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Preface

This Preface contains the following sections:

- Purpose
- Audience
- Organization
- Using this manual
- Typographical conventions
- Examples of syntax descriptions
- OpenEdge messages
Preface

Purpose

This guide describes how to create and run reports using OpenEdge® Management.

Audience

This manual is designed for users of the OpenEdge Management product. Typical users are OpenEdge® database administrators and any others responsible for the daily management of an OpenEdge database.

Organization

Chapter 1, “Understanding Reports”

Introduces OpenEdge Management report types and OpenEdge Management report terminology and contains steps for creating a report instance.

Chapter 2, “Historical Reports”

Describes the trend report templates supplied by OpenEdge Management.

Chapter 3, “Working with Report Instances”

Explains how to schedule reports and view report output. Also contains steps for working with scheduled, completed, and running reports.

Chapter 4, “Creating Custom Report Templates”

Describes how to create, edit, copy, delete, import, and export custom report templates.

Chapter 5, “Real-time Reports”

Provides a description of each real-time report.

Chapter 6, “OpenEdge Management Diagnostic Reports”

Provides an overview of the reports used to debug OpenEdge Management. Includes information on the OpenEdge Management log file and the work scheduler.
Using this manual

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 category on PSDN (http://communities.progress.com/pcom/docs/DOC-16074).

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 manual uses the following typographical 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><strong>SMALL, BOLD CAPITAL LETTERS</strong></td>
<td>Small, bold capital letters indicate OpenEdge key functions and generic keyboard keys; for example, <strong>GET</strong> and <strong>CTRL</strong>.</td>
</tr>
<tr>
<td><strong>KEY1+KEY2</strong></td>
<td>A plus sign between key names indicates a simultaneous 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><strong>KEY1 KEY2</strong></td>
<td>A space between key names indicates a sequential key sequence: you press and release the first key, then press another key. For example, <strong>ESCAPE H</strong>.</td>
</tr>
<tr>
<td><strong>Syntax:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fixed width</strong></td>
<td>A fixed-width font is used in syntax statements, code examples, system output, and filenames.</td>
</tr>
<tr>
<td><strong>Fixed-width italics</strong></td>
<td>Fixed-width italics indicate variables in syntax statements.</td>
</tr>
<tr>
<td><strong>Fixed-width bold</strong></td>
<td>Fixed-width bold indicates variables with special emphasis.</td>
</tr>
<tr>
<td><strong>UPPERCASE fixed width</strong></td>
<td>Uppercase words are ABL keywords. Although these are always shown in uppercase, you can type them in either uppercase or lowercase in a procedure.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="three_arrows.png" alt="Icon" /></td>
<td>This icon (three arrows) introduces a multi-step procedure.</td>
</tr>
<tr>
<td><img src="one_arrow.png" alt="Icon" /></td>
<td>This icon (one arrow) introduces a single-step procedure.</td>
</tr>
<tr>
<td><strong>Period (.) or colon (:)</strong></td>
<td>All statements except <strong>DO</strong>, <strong>FOR</strong>, <strong>FUNCTION</strong>, <strong>PROCEDURE</strong>, and <strong>REPEAT</strong> end with a period. <strong>DO</strong>, <strong>FOR</strong>, <strong>FUNCTION</strong>, <strong>PROCEDURE</strong>, and <strong>REPEAT</strong> statements can end with either a period or a colon.</td>
</tr>
<tr>
<td>[]</td>
<td>Large brackets indicate the items within them are optional.</td>
</tr>
<tr>
<td>[]</td>
<td>Small brackets are part of ABL.</td>
</tr>
<tr>
<td>{}</td>
<td>Large braces indicate the items within them are required. They are used to simplify complex syntax diagrams.</td>
</tr>
<tr>
<td>{}</td>
<td>Small braces are part of ABL. For example, a called external procedure must use braces when referencing arguments passed by a calling procedure.</td>
</tr>
</tbody>
</table>
Examples of syntax descriptions

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

**Syntax**

```plaintext
ACCUM aggregate expression
```

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

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

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

**Syntax**

```plaintext
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**

```plaintext
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**

```plaintext
{ &argument-name }
```

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

**Syntax**

```plaintext
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**

\[
\text{MAXIMUM ( expression, expression [ , expression ] ... )}
\]

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

**Syntax**

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

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

**Syntax**

\[
\{ \textit{include-file} \\
\quad [ \textit{argument} | \&\textit{argument-name} = "\textit{argument-value}" ] ... \}
\]

**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, \textit{WITH} is followed by six optional items:

**Syntax**

\[
\text{WITH [ ACCUM max-length ] [ expression DOWN ]} \\
\quad [ CENTERED ] [ n COLUMNS ] [ SIDE-LABELS ] \\
\quad [ STREAM-IO ]
\]
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**.
You can create a variety of reports based on data in the OpenEdge® Management Trend Database. Each report is based on a report template that is either provided with OpenEdge Management or created by you.

This chapter introduces the basics of OpenEdge Management reporting, as described in the following sections:

- OpenEdge Management report terminology
- OpenEdge Management report types
- Report instances
OpenEdge Management report terminology

It is important to understand OpenEdge Management report terminology so that you can be sure you are creating reports based on and containing the kind of data you require.

Remember the following terms as you create OpenEdge Management reports:

- **Report History** — The history of how a report ran.

- **Report Instance** — The report entity that you schedule to run in order to produce the report result. The *report instance* identifies specific details that you want reported on; a report instance can specify, for example, a particular resource on which to report or a period of time that the report covers. You specify these report instance details and also schedule when you want the report to run. A report instance is based on a *report template*.

- **Report Log** — A file where error messages and debug tracing information for a report is written.

- **Report Output** — The formatted data returned when a report instance is run.

- **Report Template** — The *report template* defines the characteristics of the report. When you want to create a report instance, you begin by selecting the template on which the report is to be based. If you want, you can make changes to some of the properties inherited from the template for a particular report instance so that you get the reporting data you require; for example, you can specify when you want the report to run and what period of time the report should cover. There are template properties that you cannot change in the report instance; for example, you cannot change the type and number of resources in the report or the location in which the report results are written when the report is run.

In summary, to create reports in OpenEdge Management, you use a *report template* to create a *report instance* that runs to produce the *report output*. 
OpenEdge Management report types

To open the OpenEdge Management Reports home page, click the Reports tab in the OpenEdge Management console menu bar. The OpenEdge Management Reports Details page opens, as shown in Figure 1.

Figure 1: OpenEdge Management Reports Details page

When you click Reports in the OpenEdge Management console menu bar, the list frame updates, showing the three kinds of reports:

- **Defined** — Reports based on information in the OpenEdge Management Trend Database. You create instances of these reports using report templates. See the “Historical report descriptions” section on page 29 for more information about defined reports.

- **Realtime** — Reports that show the state of your resources and system at the time the reports are run.

- **Diagnostic** — A report of the OpenEdge Management AdminServer log file, the Work Scheduler, and the Task Scheduler.
OpenEdge Management supplies the report templates shown in Figure 2 and adds to this list any report templates you create.

![Reports list frame](image)

**Figure 2:** Reports list frame
Report instances

Use any existing report template to create a report instance. See the “Creating a custom report template” section on page 66 for details about creating your own template. You access existing report templates from the Create Report page and enter the report instance’s properties on the Report Edit page.

Create Report page

The Create Report page divides reports into five menu groups:

- AppServer
- Database
- General
- System
- WebSpeed®

Additionally, any menu group you create on the Report Template page also appears on the Create Report page. See the “Creating a custom report template” section on page 66 for more information about creating menu groups and adding new reports to existing menu groups.

Note: OpenEdge Management supports management of the WebSpeed® Transaction Server product. Throughout this guide, the terms WebSpeed Transaction Server and WebSpeed are used interchangeably.

Report Edit page

The Report Edit page for each report is divided into three sections. While the content of each section varies by report type, certain fields appear on all Report Edit pages:

- The top section includes:
  - Name — The name you assign to your report instance.
  - Description — A brief description of the report instance.
  - Resources — The resource or resources whose information is captured in the report instance.
  - Output formats — The format in which you want the report output to appear. See the “Viewing report output” section on page 56 for output format examples.
  - Report format — The format (Hourly, Daily, Weekly, or Monthly) into which the report’s data is arranged.
Chapter 1: Understanding Reports

- The middle section includes:
  - **Report on** one of the following: **15-minute intervals, hourly information, daily information, or weekly information** — Indicates how the report output will be structured and is based upon the **Report format** you choose.

  - **Report Period** — Indicates whether the report instance will cover a previous number of hours, days, weeks, or months or a specific period of days, weeks, or months. The format you select for the report determines the maximum number of periods that the report can include, as shown in the following table:

<table>
<thead>
<tr>
<th>Report Period within the day to include in the report</th>
<th>Shows a maximum of . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly</td>
<td>24 hours</td>
</tr>
<tr>
<td>Daily</td>
<td>31 days (7 days if you also select the Report on option)</td>
</tr>
<tr>
<td>Weekly</td>
<td>52 weeks</td>
</tr>
<tr>
<td>Monthly</td>
<td>48 months</td>
</tr>
</tbody>
</table>

  - **Time period within the day to include in the report** — Indicates whether the report instance should cover a full day (24 hours) or a partial day.

  - **Display units** — The units in which the data is presented. Options are per second, per minute, per hour, per transaction, per record, or as raw data.

- The bottom section includes:
  - **Environment** — Any environment variables. Available environment variables depend on the type of report you are creating and your environment. For a list of environment variables available for your report, run the report with the **Generate debug log file** option selected. The debug log file lists all environment variables and, if applicable, their values. For more information about viewing environment variables in the debug log file, see the description for **Generate debug log file**.

    If the report’s output will appear in HTML, you may want to set the GRAPHD1COLUMNS or the fathomResourcesPerGraph variables. See the “Graphical output environment variables” section on page 39 for more information about these two variables.

  - **Account information** — The user name, group, and password (if you want to run the report as a user other than the AdminServer).

  - **Working directory** — The OpenEdge Management working directory (if you do not want to use the default working directory).

  - **4GL client parameters** — Any additional ABL client startup parameters.
– **Generate debug log file** — Indicates whether OpenEdge Management will create a trace file when it executes the report instance. Select the check box if you want to create debug log files; otherwise, leave the check box cleared. Creating a debug log file allows you to examine the report’s environment variables. When you are viewing the debug log file, you see that lines beginning with `env` provide the names and values of applicable environment variables, as shown in the following example:

```
11 env: (AUDITREPORT=20091).
12 env: (fathomReportOutputSort=descending).
14 env: (fathomReportProcedureFilter=).
15 env: (fathomReportProcedureFilterType=literal).
16 env: (FESG_FILE=SFP).
17 env: (F_HO_LEVELNAME=deepedit.sql).
18 env: (fathomDebugLevel=).
19 dump_env() - complete.
20 FCN: start_5ms) - WinNT, execute the process
21 OnLine: (C:\Program Files\OpenEdge\bin\g证券交易.exe db fathom -R localhost -S 1294 -b -l guest
23 CreateProcess) - succeeded.
```

For a detailed explanation about environment variables, see the chapter on jobs in *OpenEdge Management: Resource Monitoring.*

### Creating a report instance

The specific steps you follow to create a report instance vary depending on the report’s menu group.

To create a report instance:

1. Choose one:
   - From the management console menu bar, choose **Reports**→**New**→**Report**.
   - Click the **Reports** tab in the management console menu bar. Then click **Create Report**.

   The **Create Report** page appears.

2. From the **Create Report** page, click the type of report you want to create. The **Report Edit** page for that report type appears.
3. Complete the top section of the Report Edit page, as described in the “Report Edit page” section on page 19. Note that certain reports contain unique fields. The following information will help you complete the unique fields:

- AppServer Application Profile and WebSpeed Application Profile reports include:

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>The resource whose activity you want in the report. Click the right arrow to move a highlighted resource from the Available column to the Selected column. Click the left arrow to move a highlighted resource from the Selected field to the Available field. Click the up and down arrows to change the order in which the resources will appear in the report output.</td>
</tr>
<tr>
<td>Procedure filter</td>
<td>To run a procedure filter, choose Begins With, Literal, or Matches and enter the applicable text in the field. Use the procedure filter to return data about when the broker ran a procedure. When the report instance runs, OpenEdge Management will search the OE_ActBrk table in the OpenEdge Management Trend Database for the text entered.</td>
</tr>
<tr>
<td>Begins with</td>
<td>To use the Begins with filter, type the beginning of the procedure name; for example, in, inv, or inven.</td>
</tr>
<tr>
<td>Literal</td>
<td>To use the Literal filter, type the exact text you want to find; for example, inventory.p.</td>
</tr>
</tbody>
</table>
To use the **Matches** filter, type the character expression that you want to match (such as `.inventory` or `inven*`).

**Note:** The expression can contain wildcard characters. A period (.) indicates that any single character is acceptable in that position and an asterisk (*) indicates that any group of characters is acceptable. To use a literal period or asterisk in the expression, precede the period or asterisk by a tilde (~).

You can also use the OR symbol or a vertical line ( | ) in the **Matches** field to indicate a search for one procedure or another procedure. For example, the expression `inventory.p | onorder.p` indicates a search for either of these two procedures. The search concludes when at least one of them is found.

**Note:** You can identify multiple files using this approach. For example, `inventory.p | onorder.p | bckorder.p`.

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matches</td>
<td>To use the <strong>Matches</strong> filter, type the character expression that you want to match (such as <code>.inventory</code> or <code>inven*</code>). <strong>Note:</strong> The expression can contain wildcard characters. A period (.) indicates that any single character is acceptable in that position and an asterisk (*) indicates that any group of characters is acceptable. To use a literal period or asterisk in the expression, precede the period or asterisk by a tilde (~). You can also use the OR symbol or a vertical line (</td>
</tr>
<tr>
<td>Sort order</td>
<td>The criteria by which the returned procedure data is sorted and whether the data is sorted in descending or ascending order.</td>
</tr>
</tbody>
</table>
Chapter 1: Understanding Reports

- AppServer Performance and WebSpeed Performance reports include:

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>The resource whose activity you want in the report.</td>
</tr>
<tr>
<td></td>
<td>Click the right arrow to move a highlighted resource from the <strong>Available</strong> column to the <strong>Selected</strong> column. Click the left arrow to move a highlighted resource from the <strong>Selected</strong> column to the <strong>Available</strong> column.</td>
</tr>
<tr>
<td></td>
<td>Click the up and down arrows to change the order in which the resources will appear in the report output.</td>
</tr>
<tr>
<td>Data to display</td>
<td>The desired broker activity on which to report: <strong>Client</strong>, <strong>Broker</strong>, and/or <strong>Server</strong>.</td>
</tr>
<tr>
<td></td>
<td>Click the left arrow to move highlighted text from the <strong>Available</strong> to the <strong>Selected</strong> column. Click the right arrow to move highlighted text from the <strong>Selected</strong> to the <strong>Available</strong> column.</td>
</tr>
<tr>
<td></td>
<td>Click the up and down arrows to change the order in which the activity data will appear in the report output.</td>
</tr>
</tbody>
</table>

- Resource Alert Detail, Resource Status Detail, CPU Summary, Network Activity, System Disk Device Activity, System Memory Summary, and all Database menu group reports include:

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>The resource whose activity you want in the report</td>
</tr>
</tbody>
</table>

4. Complete the middle section of the Report Edit page, described in the “Report Edit page” section on page 19. Note that the time interval indicated by the Report format option changes based on the report format chosen, as shown in the following table:

<table>
<thead>
<tr>
<th>This report format</th>
<th>With Report on option selected</th>
<th>Displays the data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly</td>
<td>15-minute intervals</td>
<td>Hourly, in four 15- minute intervals</td>
</tr>
<tr>
<td>Daily</td>
<td>Hourly</td>
<td>Daily in hourly increments</td>
</tr>
<tr>
<td>Weekly</td>
<td>Daily</td>
<td>Weekly in daily increments</td>
</tr>
<tr>
<td>Monthly</td>
<td>Weekly</td>
<td>Monthly in weekly increments</td>
</tr>
</tbody>
</table>
5. Complete the bottom section of the Report Edit page, as described in the “Report Edit page” section on page 19.

6. Click Save. The name of your report instance appears, along with a summary of the report definition, in the list frame under Defined Reports.

After you create your report instance, you can:

- Click Edit to make changes in the report specifics. When you finish the edits, click Save.
- Click Copy to make a copy of the report specifics, perhaps to use for another report. Type a new name for the report instance, and click Save.
- Click Delete to remove the report instance. Click OK to delete the report instance.

You can either run the report now or schedule it to run at a later time. See the “Running reports” section on page 64 for more details.
Historical reports are created from information in the OpenEdge Management Trend Database. This chapter describes historical reports and how to create them, as outlined in the following sections:

- Overview of historical reports
- Historical report descriptions
- Customizing graphical output
Overview of historical reports

Historical reports are created using data from the OpenEdge Management Trend Database.

To see available historical report templates, click Create Report from the OpenEdge Management Reports Details page. The Create Report page appears.

Working with report templates

You can modify or delete any of the existing OpenEdge Management templates, or you can create your own templates. All report templates, regardless of whether they are provided with OpenEdge Management or created, appear in this list of report templates. If you add, delete, or rename a report template, that change is reflected on the Create Report page.

When you create a report template, you provide the template’s name, menu group (choose from the existing groups or create your own), and a brief report description that appears on the Create Report page. See the “Creating a custom report template” section on page 66 for detailed instructions on creating a report template.

Each of the report templates provided with OpenEdge Management defines reports based on one resource (with the exception of the AppServer and WebSpeed reports, which can report on multiple resources). When you modify the OpenEdge Management-provided report templates or create your own templates, you can choose to generate a report based on multiple resources or resources of different types (database and system CPU in one report, for example).

You can modify or remove any of the individual templates you see listed on the Create Report page. This flexibility allows you to set up an OpenEdge Management Reports page that includes only those reports relevant to your business needs.

To delete a report template:

1. Expand the Report Templates category in the report list frame.
2. Click the report template name. The Report Template Summary page appears for that report template.
3. Click Delete. The template no longer appears on the Create Report page or in the list frame’s list of templates.
Historical report descriptions

When you click the Create Report link on the OpenEdge Management Reports Details page, the Create Report page appears with a list of report templates divided into the following menu groups:

- AppServer reports
- Database reports
- General reports
- System reports
- WebSpeed reports

Any report templates or menu groups you create also appear on the Create Report page.

Table 1 lists and describes each OpenEdge Management-provided report.

Table 1: OpenEdge Management-provided reports (1 of 10)

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AppServer Application Profile</td>
<td>appServerProfile</td>
<td>Provides information on procedures run by the broker, including how many times the procedure ran, the average and maximum durations of each request, the number of successful requests, the number of errors, and the number of times each request quit and was stopped. The AppServer Application Profile report retrieves its data from the OE_ActASProc, OE_ActBrk, OE_ActSrv, and OE_APPService tables in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Report name</td>
<td>Template name</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>AppServer Performance</td>
<td>appServerPerformance</td>
<td>Provides performance information on broker, client, and server activity. Broker activity information returned includes number of complete requests, number of queued requests, percentage of queued requests, average and maximum request duration, average and maximum CPU use, and average and maximum memory use. Client activity information returned includes average and maximum number of active clients, and average and maximum number of client requests. Server activity information returned includes average and maximum CPU pool use, average and maximum memory pool use, average and maximum number of busy servers, average and maximum number of running servers, and average and maximum number of locked servers. The AppServer Performance report retrieves its data from the OE_ActBrk, OE_ActSrv, OE_APPService, and Sys_Process tables in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database After-imaging</td>
<td>dbAfterImage</td>
<td>Provides performance details for after-imaging, including read and write activity, full and partial buffer activity, and AIW write status. The Database After-imaging report retrieves its data from the Db_ActLog in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database Area Status</td>
<td>dbAreaStatus</td>
<td>Provides trend status for each area within a database. Included in this report is information about total blocks, the high water mark, free blocks, available space (in blocks), and available space as a percentage of area. The Database Area Status report retrieves its data from the DB_AreaStatus table in the OpenEdge Management Trend Database.</td>
</tr>
</tbody>
</table>
Historical report descriptions

Table 1: OpenEdge Management-provided reports (3 of 10)

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Before-imaging</td>
<td>dbBeforeImage</td>
<td>Provides performance details for before-imaging, including read and write activity; wait activity; full, partial, and empty buffer activity; and BIW statistics. This report also helps you determine the health of your BI subsystem by indicating increases in the amount of BI writes (which can indicate the growth of an application or questionable application design). The Database Before-imaging report retrieves its data from the Db_ActLog and Db_ActIOType tables in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database Buffer I/O</td>
<td>dbMemory</td>
<td>Provides details about memory buffer usages for all buffers (database, BI, and AI). The information provided in the Database Buffer I/O report helps you determine the proper use of OpenEdge memory on your machine. This report retrieves its data from the Db_ActBuf and Db_ActLog tables in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database Checkpointing</td>
<td>dbCheckpoint</td>
<td>Provides performance details for checkpoints. The Database Checkpointing report retrieves its data from the Db_Checkpoint table in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database Details</td>
<td>dbDetail</td>
<td>Provides information on all database tables and includes fields from almost every table, depending on relevance. Use this report to gather cross-functional information and to understand the relationship among different aspects of an OpenEdge database. The Database Details report retrieves information from the following OpenEdge Management Trend Database tables: Db_ActBuf, Db_ActRec, Db_ActLog, Db_ActAPW, Db_ActIdx, Db_ActLock, Db_ActSum, and Db_ActIOType.</td>
</tr>
</tbody>
</table>
### Table 1: OpenEdge Management-provided reports (4 of 10)

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Disk Information</td>
<td>dbDisk</td>
<td>Provides performance details for database reads and writes to disk, including database read and write activity, BI file, AI file, and index reads and writes. This report helps you track the growth of your database and predict when you need more throughput. The Database Disk Information report retrieves its data from the Db_ActSum, Db_ActAPW, and Db_ActIOType tables in the OpenEdge Management Trend Database.</td>
</tr>
</tbody>
</table>
| Database Index Analysis   | dbIDXAnalysis | Provides analysis of index information gathered from the execution of the database analysis job. Information provided in this report includes the maximum, minimum, and average of the number of blocks in the index, the number of bytes in the index, utilization percentage of the block space, and the number of index levels in the index. The Database Index Analysis report retrieves its information from the Db_IdxAnalysis table.  

**Note:** In order for the Database Index Analysis report to display data, the Database Analysis job must first be run against the desired database. For more information on the Database Analysis job, see *OpenEdge Management: Database Management*. |
### Table 1: OpenEdge Management-provided reports (5 of 10)

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Index Usage</td>
<td>dbIndexStat</td>
<td>Provides performance details for each index in the schema, including the number of updates, creates, deletes, and blocks returned to the free chain. By showing which of your indexes are most active, this report helps you determine the structure of your database areas and where to place indexes. Combining the information presented in this report with that presented in the Database Table Usage report gives you a complete picture of database activity. The Database Index Utilization report retrieves its data from the Db_IndexStat table in the OpenEdge Management Trend Database. Note: OpenEdge Management reports on a default of 50 tables. Use the startup parameter <code>-idxrangesize</code> to increase this number, if necessary. This parameter must be set on the production database when it is started.</td>
</tr>
<tr>
<td>Database Locking</td>
<td>dbLocks</td>
<td>Provides performance details for record locking, based on the categories of requests, finds, locks, and waits. Each of the four categories contains information about exclusive, record, share, and upgrade locks. The Database Locking report retrieves its data from the Db_ActLock table in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database Record Information</td>
<td>dbRecord</td>
<td>Provides performance details for record locking, including information on increased record update activity, increased fragment activity, and increased record deletion. This report groups information into three categories: record, fragment, and bytes. Each category contains read, update, create, and delete fields. The Database Record Information report retrieves its data from the Db_ActRec table in the OpenEdge Management Trend Database.</td>
</tr>
</tbody>
</table>
Table 1: **OpenEdge Management-provided reports**

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Server Activity</td>
<td>dbServer</td>
<td>Provides detailed information about client activity on servers, including I/O for the server in bytes, records, and blocks. This report helps you assess the performance of your servers by showing how balanced or unbalanced the server activity is. The Database Server Activity report retrieves its information from the Db_ActServer table in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>Database Summary</td>
<td>dbSummary</td>
<td>Provides a summary of performance information for several subsections of a database, including logical and physical I/O, buffer activity, BI file activity, AI file activity, page writer activity, index I/O, table I/O, and record activity. The Database Summary report retrieves its data from the following OpenEdge Management Trend Database tables: Db_ActBuf, Db_ActSum, Db_ActRec, Db_ActLog, Db_ActAPW, Db_ActIdx, and Db_ActIOType.</td>
</tr>
<tr>
<td>Database Table Analysis</td>
<td>dbTabAnalysis</td>
<td>Provides analysis of table information gathered from the execution of the database analysis job. This report includes the maximum, minimum, and average for the record counts, the number of bytes in the table, the number of record fragments in the table, and the scatter factor. The Database Table Analysis report retrieves its data from the Db_TabAnalysis table. <strong>Note:</strong> In order for the Database Table Analysis report to display data, the Database Analysis job must first be run against the desired database. For more information on the Database Analysis job, see OpenEdge Management: Database Management.</td>
</tr>
</tbody>
</table>
### Table 1: OpenEdge Management-provided reports

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
</table>
| Database Table Usage         | dbTableStat   | Provides performance details for each table in the schema, including information related to the number of table updates, creates, and deletes. This report identifies which tables are the most active, allowing you to better structure your database areas by moving tables. The Database Table Utilization report retrieves its data from the Db_TableStat table in the OpenEdge Management Trend Database.  
**Note:** OpenEdge Management reports on a default of 50 tables. Use the startup parameter `-tablerangesize` to increase this number, if necessary. This parameter must be set on the production database when it is started. |
| Resource Alert Detail        | alertIndividual | Provides summary and detail information for alerts specific to a resource, including counts of the different types of alerts that have occurred, details of all severe alerts, and data entered when the alert was cleared. The Resource Alert Detail report retrieves its data from the Cf_Alert_Detail table in the OpenEdge Management Trend Database.                                                                                       |
| Resource Alert Summary       | alertGeneral  | Provides summary information about a site’s alerts, including information sorted by the resource name. This report shows which of a site’s resources cause the most problems. The Resource Alert Summary report retrieves its data from the Cf_Alert_Detail table in the OpenEdge Management Trend Database.                                                                                                            |
| Resource Status Detail       | statusDetail  | Provides a detail of status states for a resource. This report provides information that includes a category for each status change reported in the time frame chosen. Also, there are specific details for each status change within the database. The Resource Status Detail report retrieves its information from the Cf_Status table.                                                                 ******
### OpenEdge Management-provided reports

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Status Summary</td>
<td>statusSummary</td>
<td>Provides a summary of status states for all resources. This report provides information that includes a category for each status reported in the time frame chosen. The Resource Status Summary report retrieves its data from the Cf_Status table.</td>
</tr>
</tbody>
</table>
| CPU Summary               | systemCPU     | Provides a summary of the defined CPU resource’s performance. This report helps you track how well the CPU works, the different areas it works in, and how often it works in each area. Use the information from this report to identify growth in CPU usage over time. The CPU Summary report retrieves its data from the Sys_CPU table in the OpenEdge Management Trend Database.  
**Note:** If run for a multi-CPU system, this report returns information based on all the CPUs together. For further information on individual CPUs, refer to the appropriate vendor’s information. |
| File Summary              | fileSummary   | Provides size information about the defined file monitor. This report shows the average of the file size over the period being reported. Use this report to check the size of ASCII-based text files. This report does not typically deal with variable-length extents. The File Size Summary report retrieves its information from the Sys_FileSize table in the OpenEdge Management Trend Database. |
| Network Activity          | network       | Provides status summaries for the defined network resource, including the count of statuses received during the report period as well as the average response time of tests. Use the information in this report to monitor and flag potential network bottlenecks. |
### Table 1: OpenEdge Management-provided reports (9 of 10)

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Disk Device Activity</td>
<td>systemDisk</td>
<td>Provides performance information for defined disk devices, including the relationship between disk reads and writes and the average queue length of disk activity. Use this report to identify disk bottlenecks and a decline in disk performance. The System Disk Device Activity report retrieves its data from the Sys_Dev table in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>System Filesystem Usage</td>
<td>systemFileSystem</td>
<td>Provides usage information for defined local or remote file systems, including how fast disk space grows from all software (including OpenEdge). Use this report to debug actual or potential file space problems where OpenEdge temporary files reside. The System Filesystem Usage report retrieves its data from the Sys_Filesys table in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>System Memory Summary</td>
<td>systemMemory</td>
<td>Provides a summary of the defined memory resource's performance. By detailing how much memory is used and how much is available, this report helps identify growth in memory consumption. Combining the information in this report with that of the Database Buffer I/O report provides views of memory from the standpoint of both the system and OpenEdge. The System Memory Summary report retrieves this information from the Sys_Mem table in the OpenEdge Management Trend Database.</td>
</tr>
<tr>
<td>WebSpeed Application Profile</td>
<td>webSpeedProfile</td>
<td>Provides information on procedures run by the broker, including how many times the procedure ran, the average and maximum durations of each request, the number of successful requests, the number of errors, and the number of times each request stopped. The WebSpeed Application Profile report retrieves its data from the OE_ActWSProc, OE_ActBrk, OE_ActSrv, and OE_APPService tables in the OpenEdge Management Trend Database.</td>
</tr>
</tbody>
</table>
For more information about OpenEdge Management Trend Database tables, see
OpenEdge Management: Trend Database Guide and Reference.

<table>
<thead>
<tr>
<th>Report name</th>
<th>Template name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSpeed Performance</td>
<td>webSpeedPerformance</td>
<td>Provides performance information on broker, client, and agent activity. Broker activity information returned includes number of complete requests, number of queued requests, percentage of queued requests, average and maximum request duration, average and maximum CPU use, and average and maximum memory use. Client activity information returned includes average and maximum number of active clients and average and maximum number of client requests. Server activity information returned includes average and maximum CPU pool use, average and maximum memory pool use, average and maximum number of busy servers, average and maximum number of running servers, and average and maximum number of locked servers. The WebSpeed Performance report retrieves its data from the OE_ActBrk, OE_ActSrv, OE_APPService, and Sys_Process tables in the OpenEdge Management Trend Database.</td>
</tr>
</tbody>
</table>
Customizing graphical output

Each historical report is designed to display data in both graphical and tabular formats. You can customize the data displayed in the HTML graph report output. To do so, you must set the proper environment variable and identify the specific report fields or column headings that you want to include in the graph output.

See the “Graphical output environment variables” section on page 39 for more information about the two environment variables that affect graphical output. See the “Report output field and column headings” section on page 43 for the field and column headings.

Graphical output environment variables

There are two environment variables that control how graphs display in HTML report output:

- **GRAPH1COLUMNS** — Used with report output associated with either a single resource or multiple resources. For example:
  - For instances reporting on single resources, GRAPH1COLUMNS controls the number of columns displayed in the graph. For example, most historical reports are designed to display graphical data in HTML output associated with report-related default fields. However, by adding the variable GRAPH1COLUMNS followed by other fields associated with a report, you can customize the graphic report output. See the “Single resource output” section on page 40 for an example.
  - For instances reporting on multiple resources, GRAPH1COLUMNS controls the number of graphs displayed. The output will contain one graph for each output category you indicate. Always enter the names of the output categories in quotes.

- **fathomResourcesPerGraph** — Used with report instances that report on multiple resources. This variable controls the number of resources displayed in each graph. The default number of resources displayed is five.

**Note:** Only AppServer and WebSpeed reports allow you to report on multiple resources.
Single resource output

Figure 3 shows an example of the type of graph that appears when you run the CPU Summary report without GRAPH1COLUMNS defined. In instances when you do not choose to define environment variables in the Environment field on the Create Report page, OpenEdge Management creates a report graph using the values associated with a report type’s default fields.

The graph report output example in Figure 3 uses the values associated with the CPU Summary report’s default fields.

Figure 3: CPU Summary output

In contrast, the following code entered in the Environment field on the Create Report page shows how you can customize the graph output of the report by defining a field:

GRAPH1COLUMNS=CPU_Idle
When the CPU Summary report is run with this code, the data associated with the specified field appears. Figure 4 shows this customized output.

Figure 4: Customized graph output for CPU Summary

See the “Report output field and column headings” section on page 43 for a complete list of the column and field headings available for each report template.

Multiple resources output

Figure 5 shows an example of the type of graph that displays when you run the AppServer Application Profile report without the GRAPH1COLUMNS or the fathomResourcesPerGraph defined. In instances when you do not choose to define environment variables in the Environment field in the Create Report page, OpenEdge Management creates a report graph using the values associated with a report type's default fields.

The graph report output example in Figure 5 uses the values associated with the AppServer Application Profile report's default fields.

Figure 5: AppServer Application Profile output
In contrast, the following information entered in the Environment field on the Create Reports page shows how you can customize the graph output of the report by defining:

- Column headings for GRAPH1COLUMNS
- Number of resources to display per graph for fathomResourcesPerGraph

When the AppServer Application Profile report is run with the following code, only the column heading-related data, with the specified number of resources per graph, appears:

```
GRAPH1COLUMNS="Run Count,Request Duration (avg),Return Code Success"
fathomResourcesPerGraph="7"
```

Figure 6, Figure 7, and Figure 8 show this customized output.

![appserver profile: request duration (avg)](image)

**Figure 6:** Request duration graph

![appserver profile: return code success](image)

**Figure 7:** Return code success graph

![appserver profile: run count](image)

**Figure 8:** Run count graph
Report output field and column headings

This section identifies the fields or column headings associated with each historical report template.

**Note:** Fields and column headings in this section that are identified with an asterisk (*) are also the OpenEdge Management-supplied defaults associated with each report type.

**AppServer Application Profile**

Table 2 identifies the AppServer Application Profile column headings.

<table>
<thead>
<tr>
<th>Table 2: AppServer Application Profile column headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run Count*</td>
</tr>
<tr>
<td>Return Code Success</td>
</tr>
<tr>
<td>Return Code Stop</td>
</tr>
</tbody>
</table>

**AppServer Performance**

Table 3, Table 4, and Table 5 identify the column headings for an AppServer Performance graphical report.

<table>
<thead>
<tr>
<th>Table 3: AppServer Client Activity column headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Active Clients*</td>
</tr>
<tr>
<td>Average Client Requests</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4: AppServer Broker Activity column headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requests Completed</td>
</tr>
<tr>
<td>*Average Request Duration (ms)</td>
</tr>
<tr>
<td>Average Memory Usage (KB)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 5: AppServer Activity column headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Pool CPU Usage %</td>
</tr>
<tr>
<td>Maximum Pool Memory Usage (KB)</td>
</tr>
</tbody>
</table>
Table 5: **AppServer Activity column headings**

<table>
<thead>
<tr>
<th>Average Busy Server Time (ms)</th>
<th>Average Locked Server Time (ms)</th>
<th>Maximum Locked Server Count</th>
</tr>
</thead>
</table>

**Database After-imaging**

*Table 6* identifies the column headings for a Database After-Imaging graphical report.

**Table 6: Database After-Imaging column headings**

<table>
<thead>
<tr>
<th>AI Busy Buffer Waits</th>
<th>AI Bytes Written</th>
<th>AI No Buffers Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI Partial Writes</td>
<td>AI Records Written</td>
<td>Total AI Writes*</td>
</tr>
<tr>
<td>AIW AI Writes*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Database Area Status**

*Table 7* identifies the column headings for a Database Area Status graphical report.

**Table 7: Database Area Status column headings**

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Total Blocks</th>
<th>Hi Water Mark*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Blocks</td>
<td>RM Blocks</td>
<td>Blocks Available*</td>
</tr>
<tr>
<td>Pct. Blocks Available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Database Before-imaging**

*Table 8* identifies the fields for a Database Before-Imaging graphical report.

**Table 8: Database Before-Imaging fields**

<table>
<thead>
<tr>
<th>BI Busy Buffer Waits</th>
<th>BI Bytes Read</th>
<th>BI Bytes Written</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI Empty Buffer Waits</td>
<td>BI Partial Writes</td>
<td>BI Records Read</td>
</tr>
<tr>
<td>BI Records Written</td>
<td>Total BI Reads</td>
<td>Total BI Writes</td>
</tr>
<tr>
<td>BIW BI Writes</td>
<td>BI Reads</td>
<td>BI Writes</td>
</tr>
</tbody>
</table>
Database Checkpointing

*Table 9* identifies the column headings for a Database Checkpointing graphical report.

<table>
<thead>
<tr>
<th><strong>Table 9:</strong> Database Checkpointing column headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Count</td>
</tr>
<tr>
<td>Avg. Buffers on Ckpt Queue</td>
</tr>
</tbody>
</table>

Database Details

*Table 10* identifies the fields for a Database Details graphical report.

<table>
<thead>
<tr>
<th><strong>Table 10:</strong> Database Details fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>APW Queues</td>
</tr>
<tr>
<td>Buffers Scanned</td>
</tr>
<tr>
<td>APW DB Writes</td>
</tr>
<tr>
<td>Scan Writes</td>
</tr>
<tr>
<td>Flushed at Checkpoint</td>
</tr>
<tr>
<td>O/S Reads</td>
</tr>
<tr>
<td>Delete Index Entry</td>
</tr>
<tr>
<td>Remove Locked Entry</td>
</tr>
<tr>
<td>DB Data Block Reads</td>
</tr>
<tr>
<td>Index Block Writes</td>
</tr>
<tr>
<td>AI No Buffers Available</td>
</tr>
<tr>
<td>Total AI Writes</td>
</tr>
<tr>
<td>BI Bytes Read</td>
</tr>
<tr>
<td>BI Partial Writes</td>
</tr>
<tr>
<td>Total BI Reads</td>
</tr>
<tr>
<td>Bytes Created</td>
</tr>
<tr>
<td>Bytes Updated</td>
</tr>
<tr>
<td>Fragments Read</td>
</tr>
<tr>
<td>Delete Record</td>
</tr>
<tr>
<td>Update Record</td>
</tr>
<tr>
<td>Allocated RM Space</td>
</tr>
</tbody>
</table>
### Table 10: Database Details fields

<table>
<thead>
<tr>
<th>Bytes Allocated</th>
<th>Commits</th>
<th>DB Acceses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Extends</td>
<td>DB Reads</td>
<td>DB Writes</td>
</tr>
<tr>
<td>RM Blocks Examined</td>
<td>Allocated From Free</td>
<td>Allocated From RM</td>
</tr>
<tr>
<td>Remove From RM</td>
<td>Return Free Block</td>
<td>Take Free Block</td>
</tr>
<tr>
<td>Undos</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Database Disk Information

Table 11 identifies the fields for a Database Disk Information graphical report.

### Table 11: Database Disk Information fields

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>File Reads</th>
<th>File Writes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buffer Writes</td>
<td>Unbuffered Writes</td>
<td>Buffered Reads</td>
</tr>
<tr>
<td>Unbuffered Reads</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Database Index Analysis

Table 12 identifies the column headings for a Database Index Analysis graphical report.

### Table 12: Database Index Analysis column headings

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Max Block Count</th>
<th>Avg Block Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Byte Count</td>
<td>Avg Byte Count</td>
<td>Max Util Percent</td>
</tr>
<tr>
<td>Avg Util Percent*</td>
<td>Max Level Count</td>
<td>Avg Level Count</td>
</tr>
</tbody>
</table>

### Database Index Usage

Table 13 identifies the column headings for a Database Index Usage graphical report.

### Table 13: Database Index Utilization column headings

<table>
<thead>
<tr>
<th>Index Reads*</th>
<th>Index Splits</th>
<th>Index Creates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index Deletes</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
Database Locking

Table 14 identifies the fields for a Database Locking graphical report.

Table 14: Database Locking fields

<table>
<thead>
<tr>
<th>Requests Cancelled</th>
<th>Downgrade</th>
<th>Excl Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive Locks</td>
<td>Exclusive Requests</td>
<td>Exclusive Waits</td>
</tr>
<tr>
<td>Rec Get Grants</td>
<td>Rec Get Requests</td>
<td>Rec Get Waits</td>
</tr>
<tr>
<td>Shr Release</td>
<td>Share Locks</td>
<td>Share Requests</td>
</tr>
<tr>
<td>Share Waits</td>
<td>Upgrade Locks</td>
<td>Upgrade Requests</td>
</tr>
<tr>
<td>Upgrade Waits</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Database Buffer I/O

Table 15 identifies the fields for a Database Buffer I/O graphical report.

Table 15: Database Buffer I/O fields

<table>
<thead>
<tr>
<th>Writes Deferred</th>
<th>Flushed at Checkpoint</th>
<th>Logical Reads</th>
</tr>
</thead>
<tbody>
<tr>
<td>O/S Reads</td>
<td>AI Busy Buffer Waits</td>
<td>AI No Buffers Available</td>
</tr>
<tr>
<td>AI Partial Writes</td>
<td>BI Busy Buffer Waits</td>
<td>BI Empty Buffer Writes</td>
</tr>
<tr>
<td>BI Partial Writes</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Database Record Information

Table 16 identifies the fields for a Database Record Information graphical report.

Table 16: Database Record Information fields

<table>
<thead>
<tr>
<th>Bytes Created</th>
<th>Bytes Deleted</th>
<th>Bytes Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bytes Updated</td>
<td>Fragments Created</td>
<td>Fragments Deleted</td>
</tr>
<tr>
<td>Fragments Read</td>
<td>Fragments Updated</td>
<td>Create Record</td>
</tr>
<tr>
<td>Delete Record</td>
<td>Record Locks</td>
<td>Read Record</td>
</tr>
<tr>
<td>Update Record</td>
<td>Record Waits</td>
<td>–</td>
</tr>
</tbody>
</table>
Chapter 2: Historical Reports

Database Server Activity

Table 17 identifies the column headings for a Database Server Activity graphical report.

Table 17: Database Server Activity column headings

<table>
<thead>
<tr>
<th>Messages Received</th>
<th>Messages Sent</th>
<th>Bytes Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bytes Sent</td>
<td>Records Received*</td>
<td>Records Sent*</td>
</tr>
<tr>
<td>Min Users</td>
<td>Max Users</td>
<td>Avg Users</td>
</tr>
</tbody>
</table>

Database Summary

Table 18 identifies the fields for a Database Summary graphical report.

Table 18: Database Summary fields

<table>
<thead>
<tr>
<th>Buffers Checkpointed</th>
<th>Flushed at Checkpoint</th>
<th>Logical Reads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Writes</td>
<td>O/S Reads</td>
<td>O/S Writes</td>
</tr>
<tr>
<td>Create Index Entry</td>
<td>Delete Index Entry</td>
<td>Find Index Entry</td>
</tr>
<tr>
<td>Free Block</td>
<td>Remove Locked Entry</td>
<td>Split Block</td>
</tr>
<tr>
<td>DB Data Block Reads</td>
<td>DB Index Block Reads</td>
<td>Index Block Writes</td>
</tr>
<tr>
<td>Total BI Writes</td>
<td>BIW BI Writes</td>
<td>Read Record</td>
</tr>
<tr>
<td>Commits</td>
<td>DB Accesses</td>
<td>Database Extends</td>
</tr>
<tr>
<td>DB Reads</td>
<td>DB Writes</td>
<td>–</td>
</tr>
</tbody>
</table>

Database Table Analysis

Table 19 identifies the column headings for a Database Table Analysis graphical report.

Table 19: Database Table Analysis column headings

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Max Record Count</th>
<th>Avg Record Count*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max # of Bytes</td>
<td>Avg # of Bytes</td>
<td>Max # of Fragments</td>
</tr>
<tr>
<td>Avg # of Fragments</td>
<td>Max Scatter Factor</td>
<td>Avg Scatter Factor</td>
</tr>
</tbody>
</table>

Database Table Usage

Table 20 identifies the column headings for a Database Table Usage graphical report.

Table 20: Database Table Usage column headings

<table>
<thead>
<tr>
<th>Record Reads*</th>
<th>Record Updates*</th>
<th>Record Creates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Deletes*</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
Customizing graphical output

CPU Summary

Table 21 identifies the fields for a CPU Summary graphical report.

Table 21: CPU Summary fields

<table>
<thead>
<tr>
<th>User Percent*</th>
<th>System Percent*</th>
<th>Wait Percent*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idle Percent</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

File Summary

Table 22 identifies the column headings for a File Summary graphical report. (Note that you must have at least one file resource for OpenEdge Management to generate the report.)

Table 22: File Summary column headings

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Average File Size (k)*</th>
<th>Minimum File Size (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum File Size (k)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Network Activity

Table 23 identifies the column headings for a Network Activity graphical report.

Table 23: Network Activity column headings

<table>
<thead>
<tr>
<th>Passed Sample Count</th>
<th>Average Response Time (ms)</th>
<th>Failed Sample Count</th>
</tr>
</thead>
</table>

System Disk Device Activity

Table 24 identifies the column headings for a System Disk Device Activity graphical report.

Table 24: System Disk Device Activity column headings

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Pct. Busy*</th>
<th>Avg. Queue Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Busy Pct.</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

System Filesystem Usage

Table 25 identifies the column headings for a System Filesystem Usage graphical report.

Table 25: System Filesystem Usage column headings

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Maximum Capacity (kb)</th>
<th>Pct. Used*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Available (kb)</td>
<td>Maximum Available (kb)</td>
<td>Minimum Available (kb)</td>
</tr>
</tbody>
</table>
Chapter 2: Historical Reports

System Memory Summary

Table 26 identifies the column headings for a System Memory Summary graphical report.

Table 26: System Memory Summary column headings

<table>
<thead>
<tr>
<th>Sample Count</th>
<th>Average Physical Memory Used %</th>
<th>Average Physical Memory Used (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Physical Memory Used (MB)</td>
<td>Average Virtual Memory Used %</td>
<td>Average Virtual Memory Used (MB)</td>
</tr>
<tr>
<td>Maximum Virtual Memory Used (MB)</td>
<td>Pages In</td>
<td>Pages Out</td>
</tr>
</tbody>
</table>

WebSpeed Application Profile

Table 27 identifies the column headings for a WebSpeed Application Profile graphical report.

Table 27: WebSpeed Application Profile column headings

<table>
<thead>
<tr>
<th>Run Count*</th>
<th>Average Request Duration (ms)</th>
<th>Maximum Request Duration (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Count</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

WebSpeed Performance

Table 28, Table 29, and Table 30 identify the column headings for a WebSpeed Performance graphical report.

Table 28: WebSpeed Client Activity column headings

<table>
<thead>
<tr>
<th>Average Active Clients*</th>
<th>Maximum Active Clients</th>
<th>Client Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Client Requests</td>
<td>Maximum Client Requests</td>
<td>Sample Count</td>
</tr>
</tbody>
</table>

Table 29: WebSpeed Broker Activity column headings

<table>
<thead>
<tr>
<th>Requests Completed</th>
<th>Requests Queued</th>
<th>Requests Queued %</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Average Request Duration (ms)</td>
<td>Average CPU Usage %</td>
<td>Maximum CPU Usage %</td>
</tr>
<tr>
<td>Average Memory Usage (KB)</td>
<td>Maximum Memory Usage (KB)</td>
<td>Sample Count</td>
</tr>
</tbody>
</table>
### Table 30: WebSpeed Server Activity column headings

<table>
<thead>
<tr>
<th>Average Pool CPU Usage %</th>
<th>Maximum Pool CPU Usage %</th>
<th>Average Pool Memory Usage (KB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Pool Memory Usage (KB)</td>
<td>*Average Busy Server Count</td>
<td>Maximum Busy Server Count</td>
</tr>
<tr>
<td>Average Busy Server Time (ms)</td>
<td>Average Locked Server Count</td>
<td>Maximum Locked Server Count</td>
</tr>
<tr>
<td>Average Locked Server Time (ms)</td>
<td>Sample Count</td>
<td>–</td>
</tr>
</tbody>
</table>
Working with Report Instances

Once you create a report instance, you can run the report immediately or schedule it to run at a later time. You can also view information about all scheduled, completed, or running reports. This chapter contains the following sections:

- Scheduling reports to run
- Viewing report output
- Viewing report history
- Scheduled reports
- Completed reports
- Running reports
Scheduling reports to run

A report instance will not run until you tell OpenEdge Management to run it immediately or you schedule it.

To run a report immediately:

1. If the report’s Summary page is not displayed, choose the report from the Defined Reports section of the list frame. The Summary page appears.

2. From the Summary page, click Run Now. A message appears acknowledging your report request.

After you run the report, you can view the output by clicking View Last Output File. See the “Viewing report output” section on page 56 for more information.

To schedule a report to run at another time:

1. If the report’s Summary page is not displayed, choose the report from the Defined Reports section of the list frame. The Summary page appears.

2. From the Summary page, click Schedule. The Report Schedule page appears:

   ![Report Schedule: buffer1](image)

   - Save
   - Cancel

   **Schedule**

   **Frequency**
   - Start Date (dd/mm/yyyy): 3/10/2016
   - Start Time: 11:45 AM

   **Repeat interval:** One time

   **Include days:** Sun, Mon, Tue, Wed, Thu, Fri, Sat

   **Cron expression:**

   **Enabled?**

3. Choose a start date and time.
4. Determine the repeat interval: **One time, At startup, Weekly from date, Monthly from date, Every 5 minutes, Every 15 minutes, Every 30 minutes, Every 60 minutes, Daily, or Cron expression.**

Use cron-based scheduling when you need a report to run at a specific time, such as according to a business period interval (on the last Friday of the month, or every ten minutes from 4 P.M. to 6 P.M. daily, for example).

You can include from one to five cron expressions (separated by semi-colons) in the **Cron expression** field in a job schedule. Once you click in the **Cron Expression** field, you can click **Assist** for help in choosing the month, day, date, etc., which will then be translated into cron expression format for you.

For more details about using cron expressions, click the **Cron expression** field **Help** button or see the chapter on jobs in *OpenEdge Management: Resource Monitoring*.

5. Select which days to include.

6. Select the **Enabled** check box (if it is not already selected).

7. Click **Save**.

After the report’s scheduled run, you can view the output by clicking **View Last Output File** from the **Summary** page.
Viewing report output

After you run a report, you can view:

- The last output file for the report
- A list of output files for the report
- The history of the report

To view the last output file generated for a report:

1. If the report’s Summary page is not displayed, choose the report from the Defined Reports section of the list frame. The Summary page appears.

2. Click View Last Output File. The report opens.

3. Use the scroll bar to review the output, or choose File → Print if you want a hard copy version.

The details that the report supplies depend on the type of report you are running. Figure 9 shows the output from a Database Area Status report.

![Database Area Status report output](image)

**Figure 9:** Sample Database Area Status report output
Note: Some reports include a category called Change Pct. If the difference between the first set of data and the last set of data is more than 20%, the change percentage is shown in the report. If the change is less than 20%, the column is empty.

To see a list of all output files for a report:

1. If the report’s Summary page is not displayed, choose the report from the Defined Reports section of the list frame. The Summary page appears.

2. Click List of Report Output Files. The Completed Reports page appears with a list of the reports that have been created, as shown:
The following table describes the files that appear on the **Completed Reports** page:

<table>
<thead>
<tr>
<th>Files with this extension</th>
<th>Contain the report . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>.err</td>
<td>Errors</td>
</tr>
<tr>
<td>.html</td>
<td>Output in HTML format</td>
</tr>
<tr>
<td>.log</td>
<td>Debugging information (OpenEdge Management creates a debug log file when you select the <strong>Generate debug log file</strong> check box on the <strong>Report Edit</strong> page.)</td>
</tr>
<tr>
<td>.out</td>
<td>Status</td>
</tr>
<tr>
<td>.txt</td>
<td>Output in text format</td>
</tr>
<tr>
<td>.xml</td>
<td>Output in <strong>xml</strong> format, with debugging information</td>
</tr>
</tbody>
</table>

The most recently created files appear first.

**Note:** If a report is scheduled to run frequently, the list of output files can grow large.
3. Select the desired report file and click **View**. The display of report output depends on the report run and whether you chose to view the text or HTML file. For an example of HTML output, see **Figure 9**. The following is an example of text output:

```
Report Name: FTrendDatabaseStatus

Database Area Status
Report run on: 26/05/2004 09:59
Times reported are: 26/05/2004 09:00 - 12:59
Number of samples: 48
Display units: Raw Data
Date format: day
Resource name: finch.FTrendDatabase

<table>
<thead>
<tr>
<th></th>
<th>Wednesday</th>
<th>Wednesday</th>
<th>Wednesday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26/05/2004</td>
<td>26/05/2004</td>
<td>26/05/2004</td>
</tr>
<tr>
<td></td>
<td>09:00-09:59</td>
<td>10:00-10:59</td>
<td>11:00-11:59</td>
</tr>
</tbody>
</table>

Control Area
Sample Count    12 12 12
Total Blocks    6 6 6
Hi User Max     1 1 1
Free Blocks     0 0 0
BH Blocks       0 0 0
Blocks Available 6 6 6
Percent Blocks Available 03.07 03.07 03.07

Primary Recovery Area
Sample Count    12 12 12
Total Blocks    68 68 68
Hi User Max     64 64 64
Free Blocks     0 0 0
BH Blocks       0 0 0
Blocks Available 4 4 4
Percent Blocks Available 5.54 5.54 5.54
```

To delete a report output file:

1. Navigate to the **Completed Reports** page.
2. Select the output file you want to delete.
3. Click **Delete**.
Viewing report history

Once a report instance has run, you can view summary information about it. OpenEdge Management displays the following information for each completed report instance:

- The report name
- The start time (when the report began running)
- The end time (when the report finished running)
- The exit code

A report’s exit code indicates whether or not the process succeeded. Typically, an exit code of zero indicates success, while a nonzero code indicates an error. For more information on nonzero exit codes, search the log file. If a report running in Windows returns a positive, nonzero code, use the `net helpmsg` command for information.

To view a report's history:

1. If the report’s Summary page is not displayed, choose the report by either:
   - Expanding the Defined Reports section of the list frame, selecting the report, and then clicking View Report History.
   - Choosing Reports → Report History.

   The Report History page appears.

2. In the Report History query section, select the range of dates in the From and To fields.

3. Click Submit. The report’s history appears on the bottom of the Report History page:

   ![Report History Table](image)
**Note:** The previous steps show how to access the history of a single report. For the history of all reports run, click **View Report History** from the **OpenEdge Management Reports** page (shown in **Figure 1**). Continue from **Step 2** in the previous procedure. The query returns results for any reports run during the date range.

To remove a report's history, follow the previous steps. After submitting the query dates, click **Purge Selection**. Once you purge a selection, you can no longer access the report's history for that time frame.
Scheduled reports

Use the Scheduled Reports page to track all scheduled report instances.

To view a list of reports that are scheduled to run:

From the OpenEdge Management Reports Details page, click View Scheduled Reports. The Scheduled Reports page appears:

Click a report name to go to the report’s Summary page.

If an expected report instance does not appear on the Scheduled Reports page, make sure the Enabled box is checked on that report’s Edit page. Only enabled reports appear in the Scheduled Reports list.
Completed reports

Use the Completed Reports page to track which reports have run.

To view reports that have completed running, either:

- Click View Completed Reports from the OpenEdge Management Reports page.
- Choose Reports → Completed Reports.

A list of reports already run appears:

Note that each report is listed under its corresponding resource type, report name, and occurrence.

To view a report, select it and click View.

To delete a report, select it and click Delete. Click OK to confirm the deletion.

Note: Deleting reports from the Report Viewer removes the report output file. It does not delete the report’s data from the OpenEdge Management Trend Database.
Running reports

The Running Reports page displays the following details about each report:

- The report name
- The process ID
- The start time (when the report began running)
- The command executed to run the report
- Any parameters you defined for the command

To view a list of reports that are currently running, either:

- Click View Running Reports from the OpenEdge Management Reports Details page.
- Choose Reports→Running Reports.

A list of reports appears:

Clicking a report name brings you to the report’s Summary page.
Creating Custom Report Templates

Using OpenEdge Management, you can create your own report templates or modify any of the supplied templates. Once you edit a report template (or create your own), you need not re-enter the criteria each time you want to create a report instance.

This chapter explains how to work with custom report templates, as described in the following sections:

- Creating a custom report template
- Editing the report template
- Copying the report template
- Deleting the report template
- Importing and exporting report templates
Creating a custom report template

You specify each OpenEdge Management report template’s properties and characteristics on two pages. The first template page defines the properties that are related to the type of report. You cannot change these properties in the instances you create from the template. On the second page, you provide default values for the report instances. These values, such as the schedule, can be changed.

To create a report template:

1. From the OpenEdge Management Reports Details page, click Create Report Template. The first of two Report Template pages appears. This first page consists of a Template Properties box divided into four sections. The first two sections are shown:

   - **Name:**
   - **Information for the Create Report screen**
     - **Menu group:**
     - **Existing:**
     - **Menu entry:**
     - **Menu description:**

2. You must provide the following information:

   a. In the **Name** field, enter the report template name. Note that the name must be unique among the report templates. Note also that spaces are not allowed in the name fields on this page.

   b. In the **Menu group** field, enter the name of the new menu group, or choose an existing menu group in the **Existing** field. (When you choose an existing group, the name automatically appears in the **Menu group** field.) The menu group is the heading under which the report template name appears (for example, Database Reports).

   c. In the **Menu entry** field, enter the template name you want to appear on the Create Custom Trend Report page (for example, Database Monthly Report).

   d. In the **Menu description** field, enter a brief description of the report template. This is the description that appears in the list of available report templates on the Create Custom Trend Report page under the name specified in Step c.
3. Continue to the third section of the **Template Properties** box:

<table>
<thead>
<tr>
<th>Source of eligible resources:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources currently defined on the system</td>
</tr>
<tr>
<td>Local resources in the trend database</td>
</tr>
<tr>
<td>All resources in the trend database</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource types: Available</th>
<th>Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td></td>
</tr>
<tr>
<td>File</td>
<td></td>
</tr>
<tr>
<td>AppServer</td>
<td></td>
</tr>
<tr>
<td>WebSpeed</td>
<td></td>
</tr>
</tbody>
</table>

If you choose AppServer or WebSpeed resource types, please choose a performance report or a profile report:

| Performance | Profile |

| Limit how many resources can be included in the report: |
| Databases: 1 | All resources: 1 |

Under **Source of eligible resources**, choose one of the following:

- **Resources currently defined on the system** — Only those resources, such as databases, defined for a container. This is the default that all OpenEdge Management-provided report templates use, unless you modify the template to change it.

- **Local resources in the trend database** — Information obtained from whatever is in the local trend database. This might include resources no longer on your machine; information can be gathered from historical records.

**Note:** Use this option only if you are trending locally.

- **All resources in the trend database** — This includes local resources as well as resources that are not local but are trending to the trend database. The report instance will display choices such as the container name and the resource name. Selection lists for each site will be added to the page.


Highlight a type, then click the right arrow to move it to the **Selected** column. To remove a type from the **Selected** column, highlight the type and then click the left arrow.

When creating a template for an AppServer or WebSpeed resource, indicate if the report should be a performance or profile report.

5. Under **Limit how many resources can be included in the report**, select how many database resources and how many total resources the report instance is allowed to select. You can choose up to three in each field. (Keep in mind that the **All resources** field includes databases.)
6. Continue to the fourth section of the **Template Properties** box:

<table>
<thead>
<tr>
<th>Progress 4GL program to run:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of generated report:</td>
</tr>
<tr>
<td>Output file sub-directory:</td>
</tr>
</tbody>
</table>

**a.** In the **Progress 4GL program to run** field, enter the path to the ABL (formerly known as Progress 4GL) program to run when this report is scheduled.

When you create a report by using any one of the OpenEdge Management report templates, the particular ABL program that you use to run the report is provided in the `<OpenEdgeManagement-install-dir>/src` directory. (The default installation location is `Progress\oemgmt\src`.)

When you create your own report template, you must provide the name of the ABL program to run. To run a program that you’ve written, copy the program into `<OpenEdgeManagement-install-dir>/src` and include the fully qualified path of your program in the **Progress 4GL program to run** field.

For more information about writing programs in the ABL, see *OpenEdge Development: Programming Interfaces*.

**b.** In the **Title of generated report** field, enter the text that you want to use for the title in the report result.

**c.** In the **Output file sub-directory** field, enter the location where the generated report output file will be stored when the report is run.

OpenEdge Management stores completed reports in a reports subdirectory in your working directory. You do not need to create this directory; OpenEdge Management creates it during the installation process. Within the reports subdirectory, there are subdirectories based on each Historical report type. Another set of subdirectories, based on the name of each report, is created within the report type subdirectories. OpenEdge Management names reports by their full path, followed by the year, month, day, hour, minute, and second of the report’s generation, as well as by the site ID and the resource name.

The default directory for OpenEdge Management-provided reports is:

```
OpenEdgeManagement-install-directory\reports\<resource-type>
```
7. Click **Save** at the top of the **Report Template** page to save the report template properties.

The second of two **Report Template** pages (the **Report Properties** page) appears with the **Name** field filled:

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong> First_report</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
</tr>
<tr>
<td><strong>Output formats:</strong></td>
</tr>
<tr>
<td><strong>Select formats to create</strong></td>
</tr>
<tr>
<td><strong>Available</strong></td>
</tr>
<tr>
<td>Text</td>
</tr>
<tr>
<td><strong>Report format:</strong> Weekly</td>
</tr>
</tbody>
</table>

**Report on daily information:** ☐

**Report Period:**
- ☐ Report for the previous [ ] weeks, ☐ including the day the report is run
- ☐ Report for particular weeks (dd/mm/yyyy):
  - From: [26/6/2006]
  - To: [2/10/2006]

**Time period within the day to include in the report:**
- ☐ Full day (24 hours)
- ☐ Partial day:
  - From: [12:45 PM]
  - To: [12:45 PM]

**Display units:** [rev. data]

**Environment name=value pairs**

**Account Information**
- **User name:**
- **Password:**

**4GL client parameters:**
- [ ]

**Generate debug log file?** ☐
8. You must provide the following information:

- **Description** — A description of the template.
- **Output Formats** — Whether you want the report’s output in text, HTML, or both.
- **Report period** — A previous number of days, or a block of days.
- **Time period** — Either full day or a block of time.
- **Display units** — The period of time, such as per second, per minute, per hour, per transaction, raw data, per record.
- **Environment** — Environment variables. Available environment variables depend on the type of report you are creating and your environment. For a list of environment variables available for the report, run the report with the **Generate debug log file** option on. The debug log file lists all environment variables and, if applicable, their values. Environment variables are proceeded by `env` in the log file.

For a detailed explanation about environment variables, see the chapter on jobs in *OpenEdge Management: Resource Monitoring*.

- **User name** — Your user name. Providing this information is optional; you can also run the report using another user’s name. If you do not supply a name, the report runs under the account given in the AdminServer.
- **Password** — Your password (optional; required only if you also enter a user name).
- **4GL client parameters** — Any other client parameters you want to pass to the ABL program that produces the report output.
- **Generate debug log file** — Whether you want to create a debug log file. Creating a debug log file allows you to examine the report’s environment variables. When viewing the debug log file, lines beginning with `env` show the names and values of applicable environment variables.

**Note:** See the “Report instances” section on page 19 for details about entering information into the **Report Properties** page.

9. Click **Save**. The **Report Template Summary** page appears.

You can now edit or copy the template’s characteristics, delete the template, or create a report instance to run based on the template.

Once you create a report instance from a report template, the two are no longer tied together. You can modify the characteristics of a report instance without affecting the template, and you can update the template without affecting the characteristics of a report instance you have already created.
Editing the report template

Once you create a report template, you can edit it.

To edit a report template:

1. From the Report Summary page, click Edit. The first template page appears.
2. Make whatever edits you want and click Save. The second template page appears.
3. Make your edits and click Save. The Report Summary page appears, reflecting the changes you have made.

Copying the report template

You can copy the report template and use it as the basis for another template.

To copy a report template:

1. From the Report Summary page, click Copy. The first template page appears.
2. Enter a unique name and a unique menu entry in the fields provided.
3. Click Save.

Deleting the report template

After creating a report template, you may decide to delete it.

To delete a report template:

1. From the Report Summary page, click Delete. A message appears asking you to confirm that you want to delete the template.
2. Click OK to confirm the deletion.

Importing and exporting report templates

You can either import report templates into your own environment or export them to another environment.

For detailed information about importing and exporting templates, see OpenEdge Management: Resource Monitoring.
Real-time reports receive their information directly from resources. Because these reports are real-time, the data they contain represents the state of your system at the time of the report’s generation. This chapter contains the following sections:

- Introduction
- System Information report
- System Activity report
- Open Alert Detail report
- Hotspot report
- Database Summary report
- Open Alert Summary report
Introduction

To access real-time reports, expand the Realtime Reports category of the Reports list frame, as shown in Figure 10.

You can run the following real-time reports:

- **Database Summary report** — Displays a summary report of all databases
- **Hotspot report** — Displays a report of all resources with open alerts
- **Open Alert Detail report** — Displays a detailed report of all open alerts
- **Open Alert Summary report** — Displays a summary report of all open alerts
- **System Activity report** — Displays system performance and resource utilization details identified by container
- **System Information report** — Displays system and operating system information details identified by container

The sections that follow describe the contents of each type of report.
**System Information report**

The System Information report displays the information shown in Table 31.

<table>
<thead>
<tr>
<th>Category</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host information</td>
<td>Name of the host machine</td>
</tr>
<tr>
<td></td>
<td>IP address for the host machine</td>
</tr>
<tr>
<td></td>
<td>Host’s system time</td>
</tr>
<tr>
<td></td>
<td>Host’s system up-time</td>
</tr>
<tr>
<td>Operating system</td>
<td>Operating system name</td>
</tr>
<tr>
<td></td>
<td>Operating system version</td>
</tr>
<tr>
<td>OpenEdge Management</td>
<td>OpenEdge Management version number</td>
</tr>
<tr>
<td></td>
<td>OpenEdge Management install directory</td>
</tr>
<tr>
<td></td>
<td>OpenEdge Management work directory</td>
</tr>
<tr>
<td></td>
<td>OpenEdge Management report directory</td>
</tr>
<tr>
<td></td>
<td>OpenEdge Management up-time</td>
</tr>
<tr>
<td>OpenEdge</td>
<td>OpenEdge version</td>
</tr>
<tr>
<td></td>
<td>OpenEdge install directory</td>
</tr>
<tr>
<td>Java™</td>
<td>Java vendor</td>
</tr>
<tr>
<td></td>
<td>Java version</td>
</tr>
<tr>
<td></td>
<td>Java classpath</td>
</tr>
<tr>
<td>Paths</td>
<td>Library path</td>
</tr>
<tr>
<td></td>
<td>System path</td>
</tr>
</tbody>
</table>
**System Activity report**

The System Activity report displays the information shown in Table 32.

**Table 32: System Activity report details**

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host information</td>
<td>Name of the host machine</td>
</tr>
<tr>
<td></td>
<td>Operating system version</td>
</tr>
<tr>
<td></td>
<td>IP address</td>
</tr>
<tr>
<td></td>
<td>System up-time</td>
</tr>
<tr>
<td>CPU utilization</td>
<td>Percentage of CPU that is busy</td>
</tr>
<tr>
<td></td>
<td>Percentage of CPU being used</td>
</tr>
<tr>
<td></td>
<td>Percentage of CPU kernel being used</td>
</tr>
<tr>
<td></td>
<td>Percentage of CPU wait I/O</td>
</tr>
<tr>
<td>Memory utilization</td>
<td>Total system memory use</td>
</tr>
<tr>
<td></td>
<td>Total swap memory use</td>
</tr>
<tr>
<td></td>
<td>Pages input</td>
</tr>
<tr>
<td></td>
<td>Amount of system free/used</td>
</tr>
<tr>
<td></td>
<td>Amount of swap free/used</td>
</tr>
<tr>
<td></td>
<td>Pages output</td>
</tr>
</tbody>
</table>
Open Alert Detail report

The Open Alert Detail report displays the following alert statistics:

- OpenEdge Management up-time
- Most recent alert
- Worst-case severity
- Number of open alerts
- Number of unseen alerts
- Number of open alerts from last hour
- Number of open alerts from last 24 hours
- Number of monitored resources
- Number of resources with alerts
- Percentage of resources with alerts
- Number of internal alerts

For each alert, the report lists:

- Severity
- First occurrence
- Last occurrence
- Occurrence count
- Reason
Hotspot report

The Hotspot report displays the following information for each resource that is a hot spot:

- Last date and time of the alert
- Name of the alert
- Severity of the alert
- Count of the alert
Database Summary report

The Database Summary report displays the following information:

- Overall database statistics, including:
  - Total number of databases
  - Number of running databases
  - Number of databases licensed for monitoring
  - Number of databases with alerts
  - Percentage of databases with alerts

- Statistics for each database are listed separately and include:
  - Database location
  - Database status
  - Monitoring agent status
  - Polling status
  - Time in polling status
  - Number of alerts
Open Alert Summary report

The Open Alert Summary report displays the following alert statistics:

- OpenEdge Management up time
- Date and time of most recent alert
- Worst case severity
- Number of open alerts
- Number of unseen alerts
- Number of open alerts from last hour
- Number of open alerts from last 24 hours
- Number of monitored resources
- Number of resources with alerts
- Percentage of resources with alerts
- Number of internal alerts

The Open Alert Summary report also lists the following for each open alert:

- Last date and time of the alert
- Container in which the monitored resource resides
- Monitored resource
- Name of the alert
- Severity of the alert
- Count of the alert
OpenEdge Management Diagnostic Reports

You access OpenEdge Management Diagnostic reports through the list frame. These reports provide information to help both you and technical support debug OpenEdge Management problems. The following sections detail the diagnostic tools:

- Viewing OpenEdge Management log files
- OpenEdge Management Task Scheduler
- OpenEdge Management Work Scheduler
Viewing OpenEdge Management log files

From the OpenEdge Management Reports list frame, you can view the AdminServer log file (admserv.log).

To access the log file, expand the Diagnostic Reports category and click AdminServer Log File. The log file appears:

A summary box provides these details:

- Size of log
- Lines in log
- Display start line
- Percentage of log at start line
- Log file status

You work with the file as follows:

- Click First to go to the beginning of the file.
- Click Prior to see the same number of entries preceding those you are currently viewing. For example, if you are viewing 20 entries and you click Prior, the preceding 20 entries appear.
- Click Next to see the same number of entries following those you are currently viewing. For example, if you are viewing 20 entries and you click Next, the following 20 entries appear.
- Click Last to see the final entries in the log file.
• Click **Reload** to refresh the log file.

• To go to a particular entry in the file, type the line number in the **Go To** field, and then click **Go To**.

• To specify how many entries you want to see at one time, type the number in the **Show** field. You can also specify how many entries can overlap in the **Overlap** field.

• Choose either **Ascending** or **Descending** to specify the sort order of the log file.
OpenEdge Management Task Scheduler

The Task Scheduler page is provided for OpenEdge Management diagnostic purposes. If you encounter problems with OpenEdge Management jobs or reports, Technical Support will use the information provided by the Task Scheduler when debugging.

To access the Task Scheduler, expand the Diagnostic Reports category and click Task Scheduler. The OpenEdge Management Task Scheduler Diagnostics page appears:

Table 33 describes the details that appear on the Task Scheduler page.

**Table 33: Task Scheduler Diagnostics**

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Resource</th>
<th>Type</th>
<th>State</th>
<th>Next Run</th>
<th>Run Count</th>
<th>Triggers</th>
</tr>
</thead>
<tbody>
<tr>
<td>nmos pack1-4 Backorders t_10_3</td>
<td>Backorders t_10_3</td>
<td>Report</td>
<td>enabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 Backorders t_10_3</td>
<td>Backorders t_10_3</td>
<td>Report</td>
<td>enabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 Backorders details</td>
<td>Backorders details</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 Backorders details</td>
<td>Backorders details</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 TrendDB t_10_3</td>
<td>TrendDB t_10_3</td>
<td>Report</td>
<td>enabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 better1</td>
<td>better1</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 cpu_Summ1</td>
<td>cpu_Summ1</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 cpu_Summ2</td>
<td>cpu_Summ2</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 cpu_Summ3</td>
<td>cpu_Summ3</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 db_details</td>
<td>db_details</td>
<td>Report</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 db_job</td>
<td>db_job</td>
<td>Job</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 dbstats</td>
<td>dbstats</td>
<td>Report</td>
<td>enabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 dbstats2</td>
<td>dbstats2</td>
<td>Report</td>
<td>enabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 dbstats3</td>
<td>dbstats3</td>
<td>Report</td>
<td>enabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>nmos pack1-4 test4</td>
<td>test4</td>
<td>Job</td>
<td>disabled</td>
<td>no schedule</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Table 33 describes the details that appear on the Task Scheduler page.
Table 33: Task Scheduler Diagnostics (2 of 2)

<table>
<thead>
<tr>
<th>Table</th>
<th>Column heading</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger</td>
<td></td>
<td>Internal name of the trigger, if one is present</td>
</tr>
<tr>
<td>Schedule</td>
<td></td>
<td>Name of the owning schedule (this will match the names listed in the schedule table)</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td>State of the trigger: complete, default, error, none, normal, or paused</td>
</tr>
<tr>
<td>Previous Run</td>
<td></td>
<td>Time stamp of the trigger’s previous run</td>
</tr>
<tr>
<td>Next Run</td>
<td></td>
<td>Time the trigger is next scheduled to run</td>
</tr>
</tbody>
</table>

**Note:** If the defined tasks are not scheduled to run (that is, they do not have a schedule defined or their schedules are not enabled), only the Schedule table appears on the Task Scheduler page.

OpenEdge Management uses the Quartz Enterprise Job Scheduler to run tasks. The Restart button allows you to stop and restart the Quartz Scheduler. Use the Restart button only when directed to do so by Technical Support.

**Note:** For more information about the Quartz Enterprise Job Scheduler, see http://www.quartzscheduler.org.
OpenEdge Management Work Scheduler

The **Work Scheduler** page is provided for OpenEdge Management diagnostic purposes. If you encounter problems with OpenEdge Management, Technical Support will use the information provided by the Work Scheduler when debugging.

To access the Work Scheduler, expand the **Diagnostic Reports** category and click **Work Scheduler**. The **OpenEdge Management Work Scheduler Diagnostics** page appears:

For more detail about a work category, click the **Thread Detail** button below it.
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OVERVIEW

This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images. JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings. This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet.

For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.
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So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files.

To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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zlib 1.1.3 is a general purpose data compression library. All the code is thread safe. The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files ftp://ds.internic.net/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format). These documents are also available in other formats from ftp://ftp.uu.net/graphics/png/documents/zlib/zdoc-index.html

All functions of the compression library are documented in the file zlib.h (volunteer to write man pages welcome, contact jlopb@gzip.org). A usage example of the library is
given in the file example.c which also tests that the library is working correctly. Another example is given in the file minigzip.c. The compression library itself is composed of all source files except example.c and minigzip.c.

To compile all files and run the test program, follow the instructions given at the top of Makefile. In short "make test; make install" should work for most machines. For Unix: "configure; make test; make install"

For MSDOS, use one of the special makefiles such as Makefile.msc.

For VMS, use Make_vms.com or descrip.mms.

Questions about zlib should be sent to <zlib@quest.jpl.nasa.gov>, or to Gilles Vollant <info@winimage.com> for the Windows DLL version.


Before reporting a problem, please check those sites to verify that you have the latest version of zlib; otherwise get the latest version and check whether the problem still exists or not.

Mark Nelson <markn@tiny.com> wrote an article about zlib for the Jan. 1997 issue of Dr. Dobb's Journal; a copy of the article is available in [http://web2.airmail.net/markn/articles/zlibtool/zlibtool.htm](http://web2.airmail.net/markn/articles/zlibtool/zlibtool.htm)

The changes made in version 1.1.3 are documented in the file ChangeLog.

The main changes since 1.1.2 are:
- fix "an inflate input buffer bug that shows up on rare but persistent occasions" (Mark)
- fix gzread and gztell for concatenated .gz files (Didier Le Botlan)
- fix gzseek(..., SEEK_SET) in write mode
- fix crc check after a gzeek (Frank Faubert)
- fix miniunzip when the last entry in a zip file is itself a zip file (J Lilge)
- add contrib/asm586 and contrib/asm686 (Brian Raiter)
- add support for Delphi 3 in contrib/delphi (Bob Dellaca)
- add support for C++Builder 3 and Delphi 3 in contrib/delphi2 (Davide Moretti)
- do not exit prematurely in untgz if 0 at start of block (Magnus Holmgren)
- use macro EXTERN instead of extern to support DLL for BeOS (Sander Stoks)
- added a FAQ file

plus many changes for portability.
Unsupported third party contributions are provided in directory "contrib". A Java implementation of zlib is available in the Java Development Kit 1.1
http://www.javasoft.com/products/JDK/1.1/docs/api/Package-java.util.zip.html

See the zlib home page http://www.cdrom.com/pub/infozip/zlib/ for details.

A Perl interface to zlib written by Paul Marquess <pmarquess@bfsec.bt.co.uk> is in the CPAN (Comprehensive Perl Archive Network) sites, such as:

A Python interface to zlib written by A.M. Kuchling <amk@magnet.com> is available in Python 1.5 and later versions, see
http://www.python.org/doc/lib/module-zlib.html

A zlib binding for TCL written by Andreas Kupries <a.kupries@westend.com> is available at http://www.westend.com/~kupries/doc/trf/man/man.html

An experimental package to read and write files in .zip format, written on top of zlib by Gilles Vollant <info@winimage.com>, is available at http://www.winimage.com/zLibDll/unzip.html and also in the contrib/minizip directory of zlib.

Notes for some targets:

- To build a Windows DLL version, include in a DLL project zlib.def, zlib.rc and all .c files except example.c and minigzip.c; compile with -DZLIB_DLL

  The zlib DLL support was initially done by Alessandro Iacopetti and is now maintained by Gilles Vollant <info@winimage.com>. Check the zlib DLL home page at
  http://www.winimage.com/zLibDll

  From Visual Basic, you can call the DLL functions which do not take a structure as argument: compress, uncompress and all gz* functions.

  See contrib/visual-basic.txt for more information, or get
  http://www.tcfb.com/dowseware/cmp-z-it.zip

- For 64-bit Irix, deflate.c must be compiled without any optimization. With -O, one libpng test fails. The test works in 32 bit mode (with the -n32 compiler flag). The compiler bug has been reported to SGI.

- zlib doesn't work with gcc 2.6.3 on a DEC 3000/300LX under OSF/1 2.1 it works when compiled with cc.

- on Digital Unix 4.0D (formely OSF/1) on AlphaServer, the cc option -std1 is necessary to get gzprintf working correctly. This is done by configure.

- zlib doesn't work on HP-UX 9.05 with some versions of /bin/cc. It works with other compilers. Use "make test" to check your compiler.

- gzdopen is not supported on RISCOS, BEOS and by some Mac compilers.

- For Turbo C the small model is supported only with reduced performance to avoid any far allocation; it was tested with -DMAX_WBITS=11 -DMAX_MEM_LEVEL=3

- For PalmOs, see http://www.cs.uit.no/~perm/PASTA/pilot/software.html

Per Harald Myrvang <perm@stud.cs.uit.no>

Acknowledgments:
The deflate format used by zlib was defined by Phil Katz. The deflate and zlib specifications were written by L. Peter Deutsch. Thanks to all the people who reported problems and suggested various improvements in zlib; they are too numerous to cite here.

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