NameServer details page appears.
2. Click **Log File Monitor** in the **Command and control** section. The log file monitor summary monitoring page for the NameServer instance that you selected appears:
3. Customize or view the contents of a NameServer log file monitor as follows:
   a) Click **Add Plan** to add an existing monitoring plan to this resource monitor.
   b) Click **Edit** at the top of the page to change the description of this log file monitor.
   c) Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

   **Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default_Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default_Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default_Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the monitoring plans section to display the edit page for the NameServer log file monitor. To add rule sets to this plan, perform S in this procedure.

5. Click **Add Rule** under the **Rules selected for this plan** section of the NameServer monitoring plan page. You can add a rule that is already defined or create a new rule.

6. To use a NameServer rule that is already defined:
   a) Select **NameServer** from the drop-down list associated with the **Choose Criteria Category**.
   b) Select the appropriate value from the drop-down list associated with **Choose Search Criteria**.

7. To create a new NameServer rule:
   a) Click **Create Criterion** to display the **Create Search Criterion** page.
   b) Enter values in the required fields: **Name** (identifies the name of the search criteria you are creating) and **Search Text** (identifies the information you are looking for in the log).
c) Choose whether to use an existing category or use a new category for the rule. Then select the NameServer category.

d) Click Save. The Create Log File Rule page reappears.

The values you defined and selected to create a rule on the Create Search Criterion page are now available on the Create Log File Rule page. The Choose Search Category drop-down list shows the name you entered in the Name field on the Create Search Criterion page. The Choose Criteria Category drop-down list shows the category in which you elected to store the new rule.

8. Select the appropriate values from the Severity and On Alert Action Perform drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click Save.

10. To add another individual rule, repeat Step 5 on page 112 through Step 9 on page 113.

11. Click Select Rule Sets to create a new log file rule, or choose from existing rule sets to add to the monitoring plan. If you choose Select Rule Sets, you can choose from a list of predefined rule sets to add to the monitoring plan.

12. Click the NameServer instance's link on the breadcrumb trail to display the details page again.

13. Click Log File Monitor again to view the new rules updated in the Rules Summary. For more information about editing search criteria for rules, see the appropriate sections of OpenEdge Management: Resource Monitoring.

---

**Note:** You can copy the default NameServer log file rule set, but you cannot delete it.

---

**Using the NameServer log file viewer**

The NameServer log file viewer allows you to examine the contents of a log file through an HTML interface. You can access the log file viewer from two locations:

- The Log File Viewer link in the Command and control section of the NameServer Details page
- The Log File Viewer button that appears at the top of the NameServer Log Monitor page
The following figure shows the NameServer log file viewer with the contents of a NameServer log file displayed.

Figure 24: NameServer log file viewer

The following information will help you use the NameServer log file viewer:

- Use the **Show** field to control how many log file entries appear at one time. The number entered into the **Show** field cannot be less than 10.

- Use the **Overlap** field to control how many entries are repeated from screen to screen.

  **Note:** The value in the **Overlap** field must not be more than the number in the **Show** field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

- Click **Reload** after changing the values in either the **Show** field or the **Overlap** field. Note that OpenEdge Management will prompt you to click **Reload**. The warning message that reads *changed, reload needed* appears in the **Log file status** field in the Log file summary section of this page.

  If you do not reload, the viewer displays the previous values.

- Click **Go To** to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered in the **Go To** field will begin the display from the tenth log file entry.

  **Note:** You must click **Go To** after entering a value in the **Go To** field, or the viewer will not update its display.

- The default display of entries is in ascending order. Choose **Descending** to change the display. Note that the **Show** field dictates the number of entries shown, whether they display in ascending or descending order.

- Click **First** to display the first x entries, where x is the value in the **Show** field.

- Click **Prior** to display the previous x entries, where x is the value in the **Show** field.

- Click **Next** to display the next x entries, where x is the value in the **Show** field.

- Click **Last** to display the last x entries, where x is the value in the **Show** field.

OpenEdge Management: Servers, DataServers, Messengers, and Adapters
• To view additional log file entries without changing your current starting log file entry, leave the Go To field blank, change the value in the Show field, and click Reload.

### Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

To set a default value that OpenEdge Management uses to automatically refresh the management console, select Options > User Preferences > Automatically refresh pages.

Refresh data to avoid the following situations:

- OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of the memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer's inactivity, the reloaded log file view might not match the previous log file view of that resource.

- OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file shown in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.

### Examining NameServer Operational and Informational views

The NameServer Details page provides two sections that provide access to NameServer-relevant operating details. These sections are:

- Operational views
- Informational views

### Accessing and reviewing Operational views

The NameServer Operational views display the NameServer's current running status.

To display and review runtime information about the NameServer instance:

1. From the grid frame for Resources, click the Edit icon to display the details page for the NameServer instance whose runtime information you want to review. See Accessing OpenEdge Management resource information on page 39 for the detailed procedure.

2. Click Status in the Operational Views section to display the Operational Status page:
This view comprises a single **Summary** section that appears at the top of the view, followed by an AppService section for each Application Service registered with the NameServer.

### Operational Views content examination

In general, the summary section data pertains to the resource as a whole. Each Application Services detail section focuses primarily on data for an individually registered broker. The total values shown in the Summary section are derived by adding the unique values that appear in individual AppService sections. However, there are some situations in which the request-related counts between these sections might not correlate. See the description of the **Total client requests received** and **Total client requests rejected** fields in following table and the **Requests Received** and **Requests Directed** fields in the next table for details.

The following table briefly describes each of the fields that appear in the Summary section.

### Summary section

In the Summary section, the **Number of Brokers** field shows a total of all the brokers currently registered with a specific resource. The number of unique brokers identified in each of the separate AppService detail sections equals the number shown in the **Number of Brokers** field.

The following table describes the Summary fields and their display-only details. Most of the values that appear on this page are originally defined in the ubroker.properties file.

**Table 29: Summary details on the Operational Status page**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The NameServer's host machine name.</td>
</tr>
<tr>
<td>Port</td>
<td>The number of the UDP Port that the NameServer uses to listen for client connection requests and registration messages from AppServers and Transaction Servers.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Timeout</td>
<td>The value, in seconds, that indicates how often the NameServer checks for WebSpeed or AppServer broker instances that have timed out. When a WebSpeed or AppServer broker instance registers with a NameServer, the instance indicates how often it will send &quot;keep-alive&quot; messages by setting a registration retry value (a property setting in the ubroker.properties file). Once a NameServer determines that it has not received a &quot;keep-alive&quot; message from a broker instance within the broker's registration retry time, the NameServer automatically unregisters the instance.</td>
</tr>
<tr>
<td>Start time</td>
<td>The date and time stamp when the NameServer started. Any time the NameServer is restarted, this field will be updated to display the NameServer's most recent start time.</td>
</tr>
<tr>
<td>Number of AppServices</td>
<td>The number of Application Services associated with this NameServer instance. The count associated with this field matches the number of Application Services listed in the detailed AppService sections in this view.</td>
</tr>
<tr>
<td>Number of Brokers</td>
<td>The number of brokers in the broker pool that are currently registered with this NameServer instance, directing client connection requests to a requested Application Service. A broker might register more than one Application Service with a NameServer instance. Therefore, it might appear several times in the AppServices detail section. However, the broker will only count as 1 towards the total number of brokers recorded in this field.</td>
</tr>
<tr>
<td>Total client requests received</td>
<td>The total number of client requests received by the NameServer since it started. Any time the NameServer is restarted, this field will be reset to display a request total relative to the NameServer's most recent start time.</td>
</tr>
<tr>
<td>Total client requests rejected</td>
<td>The total number of times that a client requested a broker for an Application Service that the NameServer had no knowledge of; therefore, a client could not be matched up with a registered broker. This value identifies real-time client requests. Data related to any requests that the NameServer passes to NameServer Neighbors (those with which it typically works) are not captured in this total. Any time the NameServer is restarted, this field will be reset to display a count relative to the NameServer's most recent start time.</td>
</tr>
</tbody>
</table>

**Application Services detail**

For each Application Service (AppService) currently identified to the NameServer, there is a unique table of displayed values that appears on the Operational Status page. The following table briefly describes each of these fields. Also, note these additional points about the relationship of these fields to each other and to data presented in the Summary section:

- An individually registered broker can support multiple Application Services. Therefore, you might see several AppService detail sections associated with a NameServer instance, but only a small total number reported in the Number of Brokers field in the Summary section.
• In an **Application Services** detail section, the value that appears in the **Requests Received** field reflects a total number of requests for this service. However, each broker identified as supporting a client request to an Application Service maintains its own individual **Requests Directed** total.

• If an active broker goes down or is unavailable, any **AppService** details associated with that broker will no longer appear. If the broker reregisters, its total **Requests Directed** count will be reset to zero.

The following table identifies and describes the fields and their display-only details that appear in each AppService section of the **Operational Status** page. Many of these values originate from the configuration settings stored in the *ubroker.properties* file.

### Table 30: NameServer details on the Operational Status page

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requests Received</td>
<td>The number of client requests received for this Application Service. This count is maintained when one or more brokers are registered to support the Application Service. The count is reset when the Application Service is first identified to the NameServer.</td>
</tr>
<tr>
<td>Broker</td>
<td>The name of the broker that is capable of fulfilling the connection between the requesting client and the Application Service. When more than one broker is servicing the same Application Service, each new broker's data is appended to the individual <strong>AppService</strong> details section.</td>
</tr>
<tr>
<td>Host</td>
<td>The broker's host machine name and numeric address.</td>
</tr>
<tr>
<td>Weight</td>
<td>The priority weight assigned to the Unified Broker instance for the purpose of load balancing.</td>
</tr>
<tr>
<td>Requests Directed</td>
<td>The total number of client connection requests for the Application Service as directed by the NameServer to the broker instance. This count is maintained while the broker remains registered. If the broker is stopped or times out, the broker's count is reset to zero when the broker next runs. There is a separate counter for each Application Service that the broker supports.</td>
</tr>
<tr>
<td>UUID</td>
<td>The unique number for the Unified Broker instance.</td>
</tr>
<tr>
<td>Port</td>
<td>The TCP/IP port number that the broker listens on to pick up client connection requests.</td>
</tr>
<tr>
<td>Timeout</td>
<td>The amount of time, in seconds, that elapses between the &quot;keep alive&quot; messages that the broker sends to the resource as part of a broker's registration retry entry process.</td>
</tr>
</tbody>
</table>

### Accessing and reviewing Informational views

The **Properties** link in the **Informational views** section allows you to access static configuration details about a specific NameServer instance.

To access and review Properties details:
1. From the grid frame for Resources, click the Edit icon to display the details page for the NameServer instance whose properties you want to review. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Properties in the Informational views section to display the Static Configuration page:

<table>
<thead>
<tr>
<th>Location</th>
<th>NameServer location: local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host name</td>
<td>Jupiter</td>
</tr>
<tr>
<td>Port number</td>
<td>25007</td>
</tr>
<tr>
<td>General</td>
<td>Working directory: /usr1/beag/102a/wrk</td>
</tr>
<tr>
<td></td>
<td>Broker keep alive timeout: 30</td>
</tr>
<tr>
<td></td>
<td>Autostart: 1</td>
</tr>
<tr>
<td>Logging</td>
<td>Server log filename: /usr1/beag/102a/wrk/NS1 ns.log</td>
</tr>
<tr>
<td></td>
<td>Logging level: 2</td>
</tr>
<tr>
<td></td>
<td>Append to log file: 1</td>
</tr>
<tr>
<td>Advanced</td>
<td>Neighboring NameServers:</td>
</tr>
<tr>
<td>Environment</td>
<td>MYENV MVVAR</td>
</tr>
</tbody>
</table>

This view comprises a single Properties section that shows fields and values previously defined in the ubroker.properties file. These values are derived at startup.

The following table describes the contents of this section.

Table 31: Properties details on the Static Configuration page

<table>
<thead>
<tr>
<th>This field . . .</th>
<th>Displays . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>The specific values that pertain to these fields:</td>
</tr>
<tr>
<td></td>
<td>• <strong>NameServer location</strong> — Indicates whether the NameServer is <em>local</em> or <em>remote</em>. A local service identifies a NameServer instance that runs locally on the selected host. A remote service runs remotely on a network machine that is separate from the selected host.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Host name</strong> — Identifies the name of the host machine.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Port number</strong> — Identifies the number of the UDP port that the NameServer uses to listen for client connection requests and registration messages from AppServers and Transaction Servers.</td>
</tr>
<tr>
<td>This field . . .</td>
<td>Displays . . .</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td>The specific values that pertain to these fields:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Working directory</strong> — Identifies the NameServer working directory, including the pathname.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Broker keep alive timeout</strong> — Identifies a value, in seconds, that indicates how often the NameServer should check for Unified Broker instances that have timed out.</td>
</tr>
<tr>
<td></td>
<td>When a Unified Broker instance registers with a NameServer, the instance indicates how often it will send &quot;keep-alive&quot; messages by setting a registration retry value. Once a NameServer determines that it has not received a &quot;keep-alive&quot; message from a Unified Broker instance within the broker's registration retry time, the NameServer automatically unregisters the instance.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Autostart</strong> — Indicates whether the NameServer will start automatically when the controlling AdminServer starts. If the value 1 appears, the Autostart option is set. If the value zero appears, then the Autostart option is not set.</td>
</tr>
<tr>
<td><strong>Logging</strong></td>
<td>The specific values that pertain to these fields:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Server log filename</strong> — Identifies the NameServer log filename, including the pathname.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Logging level</strong> — Shows one of three possible values to specify the amount of information to be written to the server log: Error only, Terse, or Verbose.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Append to log file</strong> — Indicates if a new NameServer log file is created when the NameServer is started. A 1 indicates that log entries will be appended to the existing NameServer log file.</td>
</tr>
<tr>
<td><strong>Advanced</strong></td>
<td>The specific value that pertains to the optional field <strong>Neighboring NameServers</strong>. This field identifies a list of selected NameServers to which this NameServer can forward connection requests for Application Services that are not registered with it (that is, the Application Service name is unknown).</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>The specific NameServer environment variables that are defined for the process in which the NameServer executes.</td>
</tr>
</tbody>
</table>
Managing DataServer Data

This chapter presents OpenEdge Management features and functionality related to the DataServers for ODBC, Oracle, and MS SQL Server.

Note: The following sections are applicable only for existing ODBC DataServer instances running on remote AdminServers prior to OpenEdge Release 11.7.

For details, see the following topics:

• DataServer overview
• Reviewing DataServer broker status
• Modifying DataServer control settings
• Accessing and reviewing DataServer-related log file data
• Using the DataServer log file viewers

DataServer overview

OpenEdge Management supports a variety of tasks that you can perform to manage a DataServer, including:

• Reviewing your current operating status and associated details, as described in Reviewing DataServer broker status on page 122
• Modifying broker-related control settings, such as starting and stopping a broker, as described in Modifying DataServer control settings on page 123
• Accessing and viewing broker- and server-specific data collected through log files, as described in Accessing and reviewing DataServer-related log file data on page 129
• Monitoring and managing DataServer brokers using monitoring plans and rules, as described in Using the DataServer log file viewers on page 133

You must have appropriate OpenEdge Management role authorization to perform several of these tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.

You can also use OpenEdge Management to configure DataServer properties. For details, see OpenEdge Management and OpenEdge Explorer: Configuration.

ODBC, Oracle, and MS SQL Server DataServers

OpenEdge Management allows you to work with instances of ODBC, Oracle, and MS SQL Server DataServer resources. For the purposes of this book, the information and procedures provided refer to DataServers generically. Unless noted otherwise, all information and procedures are the same for each of the DataServers, despite the fact that accompanying graphics might use one particular DataServer or another for purposes of illustration.

Reviewing DataServer broker status

The Status section of the DataServer Details page, shown in the following figure, summarizes current operational details about the DataServer broker.

Figure 25: Oracle DataServer Status section

The following table describes each of the DataServer broker details in the Status section of the Details page.

Table 32: DataServer status details

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The host machine's name.</td>
</tr>
<tr>
<td>Broker</td>
<td>The running status of the broker. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• ACTIVE — The broker is currently running.</td>
</tr>
<tr>
<td></td>
<td>• Not Running — The broker is not currently running.</td>
</tr>
<tr>
<td></td>
<td>The broker can also report Starting and Shutting Down values; however, depending on the speed of the machine on which your management console is running, you may not see these intermediary states.</td>
</tr>
</tbody>
</table>

The values that appear in the Status section are obtained either from the ubroker.properties file or the current, real-time status of the broker (if it is running).
Modifying DataServer control settings

The Command and control section of the DataServer Details page allows you to:

• Start and stop the DataServer broker, and change its associated property settings

• Obtain and review DataServer-related data collected through broker- and server-specific log files associated with this instance

• Monitor and manage DataServer brokers using monitoring plans and rules

• Configure the DataServer's properties

The following figure shows the Command and control section of the DataServer Details page.

Figure 26: Command and control section

The following table identifies where you can find information about other functionality related to the DataServer Command and control section.

Table 33: Additional DataServer information

<table>
<thead>
<tr>
<th>For DataServer-related details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broker and server log file monitors and viewers</td>
<td>Accessing and reviewing DataServer-related log file data on page 129</td>
</tr>
<tr>
<td>Broker monitoring plans and rules</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Broker rule sets</td>
<td>Customizing a DataServer broker log file monitor on page 131</td>
</tr>
<tr>
<td>Configuration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>
DataServer Control page content

The DataServer Control page summarizes details about a specific DataServer broker resource. From this page, you can start and stop a DataServer broker, and change some broker-related properties, as needed. The following figure shows the DataServer Control page.

Figure 27: DataServer Control page

Broker summary

The Broker summary section presents read-only values for these fields: the broker name, its host machine’s name, associated port number and process identification number (PID), the broker's current status, and the operating mode.

Note the following additional details about these fields:

- The Broker name, Host (machine name), Port (number), and Operating mode fields display values as they are defined in the ubroker.properties file.

- The Broker PID and Status fields reflect real-time values based on the broker’s current status. The Broker PID is also a link to more broker process details. See Viewing broker process details on page 125 for additional information.

Properties

The Properties section displays the status of the Enabled option, which indicates that this broker resource recognizes a monitoring plan and its associated rules when the broker resource is active.

During the discovery process, all DataServer brokers that OpenEdge Management discovers and lists in the list frame under the appropriate DataServer category are enabled by default. Once a broker is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

A check mark associated with a property indicates that the property is set.
Changing DataServer broker controls

This section describes how to change DataServer broker controls.

To change the DataServer Broker's property settings:

1. From the grid frame for Resources, click the Edit icon to display the details page for the DataServer broker instance whose property settings you want to change. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Control in the Command and control section to display the Control page, as shown:

You can make the following changes:

- To change the current setting of the Enabled property, click Edit. Then select or deselect the Enabled property to add or remove the check mark. You must also restart the DataServer broker so that the property change is recognized.

**Note:** A check mark appears to indicate that the Enabled property is set. To clear this option, click the check mark in the box associated with the option. The check mark is deleted to indicate that the option is no longer set.

- To change the current setting of the Broker statistics available property displayed in the Broker Summary section of the DataServer Control page, see Data collection details on page 54.

- To exit this page without changing any values and return to the DataServer Details page, click either Back in the browser, or the DataServer broker instance link on the breadcrumb trail.

You can also change the DataServer broker controls by starting or stopping the broker instance. To start or stop a DataServer broker instance, see Starting or Stopping OpenEdge resources on page 40.

Viewing broker process details

You can also access real-time details and statistics that provide you with snapshot information about an individual broker at the point you access this information from the DataServer Control page. Review this information to help you assess a broker's performance.
To access broker processing details:

1. From the grid frame for Resources, click the Edit icon to display the details page for the DataServer broker instance whose processing details you want to view. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Control in the Command and control section to display the DataServer Control page, as shown:

   ![DataServer Control Page]

3. Click the unique PID number associated with the Broker PID field to display a Broker PID page. This page contains summary and real-time statistics about the broker, as shown:

   ![Broker PID Page]

The two sections that comprise the Broker PID page present relevant information about the DataServer broker and its current operations:

- The Process summary section identifies the Process name and Process start time. User id and Group id values appear when UNIX-based data is shown. The Parent pid identifies the identifier number associated with the process that spawned this current process.
• The Process statistics section presents details about the broker's real-time operational status. Values presented without parentheses identify that the processing time determined since the last scheduled polling interval, as noted, has occurred. Values presented within parentheses have been calculated based on information obtained since the start of the process.

The following table identifies and describes the fields of information presented in the Process statistics section.

**Table 34: Process statistics section real-time operational data**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident size</td>
<td>The physical size of the process as defined by the host system</td>
</tr>
<tr>
<td>Virtual size</td>
<td>The virtual size of the process as defined by the host system</td>
</tr>
<tr>
<td>CPU</td>
<td>The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll</td>
</tr>
<tr>
<td>Weighted CPU</td>
<td>The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll divided by the number of CPU processors on the system. This value appears only when there is more than one CPU process on the system where the process is running.</td>
</tr>
<tr>
<td>User time</td>
<td>The amount of CPU time spent in the user mode since the last scheduled poll</td>
</tr>
<tr>
<td>Kernel time</td>
<td>The amount of CPU time spent in the kernel mode since the last scheduled poll</td>
</tr>
<tr>
<td>Process time</td>
<td>The sum of the values that appear in the User time and Kernel time fields</td>
</tr>
</tbody>
</table>

**Killing a DataServer broker process**

You might want to manually terminate a DataServer process when:

• A broker process hangs.
• You determine from the available data that a broker process is a runaway process.

The specific PID in the Broker summary section of the DataServer Control page allows you to access the page to kill the offending process.

When either of the previously listed circumstances exists and you want to manually terminate a broker process, use this command:

```
kill -9
```

The description of the signal for the kill process is as follows:

• **Signal Name** — SIGKILL
Note: OpenEdge Management references the specific **PID** and its associated date and time start details to be sure of a process’ identity before it attempts to kill the process.

To initiate a kill process:

1. Click **BrokerPID** associated with the server process you want to terminate. The specific **Broker PID** page appears, as shown:

![Broker PID page](image)

Note that the two sections on this page present relevant summary information about this broker and its current operational status. See **Viewing broker process details** on page 125 for details about this data.

2. Click **Kill** to terminate this process. (Alternatively, you can click **Cancel** at the top of the page to exit the page without terminating the process.)

OpenEdge Management will prompt you once again to ensure that you want to terminate this process. Click **OK**.

OpenEdge Management displays a final status page that identifies the status of your kill request. OpenEdge Management displays one of the following messages:

- **Process xxxx has been terminated** — This message indicates that the process was successfully killed. The PID number previously associated with this process is now available for the operating system to reassign.

- **Process xxxx cannot be killed at this time** — This message indicates that the process could not be killed. In very rare instances, it is possible that you will not be successful in an attempt to kill a process. You can retry the kill process procedure; however, it is possible that the process will persist for any number of unknown reasons.

- **Process xxxx has been reused** — OpenEdge Management has determined that the process PID number and associated time and date stamp do not match the values that the operating system has stored for this same process. Consequently, when you click **Kill**, the process cannot be destroyed.
Accessing and reviewing DataServer-related log file data

OpenEdge Management supports log file monitors and associated viewers for the following DataServer resources:

- An individual DataServer broker
- The DataServers associated with the broker

Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine performance expectations related to brokers and DataServers.

This section presents information related to both types of DataServer log file monitors. However, only the procedures specific to an DataServer broker log file monitor and its associated viewer are presented. These same procedures will work with a DataServer server log file monitor. For more general information about OpenEdge Management log file monitor features and functionality, see OpenEdge Management: Resource Monitoring.

**Note:** Log file monitors are not available for either remote DataServer brokers or their associated DataServers.

Getting started with log files for DataServer resources

For each local DataServer broker that OpenEdge Management discovers, OpenEdge Management supports monitoring its two associated log file monitors. OpenEdge Management provides a log file resource monitor for the DataServer broker itself and another for its associated DataServer server. Each of these log file monitors has its own log file monitoring capabilities.

The DataServer log file resource monitors are not enabled until the DataServer for which the resource monitors were created is started. When the log file monitor first starts monitoring either a DataServer broker or DataServers, it always starts at the end of the log file.

Naming conventions

OpenEdge Management prepends the broker's name to the name of the broker and server log file monitors and viewers. (Note that there are no server logs created by default.) For example, OpenEdge Management generates the following log file monitor and associated viewer names for a DataServer broker instance named `orabroker1` and the container named `vesta`:

- `vesta.orabroker1BrokerLogFileMonitor`
- `vesta.orabroker1 Oracle DataServer Log File Contents`

You cannot change these names.

Characteristics of DataServer resource log file monitors

Data that you can capture and view using the DataServer resource log file monitors and viewers can help you:

- Ensure the integrity of these log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.
• Use predefined DataServer-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefines search criteria to support the broker and server log file monitors.

The following figure shows an excerpt of the Search Criteria subcategories, including the DataServer Broker and DataServer Server links to the predefined search criteria.

Figure 28: Search criteria

You can create and maintain the search criteria for each of the DataServer resources in the following two locations:

• At the DataServer resource local file monitor instance level. The search text and type are not shareable at this level. See Customizing a DataServer broker log file monitor on page 131 for details.

• At the OpenEdge Management Component Library level under the DataServer subcategory. The search text and type are shareable at this level. See Working with rule sets on page 203 for details.

Specifically, the predefined search criteria provide:

• Detailed data about the recorded operations of a DataServer broker or DataServer

• A means by which you can extract detailed data

DataServer log file monitor default values

Once a DataServer is enabled, OpenEdge Management creates log file monitors for any discovered brokers and their associated DataServers, using several default values. Of all the default DataServer log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing a DataServer broker log file monitor on page 131 for details.

The default values are as follows:

• The DataServer default log file monitor is disabled until the DataServer is first started.

• The Bookmark is set to Last Line, and it is unique.

• The On First Poll property is set to Search From End.

For detailed information about the Bookmark feature and On First Poll property as they relate to log file monitors in general, see OpenEdge Management: Resource Monitoring.
Reviewing predefined log file monitor search criteria

Each log file provides predefined search criteria that address common DataServer broker- or DataServer-related events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize a DataServer log file monitor.

**Note:** It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:

1. Click **Library** from the menu bar.
2. Click the plus (+) icon next to **Search Criteria** in the list frame to expand this category.
3. Click either **DataServer Broker** or **DataServer Server** in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame. For example, the following screen shows the **DataServer Broker** default search criteria:

   ![Screen showing predefined search criteria](image)

   **Note:** You can also create your own search criteria to address a particular error for which you want to monitor a DataServer. See the for details.

Customizing a DataServer broker log file monitor

You can customize a DataServer broker log file monitor.

To customize a DataServer broker log file monitor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the DataServer broker instance whose log file monitor you want to customize. See Accessing OpenEdge Management resource information on page 39.

2. Click **Log File Monitor of Broker** in the **Command and control** section on the **DataServer** details page. The **Log File Monitor** summary monitoring page for the DataServer broker you selected appears:
3. Customize or view the contents of a DataServer broker log file monitor as follows:
   - Click **Add Plan** to add an existing monitoring plan to this resource monitor.
   - Click **Edit** at the top of the page to change the description of the log file monitor.
   - Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

**Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the **Monitoring Plans** section to view the edit page for the log file monitor.

5. Click **Add Rule** under the **Rules selected for this plan** section of the broker monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use a DataServer broker rule already defined in the library:
   a) Select **DataServer Broker** from the drop-down list associated with the **Choose Criteria Category**.
   b) Select the appropriate value from the drop-down list associated with **Choose Search Criteria**.

7. To create a new DataServer broker rule:
   a) Click **Create Criterion** to display the **Create Search Criterion** page.
   b) Enter values in the required fields: **Name** (identifies the name of the search criteria you are creating) and **Search Text** (identifies the information you are looking for in the log).
   c) Select the search type: **Literal Search** or **Regular Expression**.
   d) Choose whether to use an existing category or use a new category for the rule. Then select the **DataServer Broker** category.
   e) Click **Save**. The **Create Log File Rule** page reappears.

   The values you defined and selected to create a rule on the **Create Search Criterion** page are now available on the **Create Log File Rule** page. The **Choose Search Category** drop-down list shows the name you entered in the **Name** field on the **Create Search Criterion** page. The **Choose Criteria Category** drop-down list shows the category in which you elected to store the new rule.
8. Select the appropriate values from the Severity and On Alert Action Perform drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click Save.

10. To add another individual rule, repeat Step 5 on page 132 through Step 9 on page 133.

11. Click Select Rule Sets to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose Select Rule Sets, you can pick from a list of predefined rule sets to add to the monitoring plan. Then click Save.

12. Click the DataServer instance's link on the breadcrumb trail to view the DataServer broker's monitoring plan page showing the rules section updated with the new rules.

For more information about editing search criteria for rules, see the appropriate sections of OpenEdge Management: Resource Monitoring.

Note: You can copy the default DataServer log file rule set, but you cannot delete or rename it.

Using the DataServer log file viewers

To view the contents of each DataServer log file, access the viewer associated with each individual log file.

The log file viewer allows you to examine the contents of a DataServer-related log file through an HTML interface. You can access these log file viewers from either of the following locations:

- Click the link in the Command and Control section of the DataServer Details page. Click Log File Viewer of Broker to view the broker's file contents and click Log File Viewer of Servers to view the DataServer's file contents.

- Click the Log File Viewer button that appears at the top of the log file monitor summary monitoring page.
The following figure presents the DataServer broker log file viewer, which is showing the contents of a DataServer broker log file.

**Figure 29: DataServer Broker log file viewer**

The following information helps you to use the DataServer log file viewer:

- Use the **Show** field to control how many DataServer log file entries appear at one time. The number entered into the **Show** field cannot be less than 10.

- Use the **Overlap** field to control how many entries are repeated from screen to screen.

**Note:** The value in the **Overlap** field must not be more than the number in the **Show** field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

- Click **Reload** after changing the values in either the **Show** field or the **Overlap** field. Note that OpenEdge Management will prompt you to click **Reload**. The warning message that reads **changed, reload needed** appears in the **File log status** field in the **log file summary** section of the page.

  If you do not reload, the viewer displays the previous values.

- Click **Go To** to control which numbered entry in the log file the viewer begins its display with. For example, a value of **10** entered into the **Go To** field will begin the display from the tenth log file entry.

**Note:** You must click **Go To** after entering a value in the **Go To** field, or the viewer will not update its display.

- The default display of entries is in ascending order. Choose **Descending** to change the display. Note that the **Show** field dictates the number of entries shown, whether they appear in ascending or descending order.

- Click **First** to display the first x entries, where x is the value in the **Show** field.
• Click Prior to display the previous x entries, where x is the value in the Show field.
• Click Next to display the next x entries, where x is the value in the Show field.
• Click Last to display the last x entries, where x is the value in the Show field.
• To view additional log file entries without changing your current starting log file entry, leave the Go To field blank, change the value in the Show field, and click Reload.

### Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

set a default value that OpenEdge Management uses to automatically refresh the management console, select Automatically refresh pages > User Preferences > Options.

Refresh data to avoid the following situations:

• OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.

• OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.
Managing AppServer Internet Adapter Data

This chapter presents OpenEdge Management features and functionality related to the AppServer Internet Adapter.

For details, see the following topics:

- AppServer Internet Adapter overview
- Working with AppServer Internet Adapter control settings
- Accessing and reviewing AppServer Internet Adapter log file data
- Using the AppServer Internet Adapter log file viewer

AppServer Internet Adapter overview

OpenEdge Management supports a variety of tasks that you can perform to manage an AppServer Internet Adapter (AIA), including:

- Working with AppServer Internet Adapter control settings on page 138
- Accessing and reviewing AppServer Internet Adapter log file data on page 140
- Using the AppServer Internet Adapter log file viewer on page 144

You must have appropriate OpenEdge Management role authorization to perform several of these tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.
Configuring AppServer Internet Adapter properties

You can also use OpenEdge Management to configure AIA instance properties. For details, see *OpenEdge Management and OpenEdge Explorer: Configuration*.

Working with AppServer Internet Adapter control settings

The Command and control section of the AppServer Internet Adapter Details page for an AIA instance allows you to:

- Enable or disable the AIA instance.
- Obtain and review AIA instance-related data collected through the log file associated with this instance.
- Configure the AppServer's properties.

The following figure shows the Command and control section of the AppServer Internet Adapter Details page.

**Figure 30: Command and control section**

The following table identifies where you can find information about other functionality related to the AppServer Command and control section.

**Table 35: Additional AppServer Internet Adapter information**

<table>
<thead>
<tr>
<th>For details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log file monitoring plans and rules</td>
<td>Getting started with log files for AIA resources on page 140 and the AppServer Internet Adapter log file monitor default values on page 141</td>
</tr>
</tbody>
</table>
AppServer Internet Adapter Control page content

The AppServer Internet Adapter Control page summarizes details about a specific AIA resource instance. From this page, you can enable or disable the AIA instance, and change some broker-related properties, as needed. The following figure shows the AppServer Internet Adapter Control page.

Figure 31: AppServer Internet Adapter Control page

Adapter summary

The Adapter summary section presents read-only values for these fields: the Adapter name and its host machine's name. Status data is not applicable to an AIA instance.

The Adapter name and Host (machine name) fields display values as they are defined in the ubroker.properties file.

Properties

The Properties section includes the Enabled option, which indicates that this resource instance's log file is being monitored.

During the discovery process, all AIA instances that OpenEdge Management discovers and lists in the list frame under the AppServer Internet Adapter category are enabled by default. Once an instance is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a log file monitoring plan and rules. (You can customize the plan and rules at any time.)

A check mark associated with the Enabled option indicates that the option is selected. To deselect the option, click Edit. Clear the check mark, and click Save. Note that the Enabled option is the only item you can change on the AppServer Internet Adapter Control page.
Accessing and reviewing AppServer Internet Adapter log file data

OpenEdge Management supports log file monitors and associated viewers for the AppServer Internet Adapter. Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine performance expectations related to AIA resource instances.

This section presents information related to the AppServer Internet Adapter log file monitor. For more general information about OpenEdge Management log file monitor features and functionality, see OpenEdge Management: Resource Monitoring.

Note: Log file monitors are not available for remote AppServer Internet Adapters.

Getting started with log files for AIA resources

For each local AppServer Internet Adapter instance that OpenEdge Management discovers, OpenEdge Management supports monitoring its log file monitor.

Naming conventions

OpenEdge Management prepends the AIA instance’s name to the name of the log file monitor and log file viewer. For example, OpenEdge Management generates nbasapauldixp2.Aia1LogFileMonitor as the log file monitor name for an AIA instance named Aia1 and the container named nbasapauldixp2. The associated log file viewer name for this AIA instance is nbasapauldixp2.Aia1 AppServer Internet Adapter Log File Contents.

You cannot change these names.

Characteristics of an AppServer Internet Adapter resource log file monitor

Data that you can capture and view using the AIA resource log file monitor and viewer can help you:

• Ensure the integrity of these log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.

• Use predefined AIA-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefined search criteria to support the log file monitor.
The following figure shows an excerpt from the **Search Criteria** subcategories, including the **AppServer Internet Adapter** link to the predefined search criteria.

**Figure 32: Library Search criteria**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>nbedaspouidi AppServer Internet Adapter</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi AppServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi AppServer Server</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Database</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Messengers</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi MSS DataServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi MSS DataServer Server</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi NameServer</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Odbc DataServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Odbc DataServer Server</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi OE_Replication</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Oracle DataServer Broker</td>
<td></td>
</tr>
<tr>
<td>nbedaspouidi Oracle DataServer Server</td>
<td></td>
</tr>
</tbody>
</table>

You can create and maintain the search criteria for each of the AIA resources in the following two locations:

- At the AppServer Internet Adapter resource local file monitor instance level. The search text and type are not shareable at this level. See **Customizing an AppServer Internet Adapter log file monitor** on page 142 for details.

- At the OpenEdge Management Component Library level under the **AppServer Internet Adapter** subcategory. The search text and type are shareable at this level. See **Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters** on page 187 for details.

Specifically, the predefined search criteria provide:

- Detailed data about the recorded operations of an AIA instance
- A means by which you can extract detailed data

### AppServer Internet Adapter log file monitor default values

Once an AIA instance is enabled, OpenEdge Management creates its log file monitor, using several default values. Of all the default AIA log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See **Customizing an AppServer Internet Adapter log file monitor** on page 142 for details.

The default values are as follows:

- The **Bookmark** is set to **Last Line**, and it is unique.
- The **On First Poll** property is set to **Search From End**.

For detailed information about the Bookmark feature and **On First Poll** property as they relate to log file monitors in general, see **OpenEdge Management: Resource Monitoring**.

### File Resource Defaults page

OpenEdge Management also supports a polling interval default value for the AIA log file monitor.
To display or update a polling interval default value:

3. Scroll down the File Resource Defaults page to display the Log File Monitor entry.

You can modify the value or revert back to the original OpenEdge Management-supplied default value set for the Polling Interval field at any time by clicking Restore Defaults.

Reviewing predefined log file monitor search criteria

Each log file provides predefined search criteria that address common AIA-related events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize an AIA log file monitor.

**Note:** It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:

1. Click Library from the management console menu bar.
2. Click the plus (+) icon next to Search Criteria in the list frame to expand this category.
3. Click AppServer Internet Adapter in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame. The following screen shows a list of the AppServer Internet Adapter default search criteria:

   ![Library . Search Criteria . AppServer Internet Adapter](image)

   **Note:** You can also create your own search criteria to address a particular AIA error for which you want to monitor an AIA instance. See Customizing an AppServer Internet Adapter log file monitor on page 142 for details.

Customizing an AppServer Internet Adapter log file monitor

The following procedure describes how to customize an AIA log file monitor.

To customize an AIA log file monitor:
1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer Internet Adapter instance whose log file monitor you want to customize. See Accessing OpenEdge Management resource information on page 39.

2. Click **Log File Monitor** in the **Command and control** section. The **Log File Monitor** summary monitoring page for the AIA instance you selected appears:

3. Customize or view the contents of an AIA log file monitor as follows:
   - Click **Add Plan** to add an existing monitoring plan to this resource monitor.
   - Click **Edit** at the top of the page to change the description of the log file monitor.
   - Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

   **Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default_Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default_Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default_Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the monitoring plans section to view the edit page for the log file monitor.

5. Click **Add Rule** under the **Rules selected for this plan** section of the broker monitoring plan page. You can add rule that is already defined and/or create a new rule.

6. To use an AppServer Internet Adapter rule already defined in the library:
   a) Select **AppServer Internet Adapter** from the drop-down list associated with the Choose Criteria Category.
   b) Select the appropriate value from each drop-down list associated with Choose Search Criteria.

7. To create a new AppServer Internet Adapter rule:
   a) Click **Create Criterion** to display the Create Search Criterion page.
   b) Enter values in the required fields: **Name** (identifies the name of the search criteria you are creating) and **Search Text** (identifies the information you are looking for in the log).
c) Select the search type: **Literal Search** or **Regular Expression**.

d) Choose whether to use an existing category or use a new category for the rule. Then select the **AppServer Internet Adapter** category.

e) Click **Save**. The **Create Log File Rule** page reappears.

The values you defined and selected to create a rule on the **Create Search Criterion** page are now available on the **Create Log File Rule** page. The **Choose Search Category** drop-down list shows the name you entered in the **Name** field on the **Create Search Criterion** page. The **Choose Criteria Category** drop-down list shows the category in which you elected to store the new rule.

8. Select the appropriate values from the **Severity** and **On Alert Action Perform** drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click **Save**.

10. To add another individual rule, repeat Step 5 on page 143 through Step 9 on page 144.

11. Click **Select Rule Sets** to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose **Select Rule Sets**, you can pick from a list of predefined rule sets to add to the monitoring plan.

12. Click **Save**.

13. Click the AIA instance’s link on the breadcrumb trail to view this AIA instance’s monitoring plan page showing the rules section updated with the new rules.

For more information about editing search criteria for rules, see the appropriate sections of **OpenEdge Management: Resource Monitoring**.

---

**Note:** You can copy the default AppServer Internet Adapter log file rule set, but you cannot delete or rename it.

---

**Using the AppServer Internet Adapter log file viewer**

The log file viewer allows you to examine the contents of an AIA-related log file through an HTML interface. You can access the log file viewer from the following two locations:

- Click the link in the **Command and control** section of the **AppServer Internet Adapter** Details page. Click **Log File Viewer** to view the file contents.

- Click the **Log File Viewer** button that appears at the top of the log file monitor summary monitoring page.

The following information helps you to use the AIA log file viewer:

- Use the **Show** field to control how many log file entries appear at one time. The number entered into the **Show** field cannot be less than 10.

- Use the **Overlap** field to control how many entries are repeated from screen to screen.

**Note:** The value in the **Overlap** field must not be more than the number in the **Show** field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

- Click **Reload** after changing the values in either the **Show** field or the **Overlap** field. Note that OpenEdge Management will prompt you to click **Reload**. The warning message that reads **changed, reload needed** appears in the **File log status** field in the **log file summary** section of the page.
If you do not reload, the viewer displays the previous values.

- Click **Go To** to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the **Go To** field will begin the display from the tenth log file entry.

**Note:** You must click **Go To** after entering a value in the **Go To** field, or the viewer will not update its display.

- The default display of entries is in ascending order. Choose **Descending** to change the display. Note that the **Show** field dictates the number of entries shown, whether they appear in ascending or descending order.
- Click **First** to display the first \(x\) entries, where \(x\) is the value in the **Show** field.
- Click **Prior** to display the previous \(x\) entries, where \(x\) is the value in the **Show** field.
- Click **Next** to display the next \(x\) entries, where \(x\) is the value in the **Show** field.
- Click **Last** to display the last \(x\) entries, where \(x\) is the value in the **Show** field.
- To view additional log file entries without changing your current starting log file entry, leave the **Go To** field blank, change the value in the **Show** field, and click **Reload**.

**Refreshing log file data**

Periodically refresh log file data. Select the **Refresh** page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

Set a default value that OpenEdge Management uses to automatically refresh the management console, select **Automatically refresh pages > User Preferences > Options**.

Refresh data to avoid the following situations:

- OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.
- OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.
Managing SonicMQ Adapter Data

This chapter presents OpenEdge Management features and functionality related to the SonicMQ Adapter. For details, see the following topics:

- SonicMQ Adapter overview
- Reviewing SonicMQ Adapter broker status
- Modifying SonicMQ Adapter control settings
- Accessing and reviewing SonicMQ Adapter log file data
- Using the SonicMQ Adapter log file viewers
- Examining SonicMQ Adapter Operations views

SonicMQ Adapter overview

OpenEdge Management supports a variety of tasks that you can perform to manage a SonicMQ Adapter, including:

- Reviewing your current operating status and associated details
- Modifying broker-related control settings, such as starting and stopping a broker
- Accessing and viewing broker- and server-specific data collected through log files
- Monitoring and managing SonicMQ Adapter instances using monitoring plans and rules
You must have appropriate OpenEdge Management role authorization to perform several of the tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.

Configuring SonicMQ Adapter properties

You can also use OpenEdge Management to configure SonicMQ Adapter properties. For details, see OpenEdge Management and OpenEdge Explorer: Configuration.

Reviewing SonicMQ Adapter broker status

The SonicMQ Adapter Status section of the SonicMQ Adapter Details page summarizes current operational details about the SonicMQ Adapter broker. The following figure shows the SonicMQ Adapter Status section.

Figure 33: SonicMQ Adapter Status section

<table>
<thead>
<tr>
<th>SonicMQ Adapter status</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>NBA:SPA:UL:IXP2</td>
</tr>
<tr>
<td>Broker</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following table describes each of the SonicMQ Adapter broker details in the SonicMQ Adapter Status section of the SonicMQ Adapter Details page.

Table 36: SonicMQ Adapter Status details

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The host machine's name.</td>
</tr>
<tr>
<td>Broker</td>
<td>The running status of the broker. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• ACTIVE — The broker is currently running.</td>
</tr>
<tr>
<td></td>
<td>• Not Running — The broker is not currently running.</td>
</tr>
<tr>
<td></td>
<td>The broker can also report Starting and Shutting Down values; however, depending on the speed of the machine on which your management console is running, you might not see these intermediary states.</td>
</tr>
</tbody>
</table>

The values that appear in the SonicMQ Adapter Status section are obtained either from the ubroker.properties file or the current, real-time status of the broker (if it is running).

Modifying SonicMQ Adapter control settings

The Command and control section of the SonicMQ Adapter Details page for an SonicMQ Adapter broker allows you to:

• Start and stop the SonicMQ Adapter broker, and change its associated property settings.
• Obtain and review SonicMQ Adapter-related data collected through broker- and server-specific log files associated with this instance.
• Monitor and manage SonicMQ Adapter brokers using monitoring plans and rules.
• Configure the SonicMQ Adapter's properties.

The following figure shows the Command and control section of the SonicMQ Adapter Details page.

Figure 34: Command and control section

The following table identifies where you can find information about other functionality related to the SonicMQ Adapter Command and control section.

Table 37: Additional SonicMQ Adapter information

<table>
<thead>
<tr>
<th>For details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broker and server log file monitors and viewers</td>
<td>Accessing and reviewing SonicMQ Adapter log file data on page 155</td>
</tr>
<tr>
<td>Log file monitoring plans and rules</td>
<td>Customizing a SonicMQ Adapter broker log file monitor on page 158</td>
</tr>
<tr>
<td>Log file monitor rule sets</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Configuration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>
SonicMQ Adapter Control

The SonicMQ Adapter Control page summarizes details about a specific SonicMQ Adapter broker resource. From this page, you can start and stop a SonicMQ Adapter broker, and change some broker-related properties, as needed. The following figure shows the SonicMQ Adapter Control page.

**Figure 35: SonicMQ Adapter Control page**

![SonicMQ Adapter Control page](image)

**Broker summary**

The Broker summary section presents read-only values for these fields: the broker name, its host machine's name, associated port number and process identification number (PID), the broker's current status, and the broker's operating mode.

Note the following additional details about these fields:

- The Broker name, Host (machine name), Port (number), and Operating mode fields display values as they are defined in the ubroker.properties file.
- The Broker PID and Status fields reflect real-time values based on the broker's current status. The Broker PID is also a link to more broker process details. See Viewing broker process details on page 152 for additional information.

**Properties**

The Properties section displays the status of the Enabled option, which indicates that this broker resource recognizes a monitoring plan and its associated rules when the broker resource is active.

During the discovery process, all SonicMQ Adapter brokers that OpenEdge Management discovers and lists in the list frame under the SonicMQ Adapter category are enabled by default. Once a broker is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

A check mark associated with a property indicates that the property is set. To deselect the option, click Edit. Clear the check mark, and click Save. Note that the Enabled option is the only item you can change on the SonicMQ Adapter Control page.
Changing SonicMQ Adapter controls

This section describes how to change SonicMQ Adapter controls.

To change the SonicMQ Adapter's property settings:

1. From the grid frame for Resources, click the Edit icon to display the details page for the SonicMQ Adapter instance whose property settings you want to customize. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Control in the Command and control section to display the SonicMQ Adapter Control page, as shown:

   ![SonicMQ Adapter Control Page]

   You can make the following changes:
   
   • To change the current setting of the Enabled property, click Edit. Then select or deselect the Enabled property to add or remove the check mark. You must also restart the SonicMQ Adapter broker so that the property change is recognized.

   **Note:** A check mark appears to indicate that the Enabled property is set. To clear this option, click the check mark in the box associated with the option. The check mark is deleted to indicate that the option is no longer set.

   • To change the current setting of the Broker statistics available property displayed in the Broker Summary section of the SonicMQ Adapter Control page, see Data collection details on page 54.

   • To exit this page without changing any values and return to the SonicMQ Adapter Details page, click either Back in the browser, or the SonicMQ Adapter instance link on the breadcrumb trail.

You can also change the SonicMQ Adapter's broker controls by starting or stopping the broker instance. To start or stop a SonicMQ Adapter broker instance, see Starting or Stopping OpenEdge resources on page 40.
Viewing broker process details

You can access real-time details and statistics that provide you with snapshot information about an individual SonicMQ Adapter instance at the point you access this information from the Control page. Review this information to help you assess the instance's performance.

To access broker processing details:

1. From the grid frame for Resources, click the Edit icon to display the details page for the SonicMQ Adapter instance whose processing details you want to view. See Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Control in the Command and control section to display the SonicMQ Adapter Control page, as shown:

![SonicMQ Adapter Control page](image)

3. Click the unique PID number associated with the Broker PID field to display a Broker PID page.

This page contains summary and real-time statistics about the broker, as shown:
The two sections that comprise the Broker PID page present relevant information about the SonicMQ Adapter and its current operations:

- The Process summary section identifies the Process name and Process start time. User id and Group id values appear when UNIX-based data is shown. The Parent pid identifies the identifier number associated with the process that spawned this current process.

- The Process statistics section presents details about the broker's real-time operational status. Values presented without parentheses identify that the processing time determined since the last scheduled poll interval, as noted, has occurred. Values presented within parentheses have been calculated based on information obtained since the start of the process.

The following table identifies and describes the fields of information presented in the Process statistics section.

### Table 38: Process statistics operational data

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident size</td>
<td>The physical size of the process as defined by the host system.</td>
</tr>
<tr>
<td>Virtual size</td>
<td>The virtual size of the process as defined by the host system.</td>
</tr>
<tr>
<td>CPU</td>
<td>The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll.</td>
</tr>
</tbody>
</table>
The percentage of time spent using the CPU in either the user or kernel mode since the last scheduled poll divided by the number of CPU processors on the system.

**Note:** This value appears only when there is more than one CPU process on the system where the process is running.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted CPU</td>
<td>The amount of CPU time spent in the user mode since the last scheduled poll.</td>
</tr>
<tr>
<td>User time</td>
<td>The amount of CPU time spent in the kernel mode since the last scheduled poll.</td>
</tr>
<tr>
<td>Kernel time</td>
<td>The sum of the values that appear in the User time and Kernel time fields.</td>
</tr>
</tbody>
</table>

**Killing a SonicMQ Adapter broker process and threads**

You might want to manually terminate a process when:

- A process hangs.
- You determine from the available data that a process is a runaway process.

The specific **PID** on the SonicMQ Adapter Control page allows you to access the page to kill the offending process.

When either of the previously listed circumstances exists and you want to manually terminate a broker process, use this command:

```
kill -9
```

The description of the signal for the kill process is as follows:

- **Signal Name** — SIGKILL
- **Signal Number** — 9
- **Signal Description** — Kill program

**Note:** OpenEdge Management references the specific **PID** and its associated date and time start details to be sure of a process' identity before it attempts to kill the process.

To initiate a kill process for the broker and threads:

1. Click **PID** associated with the process you want to terminate. The specific SonicMQ Adapter Broker **PID** page appears.
Note that the two sections on this page present relevant summary information about this SonicMQ Adapter instance and its current operational status. See Viewing broker process details on page 152 for details about this data.

2. Click **Kill** to terminate this process. (Alternatively, you can click **Cancel** at the top of the page to exit the page without terminating the process.)

OpenEdge Management prompts you to ensure that you want to terminate this process. Click **OK**.

OpenEdge Management displays a final status page that identifies the status of your kill request. OpenEdge Management displays one of the following messages:

- **Process xxxxx has been terminated** — This message indicates that the process was successfully killed. The PID number previously associated with this process is now available for the operating system to reassign.

- **Process xxxxx cannot be killed at this time** — This message indicates that the process could not be killed. In very rare instances, it is possible that you will not be successful in an attempt to kill a process. You can retry the kill process procedure; however, it is possible that the process will persist for any number of unknown reasons.

- **Process xxxxx has been reused** — OpenEdge Management has determined that the process PID number and associated time and date stamp do not match the values that the operating system has stored for this same process. Consequently, when you click **Kill**, the process cannot be destroyed.

3. Click **Cancel** at the top of the page to exit without terminating the process.

## Accessing and reviewing SonicMQ Adapter log file data

OpenEdge Management supports log file monitors and associated viewers for SonicMQ Adapter resources. Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine performance expectations and examine trends related to SonicMQ Adapters.

This section presents information related to both types of SonicMQ Adapter log file monitors: broker and server. However, only the procedures specific to an SonicMQ Adapter broker log file monitor and its associated viewer are presented. These same procedures work with a SonicMQ Adapter server log file monitor. For more general information about OpenEdge Management log file monitor features and functionality, see *OpenEdge Management: Resource Monitoring*.

### Getting started with log files for SonicMQ Adapter resources

For each local SonicMQ Adapter broker that OpenEdge Management discovers, OpenEdge Management supports monitoring its two associated log file monitors. OpenEdge Management provides a log file resource monitor for the SonicMQ Adapter broker itself and another for its associated SonicMQ Adapter server. Each of these log file monitors has its own log file monitoring capabilities.

The SonicMQ Adapter log file resource monitors are not enabled until the SonicMQ Adapter for which the resource monitors were created is started. When the log file monitor first starts monitoring either an SonicMQ Adapter broker or SonicMQ Adapter server, it always starts at the end of the log file.
Naming conventions

OpenEdge Management prepends the broker's name to the name of the broker and server log file monitors and viewers. For example, OpenEdge Management generates the following log file monitor and associated viewer names for a SonicMQ Adapter broker instance named sonicMQ1 and the container named nbaspauldixp2:

- **Broker-related log file names** — Displays nbaspauldixp2.sonicMQ1BrokerLogFileMonitor and nbaspauldixp2.sonicMQ1 SonicMQ Adapter Log File Contents
- **Server-related log file names** — Displays nbaspauldixp2.sonicMQ1ServerLogFileMonitor and nbaspauldixp2.sonicMQ1 SonicMQ Adapter Server Log File Contents

You cannot change these names.

Characteristics of SonicMQ Adapter resource log file monitors

Data in SonicMQ Adapter resource log file monitors and viewers can help you:

- Ensure the integrity of these log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.
- Use predefined SonicMQ Adapter-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefines search criteria to support the broker and server log file monitors.

The following figure shows the Search Criteria subcategories, including the SonicMQ Adapter Broker and SonicMQ Adapter Server links to the predefined search criteria.

Figure 36: Search criteria

You can create and maintain the search criteria for each of the SonicMQ Adapter resources in the following two locations:

- At the SonicMQ Adapter resource local file monitor instance level. The search text and type are not shareable at this level. See Customizing a SonicMQ Adapter broker log file monitor on page 158 for details.
- At the OpenEdge Management Component Library level under the SonicMQ Adapter subcategory. The search text and type are shareable at this level. See Working with rule sets on page 203 for details.
Specifically, the predefined search criteria provide:

- Detailed data about the recorded operations of a SonicMQ Adapter broker or server
- A means by which you can extract detailed data

**SonicMQ Adapter log file monitor default values**

Once a SonicMQ Adapter is enabled, OpenEdge Management creates log file monitors for any discovered brokers and their associated servers, using several default values. Of all the default SonicMQ Adapter log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing a SonicMQ Adapter broker log file monitor on page 158 for details.

The default values are as follows:

- The SonicMQ Adapter default log file monitor is disabled until the SonicMQ Adapter is first started.
- The Bookmark is set to Last Line, and it is unique.
- The On First Poll property is set to Search From End.

For detailed information about the Bookmark feature and On First Poll property as they relate to log file monitors in general, see OpenEdge Management and OpenEdge Explorer: Configuration.

**File Resource Defaults page**

OpenEdge Management also supports a polling interval default value for the SonicMQ Adapter broker log file monitor and the SonicMQ Adapter server log file monitor.

To display or update a polling interval default value:

4. To update the Polling Interval, type in a new value; then click Submit.
   You can revert back to the original OpenEdge Management-supplied default value set for the Polling Interval field at any time by clicking Restore Defaults.

**Reviewing predefined log file monitor search criteria**

Each log file provides predefined search criteria that address common SonicMQ Adapter broker- or SonicMQ Adapter server-related events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize a SonicMQ Adapter log file monitor.

**Note:** It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:
1. Select **Library** from the menu bar.

2. Click the plus (+) icon next to **Search Criteria** in the list frame to expand this category.

3. Click either **SonicMQ Adapter Broker** or **SonicMQ Adapter Server** in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame. For example, the following screen shows the **SonicMQ Adapter Broker** default search criteria:

![SonicMQ Adapter Broker Search Criteria](image)

**Note:** You can also create your own search criteria to address a particular SonicMQ Adapter error for which you want to monitor a SonicMQ Adapter. See [Customizing a SonicMQ Adapter broker log file monitor](#) on page 158 for details.

---

**Customizing a SonicMQ Adapter broker log file monitor**

You can customize a SonicMQ Adapter broker log file monitor and a server log file monitor for a SonicMQ Adapter instance.

**To customize a SonicMQ Adapter broker log file monitor:**

1. From the grid frame for Resources, click the Edit icon to display the details page for the SonicMQ Adapter broker instance whose log file monitor you want to customize. See [Accessing OpenEdge Management resource information](#) on page 39.

2. Click **Log File Monitor of Broker** in the **Command and control** section on the **SonicMQ Adapter** details page. The **Log File Monitor** summary monitoring page for the SonicMQ Adapter broker you selected appears:

![SonicMQ Adapter Broker Log File Monitor](image)

---

OpenEdge Management: Servers, DataServers, Messengers, and Adapters
3. Customize or view the contents of a SonicMQ Adapter broker log file monitor as follows:
   • Click **Add Plan** to add an existing monitoring plan to this resource monitor.
   • Click **Edit** at the top of the page to change the description of the log file monitor.
   • Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

   **Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the **Monitoring plans** section to view the edit page for the log file monitor.

5. Click **Add Rule** under the **Rules selected for this plan** section of the broker monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use a SonicMQ Adapter broker rule already defined in the library:
   a) Select **SonicMQ Adapter Broker** from the drop-down list associated with the **Choose Criteria Category**.
   b) Select the appropriate value from the drop-down list associated with the **Choose Search Criteria**.

7. To create a new SonicMQ Adapter broker rule:
   a) Click **Create Criterion** to display the **Create Search Criterion** page.
   b) Enter values in the required fields: **Name** (identifies the name of the search criteria you are creating) and **Search Text** (identifies the information you are looking for in the log).
   c) Choose whether to use an existing category or use a new category for the rule. Then select the **SonicMQ Adapter Broker** category.
   d) Click **Save**. The **CreateLog File Rule** page reappears.

   The values you defined and selected to create a rule on the **Create Search Criterion** page are now available on the **Create Log File Rule** page. The **Choose Search Category** drop-down list displays the name you entered in the **Name** field on the **Create Search Criterion** page. The **Choose Criteria Category** drop-down list displays the category in which you elected to store the new rule.

8. Select the appropriate values from the **Severity** and **On Alert Action Perform** fields to complete the alert severity and action definition that you want to associate with this rule.

9. Click **Save**.

10. To add another individual rule, repeat Step 5 on page 159 through Step 9 on page 159.

11. Click **Select Rule Sets** to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose **Select Rule Sets**, you can pick from a list of predefined rule sets to add to the monitoring plan.

12. Click the SonicMQ Adapter instance’s link on the breadcrumb trail to view this SonicMQ Adapter broker's monitoring plan page showing the rules section updated with the new rules.

   For more information about editing search criteria for rules, see the appropriate sections of *OpenEdge Management: Resource Monitoring*.

   **Note:** You can copy the default SonicMQ Adapter log file rule set, but you cannot rename or delete it.
Using the SonicMQ Adapter log file viewers

To view the contents of each SonicMQ Adapter log file, access the viewer associated with each individual log file.

The log file viewer allows you to examine the contents of a SonicMQ Adapter log file through an HTML interface. You can access these log file viewers from the following two locations:

- Click the link in the **Command and control** section of the **SonicMQ Adapter Details** page. Click **Log File Viewer of Broker** to view the broker's file contents and click **Log File Viewer of Servers** to view the SonicMQ Adapter server's file contents.

- Click the **Log File Viewer** button that appears at the top of the log file monitor summary monitoring page.

The following figure presents the SonicMQ Adapter broker log file viewer, which is showing the contents of an SonicMQ Adapter broker log file.

**Figure 37: SonicMQ Adapter Broker log file viewer**

The following information will help you use the SonicMQ Adapter log file viewer:

- Use the **Show** field to control how many SonicMQ Adapter log file entries appear at one time. The number entered into the **Show** field cannot be less than 10.

- Use the **Overlap** field to control how many entries are repeated from screen to screen.

**Note:** The value in the **Overlap** field must not be more than the number in the **Show** field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.
• Click Reload after changing the values in either the Show field or the Overlap field. Note that OpenEdge Management will prompt you to click Reload. The warning message that reads changed, reload needed appears in the File log status field in the log file summary section of the page. If you do not reload, the viewer displays the previous values.

• Click Go To to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the Go To field will begin the display from the tenth log file entry.

**Note:** You must click Go To after entering a value in the Go To field, or the viewer will not update its display.

• The default display of entries is in ascending order. Choose Descending to change the display. Note that the Show field dictates the number of entries shown, whether they appear in ascending or descending order.

• Click First to display the first $x$ entries, where $x$ is the value in the Show field.

• Click Prior to display the previous $x$ entries, where $x$ is the value in the Show field.

• Click Next to display the next $x$ entries, where $x$ is the value in the Show field.

• Click Last to display the last $x$ entries, where $x$ is the value in the Show field.

• To view additional log file entries without changing your current starting log file entry, leave the Go To field blank, change the value in the Show field, and click Reload.

### Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

set a default value that OpenEdge Management uses to automatically refresh the management console, select Automatically refresh pages > User Preferences > Options. Refresh data to avoid the following situations:

• OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory it holds. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.

• OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.

### Examining SonicMQ Adapter Operations views

The SonicMQ Adapter Details page provides an Operations views section that allows you to access and review status data related to the performance of broker and server instances.
The following figure shows the **Operations views** section of the **SonicMQ Adapter Details** page.

**Figure 38: Operations views section**

<table>
<thead>
<tr>
<th>Operations views section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
</tr>
<tr>
<td>SonicMQ Adapter running status information</td>
</tr>
</tbody>
</table>

**Accessing and reviewing SonicMQ Adapter status**

The SonicMQ Adapter **Operations views** section allows you to display status information about the SonicMQ Adapter broker's performance and the state of the broker's associated servers. Review this data frequently, as it will help you make informed decisions about your use of brokers and servers.

To display and review SonicMQ Adapter Operations views and status:

1. From the grid frame for Resources, click the Edit icon to display the details page for the SonicMQ Adapter broker instance whose status you want to review. See **Accessing OpenEdge Management resource information** on page 39 for the detailed procedure.

2. Click **Status** in the **Operations views** section. A page comprising two summary sections appears, as shown:

<table>
<thead>
<tr>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host: NBASPAULDIXP2</td>
</tr>
<tr>
<td>Broker Name: sonicMQ1</td>
</tr>
<tr>
<td>Operating Mode: Stateless</td>
</tr>
<tr>
<td>Broker Status: ACTIVE</td>
</tr>
<tr>
<td>Broker Port: 3620</td>
</tr>
<tr>
<td>Broker PID: 6752</td>
</tr>
<tr>
<td>Active Servers: 20</td>
</tr>
<tr>
<td>Busy Servers: 0</td>
</tr>
<tr>
<td>Locked Servers: 0</td>
</tr>
<tr>
<td>Available Servers: 20</td>
</tr>
<tr>
<td>Active Clients (curr, peak): (0, 0)</td>
</tr>
<tr>
<td>Client Queue Depth (curr, max): (0, 0)</td>
</tr>
<tr>
<td>Total Requests: 0</td>
</tr>
<tr>
<td>Rq Wait (max, avg): (0 ms, 0 ms)</td>
</tr>
<tr>
<td>Rq Duration (max, avg): (0 ms, 0 ms)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary of available servers</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>12</td>
</tr>
</tbody>
</table>
Data summary sections

The summarized, read-only text data on this page consists of two sections. Data in these text boxes is determined when the page is initialized or refreshed.

The **Summary** sections provide the details identified in the following table.

**Table 39: SonicMQ Adapter data summary**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The machine on which the server is running.</td>
</tr>
<tr>
<td>Broker Name</td>
<td>The name of the broker whose status you are viewing.</td>
</tr>
<tr>
<td>Operating Mode</td>
<td>The operating mode shows as Stateless. You cannot modify this field.</td>
</tr>
<tr>
<td>Broker Status</td>
<td>The current state of the broker.</td>
</tr>
<tr>
<td>Broker Port</td>
<td>The TCP/IP port number that the broker listens to.</td>
</tr>
<tr>
<td>Broker PID</td>
<td>The process ID of the broker.</td>
</tr>
<tr>
<td>Active Servers</td>
<td>The number of running servers.</td>
</tr>
<tr>
<td>Busy Servers</td>
<td>The number of servers handling client requests.</td>
</tr>
<tr>
<td>Locked Servers</td>
<td>The number of servers handling a bound connection.</td>
</tr>
<tr>
<td>Available Servers</td>
<td>The number of servers available to handle broker requests.</td>
</tr>
<tr>
<td>Active Clients (now, peak)</td>
<td>The number of active clients at the present time and the peak number.</td>
</tr>
<tr>
<td>Client Queue Depth (cur, max)</td>
<td>The number of clients waiting for brokers to become available to service their request. The current value (cur) represents the number of waiting clients at the moment the status is displayed, and the maximum value (max) represents the largest number of clients waiting concurrently since the server was started.</td>
</tr>
<tr>
<td>Total Requests</td>
<td>The total number of requests.</td>
</tr>
<tr>
<td>Req Wait (max, avg)</td>
<td>The request wait time.</td>
</tr>
<tr>
<td>Req Duration (max, avg)</td>
<td>The duration of the request.</td>
</tr>
<tr>
<td>Svr#</td>
<td>The particular server number.</td>
</tr>
<tr>
<td>State</td>
<td>The current state of the server process.</td>
</tr>
<tr>
<td>Port</td>
<td>The TCP/IP port number used by the server.</td>
</tr>
<tr>
<td>nRq</td>
<td>The number of messages sent to the server.</td>
</tr>
<tr>
<td>nRcvd</td>
<td>The number of messages received by the server.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>nSent</td>
<td>The number of requests sent by the server.</td>
</tr>
<tr>
<td>Started</td>
<td>The time stamp indicating when the server process started.</td>
</tr>
<tr>
<td>Last Change</td>
<td>The time stamp indicating when the server process last changed execution state.</td>
</tr>
</tbody>
</table>
Managing Web Services Adapter (for OpenEdge SOAP Web Services) Data

This chapter presents OpenEdge Management features and functionality related to the Web Services Adapter (for OpenEdge SOAP Web Services).

For details, see the following topics:

- Web Services Adapter (for OpenEdge SOAP Web Services) overview
- Reviewing Web Services Adapter (for OpenEdge SOAP Web Services) status
- Modifying Web Services Adapter (for OpenEdge SOAP Web Services) control settings
- Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) log file data
- Using the Web Services Adapter (for OpenEdge SOAP Web Services) log file viewer
- Examining Web Services Adapter (for OpenEdge SOAP Web Services) Operations views

Web Services Adapter (for OpenEdge SOAP Web Services) overview

OpenEdge Management supports a variety of tasks that you can perform to manage a Web Services Adapter (for OpenEdge SOAP Web Services) instance, including:

- Reviewing the adapter instance’s current operating status and associated details
Chapter 9: Managing Web Services Adapter (for OpenEdge SOAP Web Services) Data

- Enabling or disabling the adapter instance
- Accessing and viewing adapter data collected through log files
- Monitoring and managing Web Services Adapter (for OpenEdge SOAP Web Services) instances using monitoring plans and rules

You must have appropriate OpenEdge Management role authorization to perform several of the tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.

Configuring Web Services Adapter (for OpenEdge SOAP Web Services) properties

You can also use OpenEdge Management to configure Web Services Adapter (for OpenEdge SOAP Web Services) properties. For details, see OpenEdge Management and OpenEdge Explorer: Configuration.

Reviewing Web Services Adapter (for OpenEdge SOAP Web Services) status

The Web Services Adapter Status section of the Web Services Adapter Details page provides a brief status for the Web Services Adapter. The following figure shows the Status section.

**Figure 39: Web Services Adapter Status section**

```
<table>
<thead>
<tr>
<th>Web Services Adapter status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>NBSAPUDEXP2</td>
</tr>
<tr>
<td>Adapter</td>
<td>N/A</td>
</tr>
</tbody>
</table>
```

The following figure describes each of the Web Services Adapter details in the Web Services Adapter Status section of the Web Services Adapter Details page.

**Table 40: Web Services Adapter Status details**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The host machine’s name.</td>
</tr>
<tr>
<td>Adapter</td>
<td>The running status of the adapter. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• ACTIVE — The adapter is currently running.</td>
</tr>
<tr>
<td></td>
<td>• Not Running — The adapter is not currently running.</td>
</tr>
</tbody>
</table>

The values that appear in the Web Services Adapter Status section are obtained either from the ubroker.properties file or the current, real-time status of the adapter (if it is running).
Modifying Web Services Adapter (for OpenEdge SOAP Web Services) control settings

The **Command and control** section of the **Web Services Adapter** Details page for an adapter instance allows you to perform various tasks, such as:

- Start and stop the Web Services Adapter (for OpenEdge SOAP Web Services) instance, and change its associated property settings
- Obtain and review Web Services Adapter (for OpenEdge SOAP Web Services) related data collected through a log file associated with this instance
- Monitor and manage Web Services Adapters (for OpenEdge SOAP Web Services) using monitoring plans and rules
- Log in to or log off from the Web server
- Configure the Web Services Adapter's (for OpenEdge SOAP Web Services) properties

The following figure shows the **Command and control** section of the **Web Services Adapter Details** page.

**Figure 40: Command and control section**

The following table identifies where you can find information about other functionality related to the Web Services Adapter **Command and control** section.

**Table 41: Additional Web Services Adapter information**

<table>
<thead>
<tr>
<th>For details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log file monitors and viewers</td>
<td>Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) log file data on page 168</td>
</tr>
<tr>
<td>Log file monitoring plans and rules</td>
<td>Customizing a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor on page 171</td>
</tr>
<tr>
<td>Log file monitor rule sets</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Configuration, deployment, and general administration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>
Web Services Adapter (for OpenEdge SOAP Web Services) Control

The Web Services Adapter Control page summarizes details about a specific Web Services Adapter (for OpenEdge SOAP Web Services) resource. From this page, you can start and stop a Web Services Adapter (for OpenEdge SOAP Web Services) and change some related properties, as needed.

The following sections describe the two areas of the Web Services Adapter Control page.

Adapter summary

The Adapter summary section presents read-only values for these fields: the adapter name, its host machine's name, the adapter's current status, and the adapter's URL.

Note that the Adapter name and Host (machine name) display values as they are defined in the ubroker.properties file.

Properties

The Properties section displays the status of the Enabled option. When selected, this option indicates that the adapter resource recognizes a monitoring plan and its associated rules when the resource is active.

During the discovery process, all Web Services Adapter (for OpenEdge SOAP Web Services) instances that OpenEdge Management discovers and lists in the list frame under the Web Services Adapter (for OpenEdge SOAP Web Services) category are enabled by default. Once an adapter is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

A check mark associated with the Enabled option indicates that the option is selected. To deselect the option, click Edit. Clear the check mark, and click Save. Note that the Enabled option is the only item you can change on the Web Services Adapter Control page.

Logging in to or logging off from the Web server

If your Web server requires that you log in, click Login in the Command and control section of the Web Services Adapter Details page. Type your user name and user password, and click Submit.

Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) log file data

OpenEdge Management supports log file monitors and associated viewers for Web Services Adapter (for OpenEdge SOAP Web Services) resources. Log files can store a tremendous amount of data. Therefore, monitoring data collected within these files might help you to better determine performance expectations related to Web Services Adapters (for OpenEdge SOAP Web Services).

For more general information about OpenEdge Management log file monitor features and functionality, see OpenEdge Management: Resource Monitoring.

**Note:** Log file monitors are not available for remote Web Services Adapters (for OpenEdge SOAP Web Services).
Getting started with log files for Web Services Adapter (for OpenEdge SOAP Web Services) resources

For each local Web Services Adapter (for OpenEdge SOAP Web Services) instance that OpenEdge Management discovers, OpenEdge Management supports monitoring its associated log file monitor. A Web Services Adapter (for OpenEdge SOAP Web Services) log file resource monitor is not enabled until the Web Services Adapter (for OpenEdge SOAP Web Services) for which the resource monitor was created is started. When the log file monitor first starts monitoring a Web Services Adapter (for OpenEdge SOAP Web Services) instance, it always starts at the end of the log file.

Naming conventions

OpenEdge Management prepends the adapter's name to the name of a log file monitor and its associated viewer. For example, OpenEdge Management generates the following log file monitor for a Web Services Adapter (for OpenEdge SOAP Web Services) instance named `wsa1` and the container named `nbaspauldixp2`: `nbaspauldixp2.wsa1LogFileMonitor`. The associated log file viewer is named `nbaspauldixp2.wsa1 Web Services Adapter Log File Contents`.

You cannot change these names.

Characteristics of Web Services Adapter (for OpenEdge SOAP Web Services) resource log file monitors

Data that you can capture and view using Web Services Adapter (for OpenEdge SOAP Web Services) resource log file monitors and viewers can help you:

- Ensure the integrity of the log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.
- Use predefined Web Services Adapter-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefines search criteria to support log file monitors.

You can create and maintain the search criteria for each Web Services Adapter (for OpenEdge SOAP Web Services) resource instance in the following two locations:

- At the Web Services Adapter (for OpenEdge SOAP Web Services) resource local file monitor instance level. The search text and type are not shareable at this level.
- At the OpenEdge Management Component Library level under the `Web Services Adapter` subcategory. The search text and type are shareable at this level.

See Customizing a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor on page 171 for details.

The predefined search criteria provide:

- Detailed data about the recorded operations of a Web Services Adapter (for OpenEdge SOAP Web Services) instance
- A means for extracting detailed data
Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor default values

Once a Web Services Adapter (for OpenEdge SOAP Web Services) is enabled, OpenEdge Management creates its log file monitor using several default values. Of all the default Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor on page 171 for details.

The default values are as follows:

- The Web Services Adapter (for OpenEdge SOAP Web Services) default log file monitor is disabled until the Web Services Adapter (for OpenEdge SOAP Web Services) is first started.
- The Bookmark is set to Last Line, and it is unique.
- The On First Poll property is set to Search From End.

For detailed information about the Bookmark feature and On First Poll property as they relate to log file monitors in general, see OpenEdge Management: Resource Monitoring.

File Resource Defaults

OpenEdge Management also supports a polling interval default value for the Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor.

display or update a polling interval default value:


You can revert back to the original OpenEdge Management-supplied default value set for the Polling Interval field at any time by clicking Restore Defaults.

Reviewing predefined log file monitor search criteria

Each log file provides predefined search criteria that address common Web Services Adapter (for OpenEdge SOAP Web Services) events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor.

Note: It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:

1. Click Library from the management console menu bar.
2. Click the plus (+) icon next to Search Criteria in the list frame to expand this category.
3. Click Web Services Adapter in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame. The following screen shows the Web Services Adapter default search criteria:
Customizing a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor

This section describes how to customize a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor.

To customize a Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the Web Services Adapter (for OpenEdge SOAP Web Services) broker instance whose log file monitor you want to customize. See Accessing OpenEdge Management resource information on page 39.

2. Click Log File Monitor on the Web Services Adapter Details page. The Log File Monitor summary monitoring page appears.

3. Customize or view the contents of an Web Services Adapter (for OpenEdge SOAP Web Services) log file monitor as follows:
   • Click Add Plan to add an existing monitoring plan to this resource monitor.
   • Click Edit at the top of the page to change the description of the log file monitor.
Click Log File Viewer at the top of the page to view the contents of the log file monitor.

**Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a Default Schedule set up for a resource monitor, you cannot set up an additional plan because the Default Schedule is defined for 7 days a week, 24 hours a day. You must modify or remove the Default Schedule to set up additional plans.

4. To add individual rules, click Edit within the monitoring plans section to view the edit page for the log file monitor.

5. Click Add Rule under the Rules selected for this plan section of the monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use a Web Services Adapter (for OpenEdge SOAP Web Services) rule already defined in the library:
   a) Select Web Services Adapter from the drop-down list associated with the Choose Criteria Category.
   b) Select the appropriate value from the drop-down list associated with the Choose Search Criteria.

7. To create a new Web Services Adapter (for OpenEdge SOAP Web Services) rule:
   a) Click Create Criterion to display the Create Search Criterion page.
   b) Enter values in the required fields: Name (identifies the name of the search criteria you are creating) and Search Text (identifies the information you are looking for in the log).
   c) Choose whether to use an existing category or use a new category for the rule. Then select the Web Services Adapter category.
   d) Click Save. The CreateLog File Rule page reappears.

   The values you defined and selected to create a rule on the Create Search Criterion page are now available on the Create Log File Rule page. The Choose Search Category drop-down list displays the name you entered in the Name field on the Create Search Criterion page. The Choose Criteria Category drop-down list displays the category in which you elected to store the new rule.

8. Select the appropriate values from the Severity and On Alert Action Perform drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click Save.

10. To add another individual rule, repeat Step 5 on page 172 through Step 9 on page 172.

11. Click Select Rule Sets to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose Select Rule Sets, you can pick from a list of predefined rule sets to add to the monitoring plan.

12. Click Save.

13. Click the Web Services Adapter broker (for OpenEdge SOAP Web Services) instance's link on the breadcrumb trail to display the broker's detail page again.

14. Click Log File Monitor again to view the new rules updated in the Rules Summary.

   For more information about editing search criteria for rules, see the appropriate sections of OpenEdge Management: Resource Monitoring.

**Note:** You can copy the default Web Services Adapter (for OpenEdge SOAP Web Services) log file rule set, but you cannot rename or delete it.
Using the Web Services Adapter (for OpenEdge SOAP Web Services) log file viewer

To view the contents of a Web Services Adapter (for OpenEdge SOAP Web Services) log file, access the viewer associated with each individual log file.

The log file viewer allows you to examine the contents of a Web Services Adapter (for OpenEdge SOAP Web Services) log file through an HTML interface. You can access a log file viewer from the following two locations:

- Click the Log File Viewer link in the Command and control section of the Web Services Adapter Details page.
- Click the Log File Viewer button that appears at the top of the log file monitor summary monitoring page.

The following information will help you use the Web Services Adapter (for OpenEdge SOAP Web Services) log file viewer:

- Use the Show field to control how many Web Services Adapter (for OpenEdge SOAP Web Services) log file entries appear at one time. The number entered into the Show field cannot be less than 10.
- Use the Overlap field to control how many entries are repeated from screen to screen.

**Note:** The value in the Overlap field must not be more than the number in the Show field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

- Click Reload after changing the values in either the Show field or Overlap field. Note that OpenEdge Management will prompt you to click Reload. The warning message that reads changed, reload needed appears in the File log status field in the log file summary section of the page.
  
  If you do not reload, the viewer displays the previous values.

- Click Go To to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the Go To field will begin the display from the tenth log file entry.

**Note:** You must click Go To after entering a value in the Go To field, or the viewer will not update its display.

- The default display of entries is in ascending order. Choose Descending to change the display. Note that the Show field dictates the number of entries shown, whether they appear in ascending or descending order.
- Click First to display the first $x$ entries, where $x$ is the value in the Show field.
- Click Prior to display the previous $x$ entries, where $x$ is the value in the Show field.
- Click Next to display the next $x$ entries, where $x$ is the value in the Show field.
- Click Last to display the last $x$ entries, where $x$ is the value in the Show field.
- To view additional log file entries without changing your current starting log file entry, leave the Go To field blank, change the value in the Show field, and click Reload.
Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

To set a default value that OpenEdge Management uses to automatically refresh the management console, select Automatically refresh pages > User Preferences > Option.

Refresh data to avoid the following situations:

• OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.

• OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.

Examining Web Services Adapter (for OpenEdge SOAP Web Services) Operations views

The Web Services Adapter Details page provides an Operations views section that allows you to access and review status data related to the performance of the following:

• Status — Web Services Adapter (for OpenEdge SOAP Web Services) status information

• Statistics — Web Services Adapter (for OpenEdge SOAP Web Services) run-time statistics information

• Run-time properties — Web Services Adapter (for OpenEdge SOAP Web Services) run-time properties information

Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) status

The Web Services Adapter (for OpenEdge SOAP Web Services) Operations views section allows you to display status information about the Web Services Adapter’s (for OpenEdge SOAP Web Services) performance. Review this data frequently, as it will help you make informed decisions about your use of the Web Services Adapter (for OpenEdge SOAP Web Services).

To display and review Web Services Adapter (for OpenEdge SOAP Web Services) status:

1. From the grid frame for Resources, click the Edit icon to display the details page for the Web Services Adapter (for OpenEdge SOAP Web Services) broker instance whose status you want to review. See Accessing OpenEdge Management resource information on page 39 for the detailed procedure.

2. Click Status in the Operations views section. The following status details appear:

• Whether the WSA instance is running
• Whether access to administrative functions, Web service applications (by clients), and WSDL document retrieval is enabled

Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) statistics

You can view statistical details about a Web Services Adapter (for OpenEdge SOAP Web Services) instance. Access and review Web Services Adapter (for OpenEdge SOAP Web Services) statistics:

1. From the grid frame for Resources, click the Edit icon to display the details page for the Web Services Adapter (for OpenEdge SOAP Web Services) broker instance whose statistics you want to review. See Accessing OpenEdge Management resource information on page 39 Accessing for the detailed procedure.

2. Under Operations views, click Statistics.

3. Review the statistics details. For more information about the statistics, see the relevant section in OpenEdge Management and OpenEdge Explorer: Configuration.

Accessing and reviewing Web Services Adapter (for OpenEdge SOAP Web Services) run-time properties

You can temporarily change some Web Services Adapter (WSA) (for OpenEdge SOAP Web Services) instance properties at run time without restarting your Java servlet engine (JSE). This is most useful for testing and debugging. The next time you restart your JSE, these settings revert to the current configuration settings for these properties in the ubroker.properties file.

Change WSA instance run-time properties:

1. From the grid frame for Resources, click the Edit icon to display the details page for the Web Services Adapter (for OpenEdge SOAP Web Services) broker instance whose runtime properties you want to change.

2. Under the Operations views section, click Run-time Properties.

3. Review the run-time properties. For more information about the properties, see the relevant section in OpenEdge Management and OpenEdge Explorer: Configuration.
This chapter presents OpenEdge Management features and functionality related to WebSpeed Messengers.

For details, see the following topics:

- Messenger overview
- Working with Messenger control settings
- Accessing and reviewing Messenger log file data
- Using the Messenger log file viewer

Messenger overview

The WebSpeed Messenger resides on your Web server machine. It picks up incoming application service requests from WebSpeed clients and directs them to a WebSpeed broker that supports that application service. The Messenger is either a CGI program, or an ISAPI or NSAPI process.

There are four different WebSpeed Messengers:

- **CGIIP Messenger** — Runs on almost all Web servers, but tends to have the slowest response times.
- **WSASP Messenger** — Is used to call WebSpeed applications from a Microsoft Active Server Page. It cannot coexist with any other Messenger on your Web server.
- **WSISA Messenger** — Runs on Microsoft IIS Web servers.
- **WSNSA Messenger** — Runs on Netscape Web servers.
You cannot create or delete WebSpeed Messengers from OpenEdge Management. You can use OpenEdge Management to edit the Messenger's properties, enable or disable the Messenger, use work with the Messenger’s log file monitor, and examine the Messenger’s log file.

You must have appropriate OpenEdge Management role authorization to perform several of these tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.

### Configuring WebSpeed Messenger properties

You can also use OpenEdge Management to configure WebSpeed Messenger properties. For details, see OpenEdge Management and OpenEdge Explorer: Configuration.

### CGIIP, WSASP, WSISA, and WSNSA Messengers

OpenEdge Management allows you to work with instances of WebSpeed Messengers. For the purposes of this book, the information and procedures provided refer to any of the four supported Messengers. Unless noted otherwise, all information and procedures are the same for each of the Messengers, despite the fact that accompanying graphics might use one particular Messenger or another for purposes of illustration.

### Working with Messenger control settings

The Command and control section of the Messenger instance's Details page allows you to:

- Enable or disable the instance.
- Obtain and review Messenger instance-related data collected through the log file associated with this instance.
- Configure the Messenger’s properties.

The following image shows the Command and control section of a Messenger instance's Details page.

#### Figure 41: Command and control section

The following image identifies where you can find information about other functionality related to the AppServer Command and control section.
Table 42: Additional Messenger information

<table>
<thead>
<tr>
<th>For details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log file monitoring plans and rules</td>
<td>Getting started with log files for Messenger resources on page 180 and Messenger log file monitor default values on page 181 section</td>
</tr>
<tr>
<td>Log file monitor rule sets</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Configuration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>

Messengers Control

The Messengers Control page summarizes details about a specific Messenger instance. From this page, you can enable or disable the instance, and change some broker-related properties, as needed. The following figure shows the Messengers Control page.

Figure 42: Messengers Control page

Broker summary

The Broker summary section presents read-only values for these fields: the Broker name and its host machine's name. Status data is not applicable to a Messenger instance.

The Broker name and Host (machine name) fields display values as they are defined in the ubroker.properties file.

Properties

The Properties section includes the Enabled option, which indicates that the log file monitor is being monitored. During the discovery process, all Messenger instances that OpenEdge Management discovers and lists in the list frame under the Messengers category are enabled by default. Once an instance is enabled, OpenEdge Management uses its default values to establish a log file monitoring plan and rules. (You can customize the plan and rules at any time.)
A check mark associated with the **Enabled** option indicates that the option is selected. To deselect the option, click **Edit**. Clear the check mark, and click **Save**. Note that the **Enabled** option is the only item you can change on the **Messenger Control** page.

### Accessing and reviewing Messenger log file data

OpenEdge Management supports log file monitors and associated viewers for Messenger instances. Log files can store a tremendous amount of data. Therefore, monitoring and analyzing data collected within these files might help you to better determine performance expectations related to Messenger resource instances.

This section presents information related to the Messenger log file monitor. For more general information about OpenEdge Management log file monitor features and functionality, see *OpenEdge Management: Resource Monitoring*.

**Note:** Log file monitors are not available for remote Messengers.

### Getting started with log files for Messenger resources

OpenEdge Management provides a log file monitor for each local Messenger instance that it discovers.

#### Naming conventions

OpenEdge Management prepends the Messenger instance's name to the name of the log file monitor and log file viewer. For example, OpenEdge Management generates `nbasapauldixp2.CGIIPLogFileMonitor` as the log file monitor name for a Messenger instance named `CGIIP` and the container named `nbasapauldixp2`. The associated log file viewer name for this Messenger instance is `nbasapauldixp2.CGIIP Messengers Log File Contents`.

You cannot change these names.

### Characteristics of a Messenger resource log file monitor

Data that you can capture and view using the Messenger resource log file monitor and viewer can help you:

- Ensure the integrity of these log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.
- Use predefined Messenger-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefines search criteria to support the log file monitor.
The following figure shows an excerpt from the Search Criteria subcategories, including the Messengers link to the predefined search criteria.

Figure 43: Library Search criteria

You can create and maintain the search criteria for each of the Messenger resources in the following two locations:

- At the Messenger resource local file monitor instance level. The search text and type are not shareable at this level. See Customizing a Messenger log file monitor on page 183 for details.
- At the OpenEdge Management Component Library level under the Messenger subcategory. The search text and type are shareable at this level.

Specifically, the predefined search criteria provide:

- Detailed data about the recorded operations of a Messenger instance
- A means by which you can extract detailed data

**Messenger log file monitor default values**

Once a Messenger instance is enabled, OpenEdge Management creates its log file monitor, using several default values. Of all the default Messenger log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing a Messenger log file monitor on page 183 for details.

The default values are as follows:

- The Bookmark is set to Last Line, and it is unique.
- The On First Poll property is set to Search From End.

For detailed information about the Bookmark feature and On First Poll property as they relate to log file monitors in general, see OpenEdge Management: Resource Monitoring.

**File Resource Defaults**

OpenEdge Management also supports a polling interval default value for the Messenger log file monitor.

To display or update a polling interval default value:
1. From the Resources drop-down on the management console menu, click **Resource Monitoring Defaults**. The **Resource Monitor Defaults** page appears.

2. Click **File Resource Defaults**. The **File Resource Defaults** page appears.

3. Scroll down the **File Resource Defaults** page to display the **Log File Monitor** entry. You can modify the value or revert back to the original OpenEdge Management-supplied default value set for the **Polling Interval** field at any time by clicking **Restore Defaults**.

**Reviewing predefined log file monitor search criteria**

Each log file provides predefined search criteria that address common Messenger-related events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize a Messenger log file monitor.

**Note:** It is recommended that you not edit or delete the predefined criteria.

To review predefined log file monitor search criteria:

1. Click **Library** from the management console menu bar.

2. Click the plus (+) icon next to **Search Criteria** in the list frame to expand this category.

3. Click **Messengers** in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame.

The following screen shows a list of the **Messengers** default search criteria:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bad Reply WebSpeed Agent</strong></td>
<td>Disconnecting with no header on WebSpeed Agent output web stream.</td>
</tr>
<tr>
<td><strong>Could Not Send Message</strong></td>
<td>Failure sending WEB_CGIJP_GET_PROG message.</td>
</tr>
<tr>
<td><strong>Did Not Receive Message</strong></td>
<td>Failed to receive header for the WEB_CGIJP_GET_PROG message.</td>
</tr>
<tr>
<td><strong>Disconnect No Available Agents</strong></td>
<td>Disconnecting - all agents are currently busy, please try again later.</td>
</tr>
<tr>
<td><strong>Failed Connect WebSpeed Agent</strong></td>
<td>Failed to make connection to WebSpeed Agent.</td>
</tr>
<tr>
<td><strong>Failed Connect WebSpeed Broker</strong></td>
<td>Failed to connect to the specified WebSpeed named service.</td>
</tr>
<tr>
<td><strong>Internal Command Access Denied</strong></td>
<td>Internal command access denied.</td>
</tr>
<tr>
<td><strong>Invalid URL String</strong></td>
<td>URL contains invalid syntax.</td>
</tr>
<tr>
<td><strong>Low System Resources</strong></td>
<td>Internal error, memory allocation failure, low on virtual memory.</td>
</tr>
<tr>
<td><strong>Network Connect Failed</strong></td>
<td>App connection attempt failed.</td>
</tr>
<tr>
<td><strong>Network Error Connect Time Out</strong></td>
<td>App error - connection attempt timed out.</td>
</tr>
<tr>
<td><strong>Network Error No Data To Read</strong></td>
<td>App error - no data to read.</td>
</tr>
<tr>
<td><strong>Network Read Error</strong></td>
<td>App read error.</td>
</tr>
<tr>
<td><strong>No Default WebSpeed Broker</strong></td>
<td>Cannot find default service name to serve web request.</td>
</tr>
<tr>
<td><strong>No WebSpeed Broker</strong></td>
<td>The specified service name does not exist or has a bad format.</td>
</tr>
<tr>
<td><strong>Unclassified Network Error</strong></td>
<td>Other unclassified app error.</td>
</tr>
<tr>
<td><strong>Unknown Internal Command</strong></td>
<td>Unknown internal command not executed.</td>
</tr>
<tr>
<td><strong>WebSpeed Agent Did Not Send HTML</strong></td>
<td>WebSpeed Agent did not return an HTML page.</td>
</tr>
</tbody>
</table>

**Note:** You can also create your own search criteria to address a particular error for which you want to monitor a Messenger instance. See **Customizing a Messenger log file monitor** on page 183 for details.
Customizing a Messenger log file monitor

You can customize a Messenger log file monitor.

To customize a Messenger log file monitor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the Messenger instance whose log file monitor you want to customize. See Accessing OpenEdge Management resource information on page 39.

2. Click Log File Monitor in the Command and control section. The Log File Monitor summary monitoring page for the Messenger instance you selected appears.

3. Customize or view the contents of the Messenger log file monitor as follows:
   - Click Add Plan to add an existing monitoring plan to this resource monitor.
   - Click Edit at the top of the page to change the description of the log file monitor.
   - Click Log File Viewer at the top of the page to view the contents of the log file monitor.

4. To add individual rules, click Edit within the monitoring plans section to view the edit page for the log file monitor.

5. Click Add Rule under the Rules selected for this plan section of the broker monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use a Messenger rule already defined in the library:
   a) Select Messengers from the drop-down list associated with the Choose Criteria Category.
   b) Select the appropriate value from the drop-down list associated with the Choose Search Criteria.

7. To create a new Messenger broker rule:
   a) Click Create Criterion to display the Create Search Criterion page.
   b) Enter values in the required fields: Name (identifies the name of the search criteria you are creating) and Search Text (identifies the information you are looking for in the log).
   c) Choose whether to use an existing category or use a new category for the rule. Then select the Messengers category.
   d) Click Save. The CreateLog File Rule page reappears.

   • The values you defined and selected to create a rule on the Create Search Criterion page are now available on the Create Log File Rule page. The Choose Search Category drop-down list displays the name you entered in the Name field on the Create Search Criterion page. The Choose Criteria Category drop-down list displays the category in which you elected to store the new rule.

8. Select the appropriate values from the Severity and On Alert Action Perform drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click Save.

10. To add another individual rule, repeat Step 5 on page 183 through Step 9 on page 183.

11. Click Select Rule Sets to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose Select Rule Sets, you can pick from a list of predefined rule sets to add to the monitoring plan.
12. Click the Messenger instance link on the breadcrumb trail to display the details page again.

13. Click Log File Monitor again to view the new rules updated in the Rule Summary.

For more information about editing search criteria for rules, see the appropriate sections of OpenEdge Management: Resource Monitoring.

Note: You can copy the default Messenger log file rule set, but you cannot delete or rename it.

Using the Messenger log file viewer

The log file viewer allows you to examine the contents of a Messenger-related log file through an HTML interface. You can access the log file viewer from the following two locations:

• Click the link in the Command and control section of the Messenger instance's Details page. Click Log File Viewer to view the file contents.

• Click the Log File Viewer button that appears at the top of the log file monitor summary monitoring page.

The following information helps you to use the Messenger log file viewer:

• Use the Show field to control how many log file entries appear at one time. The number entered into the Show field cannot be less than 10.

• Use the Overlap field to control how many entries are repeated from screen to screen.

Note: The value in the Overlap field must not be more than the number in the Show field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

• Click Reload after changing the values in either the Show field or the Overlap field. Note that OpenEdge Management will prompt you to click Reload. The warning message that reads changed, reload needed appears in the File log status field in the log file summary section of the page.

If you do not reload, the viewer displays the previous values.

• Click Go To to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the Go To field will begin the display from the tenth log file entry.

Note: You must click Go To after entering a value in the Go To field, or the viewer will not update its display.

• The default display of entries is in ascending order. Choose Descending to change the display. Note that the Show field dictates the number of entries shown, whether they appear in ascending or descending order.

• Click First to display the first $x$ entries, where $x$ is the value in the Show field.

• Click Prior to display the previous $x$ entries, where $x$ is the value in the Show field.

• Click Next to display the next $x$ entries, where $x$ is the value in the Show field.

• Click Last to display the last $x$ entries, where $x$ is the value in the Show field.

• To view additional log file entries without changing your current starting log file entry, leave the Go To field blank, change the value in the Show field, and click Reload.
Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

set a default value that OpenEdge Management uses to automatically refresh the management console, select Automatically refresh pages > User Preferences > Options.

Refresh data to avoid the following situations:

- OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases ninety-five percent of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer’s inactivity, the reloaded log file view might not match the previous log file view of that resource.

- OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.
You use OpenEdge Management's monitoring capabilities to monitor OpenEdge server, DataServer, Messenger, and Adapter resources (as you do other resource types).

For additional details about OpenEdge Management resource monitoring and resource monitoring plans, see *OpenEdge Management: Resource Monitoring*. For complete details about alerts, see *OpenEdge Management: Alerts Guide and Reference*.

For details, see the following topics:

- OpenEdge Management resource monitoring overview
- Default polling and trend values
- Maintaining monitoring plans
- General rule conventions
- Understanding and using resource monitor rules
- Working with rule sets

**OpenEdge Management resource monitoring overview**

OpenEdge Management uses active monitoring plans and their associated rules to support many fundamental resource-related features. Depending on the particular resource, these features might include data trending, data analysis, rule evaluation, or alert notification.
When OpenEdge Management discovers any of the OpenEdge resource types, it automatically creates a resource monitoring plan. The values OpenEdge Management provides include a default name for the resource, and default values for each individual resource’s monitoring plan and its associated rule set.

For example, if OpenEdge Management discovers a NameServer resource whose server name is NS2, then it creates a monitoring plan called the **NS2 monitoring plan** and immediately associates the default NameServer rule set with NS2. (You can edit or modify any OpenEdge monitoring plan and rules, setting your own values at any time.)

Other recognizable resource types—database, system, network, and file resources, for example—also require monitoring plans and rules. All OpenEdge Management resources share standardized ways to perform monitoring operations and a common terminology with which to reference the resource activities.

Review the resource monitoring details provided in this section. This information will help orient you to the basics of resource monitoring. Then, follow the procedures outlined in the **Maintaining monitoring plans** on page 193 and **Understanding and using resource monitor rules** on page 198 to use resource monitoring with server, DataServer, Messenger, and Adapter resources.

### Key terms and definitions

This section highlights some important terms and concepts to help you immediately begin working with OpenEdge resource monitoring plans and rules. For more detailed information about this terminology, see *OpenEdge Management: Resource Monitoring*.

OpenEdge Management resource monitoring terms include:

- **Resource** — A specific component of your configuration, such as a server instance.

- **Resource monitoring** — Criteria set up to monitor a resource’s performance. As necessary, you can adjust the criteria according to your specific performance expectations.

- **Monitor** — As specifically addressed in this guide, the combination of an OpenEdge resource, schedules, and rules. You can monitor any of these OpenEdge server-related resources:
  - AppServer Internet Adapter log files
  - AppServer brokers, broker log files, and server log files
  - WebSpeed brokers, broker log files, and agent log files
  - Messenger log files
  - NameServers and NameServer log files
  - DataServer brokers, broker log files, and server log files
  - SonicMQ Adapter brokers, broker log files, and server log files
  - Web Services Adapter (for OpenEdge SOAP Web Services) log files
  - OE Web Server log files

A schedule defines a block of time in OpenEdge Management (for example, weekdays), and a rule (for example, the ReregisteredBroker rule) determines how a resource’s performance is judged. For example, the AgentMemoryUsageHigh rule determines when the memory usage of a WebSpeed agent process exceeds the specified threshold.

- **Rules** — The resource monitoring component that OpenEdge Management checks to verify whether or not a resource complies with its performance criteria. Rule values, or settings, can be established by using either default or user-supplied values. Also, WebSpeed and AppServer brokers can optionally use calculated, resource-specific baseline rule values as determined by the Configuration Advisor.
Rules are broken when a resource is not in compliance with the rule-based criteria that you set up. OpenEdge Management generates alerts in the management console to alert you to this fact.

- **Rule Set** — A combination of rules.

- **Defaults and default values** — Values that are predefined in OpenEdge Management in one location but can apply in another location. Resource monitoring plans contain several default values. Some of the more general, common defaults pertaining to resource monitors include default schedule, default alerts, and actions. These defaults help expedite the setup tasks associated with configuring a monitoring plan. There are also default values associated with a given resource type. These types of default values include polling intervals and rule sets. See Default polling and trend values on page 189 for details.

- **Schedule** — Defines the block of time when a set of monitoring rules is active for a resource. When you add a monitoring plan to a resource, you specify the schedule to indicate when the monitoring plan will be active. OpenEdge Management supports using, modifying, and copying predefined schedules to help you define them quickly. However, you can also create new schedules to suit your operating needs.

- **Alerts** — Notifications that some specified activity has occurred regarding an actively monitored resource. Alerts can occur to indicate a real or potential problem exists, such as a rule violation, or they can indicate that a typical or interesting activity regarding a resource has occurred.

- **Actions** — Activities that are triggered in response to alerts. For example, you might specify that you receive an e-mail when a WebSpeed agent is trimmed.

- **Resource monitoring plan** — A plan that defines a block of time during which a specific resource is to be monitored and identifies the rules that are to be checked during the specified time frame. All resources you create in OpenEdge Management must have one or more monitoring plans before OpenEdge Management can monitor the resource. Monitoring plans provide you with access to data that is immediately usable in indicating performance failures, giving you an opportunity to improve performance and report on trends gathered over a period of time you specified.

- **Baseline value** — As used in this guide, a number that serves as the base for calculating a set of possible threshold settings based on your system’s past activity for a specific rule. The Configuration Advisor determines a baseline value as part of its data analysis process to calculate recommended rule threshold settings for specific WebSpeed and AppServer rules. See Calculating Rule Threshold Settings Using the Configuration Advisor on page 207.

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**Default polling and trend values**

During the OpenEdge server discovery process, OpenEdge Management creates a resource monitoring plan for each resource instance that it discovers. At that time, each resource inherits and shows default polling and trending values (if applicable) as defined for that specific resource type on the OpenEdge Management Resource Monitoring Defaults page.

To see OpenEdge resource-specific default values:

1. Click **Options** in OpenEdge Management console, and select **Resource Monitor Defaults**. The OpenEdge Management Resource Monitoring Defaults page appears.
2. Click the link associated with the specific resource default values you want to review. The associated Resource Defaults page appears.

3. Change the default values, as necessary. Individual resources created from these categories inherit the updated default values. However, you can still override values for individual resources.

Note that you can revert back to the original OpenEdge Management-supplied default values at any time by clicking Restore Defaults from a resource’s individual default resource page.

Trend default values for WebSpeed and AppServer brokers

Data for rule evaluation, graphical displays, and reports is not available unless brokers are configured to collect and trend data to the OpenEdge Management Trend Database and to poll.

Before you can use either data collection or the Configuration Advisor feature successfully, you must set up these options:

- Trend
- Polling

Note: See Data collection details on page 54 for details about how to implement data collection with WebSpeed brokers. See Data collection details on page 54 for details about how to use data collection with AppServer brokers. See Calculating Rule Threshold Settings Using the Configuration Advisor on page 207 for details about data collection and polled rules with WebSpeed and AppServer brokers.
Default monitoring plan details

Using default values helps you standardize and simplify your resource monitoring tasks so you can begin using many of the features of OpenEdge Management resource monitoring immediately.

This section:

- Identifies each resource monitoring plan's fields and the associated default values that are common to all OpenEdge resource types
- Provides an example of each OpenEdge default monitoring plan

Monitoring plan default values

The following table identifies and describes the common monitoring plan default values that the OpenEdge resource types use. A default value defined by a check mark indicates that the option is selected.

Table 43: Monitoring plan default values

<table>
<thead>
<tr>
<th>Field</th>
<th>Default value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule</td>
<td>Default Schedule Plan</td>
<td>Identifies the system-defined, 24/7 default schedule used when the plan is active. This default plan is the same for all OpenEdge Management resources.</td>
</tr>
<tr>
<td>Poll</td>
<td>5 minutes</td>
<td>Identifies the polling cycle, which is the frequency at which the resource's rules are checked, set up for each individual OpenEdge Management resource monitor.</td>
</tr>
<tr>
<td>Alerts</td>
<td>3</td>
<td>Indicates whether alerts are active and will be generated when the plan is active.</td>
</tr>
<tr>
<td>Trend</td>
<td>3</td>
<td>Indicates whether the statistical data monitored while the plan is active will be stored to the OpenEdge Management Trend Database. The Trend Performance Data field value is involved in setting data collection.</td>
</tr>
<tr>
<td>Rule Summary</td>
<td>Default rule set for the specific OpenEdge resource</td>
<td>There is a default rule set for each type of OpenEdge resource.</td>
</tr>
</tbody>
</table>

Default Schedule details

OpenEdge Management provides one default monitoring plan per OpenEdge resource, with the exception of Messengers and AppServer Internet Adapters. (Each of these resources does, however, have a log file monitoring plan.)

The default monitoring plan is called the Default Schedule Plan. However, when you update a monitoring plan, you can add different plans to monitor different resource activities.
**Note:** OpenEdge Management prevents the assignment of schedules that share overlapping time periods. For example, if you have a Default Schedule set up for a resource monitor, you cannot set up an additional plan because the Default Schedule is defined for 7 days a week, 24 hours a day. You must modify the Default Schedule or remove it from the plan in order to add other plans.

Each OpenEdge resource that OpenEdge Management discovers will automatically have its own default monitoring plan and associated rule set established. You can change these default values at any time using the standard resource monitoring procedures.

**Default values in the Rule Summary**

All monitoring plans also include a Rule Summary. The Rule Summary is a list of rules and rule sets that are applied to the particular monitoring plan. OpenEdge Management automatically applies the default rule set associated with a specific OpenEdge resource to a plan.

**OpenEdge default monitoring plan examples**

This section shows some of the key components of a monitoring plan as they appear on a sample resource's summary monitoring page. The purpose of the example is to show the default values that are automatically applied when a resource is discovered, highlighted by the default plan and associated default rule set.

**NameServer default monitoring plan example**

The following figure is an example of a NameServer default monitoring plan and associated default rules example. The figure shows the default plan and rule set for a NameServer named NS1.

**Figure 44: NameServer instance default monitoring example**
Maintaining monitoring plans

You use the same basic tasks to create resource monitoring plans for any OpenEdge Management resource.

Updating monitoring plans

This section describes how to access and update a monitoring plan and associated rules using the AppServer broker resource as the example.

To update an AppServer broker resource monitoring plan:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker instance whose resource monitor you want to update. See Accessing OpenEdge Management resource information on page 39. In this example, the AppServer broker resource asbroker1 is selected.

2. Click Monitoring Plans in the Command and control section of the OpenEdge Management Details page. In this example, the Monitoring Plans page for AppServer broker resource asbroker1 appears:

   ![Monitoring Plans](image)

3. Select the specific schedule associated with the plan that you want to update. Click Edit associated with that plan. The following page appears when you choose to edit the Default Schedule Plan:

   ![Edit Schedule Plan](image)
4. Update the monitoring plan values for this resource, as described here:
   a) Change current values in these fields: Available Schedules, Polling Interval, or Alerts Enabled.
   b) Select a specific rule or rule set to add, update, or remove from this plan. For details, go to Step 5 on page 195.
   c) Change the setting of the Trend Performance Data option. However, note that this option is required to ensure that data gathered using data collection is trended to the OpenEdge Management Trend Database. For WebSpeed broker-related details, see Properties on page 53. For AppServer broker-related details, see Properties on page 79.
   d) Click Advanced Settings to see all trend value settings, as shown:
5. Click the individual rule to display details about that rule, including alert severity, action to perform upon the firing of the alert, and a brief description of the rule.

For example, click Add Rule in the Rules selected for this plan section of the Default_Schedule Monitoring Plan page. The Available Rules page for rules that are specific to the OpenEdge resource appears. In this example, the rules associated with an AppServer broker resource appear:
The Available Rules page contains a dynamic list that includes only those rules not yet applied to a given monitoring plan.

**Note:** The step to select rules for each OpenEdge resource is the same. However, each OpenEdge resource has a unique Available Rules page. For more information about each set of rules, see Understanding and using resource monitor rules on page 198.

6. Click the rule you want to add. For example, if you select Process CPU High, the detailed rule information shown in the following dialog box appears:
Note the rule’s description at the bottom of the rule page.

7. Update any unique values you want to define for this instance of the rule. Note that using this procedure as a guide, none of the steps in this procedure required you to enter values for these fields. Although these fields serve different purposes, they all can display default values.

This rule is associated only with this particular plan. When you update another plan with the same rule, you can select values that are appropriate for that particular plan.

The Threshold field associated with this page indicates the actual rule criterion. For details about rules, see Understanding and using resource monitor rules on page 198. The remaining fields on this page are alert- and action-related fields. For details, see OpenEdge Management: Alerts Guide and Reference.

8. Click Save. The Available Rules page reappears. Repeat Step 6 on page 196 and Step 7 on page 197 in the above step for each additional rule you want to apply to this plan. After you add and define the criteria for each rule you want to add, click Done Adding Rules on the Available Rules page.

9. Click Select Rule Sets in the Rules selected for this plan section of the Default_Schedule Monitoring Plan page to choose the rule sets you want to add to the monitoring plan. OpenEdge Management displays the default rule set for the resource type you are updating, and any additional rule sets created (if applicable) using the OpenEdge Management Component Library. See the for details Working with rule sets on page 203.

10. Click Save. The updated monitoring plan appears in the monitoring plan definition on the top of the Monitoring Plan summary page.

General rule conventions
For each rule, the following details are provided:
• A colored dot, preceding the rule name, that indicates the status associated with each rule. See The following table for a description of each status.
• The alert severity for each rule if the rule fails.
• The action to take place when the alert fires.

See OpenEdge Management: Resource Monitoring for more resource status information.

### Table 44: Resource status legend

<table>
<thead>
<tr>
<th>Status</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass</td>
<td>Green</td>
<td>The resource monitor is currently working.</td>
</tr>
<tr>
<td>Fail</td>
<td>Red</td>
<td>The most recent test involving the associated resource failed. For some resources, such as network, this includes statuses such as tardy, time-out, and unreachable. Check the Alert Summary page or the specific monitor for possible alert details. This status can also identify an internal error that prevents the resource from being monitored.</td>
</tr>
<tr>
<td>Not Running</td>
<td>Blue</td>
<td>This resource is currently not running. This status is particularly informative as it applies to resources such as the OpenEdge databases and servers that must be operating before you can monitor them.</td>
</tr>
<tr>
<td>Not Checked</td>
<td>Yellow</td>
<td>The resource monitor's status is currently unknown. For example, if system startup has just occurred, it is possible that the resource has not yet been polled.</td>
</tr>
<tr>
<td>Disabled</td>
<td>Dark Gray</td>
<td>The resource monitor has been disabled and is not currently monitoring a resource.</td>
</tr>
<tr>
<td>Inactive</td>
<td>White</td>
<td>There is no active monitoring plan.</td>
</tr>
<tr>
<td>Offline</td>
<td>Light Gray</td>
<td>The resource is currently offline.</td>
</tr>
</tbody>
</table>

### Understanding and using resource monitor rules

The concept of a rule as it applies to OpenEdge resource monitors is identical to that expressed by the specific rules for other resource monitor types. A rule is the resource monitoring component that OpenEdge Management checks to verify whether a resource complies with an expected performance criterion. Certain rules specific to WebSpeed and AppServer can also use the Configuration Advisor to generate intelligent threshold values based on an analysis of data collected for a given rule.

In addition to the rules identified as default rule sets in Updating monitoring plans on page 193, you can also choose from different individual resource-specific rules and define them for a monitoring plan.

### Common rule characteristics

The following characteristics are common to all rules, regardless of their individual resource type:
• Only the rules that are not already part of the monitoring plan appear in each resource type’s Available Rules list.

• When you select any of the rules available in the specific available rules list, the particular criteria associated with each rule appear.

• You can modify the default values associated with each individual rule.

• To display the rules available for each OpenEdge resource type, click AddRule on the monitoring page when it is displayed in edit mode. See the procedure in Maintaining monitoring plans on page 193 for details about this task.

• If a rule is part of a monitoring plan and a member of a rule set, the individual rule definition supersedes the rule in the rule set.

As with all OpenEdge Management resource monitoring rules, if the alert-related options are enabled for an OpenEdge monitoring plan, any rule violation causes an alert to trigger. See OpenEdge Management: Alerts Guide and Reference for detailed information about OpenEdge Management alert types and rules, and specific definitions about the alert feature’s relationship with each rule.

**Average Procedure Duration High rule**

The WebSpeed and AppServer lists of available rules include Average Procedure Duration High. This rule measures the average duration of an ABL procedure run by a server, or agent, process. This average is calculated based on the polling interval set for the resource, not the average for the lifetime of the broker.

**Calculating the average duration for a procedure**

The average is determined by the sum of time noted for a procedure name to run divided by the total number of times the procedure ran. The data used to determine this average is collected during a polling interval. This calculated result is then compared to the threshold defined for the procedure name.

Since this calculation determines an average based on data collected for each procedure, an individual spike will not necessarily skew the average. The rule’s algorithm is designed to eliminate these spike conditions, minimizing unnecessary alerts.

**Note:** The Procedure Duration High rule measures the execution time of the ABL procedure only from the server’s, or agent’s, viewpoint. The time measure does not include network and client processing overhead.

**Accessing the Average Procedure Duration High rule page**

The Procedure Duration High rule page is accessible from the Available Rules page. On this page, you specify the specific procedures you want to measure, setting the average duration threshold in milliseconds. You can also set alert and action criteria.
Supplying data for ABL procedures and WebSpeed Transaction Servers

For ABL procedures related to the Transaction Server, you must reference the CGI environment variable as defined in the Value of PATH_INFO on the URL. Enter this string in the Procedure field to identify the name of an ABL procedure, entering one procedure on one line. These procedures will generally be file types such as .p, .w, or .html. The following URL example shows the type of information required to measure a WebSpeed procedure:

```
http://hostname/scripts/cgiip.exe/src/web/examples/status.p
```

The procedure name that is executed is the PROPATH relative name src/web/examples/status.p. This is the value of the CGI environment variable PATH_INFO.

Supplying data for ABL procedures and AppServers

AppServer ABL procedures execute with the RUN statement based on an AppServer connection handle. The procedures can reference PROPATH relative directories, unqualified procedure names, internal procedures, and user-defined functions. To measure the duration of specific AppServer procedures, enter the procedure name in the Average Duration High Rule page exactly as it is referenced in the RUN statement.

The following table describes three examples.

**Table 45: Examples of AppServer-related ABL procedure entries**

<table>
<thead>
<tr>
<th>This ABL procedure entry . . .</th>
<th>Runs a procedure that . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUN myOrders.p ON SERVER hAppSrv</td>
<td>Is PROPATH-relative. This entry refers to a procedure that is located in a directory or procedure library specified on PROPATH.</td>
</tr>
<tr>
<td>RUN myApp/myAccounts.p ON Server hAppSrv</td>
<td>Is PROPATH-relative. This entry refers to a procedure that is located in the subdirectory called myApp that is relative to PROPATH.</td>
</tr>
<tr>
<td>RUN processOrder IN hProc</td>
<td>Shows the execution of an internal procedure.</td>
</tr>
</tbody>
</table>

To measure any of the example procedures noted in the above table using the Average Procedure Duration High rule, you must enter the procedure name exactly as it appears on the RUN statement.

Rejected Request Percent High rule

The WebSpeed and AppServer lists of available rules include the Rejected Request Percent High rule. This rule highlights the percentage of client requests rejected during a polling interval set for either a WebSpeed agent or an AppServer Server. The rule determines violations based on the number of initiated requests that exceed the defined threshold setting. You can review this information to determine processing bottlenecks or tuning problems. You can adjust your threshold setting to help minimize the impact these problems have on preventing client requests from being serviced.
Determining the percentage of rejected requests

The percentage of rejected requests for either a WebSpeed resource or an AppServer resource is determined by a formula that compares data from the previous poll period with data from the most current poll period. The result is always calculated on a per-poll-period basis.

This rule subtracts the number of requests rejected during the current poll from the number of requests rejected during the previous poll. The rule then determines the number of new rejected requests for the current poll period. This rule also subtracts the number of requests received during the current poll from the number of requests rejected during the previous poll to determine the number of new received requests for the current poll. The number of requests rejected is then divided by the number of requests received to determine the percentage of requests rejected during this poll period.

Accessing the Rejected Request Percent High rule page

The Rejected Request Percent High rule page is accessible from the Available Rules page. On this page, you specify the threshold value as a percentage. The value identifies the number of rejected client requests during the polling interval that you will consider acceptable. Any rejected requests that exceed this value will cause the alert and action criteria that you set on this page to be triggered.

Queued Request Percent High rule

The WebSpeed and AppServer lists of available rules include Queued Request Percent High. This rule highlights the percentage of client requests queued during a polling interval set for either a WebSpeed agent or an AppServer server. This rule determines violations based on the number of queued requests that exceed the defined threshold setting. You can review this information to determine processing bottlenecks or tuning problems. You can adjust your threshold setting to help minimize the impact of these problems.

Determining the percentage of queued requests

The percentage of queued requests for either a WebSpeed agent or an AppServer server is determined by a formula that compares data from the previous poll period with data from the most current poll period. This data is always calculated on a per-poll-period basis.

This rule subtracts the number of requests queued during the current poll from the number of requests queued during the previous poll. The rule then determines the number of new queued requests for the current poll period. This rule also subtracts the number of requests completed during the current poll from the number of requests completed during the previous poll to determine the number of new completed requests for the current poll. The number of requests queued is then divided by the number of requests completed to determine the percentage of requests completed during this poll period.

Accessing the Queued Request Percent High rule page

Accessible from the Available Rules page is the Queued Request Percent High rule page. On this page, you specify the threshold value as a percentage. The value identifies the number of queued client requests during the polling interval that you consider acceptable. Any queued requests that cause the percentage to exceed this value will cause the alert and action criteria that you set on this page to be triggered.

Agent (Server) Unavailable rule

The list of available rules includes the following:
Agent Unavailable rule for a Transaction Server — Monitors an agent's processing state to determine the agent's availability to service requests

Server Unavailable rule for an AppServer — Measures a server's processing state to determine the server's availability to service requests

For either an agent or a server, this condition can indicate a failed, hung, or runaway process.

**Note:** Unlike other OpenEdge Management rules, the **WS_Agent Unavailable** rule and the **WS_Server Unavailable** rule monitor the state of either an agent or a server, rather than the data each resource collects.

---

**Accessing the Agent (Server) Unavailable page**

The **Agent Unavailable** page is accessible from the **WebSpeed Available Rules** page. The **Server Unavailable** page is accessible from the **AppServer Available Rules** page. On each page, you specify an integer to identify the threshold number of polls at which point you want to be alerted that the agent (or server) has been unavailable. You can also set other alert and action criteria.

**WebSpeed agent example**

A user initiates a customer order query in WebSpeed through a browser and accidently enters a date range for one year (requesting the processing of 52 weeks' worth of data records) rather than the date range for one week (requesting 1 week worth of data records). The user expects a quick display of a results set and is unaware that the agent is tied up for an unknown period of time attempting to process more than 2,000,000 records associated with the year. The user becomes impatient with the wait time and begins clicking the **Submit** button over and over, hoping for some indication that the job has been submitted and the results set is ready for viewing.

Unbeknownst to the user, each click of the **Submit** button causes the allocation of a new agent to service the request. This allocation might initiate the spawning of a new agent process. While this is occurring, the existing agents, processing the previous query requests, are unaware that the connection to the requesting client's browser page has been lost. These agents continue to consume resources as they process a request with no destination. If the request is long-running, as defined by this example, the agents are unavailable to service new client requests. This can impact application performance and throughput. The performance degradation can easily be compounded by the drain these agents place on other resources such as CPU, memory, and databases.

As this example illustrates, you can use the **Agent Unavailable** rule as designed to help call attention to potential processing difficulties as soon as possible, and to prevent performance problems from escalating.

**AppServer server example**

An AppServer server can be stuck in an unavailable state due to either a startup fault or an application-level fault. The **Server Unavailable** rule is designed to alert you to a server that is unavailable due to these types of situations.

**Note:** This rule and its implications as described apply only to stateless and statefree implementations of an AppServer. This rule does not apply to state aware or state reset implementations.
Working with rule sets

You associate a rule set with one or more resources through a monitoring plan. Rule sets are stored by resource type in the **OpenEdge Management Component Library**. The following links allow you to create OpenEdge-related rule sets:

- Create AppServer Rule Set
- Create NameServer Rule Set
- Create WebSpeed Rule Set

You cannot create rule sets for AppServer Internet Adapters, WebSpeed Messengers, SonicMQ Adapters, Web Services Adapters (for OpenEdge SOAP Web Services), OE Web Servers, or DataServers. You can, however, use and modify the default rule sets provided for each of these resources.

To display the **OpenEdge Management Component Library** page where these links appear, click **Library**.

**Note:** The Log File Rule Set link on the **OpenEdge Management Component Library** page allows you to create rule sets that are shared among all log file resource monitors.

Rule sets provide a way for you to manage many broker resource types by sharing rule definitions. In this way, you create a common set of rules that you can associate with multiple resource instances.

Each rule set you create is stored in the **OpenEdge Management Component Library**, making the rule set available for use and reuse by other resource monitors within a given resource type.

You can also add individual rules to a monitoring plan, whether or not the rules are part of any rule set. If you include a rule in a monitoring plan's rule set and then add the same rule again with modifications, the rule in the rule set is overridden by the rule with the modifications.

OpenEdge Management provides a default rule set for each OpenEdge resource type as it does for other resource types. For example, when an AppServer broker resource is added to OpenEdge Management, a default monitoring plan with a default rule set is assigned to it.

**Benefits of using rule sets**

Rule sets allow you to do the following:

- Associate the rule set with a monitoring plan. The polled rules in the sets are evaluated when the monitoring plan is active and the resource is polled. (Asynchronous rules trigger immediately when these rules are violated.)
- Use an updated rule set. If you associate a rule set with a monitoring plan and you later update the rule set, the updated rule set is then used by the monitoring plan.
- Share the same rule set among several resource instances, such as all NameServers using the same common rule sets.
- Associate zero, one, or more rule sets with a broker monitoring plan.
- Override one or more rules defined in any rule set used by a monitoring plan.

To create a NameServer rule set:

1. Choose one:
Click Library from the menu bar. Then click Create NameServer Rule Set.

Choose Library > New > NameServer Rule Set.

The Create NameServer Rule Set page appears:

2. In the Name field, enter the name of the rule set (no spaces allowed).
3. In the Description field, enter a brief description of the rule set.
4. Click Save. The NameServer Rule Set page appears:

Note the following about this rule set and rule sets in general:

- The rule set is now listed under the OpenEdge Management Component Library list frame under Rule Sets > NameServer. (Rules sets associated with WebSpeed rules and AppServer rules are listed in the same Rule Sets category, but under the specific WebSpeed and AppServer rule set-related subcategory.)
- Once you create a rule set, you can edit, copy, or delete it.
- If you add a rule or a rule set to an existing rule set, the change affects all resources using the rule set.

Editing a rule set

Once you create a rule set, you can edit it later.

To edit a rule set that you created:

- From the specific resource type’s Rule Set page, click Edit to change the name or description of the rule set.
- From either the Rule Set page or the Edit Rule Set page, click Add Rule to add a rule to the rule set.
Note that you can access the list of existing rule sets at any time from the **OpenEdge Management Component Library** list frame. For example, click **Rule Sets** from the categories that appear in the list frame. The following figure shows the **Rule Sets** subcategories that appear in the detail frame.

**Figure 45: Accessing rule sets from the detail frame**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>databaspawid1 AppServer</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 Database</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 LogFile</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 MSS DataServer</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 NameServer</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 ODBC DataServer</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 Oracle DataServer</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 REST AppServer Adapter</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 SoapMQ Adapter</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 WebSpeed</td>
<td></td>
</tr>
<tr>
<td>databaspawid1 Web Services Adapter</td>
<td></td>
</tr>
</tbody>
</table>

### Copying a rule set

You can copy a rule set and make whatever modifications you want. At a minimum, you must be sure to rename the copy.

To copy an AppServer rule set:

1. From the **AppServer Rule Set** page, click Copy. The **Copy AppServer Rule Set** page appears.
2. Rename the copy and (optionally) change the description.
3. Click **Save**.

From either the **Copy AppServer Rule Set** page or the **AppServer Rule Set** page, you can now add one or more rules to the copy.

Note that you can access the list of existing AppServer rule sets at any time from the **OpenEdge Management Component Library** list frame. Click **Rule Sets**, and then click **AppServer**.

### Deleting a rule set

You can delete a rule set as long as it is not currently associated with any resource monitoring plans.

To delete a rule set from the **Rule Set** page, click **Delete**. Click **OK** to confirm the deletion.
Adding rule sets that have one or more rules in common

If you have multiple rule sets associated with a monitoring plan and you edit one of the rule sets, evaluation of only the first occurrence of any identically named rules takes place when the resource is polled. Which occurrence is considered "first" is determined by the alphabetical order of the rule set.

Associating a rule set with a monitoring plan

You create a rule set for a specific OpenEdge resource to associate and use it with one or more monitoring plans. Once you establish the association, the rule set is active for the resource whenever the monitoring plan is active. The following procedure illustrates this association for an AppServer rule set.

To associate an AppServer rule set with a broker monitoring plan:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker instance where you want to associate a rule set with the monitoring plan.

2. Click Monitoring Plans in the Command and control section. When the Monitoring Plans page appears, click the monitoring plan you want to update.

3. Click Edit. The Edit Monitoring Plan page appears.

4. Under Rules selected for this plan, click Select Rule Sets. A list of available rule sets appears. If a rule's check box is selected, that rule set is already associated with the monitoring plan.

5. Select one or more rule sets you want to associate with the plan. If you want to review the rule set before you select it, click it. The rule set detail page opens.

6. Click Save when you finish. The monitoring plan is updated, and the Edit Monitoring Plan page reappears.
Calculating Rule Threshold Settings Using the Configuration Advisor

This chapter describes how to use the Configuration Advisor to generate recommended threshold rule settings tailored for your system.

This chapter focuses on using the Configuration Advisor with the AppServer and WebSpeed Transaction Server. See OpenEdge Management: Database Management for Configuration Advisor details related to databases. See OpenEdge Management: Resource Monitoring for Configuration Advisor details related to CPU, disk, and file system resources.

For details, see the following topics:

• Configuration Advisor overview
• Setting rules-related criteria
• Understanding the recommended threshold settings
• Determining the effectiveness of your selections

Configuration Advisor overview

The Configuration Advisor is an OpenEdge Management feature that helps you to determine optimum threshold settings for specific polled rules used. An alternative to using OpenEdge Management-supplied default values or values that you might arbitrarily set, the Configuration Advisor recommends threshold settings based on a representative sampling of historical data stored in the OpenEdge Management Trend Database.
Note: You must have administrator privileges to use the Configuration Advisor.

The Configuration Advisor analyzes a rule's past performance for a specified period of time and, based on that data, calculates a baseline value. A baseline value is a number that serves as the base for calculating a set of possible threshold settings based on your system's past activity for a specific rule.

You then compare the existing rule threshold value with the recommended options to determine how to set the rule's threshold. When you select one of the recommended settings, OpenEdge Management will use this setting the next time the rule is evaluated.

Recommendations are based on a representative sampling of data from the OpenEdge Management Trend Database. When you apply a recommend rule threshold setting, the alerts triggered as a result of rule violations provide a more meaningful indication of your resource's performance.

Note: Depending on such factors as the time OpenEdge Management requires to retrieve, evaluate, and generate baseline values, resources could be dedicated to this task for an unknown period of time. Allot a period of time to experiment with this feature to familiarize yourself with its benefits and processing requirements.

Rule details

The Configuration Advisor calculates recommended rule threshold settings for rules associated with a variety of OpenEdge Management resources. This section highlights the WebSpeed broker and AppServer broker rules. See OpenEdge Management: Database Management for details about the database rules. See OpenEdge Management: Resource Monitoring for details about using the Configuration Advisor with a disk, CPU, or file system resource.

The Configuration Advisor recognizes these WebSpeed broker and AppServer broker polled rules as candidates to process:

- Queued Request Percent High
- Rejected Request Percent High
- Process CPU High
- Process Resident Memory High
- Process Virtual Memory High

For the Configuration Advisor to effectively analyze data for these polled rules, each rule must collect and trend data on every poll. You must maintain a one-to-one relationship between trending and polling data regardless of the time interval set for the polling. Also, the options to implement data collection for a broker resource must have been set (checked). For details about data collection and the WebSpeed broker, see Data collection details on page 54. For details about data collection and the AppServer broker, see Data collection details on page 54.

Rule-related considerations

Note these points concerning rule processing:

- A polled rule must be currently associated with a defined monitoring plan for it to be a candidate for the Configuration Advisor's data analysis process.

- All rules associated with a given OpenEdge resource are individually evaluated against the rule-specific data retrieved from the OpenEdge Management Trend Database for the period of time you define.
• The Configuration Advisor evaluates individual rules in a rule set. Therefore, updating a rule with a recommended setting changes the value that a rule uses if the rule is part of a rule set. Because rule sets are shared among resources of a given resource type, this value change might adversely effect other resources using this rule set.

### Data analysis and recommended values overview

The goal of the Configuration Advisor's data analysis process is to determine a set or range of meaningful threshold values for a specific rule as used by your resources. This determination is based on several factors.

#### User-supplied criteria

The following figure shows the initial Configuration Advisor page. In this example, the resource is an AppServer broker, asbroker1.

**Figure 46: Configuration Advisor page**

On the Configuration Advisor page, specify these values:

- A particular period of time, such as a week, in which data about a given rule is gathered and stored in the OpenEdge Management Trend Database. Consider using the OpenEdge Management-supplied default values associated with a rule to establish this setting.

- A time frame that defines a representative period in which a rule is generally active or being used. This time frame is the period against which you want to calculate your baseline value. To gather this data with a high degree of accuracy, you will want to select a period of time in which your resources are most active in performing reads, writes, and updates to your system.

It is recommended that you use the OpenEdge Management-supplied, Configuration Advisor-related default values for a set period of time (for example, one week) to capture data to the OpenEdge Management Trend Database for a rule. This initial step will provide you sufficient data to perform the comparison.
Note: Your monitoring plan schedules are not necessarily the best choice for a time frame. A schedule defines a period of time in which rules are in effect; it does not necessarily focus on time periods in which your resource usage is highest. For example, you might use the 24x7 monitoring plan schedule to constantly monitor your system, but would select Monday through Friday from 8 AM to 6 PM to calculate your baseline settings.

- The rule or rules for which you want to determine recommended values.

The Configuration Advisor reviews monitoring plans defined for a resource, looking for polled rules that can be calculated by the Configuration Advisor. If any of these rules are present, it shows them as preselected (as identified by a check mark). Deselect any rules for which you do not want recommended values to be calculated by removing the check mark next to the rule. When you deselect the check mark, the Configuration Advisor does not calculate the rule threshold setting for that rule.

The Configuration Advisor’s data analysis process

When you submit the completed Configuration Advisor page, the Configuration Advisor extracts individual rule-related data from the OpenEdge Management Trend Database. Based on the availability of a minimum requirement of 32 valid data samples per rule to be calculated for the designated date range, the Configuration Advisor determines a baseline value.

A valid data sample is a data sample that is determined not to be a null value (any whole number that is not zero). For example, the Rejected Request Percent High rule is determined when the quantity of rejected requests is divided by the quantity of received requests. The result must be a non-zero, whole number.

This baseline value is used to calculate the recommended ranges. A data sample of 32 identifies a statistically meaningful representative portion of a rule’s performance data as stored in the OpenEdge Management Trend Database. This sampling provides sufficient data from which the Configuration Advisor can determine a baseline value and subsequently perform a successful analysis of each rule’s data.

An individual rule’s definition

Based on the availability of the values and data, the Configuration Advisor generates a set of recommended values, or settings, for each rule processed. The range of values is adjusted as necessary, to ensure that the rules do not violate the minimum or maximum allowable values for the rule.

Calculated recommended threshold rules

Once the calculation process is completed for each rule, the Configuration Advisor presents its results on the Configuration Advisor calculations page. Your initial criteria and each rule and the associated monitoring plans for which the rule applies are shown.
The following figure shows the page that appears after you submit your initial Configuration Advisor page.

**Figure 47: Configuration Advisor recommended thresholds**

The following time period was used for analysis section of this page summarizes the values defined on the initial Configuration Advisor page. These values are shown here to remind you about the time period criteria you set.

The Rule section contains all the rule-related calculated data. For each rule that is successfully processed, the range of recommended results appears in the Recommended Values drop-down list. Each rule row also shows the current rule setting for each rule as defined for each individual monitoring plan. You can select a recommended rule threshold setting and existing monitoring plan, or plans, to which you want the range to apply.

The recommended settings are expressed in a mathematical expression consistent with the rule threshold’s unit of measure. The above figure shows that the unit of measure for Queued Request Percent High is Percent queued and Rejected Request Percent High is Percent rejected. The unit of measure for Process CPU High is percent.

**Note:** As you compare the existing and recommended values, you can elect to change none, some, or all values for a rule and for each individual monitoring plan.

Until you click Update Selected Rules, OpenEdge Management does not apply any of your selections.

If the data analysis calculation for a rule was unsuccessful, the Configuration Advisor cannot define a range. An Insufficient data for analysis message appears in the Recommended Values drop-down list field. For example, if a data sample for the defined time period is not equal to or greater than 32, this message appears because there are not enough data samples available for the Configuration Advisor to make a meaningful recommendation.

**Generating and applying threshold rule settings**

The following table highlights where to find additional information about using the Configuration Advisor.
Table 46: Configuration Advisor details

<table>
<thead>
<tr>
<th>For information about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>The procedure to set user-supplied criteria used in the data analysis process</td>
<td>Setting rules-related criteria on page 212</td>
</tr>
<tr>
<td>Understanding the Configuration Advisor's recommended settings, including evaluating and applying these settings</td>
<td>Understanding the recommended threshold settings on page 214</td>
</tr>
<tr>
<td>Reviewing your selections</td>
<td>Determining the effectiveness of your selections on page 219</td>
</tr>
</tbody>
</table>

Setting rules-related criteria

Once you have completed your specific rule analysis, you have the necessary information to use the Configuration Advisor. The following procedure shows how to use the Configuration Advisor to calculate AppServer threshold values. Use these same steps to calculate WebSpeed threshold values, substituting the WebSpeed-specific rules and data for those shown in the procedure.

To initiate the Configuration Advisor:

1. From the grid frame for Resources, click the Edit icon to display the details page for the AppServer broker instance whose configuration advisor you want to initiate. Refer to Accessing OpenEdge Management resource information on page 39 for the detailed steps.

2. Click Configuration Advisor in the Command and control section to view the Configuration Advisor page, as shown:
3. In the **Start Date** and **End date** fields, define a date range that OpenEdge Management will use to collect data from the OpenEdge Management Trend Database. (The default date range is one week.)

Keep these points in mind:

- A polled rule must currently be associated with a monitoring plan for it to be a candidate for the Configuration Advisor to process.
- Trending must have been set to **True** for a candidate rule for the time period you specify. This requirement ensures that data was trended to the OpenEdge Management Trend Database for this rule.
- The options to implement data collection for a broker resource for which you want to determine recommended rule threshold settings must have been selected.
- All rules associated with a given OpenEdge resource are individually evaluated against the rule-specific data retrieved from the OpenEdge Management Trend Database for a period of time you define.

4. In the **Choose time period to analyze** section, identify the time frame that defines a representative period of time for which the rules are generally active, or being used. This time frame is the period against which OpenEdge Management calculates the baseline activity. (The default time period, as shown in Step 2 on page 212, is Sunday through Saturday, 9 AM to 5 PM.)

5. In the **Select rules (for analysis)** section, click the polled rules that you want the Configuration Advisor to use to calculate threshold settings.

Only those polled rules that are currently defined in existing monitoring plans for a broker resource can be candidates for processing by the Configuration Advisor. The Configuration Advisor presents these rules in this section with a check mark associated with the rule to indicate that the Configuration Advisor will calculate new settings. (In the sample shown in Step 2 on page 212, the Configuration Advisor determined that there are five rules that are associated with this broker resource’s existing monitoring plans. The Configuration Advisor will attempt to provide recommended values for these rules.)
This requirement ensures that data was trended to the OpenEdge Management Trend Database for this rule.

6. Click **Submit**.

As the Configuration Advisor attempts to calculate the rules threshold settings, the following information appears, reporting the progress of each calculation it is performing:

![Configuration Advisor](image)

Depending upon the criteria that you set on the initial Configuration Advisor page, the number of rules you selected, and other factors such as your machine’s speed, this calculation process could take some time.

---

**Note:** Once you click Submit, you can elect to go to another page and perform some other action. You can return to the Configuration Advisor at a later time to check status and/or result details.

When all calculations have been completed and reported, the Configuration Advisor presents the calculated results. See **Understanding the recommended threshold settings** on page 214 for details.

---

**Understanding the recommended threshold settings**

The following figure shows the data calculation page that appears after the Configuration Advisor has applied the criteria you submitted to calculate the threshold settings.

**Figure 48: Configuration Advisor recommended values**

![Configuration Advisor](image)
The Configuration Advisor page has multiple purposes. The following table identifies the key tasks you can perform from this page and the associated procedures.

Table 47: Tasks using the Configuration Advisor Calculations page

<table>
<thead>
<tr>
<th>To . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review and evaluate the recommended threshold settings calculated for each rule processed</td>
<td>Evaluating recommended settings on page 215</td>
</tr>
<tr>
<td>Display and review the specific details about each individual rule's analysis</td>
<td>Evaluating recommended settings on page 215</td>
</tr>
<tr>
<td>Compare current threshold settings defined for each of the rules processed with the recommended threshold calculations</td>
<td>Comparing and selecting threshold settings on page 217</td>
</tr>
<tr>
<td>Update the threshold values for the rules and the specific schedules that you have selected</td>
<td>Submitting your threshold setting selections on page 218</td>
</tr>
</tbody>
</table>

Evaluating recommended settings

As Figure 48: Configuration Advisor recommended values on page 214 shows, each rule the Configuration Advisor has analyzed appears as an individual line item in the Rule section. Associated with each rule is a Recommended Values drop-down list which contains one of the following entries:

- Numeric values that identify the recommended rule threshold settings. This list can contain up to seven different numeric items. Collectively, these values comprise the range of recommended threshold settings.

- An Insufficient data for analysis message. The Configuration Advisor presents this message when the criteria are not met to perform the data analysis successfully. See Setting rules-related criteria on page 212 for details.
Reviewing recommended values

The Configuration Advisor displays a range of possible values from which to select. The following figure shows the full range of seven recommended values for the Process CPU High rule. Note that the Configuration Advisor's primary (default) recommendation appears in the Recommended Values field with an asterisk.

**Figure 49: Recommended Values field content**

Each recommended value is expressed as a set of two numbers. The first number (in each row) specifies the recommended threshold setting. The second number, shown in brackets, identifies the number of times the threshold value set at the associated setting would be exceeded and an alert fired. The asterisked number indicates the Configuration Advisor's primary recommendation. As you review the recommended threshold settings, note the rule behavior and alert notification frequency you want to establish for a resource.

**Using the Detail button**

Each rule row has an associated Detail button.

- view details about a rule's analysis, click Detail for a row. The Detail page appears.
The following figure shows a Detail page, which presents the data used to evaluate the Queued Request Percent High rule.

**Figure 50: Detail page analysis content**

The following table describes the contents of the Detail page.

**Table 48: Detail page fields and descriptions**

<table>
<thead>
<tr>
<th>This field . . .</th>
<th>Describes . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of useable samples</td>
<td>The number of data samples extracted from the OpenEdge Management Trend Database</td>
</tr>
<tr>
<td>Min Value</td>
<td>The minimum value derived from the data set</td>
</tr>
<tr>
<td>Max Value</td>
<td>The maximum value derived from the data set</td>
</tr>
<tr>
<td>Std Deviation</td>
<td>The root mean squared deviation</td>
</tr>
<tr>
<td>Average</td>
<td>The average value derived from the data set</td>
</tr>
</tbody>
</table>

**Note:** The Detail page for a rule for which there is insufficient data for analysis identifies the number of samples found. This number is always lower than the minimum of 32 data samples required. Review this data to help you decide if you need to expand the time period to try to capture more samples and rerun the Configuration Advisor for a given rule.

**Comparing and selecting threshold settings**

By default, the Configuration Advisor assumes that you are going to select and submit one of the recommended threshold settings. The Configuration Advisor selects the Update option for each rule. However, you have options concerning the selection process. As you compare the existing and recommended values, you can elect to change none, some, or all values for a rule and each individual monitoring plan.

Use the following procedure to compare the current rule setting with the recommended threshold settings and to update each schedule with your specific selections. Perform this comparison to help you further determine your final selection.

To compare and select threshold settings:
1. For a specific rule row, note the value that appears in the **Current Threshold** field under a specific schedule. For example, note the values that appear in the **Current Threshold** field for the **Weekdays** and **Weekends** monitoring plans:

2. Click **Recommended Values** to display the range of recommended values for the associated rule.

3. Compare the possible **Recommended Values** that appear with the value in the **Current Threshold** field. As you determine the best threshold rule setting, keep your goals for this rule in mind. Also, consider any additional selection criteria as you compare the various values. See **Additional selection criteria** on page 218 for details.

4. Repeat Step 1 on page 218 through Step 3 on page 218 for each rule and its associated monitoring plan. If you know that you are going to select or deselect the recommended threshold settings for a schedule, you can use these options:
   - Click **All** to select all of the recommended threshold settings for a monitoring plan.
   - Click **None** to deselect all of the recommended threshold settings for a monitoring plan.

**Additional selection criteria**

The following list identifies more criteria you might consider for selecting one value and not another:

- How often you want alerts generated
- Factors unique to your resource's performance
- Your knowledge of the system's operational needs and goals

**Submitting your threshold setting selections**

When you click **Update Selected Rules**, OpenEdge Management applies all of your selections at the same time. There is no undo option associated with this group submission. To reset any values back to a previously defined setting, you must access the resource's monitoring plan, display the individual rule, and override the current value that appears.
Determining the effectiveness of your selections

The most effective way to determine if your threshold adjustments are serving your needs is to review your alert notifications. Strive for a threshold setting that is consistent with your resource and business needs. If you find you are receiving alerts too frequently or too infrequently to suit your operational needs, you should further refine your threshold settings.
Analyzing OpenEdge Application Performance

This chapter describes how you can use OpenEdge Management to analyze OpenEdge server application performance.

For details, see the following topics:

- Overview
- Investigating application performance issues
- OpenEdge Management in the workplace
- Planning an application performance review
- Responding to an application crisis
- For more information about application performance

Overview

System administrators deal with a variety of situations that threaten the performance, and even the availability, of a production system. Small resource issues can become bigger issues if left unaddressed. Larger resource problems can threaten the health of the system, jeopardizing critical business operations.
To track and respond to resource situations, system administrators need the correct data from which to determine corrective action. Regardless of the type of problem that might occur, each situation requires investigation and a solid recovery plan based on valid data. With the right data, a system administrator can determine options and plan short- or long-term strategies and solutions. Every strategy should include a solid recovery plan.

The following sections describe:

- **Investigating application performance issues** on page 222
  This section provides a model for administrators to use.

- **OpenEdge Management in the workplace** on page 223
  Using the fictitious company XYZ Corporation, information in this section provides background for the performance scenarios that follow. Both scenarios use the AppServer as a key component.

- **Planning an application performance review** on page 224
  This sample scenario shows how one administrator's proactive work practices using OpenEdge Management reports help to uncover clues about application performance changes and degradation.

- **Responding to an application crisis** on page 229
  This sample scenario highlights how the use of various OpenEdge Management features can help administrators quickly analyze and respond to a system or application problem.

**Note:** These scenarios are intentionally limited in scope. They are provided to help you understand some of the general principles by which OpenEdge Management features can be used to investigate and troubleshoot. Keep in mind that elements such as your company's application and database designs will potentially play a larger role in performance issues than is described in these fictitious circumstances.

### Investigating application performance issues

With the aid of OpenEdge Management, you can follow a simple process to identify, understand, and address performance issues. This process involves:

- Understanding your business requirements and reviewing them periodically. It is essential to have a thorough knowledge of your business needs, work practices, and acceptable and unacceptable trade-offs. With this fundamental understanding, you can use OpenEdge Management-supplied data to proactively anticipate and plan for change, minimizing the effects of system problems on your business operations.

- Defining your problem or goal clearly. Given your business and work practices, ask:
  - What problems do you want to anticipate or eliminate?
  - What performance goals would you like to achieve?

  Whatever the problem you want to minimize or eliminate, or the performance goal you want to achieve, define it in a concise manner.

- Reviewing OpenEdge Management-supplied data to investigate and analyze your problem or goal. Use your problem definition to review OpenEdge Management-generated information to better understand your problem. Through a process of elimination, you can evaluate the data and identify components that can potentially contribute to a given problem.

- Documenting the steps you perform to address your issues, and test all documented options that you generate. Not all problems or performance issues can be resolved immediately. Maintain a log of issues
OpenEdge Management in the workplace

This section describes the process of investigating application performance issues using a fictitious company, XYZ Corporation. At XYZ, the administrator has installed and configured OpenEdge Management.

OpenEdge Management at XYZ Corporation

The XYZ Corporation's system administrator has customized his OpenEdge Management resource monitoring capabilities and frequently consults the system's data as monitored by OpenEdge Management. For example, this administrator:

- Sets up the Trend performance data option for all monitored resources, including AppServer brokers. This feature helps him review real time and historical data available for reports, in this case the Performance and Profile reports.
- Establishes rules from the Library menu option as default rules for all AppServer broker resources for their performance criteria value: Average Procedure Duration High, Queued Request Percent High, Rejected Request Percent High, and Agent (Server) Unavailable. Establishing these rules with threshold values that are unique to this system environment is key because of the heavy network- and AppServer-related processing demands. The administrator also sets up alert and actions for each of these rules.
- Consults the Broker Performance View and Servers Performance View for AppServer broker and server performance statistics frequently throughout the work day for a real-time picture of broker and server activity levels.
- Sets up the AppServer brokers and servers on the My Collections Home page, along with other vital system operations such as memory and CPU consumption, so the data can be quickly referenced. Among other standard viewlets, the administrator displays resources running with alerts, active monitoring plans, and running reports viewlet options. The administrator also monitors all those viewlets related to the AppServer brokers.
- Reviews the System Activity report frequently throughout the work day as it displays real-time system performance and resource usage details.
- Reviews the Database Summary report frequently throughout the work day as it displays real-time system performance and resource usage details.
- Consults the AppServer-related log files for which monitors have been set up: the AppServer broker log file and the AppServer servers log file.

The administrator regularly reviews these pieces of data as they can provide clues about the system's application performance.

Consulting OpenEdge Management documentation

This administrator also frequently references the information in the OpenEdge Management documentation set and context-sensitive online help.
Planning an application performance review

As a matter of good practice, the system administrator at XYZ Corporation is always on the watch for ways to improve the application's performance. With a high volume of data entry taking place between 9 AM and 6 PM on the system, and most of the procedures distributed and run remotely on an AppServer, the users expect a consistently high level of application performance and availability. The administrator has learned over time how to deliver system availability that is consistent with this goal, and has come to learn that the application's performance depends on the effectiveness of four key elements:

- The application's integrity
- The application's efficiency
- The database and servers responsiveness
- The network's responsiveness

Of course, other technological elements might be considered, but these four remain of primary concern. The administrator is most concerned with OpenEdge Management performance indicators that relate to these elements so as to take action on any potential performance issue before it affects the users and their ability to perform their jobs.

Problem definition

Over the last two weeks, data entry personnel at XYZ Corporation have been mentioning some slight but noteworthy delays in performing routine updates to records on the company's production system. On one day an update process might go fine, but the next day a similar transaction might take 30 to 40 seconds longer to complete. From a user's perspective, this delay is an annoying problem.

From a system administrator's perspective, it is a bit of a mystery. The administrator can consult the system's problem log, only to find that it has been several months since there has been an application or system problem of this kind reported. This new performance issue is of concern because any indication of a performance weakness could become a real performance problem if the administrator does not determine the source of the problem as soon as possible.

Initial investigation

The first question the administrator asks is: "What's changed in my production environment that is causing poor performance?" To begin solving this performance problem, the administrator starts to list the possibilities, as shown in the following table. Note the blank, first column in the table. As each possibility is reviewed, the administrator can use this table as a checklist to identify the items requiring further consideration.

Table 49: Initial investigative checklist

<table>
<thead>
<tr>
<th>Access and review . . .</th>
<th>As these topics relate to these questions . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-level performance indicators</td>
<td>Have users been complaining about other performance issues that might be related to this performance problem? Are any background processes running during these offending times that could be causing program delays?</td>
</tr>
<tr>
<td>Access and review . . .</td>
<td>As these topics relate to these questions . . .</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Hardware and/or software component changes</td>
<td>Have there been any changes to the hardware or software installations that might have impacted the application's performance? For example, has a new disk been added, or a software upgrade been performed in the time period during which problems have been noticed and reported?</td>
</tr>
<tr>
<td>Possible workload changes</td>
<td>Is it possible that some or all of the application inefficiencies noted are related to the number of users working on the application, causing the delays as noted?</td>
</tr>
<tr>
<td>Data details in the log files such as the database logs, AppServer log files, customized log files and so forth</td>
<td>Are there any details in the log file data from the time period in which the application was performing poorly that might indicate an application performance problem?</td>
</tr>
<tr>
<td>The database performance for possible database issues</td>
<td>Does the database need to be tuned? A tuning effort of this kind can provide significant payoff in performance if it is found to be a contributing factor.</td>
</tr>
<tr>
<td>Data from the OpenEdge Management Trend Database from the troublesome time period</td>
<td>By running reports at different time periods, is it possible to see any patterns in the data or reported application responsiveness that match experiences that the users have reported?</td>
</tr>
</tbody>
</table>

**Drilling deeper into OpenEdge Management-supplied data**

In addition to the considerations noted in Initial investigation on page 224, the system administrator reviews the data gathered weekly through the AppServer Application Profile report. When the company installed and started to use OpenEdge Management, they began using the predefined report template feature to run report instances on a weekly basis. This report's data provides the administrator with a high-level picture of the application's health. *OpenEdge Management: Reporting* provides details about setting up and using the AppServer Profile report and all the other OpenEdge Management-generated reports.

**Looking at the AppServer Profile report**

The purpose of the AppServer Profile report is to provide details about procedures run by a broker. The data captured by this report can include these elements:

- How many times a specific procedure ran
- The average and maximum durations of each request
- The number of successful requests
- The number of errors
- The number of times each request quit and stopped

In this instance, the administrator has customized his AppServer Profile report. As shown in the graphical data in Figure 51: AppServer Profile Report for Average_Afternoon data on page 226, this AppServer Profile report presents information about the average time it takes for two different procedures to run on the AppServer. Reviewing and routinely comparing reports from different time periods provides this administrator more insight into the AppServer's performance.
Finding performance-related clues in the AppServer Profile report

The administrator knows that reviewing performance details about two of the ABL procedures might provide performance clues. Performance issues related to these high-level rate procedures—\texttt{zeta.p} and \texttt{zed.p}—might impact the application's performance.

The following figure shows typical AppServer workload-related data that is consistent with an average weekday afternoon at the XYZ Corporation.

**Figure 51: AppServer Profile Report for Average\_Afternoon data**

![Graph showing AppServer Profile Report](image)

*Note:* In the figures presented in this section, the colors in the graphs are intended only to distinguish one procedure from the other.

The AppServer Profile report that appears in the above figure is set up to do the following:

- Capture the average time that it takes two individual ABL procedures—\texttt{zeta.p} and \texttt{zed.p}—to run during the system's peak operational time.

  By selecting the Average Procedure Duration High rule on the AppServer's monitoring plan and identifying a polling interval threshold for it, the administrator can monitor the AppServer's performance and behavior based on values that are significant to his performance expectations. For details about monitoring plans, see Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187.

- Display this data in a graphical mode in a browser.

These two procedures, \texttt{zeta.p} and \texttt{zed.p}, are among the procedures that the AppServer broker, \texttt{asbroker1}, is currently running. This is the kind of normal, predictable AppServer procedure processing that a system administrator likes to see; resources are being used and consumed, but not overly taxed so that the users' and the company's business needs are being well met.
The administrator compares the report data results from previous weeks to the data results that appear in Figure 53: AppServer Profile Report for Crisis_Report data on page 228. The fact that the procedure zed.p is hovering at the defined threshold use of 40,000 indicates that there is likely an otherwise hidden performance issue to investigate.

**Figure 52: AppServer Profile Report for Bad_Afternoon data**

The same type of average request duration data that appears in the above figure tells a very different story about another workday afternoon at XYZ Corporation. By comparing the generated data in Figure 52: AppServer Profile Report for Bad_Afternoon data on page 227 with the generated data for the same procedures and associated brokers in the above figure, the administrator can see that the slow growth in the average time it takes to complete a process requested by either the zeta.p or zed.p does cause problems if left on this current growth rate. As Figure 51: AppServer Profile Report for Average_Afternoon data on page 226 shows, these procedures are either exceeding, or trending toward the possibility of exceeding, the threshold of 40,000. Given the data as reported in the Bad_Afternoon report, the administrator could begin to make some notes about the application's response to pass along to the company's programmers so that they can consider changes to rebalance the work load.

The administrator's routine review and comparison of the data presented in Figure 51: AppServer Profile Report for Average_Afternoon data on page 226 and Figure 52: AppServer Profile Report for Bad_Afternoon data on page 227 have helped him to thwart a potential application crisis. This problem detection points to where the administrator's code review with developers or system engineers should begin.
Using report data to minimize an impending application performance crisis

The following figure shows the type of data the system administrator faces without diligence in routine review and investigation of OpenEdge Management report data.

Figure 53: AppServer Profile Report for Crisis_Report data

Assuming the same 40,000 threshold for all of the procedures listed in the above figure, it is very apparent that processing on this work day afternoon has reached crisis proportions. Not only are the procedures \texttt{zed.p} and \texttt{zeta.p} exceeding the threshold, the \texttt{lockme.p} procedure is causing more problems at approximately 1:30 PM and again at 3:30 PM.

Testing and documenting your potential solutions

XYZ Corporation is fortunate to have hired this well-seasoned administrator who keeps a log of application and system problems, and consistently records the actions to correct difficulties.

To monitor this particular situation to ensure that the problem has been resolved satisfactorily, the administrator must:

• Work with the company’s application group to ensure that they receive the time and records needed to address the application’s performance problem

• Monitor the impact of the fix closely to ensure that it did correct the problem and did not introduce any other application or system difficulties

• Interview the application users to ensure that they experience an improvement in their application throughput

• Document the problem and the efforts to correct the problem so that the information will be available for future reference
Responding to an application crisis

Despite all the best plans, an application crisis can occur. By employing various features and functionality offered in OpenEdge Management, a system administrator can arm himself with some fundamental informational tools. These tools help provide immediate data that is useful in understanding and addressing a crisis.

This section describes another problem that the system administrator from XYZ Corporation must face.

Note: The OpenEdge Management features outlined in OpenEdge Management at XYZ Corporation on page 223 also apply to this sample scenario.

Problem definition

The XYZ Corporation's system administrator is having a routine, mid-week work day. Normal system processing is occurring as the system is running fine. Response time is good, and the users are very pleased.

Unexpectedly, the system's performance begins to decline rapidly. The system administrator begins receiving end-user calls. The complaints are all the same: Transactions are not going through, and data entry tasks cannot be completed. Even simple look-up activities are failing.

Initial investigation

In an application crisis situation of this type, the administrator can leverage OpenEdge Management-supplied information to alert him to immediate problems and provide data related to the crisis.

The following table lists the possibilities the system administrator considers. Note the blank, first column in the table. As each possibility is reviewed, the administrator can use this table as a checklist, identifying the items requiring further consideration.

Table 50: Crisis review checklis

<table>
<thead>
<tr>
<th>Access and review . . .</th>
<th>To . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert and other data indicators that have been set up to monitor and display data on the collections page</td>
<td>Quickly examine issues that might be the reason for this dramatic change in performance. As previously noted in OpenEdge Management at XYZ Corporation on page 223, the administrator has several indicators set up, including viewlets related to the AppServer brokers.</td>
</tr>
<tr>
<td>Data details in log files such as the database log files, AppServer log files, customized log files and so forth</td>
<td>Examine log file data from the time period during which the crisis initially occurred. Determine if there is any noteworthy, relevant information in error logs related to the crisis situation.</td>
</tr>
<tr>
<td>Network- and server-related data details, using TCP resource monitors previously set up</td>
<td>Determine the status and response time, if any, for mail, FTP, and Web Servers that might be running on the network.</td>
</tr>
</tbody>
</table>
To . . .

Access and review . . .

| Network-related data details, using Packet Internet Grouper (PING) (ICMP) resource monitors previously set up | Determine if network resources are available. |
| Server-related data details | Determine if AppServer server details and/or AppServer broker details are of help in problem determination. |

While quickly scanning the checklist, the system administrator remembered what the users said about the performance issue: Nothing was working. This could indicate there is a network problem to resolve, but where is the source? Since most of the transactions related to the procedures that were not currently functioning run on a remote AppServer, the administrator decides to follow this investigative path.

Drilling deeper into OpenEdge Management-supplied data

As the checklist items in Initial investigation on page 229 indicate, the administrator needs quick access to performance data. In a crisis situation such as this one, the administrator needs to know that the information available to determine, resolve, and learn from the problem situation to minimize—if not eliminate—such a crisis of this kind from reoccurring is accurate and timely.

Accessing and examining AppServer data

The administrator accesses the OpenEdge resources in the OpenEdge Management console, browsing to the AppServer resources. The network uses only one AppServer, thus the administrator can immediately click on either of the AppServer Operational views data—the Server Performance View or Broker Performance View.

Note: For detailed procedures on setting up and accessing AppServer resources, including the AppServer Operational views, see Managing AppServer Data on page 75.

Scanning alert detail on the collection page and also on individual resources shown in the list frame, the administrator notices that there are no new alerts.

The administrator then accesses the Database page and scans for relevant information in the Operational views and Informational views sections. Finding no clues related to the issues, the Server Performance View details are shown next. The server state and server pool summary details that display in this view, however, are not helpful. In this situation, the administrator considers where the most valuable information would be found, and clicks on the Broker Performance View.

The following figure shows the data that appears in the Broker Performance View for the asbroker.
Note: In the figures presented in this section, the colors in the graphs are intended only to distinguish one data element from another.

Figure 54: Broker Performance View for asbroker1

The administrator scans the summarized data in Broker Requests, noting the fact that the total of Queued requests is almost the same as the total number of Rejected requests. At this point, the administrator knows that there is a problem in this area, but still needs to do more research. From the previous use of the data on the Broker Performance View page, the administrator knows that the AS Broker Activity Status graph is a representation of the Queued and Rejected values noted in Broker Requests.
The administrator clicks the binocular icon associated with the AS Broker Activity Status and the AS Broker Activity Status pinup appears, as shown in the following figure.

**Figure 55: AS Broker Activity Status for asbroker1**

The pinup graph in the above figure focuses on a much smaller time frame for the data, and the data confirms the very poor performance noted on the main Broker Performance View page. In fact, the number of rejected requests really is as high as the number of queued requests. What happened at the time frame indicated on the AS Broker Activity Status to cause this dramatic situation?

The administrator now decides to access the asbroker1’s log file, hoping to find more evidence of these same difficulties. Note the several No Servers available and the Clients disconnected error messages in the log, as shown in the following figure.
At approximately the same time that the number of rejected requests was starting to approach the total number of queued requests, as shown in Figure 54: Broker Performance View for asbroker1 on page 231, the error log reports that the servers are not available and that connected clients are being disconnected.

The administrator redisplayed the **Servers Performance View** page. All the investigative activities have confirmed that a runaway AppServer process has brought down the network, leaving the users unable to perform their application transaction-related tasks.
The following figure shows the suspicious data in the **CPU Use** column, indicating that no CPU consumption is occurring for the servers.

**Figure 57: Servers Performance View page for asbroker1**

Again, by clicking the binocular icon, the administrator can display this data in a pinup, as shown in the following figure.

**Figure 58: Total Servers CPU for asbroker1**

By clicking on **PID 2996** as shown in, the administrator can display the specific **PID** process ID number that is the problem process. By clicking the **Kill** button on the **Broker process** page, the administrator can terminate this process, ending the network and application difficulties.

**Testing and documenting your potential solutions**

The administrator puts two plans in place to monitor this particular situation.
Adding new OpenEdge Management monitoring plans

The administrator determines there are a few additional setup options and controls to consider implementing. Using OpenEdge Management, the administrator can:

• Add a monitoring plan and rule for the CPU on the asbroker process so that the system will alert the administrator should processing not go according to expectations

• Add a system level CPU monitor and associated rule also to alert the administrator to unacceptable asbroker processing

Gathering more data

Even though the immediate crisis is resolved, the administrator’s primary goal is to try to prevent it from reoccurring. The administrator can use the following list to identify other ways to explore whether the crisis was a one-time occurrence or a problem that will happen again:

• Look at a larger historical time period in OpenEdge Management using reports. Report data might show other instances in which there was a runaway process and what activities occurred to correct the problem.

• Review what has changed on the system to determine if a recent change has caused the issue.

• Check the issues and answers available in the KnowledgeBase (KBase) section of the Knowledge Center available by accessing:

  http://www.progress.com

• Document the problem and the efforts to correct it so that the information will be available for future reference.

For more information about application performance

The application performance topic is a large one. For more information about performance tuning and installation options, as well as some troubleshooting hints and tips for maintaining your OpenEdge-based application with OpenEdge Management, see Mastering the OpenEdge Database with OpenEdge Management.

You can find this document in the following location on PSDN:

  http://communities.progress.com/pcom/docs/DOC-48228
Managing OE Web Server Data

This chapter presents OpenEdge Management features and functionality related to the OE Web Server.

For details, see the following topics:

- OE Web Server overview
- Reviewing OE Web Server status
- Modifying OE Web Server control settings
- Accessing and reviewing OE Web Server log file data
- Using the OE Web Server log file viewer
- Examining OE Web Server Operations views

OE Web Server overview

OpenEdge Management supports a variety of tasks that you can perform to manage an OE Web Server instance, including:

- Reviewing the OE Web Server instance's current operating status and associated details
- Enabling or disabling the Manager instance
- Accessing and viewing Manager data collected through log files
- Monitoring and managing OE Web Server instances using monitoring plans and rules
You must have appropriate OpenEdge Management authorization to perform several of the tasks. See Role authorization and OpenEdge Management tasks on page 30 for details.

**Configuring OE Web Server properties**

You can also use OpenEdge Management to configure OE Web Server properties. For details, see *OpenEdge Management and OpenEdge Explorer: Configuration*.

**Reviewing OE Web Server status**

The OE Web Server Status section of the OE Web Server Details page provides a brief status for the OE Web Server. The following image shows the Status section.

![OE Web Server Status section](image)

The following table describes each of the OE Web Server details in the OE Web Server Status section of the OE Web Server Details page.

**Table 51: OE Web Server Status details**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td>The container's name.</td>
</tr>
<tr>
<td>Host</td>
<td>The host machine's name.</td>
</tr>
<tr>
<td>Adapter</td>
<td>The running status of the OE Web Server. Possible values are:</td>
</tr>
<tr>
<td></td>
<td>• <strong>ACTIVE</strong> — The adapter is currently running.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Not Running</strong> — The OE Web Server is not currently running.</td>
</tr>
<tr>
<td></td>
<td>• Disabled/offline — The OE Web Server is currently disabled and REST Web applications cannot be configured.</td>
</tr>
<tr>
<td>URL</td>
<td>URL of where oerm has been deployed. For example, <a href="http://localhost:8080/oerm">http://localhost:8080/oerm</a></td>
</tr>
</tbody>
</table>

**Modifying OE Web Server control settings**

The Command and control section of the OE Web Server Details page for an adapter instance allows you to perform various tasks, such as:

- Start and stop the OE Web Server instance, and change its associated property settings
- Obtain and review OE Web Server-related data collected through a log file associated with this instance
• Deploy, list, enable, disable and undeploy REST Web Applications
• Log into or log off from the OE Web Server
• Configure the OE Web Server's properties

The following figure shows the Command and control section of the OE Web Server Details page.

**Figure 60: Command and control section**

The following table identifies where you can find information about other functionality related to the OE Web Server Command and control section.

**Table 52: Additional OE Web Server information**

<table>
<thead>
<tr>
<th>For details about . . .</th>
<th>See . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log file monitors and viewers</td>
<td>Accessing and reviewing OE Web Server log file data on page 240</td>
</tr>
<tr>
<td>Log file monitoring plans and rules</td>
<td>Customizing an OE Web Server log file monitor on page 242</td>
</tr>
<tr>
<td>Log file monitor rule sets</td>
<td>Monitoring Plans and Rules for Servers, DataServers, Messengers, and Adapters on page 187</td>
</tr>
<tr>
<td>Configuration, deployment, and general administration</td>
<td>OpenEdge Management and OpenEdge Explorer: Configuration</td>
</tr>
</tbody>
</table>

**OE Web Server Control**

The OE Web Server Control page summarizes details about a specific OE Web Server resource. From this page, you can start and stop an OE Web Server and change some related properties, as needed.

The following sections describe the two areas of the OE Web Server Control page.

**Manager summary**

The Manager summary section presents read-only values for these fields: the OE Web Server's name, its host machine's name, the manager's current status, and the manager's URL.

Note that the Manager name and Host (machine name) display values as they are defined in the ubroker.properties file.
Properties

The Properties section displays the status of the Enabled option. When selected, this option indicates that the OE Web Server resource recognizes a monitoring plan and its associated rules when the resource is active.

During the discovery process, all OE Web Server instances that OpenEdge Management discovers and lists in the list frame under the OE Web Server category are enabled by default. Once a manager is enabled, OpenEdge Management uses the OpenEdge Management-supplied default values to establish a monitoring plan and rules. (You can customize the plan and rules at any time.)

A check mark associated with the Enabled option indicates that the option is selected. To deselect the option, click Edit. Clear the check mark, and click Save. Note that the Enabled option is the only item you can change on the OE Web Server Control page.

Logging in to or logging off from the OE Web Server

If your OE Web Server requires that you log in, click Login in the Command and control section of the OE Web Server Details page.

You can choose the type of authentication that you will use to login to OE Web Server from the Configuration page in the Command and control section.

Note: If you have selected REST administration authentication as No user authentication or Use default authentication, you are logged in by default and need not provide a username and password in the Login page to login to OE Web Server.

Enter the username and password details in the respective fields.

• username — A username required to access the Server.

• password — The password for the specified username.

Click Submit.

Click Log Off in the Command and control section of the OE Web Server Details page to log off from the OE Web Server.

Accessing and reviewing OE Web Server log file data

OpenEdge Management supports log file monitors and associated viewers for OE Web Server resources. Log files can store a large amount of data. Therefore, monitoring data collected within these files might help you to better determine performance expectations related to OE Web Servers.

For more general information about OpenEdge Management log file monitor features and functionality, see OpenEdge Management: Resource Monitoring.

Note: Log file monitors are not available for remote OE Web Servers.
Getting started with log files for OE Web Server resources

For each local OE Web Server instance that OpenEdge Management discovers, OpenEdge Management supports monitoring its associated log file monitor. An OE Web Server log file resource monitor is not enabled until the OE Web Server for which the resource monitor was created is started. When the log file monitor first starts monitoring an OE Web Server instance, it always starts at the end of the log file.

Naming conventions

OpenEdge Management prepends the OE Web Server's name to the name of a log file monitor and its associated viewer. For example, OpenEdge Management generates the following log file monitor for an OE Web Server instance named oerm and the container named nbaspauldixp2: nbaspauldixp2.oermLogFileMonitor. The associated log file viewer is named nbaspauldixp2.oerm OE Web Server Log File Contents. You cannot change these names.

Characteristics of OE Web Server resource log file monitors

Data that you can capture and view using OE Web Server resource log file monitors and viewers can help you:

- Ensure the integrity of the log files by monitoring files for errors and allowing you to define actions that trigger when errors occur.
- Use predefined OE Web Server-related search criteria, or create your own, to run against the data in these log files. OpenEdge Management predefines search criteria to support log file monitors. You can create and maintain the search criteria for each OE Web Server resource instance in the following two locations:
  - At the OE Web Server resource local file monitor instance level. The search text and type are not shareable at this level.
  - At the OpenEdge Management Component Library level under the OE Web Server subcategory. The search text and type are shareable at this level.

See Customizing an OE Web Server log file monitor on page 242 for details.

The predefined search criteria provide:

- Detailed data about the recorded operations of an OE Web Server instance
- A means for extracting detailed data

OE Web Server log file monitor default values

Once an OE Web Server is enabled, OpenEdge Management creates its log file monitor using several default values. Of all the default OE Web Server log file monitor properties, you can modify only its description. However, you have several options regarding the Search Criteria you can use for the log file monitor. See Customizing an OE Web Server log file monitor on page 242.

The default values are as follows:

- The OE Web Server default log file monitor is disabled until the OE Web Server is first started.
- The Bookmark is set to Last Line, and it is unique.
The On First Poll property is set to Search From End.
For detailed information about the Bookmark feature and On First Poll property as they relate to log file monitors in general, see OpenEdge Management and OpenEdge Explorer: Configuration.

File Resource Defaults
OpenEdge Management also supports a polling interval default value for the OE Web Server log file monitor.
To display or update a polling interval default value:
3. Enter the polling interval in the OE Web Server resource defaults section and click Submit.
   You can revert to the original OpenEdge Management-supplied default value set for the Polling Interval field at any time by clicking Restore Defaults.

Reviewing predefined log file monitor search criteria
Each log file provides predefined search criteria that address common OE Web Server events. Use these searches as defined, or copy and customize them. Review the predefined search criteria before you customize an OE Web Server log file monitor.

Note: You are recommended not to edit or delete the predefined criteria.

To review predefined log file monitor search criteria:
1. Click Library from the management console menu bar.
2. Click the plus (+) icon beside Search Criteria in the list frame to expand this category.
3. Click OE Web Server in the list frame. A list of predefined search criteria related to the category that you selected appears in the detail frame.

Note: You can also create your own search criteria to address a particular OE Web Server error. See Customizing an OE Web Server log file monitor on page 242 for details.

Customizing an OE Web Server log file monitor
This section describes how to customize an OE Web Server log file monitor.

customize an OE Web Server log file monitor:
1. From the grid frame for Resources, click the Edit icon to display the details page for the OE Web Server instance whose log file monitor you want to customize. See Accessing OpenEdge Management resource information on page 39.
3. Customize or view the contents of an OE Web Server log file monitor as follows:
- Click **Add Plan** to add an existing monitoring plan to this resource monitor.
- Click **Edit** at the top of the page to change the description of the log file monitor.
- Click **Log File Viewer** at the top of the page to view the contents of the log file monitor.

**Note:** OpenEdge Management prevents the assignment of schedules that share days or times that overlap. For example, if you have a **Default Schedule** set up for a resource monitor, you cannot set up an additional plan because the **Default Schedule** is defined for 7 days a week, 24 hours a day. You must modify or remove the **Default Schedule** to set up additional plans.

4. To add individual rules, click **Edit** within the monitoring plans section to view the edit page for the log file monitor.

5. Click **Add Rule** under the **Rules selected for this plan** section of the monitoring plan page. You can add a rule that is already defined and/or create a new rule.

6. To use an OE Web Server rule already defined in the library:
   a) Select **OE Web Server** from the drop-down list associated with the **Choose Criteria Category**.
   b) Select the appropriate value from the drop-down list associated with the **Choose Search Criteria**.

7. To create a new OE Web Server rule:
   a) Click **Create Criterion** to display the **Create Search Criterion** page.
   b) Enter values in the required fields: **Name** (identifies the name of the search criterion you are creating) and **Search Text** (identifies the information you are looking for in the log).
   c) Choose whether to use an existing category or use a new category for the rule. Then select the **OE Web Server** category.
   d) Click **Save**. The **Create Log File Rule** page reappears.

   The values you defined and selected to create a rule on the **Create Search Criterion** page are now available on the **Create Log File Rule** page. The **Choose Search Category** drop-down list displays the name you entered in the **Name** field on the **Create Search Criterion** page. The **Choose Criteria Category** drop-down list displays the category in which you elected to store the new rule.

8. Select the appropriate values from the **Severity** and **On Alert Action Perform** drop-down lists to complete the alert severity and action definition that you want to associate with this rule.

9. Click **Save**.

10. To add another individual rule, repeat Step 5 on page 243 through Step 9 on page 243.

11. Click **Select Rule Sets** to create a new log file rule or choose from existing rule sets to add to the monitoring plan. If you choose **Select Rule Sets**, you can select them from a list of predefined rule sets to add to the monitoring plan.

12. Click **Save**.

13. Click the OE Web Server instance’s link on the breadcrumb trail to display the detail page again.

14. Click **Log File Monitor** again to view the new rules updated in the **Rules Summary**.

   For more information about editing search criteria for rules, see the appropriate sections of *OpenEdge Management: Resource Monitoring*.

**Note:** You can copy the default OE Web Server log file rule set, but you cannot rename or delete it.
Using the OE Web Server log file viewer

To view the contents of an OE Web Server log file, access the viewer associated with each individual log file. The log file viewer allows you to examine the contents of an OE Web Server log file in HTML format. You can access a log file viewer from the following two locations:

- Click the Log File Viewer link in the Command and control section of the OE Web Server Details page.
- Click the Log File Viewer button that appears at the top of the log file monitor summary monitoring page.

The following information will help you use the OE Web Server log file viewer:

- Use the Show field to control how many OE Web Server log file entries appear at one time. The number entered into the Show field cannot be less than 10.
- Use the Overlap field to control how many entries are repeated from screen to screen.

**Note:** The value in the Overlap field must not be more than the number in the Show field minus one. For example, if you show 30 entries, you can overlap only 29 or fewer of them.

- Click Reload after changing the values in either the Show field or Overlap field. OpenEdge Management prompts you to click Reload. A warning message that reads changed, reload needed appears in the File log status field in the log file summary section of the page. If you do not reload, the viewer displays the previous values.

- Click Go To to control which numbered entry in the log file the viewer begins its display with. For example, a value of 10 entered into the Go To field begins the display from the tenth log file entry.

**Note:** You must click Go To after entering a value in the Go To field, or the viewer will not update its display.

- The default display of entries is in ascending order. Choose Descending to change the display. Note that the Show field dictates the number of entries shown, whether they appear in ascending or descending order.
- Click First to display the first x entries, where x is the value in the Show field.
- Click Prior to display the previous x entries, where x is the value in the Show field.
- Click Next to display the next x entries, where x is the value in the Show field.
- Click Last to display the last x entries, where x is the value in the Show field.
- To view additional log file entries without changing your current starting log file entry, leave the Go To field blank, change the value in the Show field, and click Reload.
Refreshing log file data

Periodically refresh log file data. Select the Refresh page icon from the toolbar for either the list or detail frame to repaint an existing page. You can also set a default value that OpenEdge Management uses to automatically refresh the management console.

set a default value that OpenEdge Management uses to automatically refresh the management console, select Automatically refresh pages > User Preferences > Options.

Refresh data to avoid the following issues:

• OpenEdge Management considers a viewer that has been inactive for more than four hours stale. Once a viewer becomes stale, OpenEdge Management releases most of any memory being held. If you try to use a stale viewer, OpenEdge Management automatically reloads the file. Because additional resource activity might have occurred during the viewer's inactivity, the reloaded log file view might not match the previous log file view of that resource.

• OpenEdge Management considers a viewer that has been inactive for forty-eight hours dead. Once a viewer dies, OpenEdge Management releases all of its memory. To return to the log file displayed in a dead view, you must renavigate to it, regardless of whether you pinned up the view or saved a link to it before the viewer died.

Examining OE Web Server Operations views

The OE Web Server Details page provides an Operations views section that allows you to access and review status data related to the performance of the following:

• Status — OE Web Server status information
• Statistics — OE Web Server run-time statistics information
• Run-time properties — OE Web Server run-time properties information

Accessing and reviewing OE Web Server status

The OE Web Server Operations views section allows you to display status information about the OE Web Server's performance. Review this data frequently, as it will help you make informed decisions about your use of the OE Web Server.

To display and review OE Web Server status:

1. From the grid frame for Resources, click the Edit icon to display the details page for the OE Web Server instance whose status you want to review. See Accessing OpenEdge Management resource information on page 39 section for the detailed procedure.

2. Click Status in the Operations views section. The following status details appear:

• Whether the REST instance is running
• Whether access to administrative functions, OE Web Server applications (by clients), and OE Web Server document retrieval is enabled
Accessing and reviewing OE Web Server statistics

You can view statistical details about an OE Web Server instance.

To access and review OE Web Server statistics:

1. From the grid frame for Resources, click the Edit icon to display the details page for the OE Web Server instance whose statistics you want to review. See Accessing OpenEdge Management resource information on page 39 section for the detailed procedure.

2. Under Operations views, click Statistics.

3. Review the statistics details. For more information about the statistics, see the relevant section in OpenEdge Management and OpenEdge Explorer: Configuration.

Accessing and reviewing OE Web Server run-time properties

You can temporarily change some OE Web Server (OERM) instance properties at run time without restarting your Java servlet engine (JSE). This is most useful for testing and debugging. The next time you restart your JSE, these settings revert to the current configuration settings for these properties in the ubroker.properties file.

To change OE Web Server instance run-time properties:

1. From the grid frame for Resources, click the Edit icon to display the details page for the OE Web Server instance whose runtime properties you want to change.

2. Under the Operations views section, click Run-time Properties.

3. Review the run-time properties. For more information about the properties, see the relevant section in OpenEdge Management and OpenEdge Explorer: Configuration.
Index

A

AdminServer warm start
effects on OpenEdge Management 43
stages 43
Agent Unavailable rule 201
Application crisis
responding to 229
review checklist 229
Application performance
AppServer Operational views 230
AppServer Profile report 225
business requirements 223
consulting documentation 223
crisis example 224
planned review 224
Application performance issues
at a fictitious company 223
checklists 224, 229
Application review
planned response 224
AppServer
See also AppServer broker log file monitor
adding or trimming 85
Broker Control page content 78
Broker Performance View 99
broker status details 76
changing broker controls 79
Informational views 103
killing a process 85–86
log file viewer
considerations 98
modifying control settings 77
Operational views
overview 98
troubleshooting 230
overview 75
Server Performance View 101
viewing broker process details 81
See also AppServer broker log file monitor
AppServer broker log file monitor
See also AppServer log file viewer
characteristics 91
considerations 93
customizing 94
default values 92
log file data 90
naming conventions 91
See also AppServer log file viewer
AppServer Internet Adapter
Broker Control page content 139

AppServer Internet Adapter (continued)
log file monitor
characteristics 140
considerations 142
customizing 142
default values 141
log file data 140
naming conventions 140
search criteria 142
log file viewer
refresh data 145
using 144
managing
overview 137
modifying control settings 138
schedules 142
AppServer log file viewer
troubleshooting 230
using 96
AppServer Profile report
troubleshooting 225
AppServer server log file monitor
See also AppServer log file viewer
characteristics 91
considerations 93
customizing 94
default values 92
log file data 90
naming conventions 91
See also AppServer log file viewer
Average Procedure Duration High rule 199, 201

B

Baseline value, See Configuration Advisor

C

Collection views
defining viewlets 45
Configuration Advisor
and data collection 208
effective selections 219
evaluating 215
overview 207
process details
a rule definition 210
data analysis 210
recommendations 210
user-supplied criteria 209
Configuration Advisor (continued)
- rules
  - additional considerations 208
  - WebSpeed and AppServer 208
- setting rules-related criteria 212
- submitting selections 218
- understanding recommendations 214
- using the Detail button 216

Data collection
- and AppServer brokers 80
- and Configuration Advisor 212
- and trending data 54, 80
- and WebSpeed brokers 54
- fields related to
  - Broker statistics available 54, 80
  - Collect Statistics 54, 80
  - Trend Performance Data 54, 80
- options and conditions
  - AppServer brokers 80
  - WebSpeed brokers 54
- setting for AppServer 80
- setting for WebSpeed 54

DataServer
- Broker Control page content 124
- broker log file monitor
  - customizing 131
  - default values 130
  - log file data 129
  - naming conventions 129
- broker status details 122
- changing broker controls 125
- Default schedule 131
- killing a broker process 127
- log file viewer
  - refreshing data 135
  - using 133
- managing
  - overview 121
  - modifying control settings 123
  - viewing broker process details 125
- Default monitoring plan details
  - examples 192
- Default polling and trend values
  - reviewing 189
- Detail menu bar 34

Graphs 43

I
- Implementing business requirements
  - examples 223

L
- Logging in
to the Web server 168

M
- Management console
  - menu bar 34
- Menu bar
detail 34
  - management console 34
- Messenger
  - Control page content 179
  - log file monitor
    - characteristics 180
    - considerations 182
    - customizing 183
    - default values 181
    - log file data 180
    - naming conventions 180
    - search criteria 182
  - log file viewer
    - considerations 185
    - using 184
  - managing
    - overview 177
    - modifying control settings 178
- Monitoring plans
  - maintaining 193

N
- NameServer
  - changing controls for 108
  - Control page content 108
  - log file monitor
    - characteristics 110
    - considerations 111
    - customizing 111
    - default values 110
    - log file data 109
  - log file viewer
    - considerations 115
    - using 113
  - modifying control settings for 106
- Operational views
  - status details 115
  - overview 105
  - status details 106
NameServer Informational views
  Properties details 118

O
OE Web Server
  control settings 238
  log file data 240
  properties 238
  run-time properties 246
  statistics 246
  status 245
OpenEdge resources
  deleting 42
  in list frame 39
OpenEdge servers
  features 29
  overview 25
  prerequisites 29

P
Pinup charts 47

Q
Queued Request Percent High rule 201

R
Rejected Request Percent High rule 200
Resource monitoring
  overview 187
  terminology 188
Rule details
  common characteristics 198
  general conventions 197
Rule set
  and monitoring plans 206
  characteristics and benefits 203
  copying 205
  creating 203
  deleting 205
  editing 204
  evaluating when rules in common 206
  overview 203

S
Schedules (continued)
  Default (continued)
    NameServer 111
    Sonic MQ Adapter 158
    Web Services Adapter 171, 242
    WebSpeed 65
Server Unavailable rule 201
SonicMQ Adapter
  broker status details 148
  changing broker controls 151
Control page content 150
  killing a broker process 154
log file monitor
  characteristics 156
  considerations 157
  customizing 158
  default values 157
log file data 155
  naming conventions 156
  search criteria 157
log file viewer
  considerations 161
  using 160
managing
  overview 147
  modifying control settings 148
Operations views 161–162
  viewing broker process details 152

T
Transaction Server, See WebSpeed Transaction Server

U
ubroker properties file 27

W
Web Services Adapter
  Control page content 168, 239
log file monitor
  characteristics 169, 241
  considerations 170, 242
  customizing 171, 242
  default values 170, 241
log file data 168, 240
  naming conventions 169, 241
  search criteria 170, 242
log file viewer
  considerations 174, 245
  using 173, 244
login 168
managing
  overview 165, 237
Web Services Adapter (continued)
  modifying control settings 167, 238
  status details 166, 238
WebSpeed Transaction Server
  adding or trimming agents 60
  Agent Performance View 71
  Agent Pool Control page 57
  Broker Control page 52
  Broker Performance View 70
  changing WebSpeed broker controls 53
log file monitor
  characteristics 63
  considerations 65
  customizing 65
WebSpeed Transaction Server (continued)
  log file monitor (continued)
    default values 64
    log file data 63
  log file viewer
    considerations 69
    refreshing 69
  modifying WebSpeed control settings 51
  naming conventions 63
  overview 49
  viewing broker process details 55
WebSpeed broker status details 50
WebSpeed Informational views 73
WebSpeed Operational views
  overview 69