Oracle® Enterprise Single Sign-on Logon Manager How-To: Configuring ESSO-LM Event Logging with the IBM DB2 Database Release 11.1.1.2.0 **20412-01**  Oracle Enterprise Single Sign-on Logon Manager How-To: Configuring ESSO-LM Event Logging with the IBM DB2 Database

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## Introduction

## **About This Guide**

This document describes how to configure ESSO-LM to store event log data in an IBM DB2 database and how to prepare a database instance for this scenario. The instructions in this guide are based on IBM DB2 version 8.2.

#### **Prerequisites**

Readers of this document should have a solid understanding of the IBM DB2 database and the ESSO-LM Administrative Console. Information on ESSO-LM event logging is provided in the ESSO-LM Administrative Console Help.

#### **Terms and Abbreviations**

The following table describes the terms and abbreviations used throughout this guide:

Term or Abbreviation	Description
ESSO-LM	Oracle Enterprise Single Sign-on Logon Manager
Agent	ESSO-LM Client-Side Software
Console	ESSO-LM Administrative Console

## **Accessing ESSO-LM Documentation**

We continually strive to keep ESSO-LM documentation accurate and up to date. For the latest version of this and other ESSO-LM documents, visit <u>http://download.oracle.com/docs/cd/E15624\_01/index.htm</u>.

## Configuring ESSO-LM Event Logging for IBM DB2 Database Support

## **Overview**

In order to configure ESSO-LM to store event log data in a table in an IBM DB2 database, you must complete the following steps:

- 1. If you have not already done so, <u>install and configure the IBM DB2 database</u> as described in the vendor's documentation. Use the "Typical" installation scenario when prompted.
- 2. <u>Set up the event log data table.</u>
- 3. Install the Database Event Extension component for ESSO-LM.
- 4. <u>Configure ESSO-LM to store its event log data in the table you created</u>.
- 5. <u>Test your event logging configuration</u>.



#### Step 1: Install and Configure the IBM DB2 Database

Before you begin configuring ESSO-LM event logging, install and configure an instance of the IBM DB2 database as described in the vendor's documentation, if you have not already done so. Unless your environment dictates otherwise, select the "Typical" installation scenario when prompted by the installer.

#### Step 2: Set Up the Event Log Data Table

Before ESSO-LM can store event log data in the database, you must set up a table that will store the data. The steps are as follows:

 Launch the IBM DB2 Control Center application. By default, the application is located in C:\Program Files\IBM DB2\General Administration Tools.

<b>Control Center</b>	Help			_			
₽ 49 86 53 50 10 72 50 4		<b>i</b> ?					
Systems  Systems  WW-PL-DB2  Summary DB2  Su	Systems Name ≑ ∰ WV-PL-DB2	Node name \$ GENERATE	Operating			Protocol ≑ LOCAL	Protocol para Instance nam
	4	1					
	1 of 1 items d	isplayed .	各詩	42 <b>M</b>	\$ ₽	Default Vie	ew 📩 View



- 2. Within the database of your choice, create a table that will store ESSO-LM event log data:
  - a. Under the selected database, right-click **Tables** and select **Create...** from the context menu.
  - b. In the "Create Table Wizard" that appears, name the table in accordance with the vendor's naming schema, then click **Next**.

🔁 Create Tab	le Wizard					×
	4. 7.3					
<u>1</u> . Name	Identify th	ne schema and name for	the new table			
<u>2</u> . Columns <u>3</u> . Table Spa		ps you create a new table for storing dat t to continue. <u>Task Overview.</u>	a. Type a name below to desc	ribe the data f	that you want to	o store in this
4. Keys	Table <u>schema</u>	DB2ADMIN 💌	[			
<u>5</u> . Dimensio 6. Constraints	Table name	DB2ADMIN."S.EVENTTABLE2"				
– <u>7</u> . Summary	Comment					
				<u>N</u> ext ►	<u>F</u> inish	Cancel



- c. Set up the required table columns. These columns are:
  - Event log data columns FieldX, where X is the column ID ranging from 1 to 10.
  - The AppName, Category, TimeStamp, and Type system data columns.

For each required column, do the following:

I. In the "Change column definitions for the new table" dialog, click Add.

🐁 Create Tab	ole Wizard					×
1. Name	Change col	umn definit	ions for the	e new table.		
<u>2</u> . Columns 3. Table Spa	You can add, cha		arrange the colum	nns. To change a col	umn, select the co	lumn and then click Change. To
<u>4</u> . Keys 5. Dimensio	Column name	Data type	Length	Precision	Scale	M <u>A</u> dd
– <u>6</u> . Constraints						Change
<u>7</u> . Summary						<u>R</u> emove
						Add predefined
						Move Up
						Move <u>D</u> own
	4					Þ
	1				( <u>B</u> ack <u>N</u> e)	t Finish Cancel

The "Add Column Dialog" appears.

🖡 Add Column 🛛 🔀					
Column name Table1					
Datatype CHARACTER					
Datatype characteristics					
Length					
Precision Scale					
LOB option 🗖 Logged 🦳 🖻 Eit data					
Co <u>m</u> pact					
⊠ <u>N</u> ullable					
☐ <u>D</u> efault					
Comment					
System default compression					
🦳 <u>G</u> enerate column contents					
C Identity					
Initial value 0 🛋 Increment 1 🛋					
Cache value 20 🗮 🗖 By default					
, <u> </u>					
C <u>F</u> ormula					
OK Cancel Apply Help					

II. Name the column. These column names will correspond to event log field names shown below that you will configure later in this document using the ESSO-LM Administrative Console.

🔁 Oracle Enterprise Single Sign-on Logon Manager Administrative Console					
File Edit Insert Repository Tools Help					
🗅 😅 🔛   🔁 📴   ×			Help Search: Go		
	AppName	◄	AppName		
Provisioning Gateway	Category	•	Category		
Password Generation Policies	Field1		Field1		
Passphrase Questions	Field10	◄	Field10		
i ⊟∰ Global Agent Settings ⊡∰ Live	Field2	◄	Field2		
End-User Experience	Field3	◄	Field3		
Reporting	Field4	◄	Field4		
🖃 🗐 Database	Field5	◄	Field5		
∰ Syslog ⊕∰ Windows Event Viewer	Field6	◄	Field6		
XML File	Field7	◄	Field7		
🕀 🗐 Kiosk Manager	Field8	◄	Field8		
	Field9	◄	Field9		
	TimeStamp	◄	TimeStamp		
1 Repository	Туре	◄	Туре		
	Select a Setting above to view its de				
	Registry Location: Extensions\Even Check the box and assign a field nui	tManag mber to	er\Database\EventFields: Type Arrow Arr		
	Default: Type Note: Not present in HKCU, not pres	ent in S	iettings dialog.		
Ready					

**Caution:** Each event log field *must* have a corresponding column with an *identical* name in the event log data table. Otherwise, event data will not be recorded.

- III. Select **CHARACTER** as the data type.
- IV. Set the data length to 128.
- V. When you have populated the appropriate fields, click **Apply**, then **OK**.



ame	Change colu	ımn definitio	ons for the	e new table.		
	-				lumn, select the colum	n and then click Change. T
	rearrange the colun					in and more enteringer i
eys	Column name	Data type	Length	Precision	Scale	Add
imensio	TABLE1	CHARACTER	128	-	-	
onstraints	TABLE2	CHARACTER	128			<u>C</u> hange
ummary	TABLE3	CHARACTER	128	-	-	1
	TABLE4	CHARACTER	128	-	-	<u>R</u> emove
	TABLE5	CHARACTER	128	-	-	<u></u>
	TABLE6	CHARACTER	128	-	-	S.
	TABLE7	CHARACTER	128	-	-	Add predefined
	TABLE8	CHARACTER	128	-	-	Aud predenned
	TABLE9	CHARACTER	128	-	-	N State
	TABLE10	CHARACTER	128	-	-	1
						Move Up
						Move <u>D</u> own
	•					► I

When you have finished, the table configuration will look as follows:

d. If you need to make any changes, select the desired column in the list and click **Change**. When the table configuration is complete, click **Next**.

e. When prompted to configure the table space, make a selection that is most appropriate to the level of ESSO-LM event logging required by your environment, then click **Next**.

🐁 Create Tab	ole Wizard						
<u>1</u> . Name	Specify space for storing table data.						
<u>2</u> . Columns	To use the default table space, select <default> and click Finish. If you expect the table to be large, you can assign it a separate</default>						
<u>3</u> . Table Spa	index space or a separate long space, or both. To use a separate index or long space, you must first select or create a Database-Managed Space (DMS) table space.						
. <u>4</u> . Keys							
<u>5</u> . Dimensio	Table space 🔽 Use separate index space 🔽 Use separate long space						
<u>6</u> . Constraints	<default></default>						
<u>7</u> . Summary	Create Create						
	To use the default table space, select <default a<br="" be="" however,="" if="" this="" will="">large table, select one from the list or create one by clicking Create.HINT: Using a separate space for indexes can speed up access to this table. If you have a fast hard disk for which you want to create an index space, select one from the list or create one by clicking Create. This option is not available until you assign a primary DMS table space.HINT: Using a separate space for long data gives you a larger maximum size for your table space and allows you to backup long data separately. Select one from the list or create one by clicking Create.</default>						
	▲Back Einish Cancel						

f. For the remainder of the wizard, click **Next** to accept the defaults presented in each screen.

g. In the configuration summary dialog, click **Finish**.

💤 Create Tab	le Wizard 🛛 🔀
1. Name 2. Columns 3. Table Spa 4. Keys 5. Dimensio 6. Constraints 7. Summary	Review the actions that will take place when you click Finish.         When you click Finish, the wizard creates a table. To change any of the parameters, go back to the appropriate page in this wizard. To view the equivalent SQL command, click Show SQL         Create table "DB2ADMIN,""S.EVENTTABLE2"         Number of columns: 10.         The table data will be stored in the default table space.
	▲BackCancel

The table is created. Depending on the speed of your system, this can take a few moments.

h. Monitor the table creation process by checking the database log. When the table has been created successfully, the log will show the following:

<mark>%</mark> DB2 Messa	ge
① DB20000	Commands attempted CONNECT TO TOOLSDB; CREATE TABLE DB2ADMIN."DB2ADMIN.""S.EVENTTABLE2" (TABLE1 CHARACTEF CONNECT RESET;
	The command completed successfully. Explanation: No errors were encountered during the execution of this command. User Response: No action required.
	Close

#### Step 3: Installing the Database Event Extension Component for ESSO-LM

The Database Even Extension component must be installed in order for ESSO-LM to store event log data in the database. To install the component, do the following:

- 1. Click Start  $\rightarrow$  Settings  $\rightarrow$  Control Panel.
- 2. In the Control Panel, double-click the Add/Remove Programs icon.
- 3. In the Add/Remove Programs applet, navigate to the ESSO-LM Agent entry and click Change.
- 4. In the ESSO-LM Agent installer, click Next.
- 5. In the "Program Maintenance" dialog, select **Modify** and click **Next**.
- 6. In the "Custom Setup" dialog, expand **Extensions**  $\rightarrow$  **Event Manager**.
- 7. Under the **Event Manager** node, click the button next to **Database Event Extension** and select **This feature will be installed on local hard drive** from the context menu.

🔂 Oracle Enterprise Single Sign-on Logon Manager - In	stallShield Wizard
<b>Custom Setup</b> Select the program features you want installed.	
Click on an icon in the list below to change how a feature is inst Helper Objects Synchronization Manager Event Manager XML File Windows Event Extension Syslog Database Event Extension Reporting Extension	talled. Feature Description Event Management plug-in that supports logging of events to a Database This feature requires 72KB on your hard drive.
InstallShield < Back	Next > Cancel

- 8. Click **Next**; then, in the dialog that follows, click **Install** and wait for the installation to complete.
- 9. When the installation completes successfully, click Finish.



#### Step 4: Configuring ESSO-LM Event Logging for Database Support

- 1. Launch the ESSO-LM Administrative Console and load your current configuration set.
- 2. In the tree, navigate to Global Agent Settings  $\rightarrow$  [Current Configuration Set]  $\rightarrow$  Event Logging.
- 3. Select the check box next to Select events to log and click the Set [...] button.
- 4. In the "Select events to log" dialog, select the types of events you want to log.

Warning: You must select the Event Types: Info item; otherwise, no data will be logged.

"Select events to log:"	
<ul> <li>Application Password Change</li> <li>Backup/Restore</li> <li>Credential Add</li> <li>Credential Copy</li> <li>Credential Delete</li> <li>Credential Edit</li> <li>Event Types: Info</li> <li>Help</li> <li>Logon Field: Fourth Field</li> <li>Logon Field: System Domain</li> <li>Logon Field: System Username</li> <li>Logon Field: Username</li> <li>Logon Field: Username</li> <li>Provisioning</li> <li>Reauthentication</li> <li>Settings Change</li> <li>Startup/Shutdown</li> </ul>	OK Cancel Help
Select All Clear All	

5. Under the **Event Logging** node in the tree, select **Database** and configure ESSO-LM as follows:

Cache Retry	Set to the desired retry interval. See Console Help for more information.
Interval	
Default	URL to your database server instance.
Server	
Default Table	Name of the event log data table created earlier in this document.
	( DB2ADMIN."S.EVENTTABLE2" in our example)
Extension	Absolute path to DatabaseExt.dll, including file name.
Location	
Log Which	Configure to exactly match the event types chosen in step 4.
<sup>C</sup> Events?	
<sup>a</sup> Servers	Provider= <db2_provider_name>;Password=<db2_admin_< th=""></db2_admin_<></db2_provider_name>
c	user_password>;User ID= <db2admin_user_name>;Data</db2admin_user_name>
-	Source= <database_name></database_name>



- 6. Under the **Database** node in the tree, select **Event Fields**.
- 7. For each field with a numeric ID (Field1, Field2, etc.), enter the name of the corresponding column in the event log data table. The names must match the column names you set in step 2c on page 11 of this document.

Warning: Do not alter the values of the AppName, Category, TimeStamp. and Type parameters.

				_		
Oracle Enterprise Single Sign-on Logo File Edit Insert Repository Tools Help		onsole		×		
			Help Search: Go			
Applications	AppName		AppName			
Provisioning Gateway	Category		Category			
Password Generation Policies	Field1		Field1			
	Field10		Field10			
😑 🤬 Global Agent Settings	Field2	<u>।</u>	Field2			
🖻 🥳 Live The End-User Experience	Field3		Field3			
Reporting	Field4		Field4			
🖻 🗐 Database	Field5		Field5			
≣i Syslog ⊕≣i Windows Event Viewer	Field6		Field6			
XML File	Field7		Field7			
⊞… 🗐 Kiosk Manager	Field8	<b>v</b>	Field8			
🗄 📲 Primary Logon Methods 🕀 🗐 Reporting	Field9		Field9			
	TimeStamp		TimeStamp			
🛄 Repository	Туре		Туре			
	Select a Setting above to view its description below					
	Registry Location: Extensions\E Check the box and assign a field					
	Default: Type Note: Not present in HKCU, not	present in S	ettings dialog.			
Ready				1		

- 8. When finished, push the modified configuration set to your directory or write them to the local registry, whichever option suits your environment.
- 9. Proceed to the next section to test your event logging configuration.



#### **Step 5: Testing Your Event Logging Configuration**

This simple test procedure allows you to check whether ESSO-LM is properly logging event data to the database. In our example, you will press the **Help** button in the Logon Manager and check the database to see if the button press is logged.

- 1. Open the Logon Manager and click **Help**.
- Start the IBM DB2 Command Center. Typically, the shortcut is located in Start → Program Files → IBM DB2 → Command Line Tools.
- 3. Under **Database Connection**, click the **ellipsis [... ]** button.
- 4. In the "Select a Database" dialog, navigate to the target database and click **OK**.

- 5. Click **OK**.
- 6. Under **Command**, enter the following, then press **Enter**:

SELECT \* FROM <name of event log data table>;



 The Command Center displays all ESSO-LM events that have been logged in the database so far. The Help button press event should appear near or at the end of the list, as shown below.

📾 Command Center								
Co <u>m</u> mand Center <u>Q</u> uery Results <u>E</u> dit	<u>T</u> ools <u>H</u> elp							
🎭 < 🔁 😚 🍄 늘 📖 🗉 🐄 ‰ < 🍋 🗃 ☷ < 💼 🌲 < 🛈 ?								
Command type								
SQL statements and DB2 CLP commands								
C MVS system commands								
System								
Interactive Script Query Results Access Plan								
Perform required changes and then click	the commit up	date button.						
FIELD1 FIELD2 FIELD3	FIELD4	FIELD5	FIELD6	FIELD7	FIELD8	FIELD		
ReAuth,Wi Username, Domain,V	SyncInfo,db							
StartupShu Username, Domain,V	SyncInfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	SyncInfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
Help,Logo Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
Help,Logo Username, Domain,V	Syncinfo,db							
Help,Logo Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
StartupShu Username, Domain,V	Syncinfo,db							
Help,Logo Username, Domain,V	Syncinfo,db					▼ 		
Next Rows in memory 22 [1 - 22]								
Automatically commit updates Commit Update Rollback								

If the **Help** button press event does not appear, retrace your steps and check your database and ESSO-LM configurations.