Interstage

FUJITSU

Interstage Business Process Manager Analytics V11.1

Process Discovery (BPM-E) Event Extraction Tool Operation Guide

Windows

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About this Manual

This manual explains the event extraction component of the Business Process Management by Evidence, or BPM-E software.

This manual explains the procedure when the event is extracted from the CSV data acquired from the customer by using BPM-E.

Intended Audience

This manual is intended for use by the system administrator. It assumes that the reader has a working knowledge of the following:

- Operating system administration
- Database administration

This Manual Contains:

Chapter	Title	Description
1	Introduction	Overview of this manual.
2	Execution environment	How to set up the BPM-E working environment necessary to make the flow of the business process visible.
3	Event Extraction	How to event extraction from the Interstage BPM Analytics.
4	Customize of data	How to customize flow data.

Typographical Conventions

The following conventions are used throughout this manual:

Example	Meaning
command	Text, which you are required to type at a command line, is identified by Courier font.
screen text	Text, which is visible in the user interface, is **bold**.
Reference	Reference material is in *italics*.
Parameter	A command parameter is identified by Courier font.

Reference Materials

The following reference materials for Interstage BPM Analytics are also available:

- *Release Notes*

  Contains an overview of Interstage BPM Analytics, and late-breaking information that could not make it into the manuals.

- *Installation Guide*

  Explains how to install Interstage BPM Analytics.

- *Dashboard / Output Guide*

  Explains how to use the Dashboard to display Analytical data.

- *Administration Guide*

  Contains Administration tools and tips, Message references and Troubleshooting.

- *Analytics Studio Guide*

  Explains how to use the Analytics Studio to configure the parameters to enable Interstage BPM Analytics features.

- *Management Console Guide*

  Explains how to use Management Console and Management Commands to configure the core parameters, how to start/stop the Interstage BPM Analytics service and how to display the Interstage BPM Analytics status.

Abbreviations

The following references for BPM Analytics are also available:

Formal name	Abbreviation
Microsoft(R) Windows Server(TM) 2003, Standard Edition Microsoft(R) Windows Server(TM) 2003, Enterprise Edition Microsoft(R) Windows Server(TM) 2003 R2, Standard Edition Microsoft(R) Windows Server(TM) 2003 R2, Enterprise Edition	Windows Server
Microsoft(R) Windows Server(TM) 2003, Standard x64 Edition Microsoft(R) Windows Server(TM) 2003, Enterprise x64 Edition Microsoft(R) Windows Server(TM) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(TM) 2003 R2, Enterprise x64 Edition	Windows Server 2003(x64), or Windows Server 2003
Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008,Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise	Windows Server
Microsoft(R) Windows(R) XP Professional operating system Microsoft(R) Windows(R) XP Home Edition operating system	Windows XP, or Windows
Microsoft(R) Windows Vista(R) Business Microsoft(R) Windows Vista(R) Enterprise Microsoft(R) Windows Vista(R) Ultimate	Windows Vista, or Windows
Microsoft(R) Windows(R) 7 Home Premium Microsoft(R) Windows(R) 7 Professional Microsoft(R) Windows(R) 7 Ultimate	Windows 7, or Windows
Microsoft(R) Internet Information Server Microsoft(R) Internet Information Services	IIS
Microsoft(R) Internet Explorer 6.0 Microsoft(R) Internet Explorer 7.0 Microsoft(R) Internet Explorer 8.0	Internet Explorer
Microsoft(R) Excel	Excel
Solaris(TM) 10 operating system	Solaris 10, or Solaris
Red Hat Enterprise Linux AS Red Hat Enterprise Linux ES Red Hat Enterprise Linux 5	Linux
Interstage Application Server Enterprise Edition Interstage Application Server Standard-J Edition	Interstage Application Server
Interstage Studio Enterprise Edition Interstage Studio Standard-J Edition	Interstage Studio, or Studio
Interstage Business Process Manager	IBPM
Oracle Database 10g Enterprise Edition R10.1.0/R10.2.0 Oracle Database 10g Standard Edition R10.1.0/R10.2.0 Oracle Database 10g Standard Edition One R10.1.0/R10.2.0	Oracle10g, or Oracle
Oracle Database 11g Enterprise Edition Oracle Database 11g Standard Edition Oracle Database 11g Standard Edition One Oracle Database 11g R2 Enterprise Edition Oracle Database 11g R2 Standard Edition Oracle Database 11g R2 Standard Edition One	Oracle11g, or Oracle

Formal name	Abbreviation
Microsoft SQL Server 2005 Standard Edition Microsoft SQL Server 2005 Enterprise Edition	SQL Server 2005, or SQL Server
Microsoft SQL Server 2008 Standard Edition Microsoft SQL Server 2008 Enterprise Edition	SQL Server 2008, or SQL Server

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Contents

Chapter 1 Introduction

This manual explains the procedure to extract the event from the CSV data acquired from customer's business system with BPM-E event extraction tool.

Analysis using the BPM-E flow viewer is possible after processing of the customer's business data is complete. Refer to the "Flow Viewer Operation Guide" for the operation of the BPM-E flow viewer.

Chapter 2 Execution environment

This chapter describes how to set up the BPM-E working environment necessary to make the flow of the business process visible.

2.1 Tool operating environment

The BPM-E tools currently work on Microsoft Windows. The system requirements are as follows.

- OS: Windows XP, Windows 2003 Server, Windows Vista (*1) (experiential)
- Required hardware
  - PC (experiential)
    - CELSIUS X/N series and PRIMERGY RX300 S3
    - CPU: Xeon, Core2 Duo
  - Memory (experiential)
    - 2GB or more
  - HDD (experiential)
    - 100GB or more
- Required software
  - BPM-E Installer
  - Internet Explorer 7 or 8
  - Oracle database 11g Release 1

The BPM-E installer installs both the event extraction tool and the flow viewer at the same time.

Note

*1: Note: Do not install BPM-E into the default folder, "C:\Program Files", when using Windows Vista. In this case use a folder like "C:\App".

2.2 Installation

This section describes the how to install BPM-E.

In the following instructions, Oracle database 11g Release 1 is used.

2.2.1 Preparing Free Space for Oracle Database

Ensure that enough free space for installing the Oracle database software and storing database data is available. At least double the size of CSV files is needed to store the data in the database.

2.2.2 Installing Oracle Database Server

- If you are going to install Oracle database on the PC which is using DHCP, please check if Microsoft Loopback Adapter is already installed. If not, please install Microsoft Loopback Adapter prior to install Oracle database.
- Execute the Oracle database installer (setup.exe) from the installer CD. "Select Installation Method" screen is displayed.
- Set the values of 'Oracle Base Location', 'Oracle Home Location' and 'Installation Type' (Enterprise Edition or Standard Edition is recommended). Also un-check the 'Create Starter Database' check button. Click the 'Next' button.

- Check the status of "Product-Specific Prerequisite Checks" screen. If there is no problem, click 'Next'. In the "Summary" screen, click 'Install'.
- On "End of Installation" screen, click 'Exit' to finish installing Oracle database software.

2.2.3 Creating Database for BPM-E

- Invoke BPM-E installer (setup.exe). Select the installation directory and perform installation.
- If you want to create a flow database in the installer provide these parameters.
  - ORACLE_BASE
  - ORACLE_HOME (ex: <ORACLE_BASE>/admin/product/11.1.0/db_1/)
  - DIAGNOSTIC_DEST (same as ORACLE_BASE)
  - AUDIT_FILE_DEST (ex: <ORACLE_BASE>/admin/bpmerawevent/adump/)
  - PHYSICALPATH (ex: <ORACLE_HOME>/database/bpmerawevent/)
  - CONTROL_FILES (ex: <ORACLE_HOME>/database/bpmerawevent/)
  - HOST
- Modify other parameters as required.

Installation of BPM-E must be performed by a member of the Administrators group.

2.2.4 Setting Listener and Local Net Service Name

- Invoke "Net Configuration Assistant" (start -> Programs->Oracle - OraDb11g_home1 -> Configuration and Migration Tools -> Net Configuration Assistant).
- First, select 'Listener configuration' and click 'Next'. Select 'Add' on the next screen and click 'Next'.
- On the "Listener Name" screen, enter 'Lister name' (such as 'LISTENER') and click 'Next'.
- On the "Select Protocols" screen, check TCP is selected in 'Selected Protocols', and click 'Next'.
- On the "TCP/IP Protocol" screen, select 'Use the standard port number of 1521' and click 'Next'.
- On the "More Listeners?" screen, select 'No' and click 'Next', and click 'Next' on the next screen to finish listener configuration. "Oracle Net Configuration Assistant: Welcome" screen is displayed.
- Select 'Local Net Service Name configuration' and click 'Next'. Select 'Add' on the next screen and click 'Next'.
- Set 'Service Name' (such as 'bpmerawevent') on "Service Name" screen, and click 'Next'.
- Select 'TCP' on the "Select Protocols" screen, and click 'Next'.
- On the "TCP/IP Protocol" screen, set 'Host name' and select 'Use the standard port number of 1521', and click 'Next'.
- On the "Test" screen, select 'Yes, perform a test' and click 'Next'. The test will not succeed. Click 'Change Login' to change username/password as bpmeuser/bpmeuser and click 'OK'. This time, the test should succeed. Click 'Next'.
- On the "Net Service Name" screen, set 'bpmerawevent' as 'Net Service Name', and click 'Next'.
- On the "Another Net Service Name?" screen, select 'No' and click 'Next'.
- Exit Oracle Net Configuration Assistant.

2.2.5 Obtaining newer Oracle JDBC Driver

Newer version of Oracle JDBC Driver should be obtained from Oracle site. We strongly recommend using ojdbc6.jar of "Oracle Database 11g Release 1 (11.1.0.7.0) JDBC Drivers" which can be downloaded from

http://www.oracle.com/technology/software/tech/java/sqlj_jdbc/index.html

You may sign up for Oracle Technology Network to obtain the jar file from the site.

Copy the downloaded ojbc6.jar to the following two directories:

- 'BPM-E install directory'\tomcat\webapps\bpm-modelgen\WEB-INF\lib
- 'BPM-E install directory'\tomcat\webapps\flowserver\WEB-INF\lib

Note

This download URL was valid as of April 2010.

2.3 Configuration for BPM-E web flow viewer

Configure environment settings before starting the BPM-E web flow viewer server.

2.3.1 edit-event-name.bat

Modify the classpath for the editing event names program (which uses JDBC) in the file "(BPM-E install directory)/tomcat/webapps/flowserver/utils/edit-event-name.bat"

1. Open the file with a text editor.
2. Search for the line that includes "set classpath".
3. After the line, add a new line which includes
   "SET CLASSPATH=%CLASSPATH%;[ORACLE_HOME]\jdbc\lib
   where [ORACLE_HOME] is replaced with the ORACLE_HOME path.

2.3.2 property.xml

This file has following six parameters. These parameters affect communication between client and server. The path of the file is "(BPM-E install directory)/tomcat/webapps/flowviewer/property.xml".

- protocol
  - This parameter indicates the type of the transport protocol.
    Change this to "https" to use SSL.
- domain
  - This is the fully qualified domain name (FQDN) of the BPM-E server. BPM-E web flow viewer sends many HTTP requests from the web browser to the BPM-E server.
    This parameter is the destination of those HTTP requests.
- port
  - This is the port number used by the BPM-E server.
    Change this parameter to use a port other than the default (8080).
- servlet
  - This is the name of the BPM-E servlet that runs on the server.
    The BPM-E servlet is installed by flowserver.war as the default name "flowserver".
    Change this value to use a different servlet name.

- group
  - This is a fixed parameter. Don't change the value.
- draw_limit
  - This is a fixed parameter. Don't change the value.

2.4 Execution of Event Extraction Tool

The event extraction tool uses Tomcat only for BPM-E installed with the installer. End all programs that use port 3306 or port 8080 before executing the event extraction tool.

Start the event extraction tool with the Windows start menu ⋯ select "Program" ->"BPM-E" ->"Start Event Extraction tool". The BPM-E web flow viewer is also ready for use after the Event extraction tool starts.

Push both "Release the block" buttons and continue executing if, on first execution, the inquiry dialog about blocking Java appears in "Warn of the Windows security important" window.

2.5 End procedure of tool

Stop the event extraction tool using the Windows start menu
"Program" ->"BPM-E" ->"Stop Event Extraction tool".
The BPM-E web flow viewer is also terminated.

2.6 Uninstallation of tool

Uninstall the BPM-E web flow viewer server via the Windows "Add or Remove Programs" in the Windows Control Panel. Select "BPM-E" and click the "Remove" button.

And, remove the Database instance which is created for the BPM-E manually (such as 'bpmerawevent').

2.7 Method of inquiring error etc.

Preserve the following files and make them available to the development team if errors occur in the event extraction tool.

- Installation directory of BPM-E\tomcat\bin\bpme.log
- Installation directory of BPM-E\tomcat\logs\catalina.Date.log

Chapter 3 Event extraction

3.1 Interstage Analytics linkage command

The history of processes executed on Interstage BPM can be reviewed by importing history logs of Interstage BPM via Interstage BPM Analytics.

The history logs of Interstage BPM are output by configuring the scheduler of Interstage BPM Analytics.

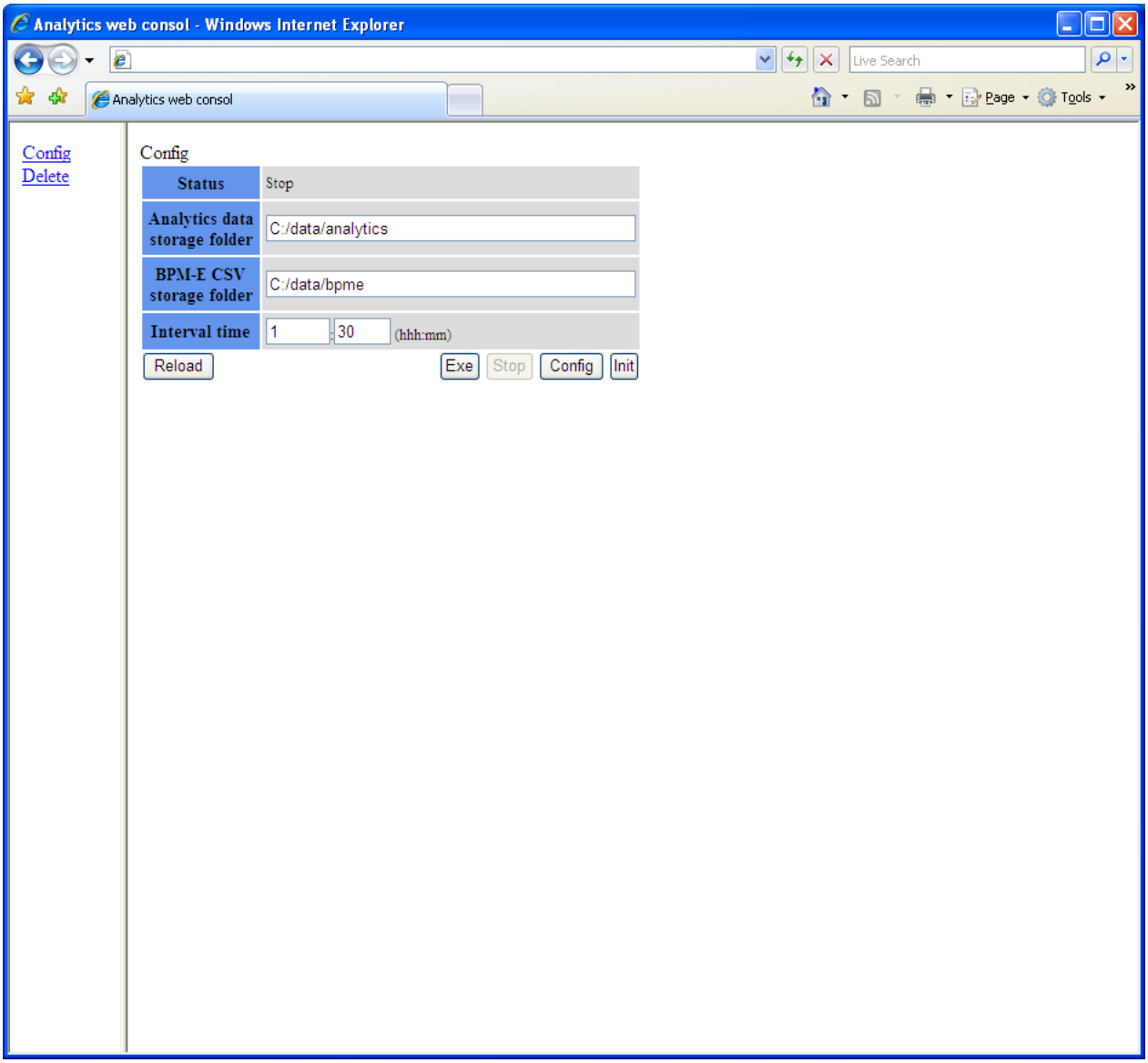
Execute the event extraction as described below for the history logs to be extracted and stored into BPM-E.

The flow of business process is shown as 'flat', i.e., the events which have no sub-process (child) are used to draw the flow, and the events (parents) which have sub-processes are not used.

3.1.1 Event extraction configuration screen

From the Windows start menu issue "Program" ->"BPM-E" ->"Open Event Extraction tool" to create flow data from a CSV set exported from Interstage BPM Analytics.The Event extraction configuration screen will be shown. Configure the event extraction using this screen.

Figure 3.1 Figure 1 - Event extraction configuration screen



Elements on this screen are described below.

No.	Name	Function
1	Status	Shows the current status of the event extraction.
2	Analytics data storage folder	Shows the directory path used by Interstage BPM Analytics to output the history logs.
3	BPM-E CSV storage folder	Shows the directory path used to store the CSV files converted from the history logs. BPM-E uses these CSV files as input data.
4	Interval time	Shows the interval between event extractions. The event extraction is done periodically.
5	Reload button	Reload the configuration.
6	Exe button	Execute the event extraction immediately. After the first extraction, BPM-E waits for the "Interval time" to pass before executing the extraction again automatically.
7	Stop button	Stop the periodic extraction.
8	Config button	Show the configuration.
9	Init button	Initialize the configuration.

3.1.2 Parameters of event extraction

The parameters listed below are used for event extraction. These options are specified when integration file which is included Analytics events is generated.

- ModelSeriesName
  - The value of ModelSeriesName is the model name of the process which is first started (root process) on Interstage BPM.
- ModelSetName
  - The value of ModelSetName indicates when the model started and ended.
- IsAccumulateEventData
  - The value of IsAccumulateEventData indicates whether the model is accumulated or not.
  - A model whose IsAccumulateEventData is true isn't deleted automatically. As a result, such models are accumulated continuously. That means there can be several models in a model series if the models' IsAccumulateEventData are true.
  - A model whose IsAccumulateEventData is false is deleted when a newer model whose IsAccumulateEventData is false is created for the same model series. A model series can have only one model whose IsAccumulateEventData is false.

3.1.3 Maintenance

The CSV files are accumulated in BPM-E directory if the index display flag of a certain process is true. When you delete unneeded process models using the event extraction tool, make sure that the accompanying CSV files are also deleted from the BPM-E directory.

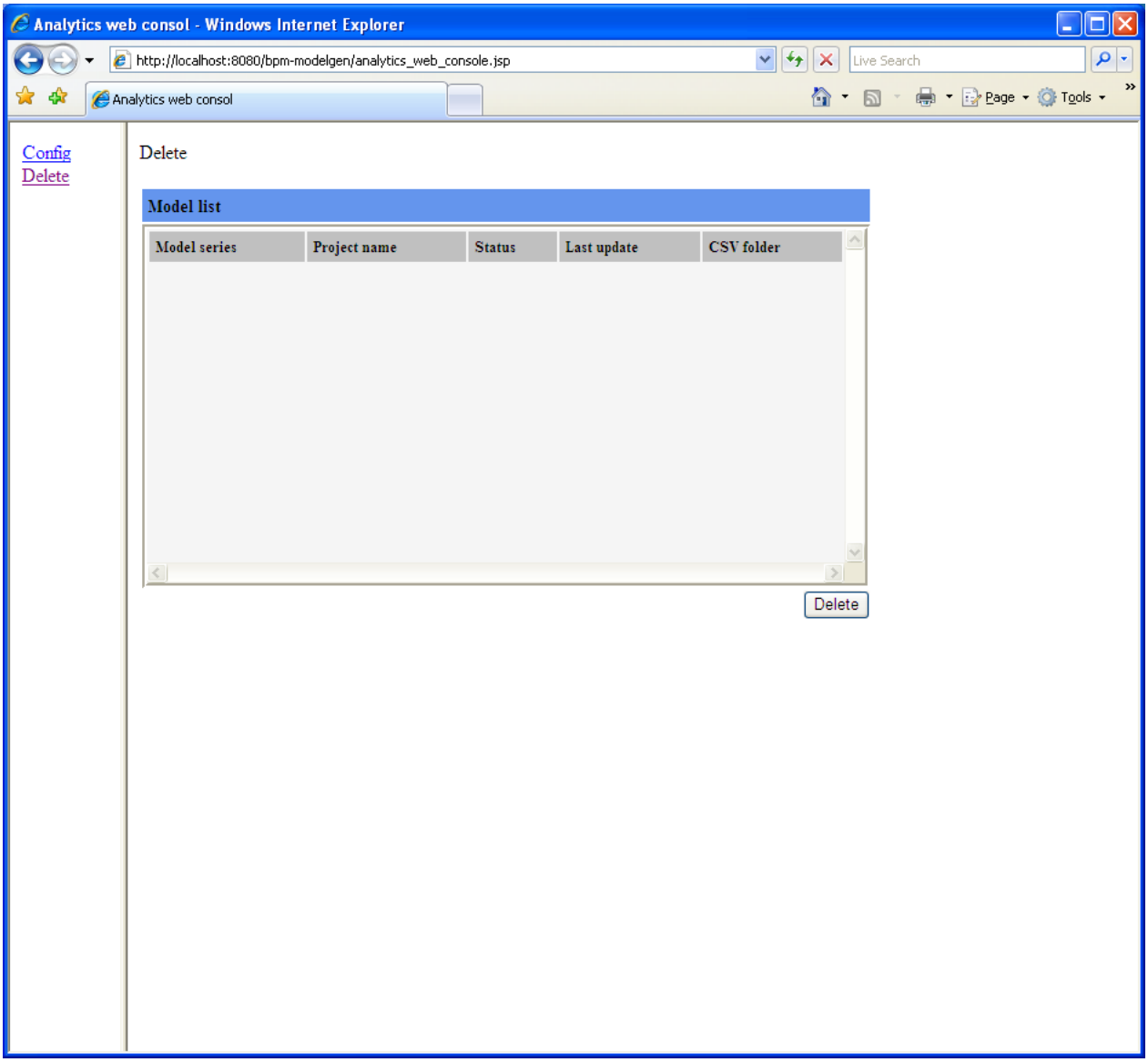
3.1.4 Troubleshooting

When an execution of Analytics linkage function finishes normally, no 'completed' file nor subdirectories should exist in Analytics directory. If some expected model names do not appear in the model list and a 'completed' file remains in Analytics directory, some errors may have occurred. Check the log file (Installation directory of BPM-E\tomcat\bin\bpme.log).

3.2 Data deletion

Use the Windows start menu "Program" ->"BPM-E" ->"Open Event Extraction tool" and click the "Delete" menu on the left panel to remove flow data. After the action, the Model deletion screen will be shown. Remove flow data by selecting a model and clicking the "Delete" button.

Figure 3.2 Figure 2 - Model deletion screen



Elements on this screen are described below.

No.	Name	Function
1	Model series	The model series names that have been already registered have appeared. A model series has one or more projects.
2	Project name	The project names that have been already registered have appeared.
3	Status	A present processing situation is appeared.
4	Last update	The date when the state was updated is appeared.
5	CSV folder	The full path of the CSV folder is displayed.
6	Delete button	The model selected from the model list is deleted.

3.2.1 Delete cache command

The BPM-E web flow viewer generates cache data on the server as necessary. Cache data related to the deleted flow data that remains can cause invalid flow diagrams to be displayed on the user's browser.

```
delete-cache [-m <project_name> | All]
```

- -m
  - optional (either -m or All is required)
  - project_name : target project name
- All
  - optional (either -m or All is required)
  - When "All" is specified, all projects become targets for deletion.
- If parameters are invalid, an error message is displayed.

Note

- This command deletes only cache data.
  Flow data in the database is not affected by this command.
- This command must be executed in the
  "(BPM-E install directory)/tomcat/webapps/flowserver/utils" directory.
  Before executing this command make
  "(BPM-E install directory)/tomcat/webapps/flowserver/utils" the current directory.

Chapter 4 Customizing of data

This chapter explains how to customize flow data.

4.1 Edit event display name

Logical disconnections may exist between different parts of a customer's flow data. For example, event names that are generated from raw business data may contain numeric values that the users would normally see as a descriptive name.

Faulty analysis may result if users don't understand the flow data well.

Use the BPM-E rename events function to improve the understanding of the flow data.

Note

Renaming events should be performed with the customer's agreement and this requirement should be determined in an early phase of the web publication process.

4.1.1 Edit command

The "edit-event-name" command has two functions. It can be used to obtain a list of the current event name settings (with the -g option) and it can change event name settings (with -s option).

Usually the administrator would:

- first obtain the list; then
- update the list; and finally
- register the list to reflect the changes.

```
edit-event-name -m <project_name> -c <csv_file_path> [-g or -s]
```

- -m
  - mandatory
  - project_name : target project name
- -c
  - mandatory
  - csv_file_path : CSV file path for input or output (depends on -g or -s)
- -g
  - optional (either -g or -s is required)
  - get the current event name setting list and output to -c path
- -s
  - optional (either -g or -s is required)
  - read the -c file and reflect it to the event name setting
- If the parameters are invalid, an error is displayed.

The event name setting list is in CSV format (without a header). The first column contains the real event names from the flow database and the second column contains the display names of the events. These two values are equal by default. Edit the second column values and register the list by "edit-event-name" command to rename events.

Note

- This command must be executed in the
  "(BPM-E install directory)/tomcat/webapps/flowserver/utils" directory.
- Before executing this command make
  "(BPM-E install directory)/tomcat/webapps/flowserver/utils" the current directory.