



**Environment Manager**  
powered by AppSense

# **Administrative Tools Guide**

Version 10.1 FR4

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## About This Document

This document provides information on the administrative tools which are available with Environment Manager.

For each tool the guide describes how it should be used and includes a usage scenario to demonstrate a circumstance in which the tool may be used.

# Environment Manager Administrative Tools

Environment Manager is packaged with the following standalone tools to assist administrators when they create configurations and work with the Personalization database:

- Environment Manager Logging Setup
- Environment Manager Monitor
- Personalization Server Log Viewer
- Environment Manager Log File Conversion
- EMP File Utility
- EMP Migrate Utility
- EMP Migrate Command Line Utility
- EMP Registry Utility
- File Based Registry Explorer

The tools cover a range of functionality and employ a variety of user interfaces - from command line utilities such as the EMP File utility to more extensive graphical interfaces such as the EM Log Viewer.

## Installation

The 32 and 64-bit Administrative Tools installers are included with the Environment Manager installation media:

- EnvironmentManagerTools32
- EnvironmentManagerTools64

Once installed to the default location, the tools are available from the **Start > All Programs > AppSense > AppSense > Tools** menu.

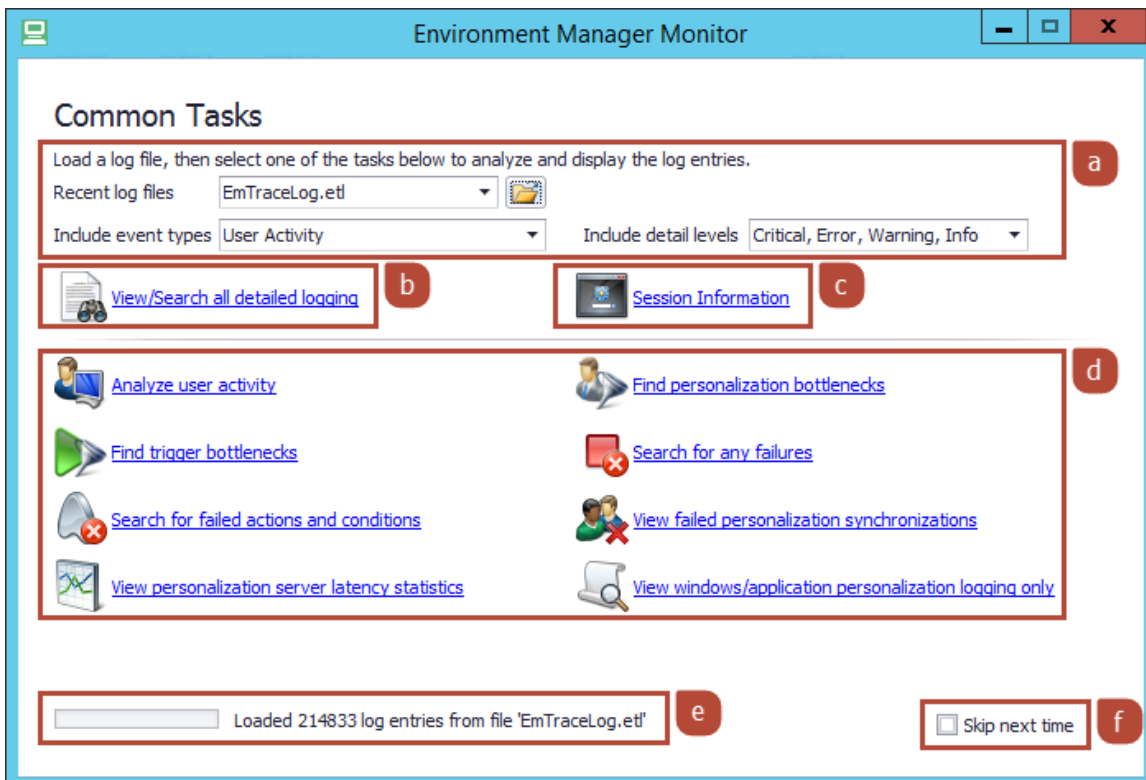
The tools are run independently from Environment Manager and all our other products.

# Environment Manager Monitor

## User Interface

Environment Manager Monitor (EmMon) provides a user interface to view and analyze log files from the Environment Manager Agent. The tool replaces Environment Manager LogViewer.


The landing page displays when the Environment Manager Monitor loads. The landing page provides access to load log files, view raw logs and analyze logs. Links are available to access commonly used filters.



Label	Description
<b>a</b>	<b>Load Log Files</b> Load a log file from disk. Recently used log files are populated in the drop-down menu. Select the event types and logging level to load into Environment Manager Monitor. For further details, see <a href="#">Loading Log Files</a> .
<b>b</b>	<b>View Raw Logs from Live or Disk</b> View raw log lines from the live log or from a log file on disk. You can sort, filter, group, search, and format the dataset. For further details, see <a href="#">Viewing Raw Logs from Live or Disk</a> .


Label	Description
<b>c</b>	<p><b>View Session Information</b></p> <p>View detailed information about each user's session from the loaded log file.</p> <p>For further details, see <a href="#">Viewing Session Information</a>.</p>
<b>d</b>	<p><b>Analyze Log Files from Disk</b></p> <p>View an analysis of a log file, either in a grid or chart. Log entries relating to the same event are collected together.</p> <p>The <b>Analyze user activity</b> option displays the analyzed view with no filters applied.</p> <p>The dataset can be sorted, filtered, grouped, and searched. Built-in filters are available on the landing page to provide access to the following commonly used tasks:</p> <ul style="list-style-type: none"> <li>• <b>Find personalization bottlenecks</b> - Display long-running Personalization events.</li> <li>• <b>Find trigger bottlenecks</b> - Display long-running Policy events.</li> <li>• <b>Search for any failures</b> - Display Policy and Personalization failures.</li> <li>• <b>Search for failed actions and conditions</b> - Display Policy failures.</li> <li>• <b>View failed personalization synchronizations</b> - Display Personalization failures.</li> <li>• <b>View personalization server latency statistics</b> - Display Personalization session requests, configuration requests, application synchronizations and Windows Personalization synchronizations.</li> <li>• <b>View windows/application personalization logging only</b> - Display Personalization session requests, configuration requests, application starts, application synchronizations, Windows Personalization synchronizations, Windows Personalization saves and Windows Personalization restores.</li> </ul> <p>For further details, see <a href="#">Analyzing Log Files from Disk</a>.</p>
<b>e</b>	<p><b>Viewing Loading Progress</b></p> <p>When loading a log file, the loading progress displays. The log file may take a few minutes to load depending on its size, event types and event detail.</p> <p>After a log file is loaded, the number of log entries in the file displays.</p>
<b>f</b>	<p><b>Selecting Loading Behavior</b></p> <p>The <b>Skip next time</b> option can be set as follows:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> - The landing page displays when Environment Manager Monitor is loaded.</li> <li>• <b>Enabled</b> - The live log displays when Environment Manager Monitor is loaded. To show the landing page for subsequent loads, click <b>Options &gt; Settings</b> and enable <b>Show Landing Page</b>.</li> </ul>

## Load a Log File from Disk

1. From the Recent Log Files drop-down, select **Open Log File**.
2. From the Include Event Types drop-down, select the logging event types to load from the selected log file. Options are available for specific user and computer events.
3. From the Include Detail Levels drop-down, select the logging level to load from the selected log file and click **OK**. The following levels are available:
  - Critical
  - Error
  - Warning
  - Info
  - Trace
4. Click .  
A file browse dialog displays.
5. Select an ETL log file and click **Open**.  
Environment Manager Monitor loads the log file. The loading progress displays at the bottom of the dialog. The log file may take a few minutes to load depending on its size, event types and event detail.




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After opening a log file, the file is added to the Recent Log Files drop-down. To open a recently used log file, select the file, event types, detail level and click .

---

## Clear the Recently Used Log Files List

1. From the Recent Log Files drop-down, select **Clear Log Files**.
2. Click .
3. Click **Yes** in the confirmation dialog.

Entries from the Recent Log Files drop-down are removed.

## View Raw Logs from Live or Disk

This view displays the raw log lines from either the live log or from a log file on disk.

You can sort, filter, group, search, and format the dataset to display the relevant information.



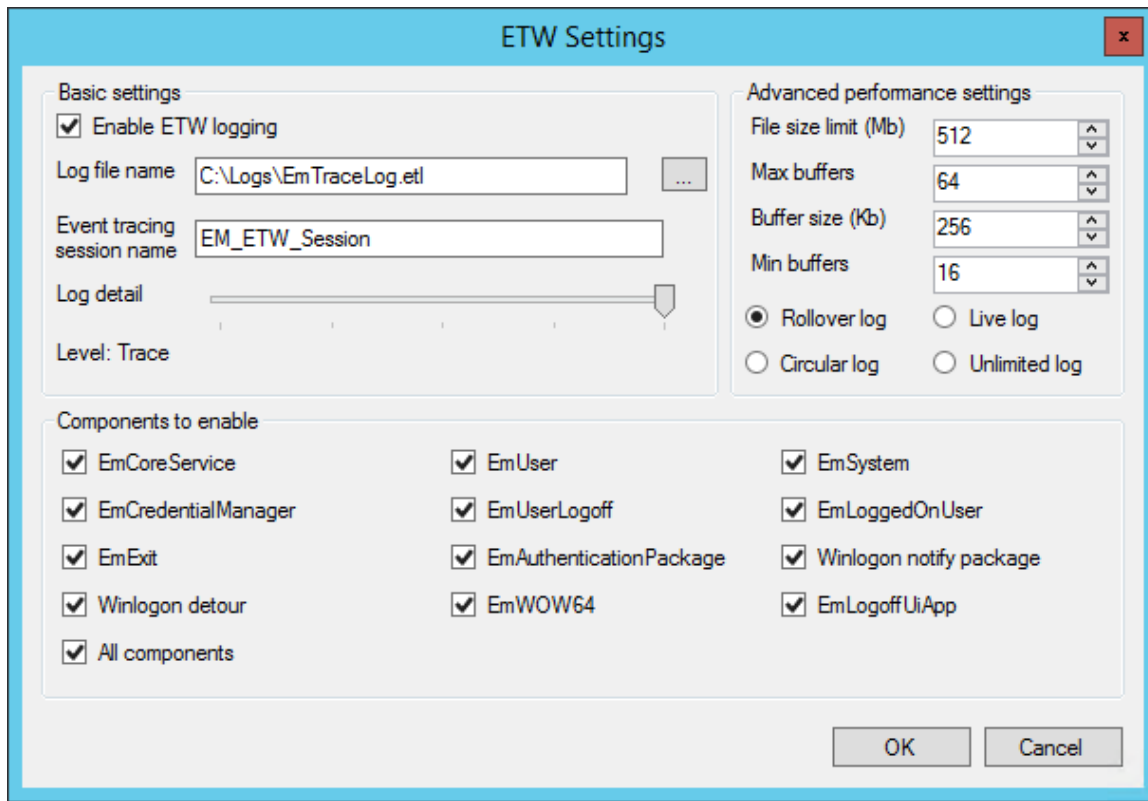
Time Stamp	User Time	Kernel Time	PID	TID	Event	Component	Session Id	Raw Log Line
12/23/2014 10:41:27 683	1	5	2616	1752	Emuser Main Enter	Emuser	2	Event: Emuser Main Enter Id: <Empty> Component: Emuser Sess
12/23/2014 10:41:27 712	1	6	2616	1752	Etw Log Message	Emuser	2	GetUserToken Got user token 384 from EmCoreService for session
12/23/2014 10:41:27 714	1	6	2616	1752	Etw Log Message	Emuser	2	UserInfo::GetUserDetails User: CHILDTEST\mdavies
12/23/2014 10:41:27 714	1	6	2616	1752	Etw Log Message	Emuser	2	<b>LogSystemDetails System Details Follow:</b>
12/23/2014 10:41:27 714	1	6	2616	1752	Session Information	Emuser	2	Event: Session Information Id: <Empty> Component: Emuser Ses
12/23/2014 10:41:27 714	1	6	2616	1752	Etw Log Message	Emuser	2	LogSystemTime TIME: (D/M/Y H:M:S.m) UTC=23/12/2014 10:41:2
12/23/2014 10:41:27 714	1	6	2616	1752	Etw Log Message	Emuser	2	<b>ApplicationVersionNumber</b>
12/23/2014 10:41:27 714	1	6	2616	1752	Etw Log Message	Emuser	2	EngKey::GetValueData Retrieved engineering value
12/23/2014 10:41:27 715	1	6	2616	1752	Etw Log Message	Emuser	2	EngKey::GetValueData Retrieved engineering value
12/23/2014 10:41:27 715	1	6	2616	1752	Etw Log Message	Emuser	2	CClientComms::ConnectToServer Connecting to pipe \\.\PIPE\EMF
12/23/2014 10:41:27 715	1	6	2616	1752	Etw Log Message	Emuser	2	CClientComms::ConnectClient Sending connected message to ser
12/23/2014 10:41:27 716	1	6	2616	1752	Etw Log Message	Emuser	2	CClientComms::ConnectClient Sent EMC_CLIENT_CONNECT mess
12/23/2014 10:41:27 716	1	6	2616	1752	Etw Log Message	Emuser	2	CMessageHandler::StartHandler Connected to server
12/23/2014 10:41:27 768	0	0	2616	2748	Etw Log Message	Emuser	2	WorkerPool::WorkerThread waiting
12/23/2014 10:41:27 768	0	0	2616	2788	Etw Log Message	Emuser	2	WorkerPool::WorkerThread waiting
12/23/2014 10:41:27 768	0	0	2616	2752	Etw Log Message	Emuser	2	WorkerPool::WorkerThread waiting
12/23/2014 10:41:27 768	3	7	2616	1752	Etw Log Message	Emuser	2	EmEventDispatcher::RegisterHandler Registered new handler for
12/23/2014 10:41:27 768	0	0	2616	2860	Etw Log Message	Emuser	2	WorkerPool::WorkerThread waiting
12/23/2014 10:41:27 768	3	7	2616	1752	Etw Log Message	Emuser	2	EmEventDispatcher::RegisterHandler Registered new handler for
12/23/2014 10:41:27 769	3	7	2616	1752	Etw Log Message	Emuser	2	EmEventDispatcher::RegisterHandler Registered new handler for
12/23/2014 10:41:27 769	3	7	2616	1752	Etw Log Message	Emuser	2	EM::Config::CXMLConfig::CXMLConfig Revert actions will unapply
12/23/2014 10:41:27 769	3	7	2616	1752	Etw Log Message	Emuser	2	EM::Config::CXMLConfig::CXMLConfig Initialising reader...
12/23/2014 10:41:27 769	3	7	2616	1752	Etw Log Message	Emuser	2	EM::Config::CXMLConfig::InitializeReader Initializing function poin
12/23/2014 10:41:27 770	3	7	2616	1752	Etw Log Message	Emuser	2	EM::Config::CXMLConfig::InitializeReader Initializing schema defin
12/23/2014 10:41:27 776	3	7	2616	1752	Etw Log Message	Emuser	2	IsTempSessionKeySet Returning 0
12/23/2014 10:41:27 782	3	8	2616	1752	Etw Log Message	Emuser	2	EM::Config::CConfigManager::SetLegacyLogonMode Setting Lega
12/23/2014 10:41:27 783	3	8	2616	1752	Etw Log Message	Emuser	2	GetConfigurationFilePath C:\ProgramData\AppSense\Environment
12/23/2014 10:41:27 784	3	8	2616	1752	Etw Log Message	Emuser	2	EM::Config::CXMLConfig::WaitForFileAccess::<lambda_Sd955ed4

Log lines displayed in bold contain multiple lines that are not displayed in the view. To display the data, either hover over the row or select **Options > Auto Row Height**.

## Enable Logging

To enable logging on the endpoint, select **Options > Settings > Logging Enabled**. A reboot or agent restart is not required. Logging can be enabled using the Environment Manager Logging Setup tool. For further information, see [Enable Logging](#). To view the live log in real time, see [Load Live Logs](#).

## Change Logging Settings



The ETW Settings dialog box is divided into three main sections: Basic settings, Advanced performance settings, and Components to enable. The Basic settings section includes checkboxes for enabling ETW logging, a text field for the log file name (C:\Logs\EmTraceLog.etl), a text field for the event tracing session name (EM\_ETW\_Session), a slider for log detail level (set to Trace), and a radio button for the log type (Rollover log). The Advanced performance settings section includes spinners for file size limit (512 Mb), max buffers (64), buffer size (256 Kb), and min buffers (16), and radio buttons for log type (Rollover log, Live log, Circular log, Unlimited log). The Components to enable section includes a list of components with checkboxes, including EmCoreService, EmUser, EmSystem, EmCredentialManager, EmUserLogoff, EmLoggedOnUser, EmExit, EmAuthenticationPackage, Winlogon notify package, Winlogon detour, EmWOW64, EmLogoff UiApp, and All components.

Basic settings		
<input checked="" type="checkbox"/> Enable ETW logging		
Log file name	C:\Logs\EmTraceLog.etl	
Event tracing session name	EM_ETW_Session	
Log detail	[Slider]	
Level: Trace		

Advanced performance settings		
File size limit (Mb)	512	
Max buffers	64	
Buffer size (Kb)	256	
Min buffers	16	
<input checked="" type="radio"/> Rollover log	<input type="radio"/> Live log	
<input type="radio"/> Circular log	<input type="radio"/> Unlimited log	

Components to enable		
<input checked="" type="checkbox"/> EmCoreService	<input checked="" type="checkbox"/> EmUser	<input checked="" type="checkbox"/> EmSystem
<input checked="" type="checkbox"/> EmCredentialManager	<input checked="" type="checkbox"/> EmUserLogoff	<input checked="" type="checkbox"/> EmLoggedOnUser
<input checked="" type="checkbox"/> EmExit	<input checked="" type="checkbox"/> EmAuthenticationPackage	<input checked="" type="checkbox"/> Winlogon notify package
<input checked="" type="checkbox"/> Winlogon detour	<input checked="" type="checkbox"/> EmWOW64	<input checked="" type="checkbox"/> EmLogoff UiApp
<input checked="" type="checkbox"/> All components		


OK Cancel

Further logging settings are available within the Environment Manager Monitor. Use these settings to define the name, location, detail level, components, and performance.

1. Select **Options > Settings > Logging Settings**.

The ETW Settings dialog displays.

2. Set the required options for logging. The following settings are available:

Setting	Description
Enable ETW logging	Enable or disable logging on the local endpoint.
Log file name	The location and name to which the log file is written.
Event tracing session name	The name for the event tracing session. This name is used in Performance Monitor.
Log detail	<p>The level of detail that is logged. The following options are available:</p> <ul style="list-style-type: none"> <li>• Critical</li> <li>• Error</li> <li>• Warning</li> <li>• Informational</li> <li>• Trace</li> </ul> <hr/> <p> Unless advised otherwise by Support, it is recommended that the Log detail slider is set to Trace.</p> <hr/>
Components to enable	<p>The components that are logged. The following components are available:</p> <ul style="list-style-type: none"> <li>• EmCoreService</li> <li>• EmUser</li> <li>• EmSystem</li> <li>• EmCredentialManager</li> <li>• EmUserLogoff</li> <li>• EmLoggedOnUser</li> <li>• EmExit</li> <li>• EmAuthenticationManager</li> <li>• Winlogon notify package</li> <li>• Winlogon detour</li> <li>• EmWOW64</li> <li>• EmLogoffUiApp</li> </ul>
File size limit	The maximum size of the log file in Mb if Circular Logging or Live Logging is enabled.

Setting	Description
Max buffers	The maximum number of buffers.
Buffer size	The size of each buffer in Kb.
Min buffers	The minimum number of buffers.
Log File Mode	<p>Set the log file mode. The following options are available:</p> <ul style="list-style-type: none"><li>• <b>Rollover log</b> - The log file grows to the specified size limit. Once it has reached the limit, a new log file is created with a version number appended to the name.</li><li>• <b>Live log</b> - Logging can be viewed in real time using the Environment Manager Monitor. This is the equivalent of <i>Real Time</i> logging in Windows Event Tracing.</li><li>• <b>Circular log</b> - The log file grows to the specified size limit. Once it has reached the limit, the log file automatically overwrites the oldest entries.</li><li>• <b>Unlimited log</b> - The log files grows indefinitely regardless of the size limit.</li></ul>

3. Click **OK**.

The logging settings are applied. A reboot or agent restart is not required.

## Loading Log Files

### Load Live Logs

If logging is enabled in Live Log mode on the current endpoint, the live log file can be viewed in real time. To view the live log, select **File > Live Logs**.

To stop the view automatically scrolling as new log entries are received, deselect **Options > Auto Scroll**.

### Load Log File From Disk

1. Select **File > Open Log File**.

A file browse dialog displays.

2. Select an ETL log file and click **Open**.

Environment Manager Monitor loads the log file. The loading progress displays at the bottom of the dialog. The log file may take a few minutes to load depending on its size, event types and event detail

### Load a Recently Used Log File

1. Select **File > Recent Log Files**.

A list of recently used log files displays.

2. Select a log file to open.

Environment Manager Monitor loads the log file. The loading progress displays at the bottom of the dialog. The log file may take a few minutes to load depending on its size, event types and event detail.

## Export Log Files

1. Select **File > Export**.
2. Select a format to export to. The following options are available:
  - Excel
  - CSV
  - Text
  - Rich Text
  - Web Page
  - PDF

A file save dialog displays.

3. Select an export location and click **Save**.

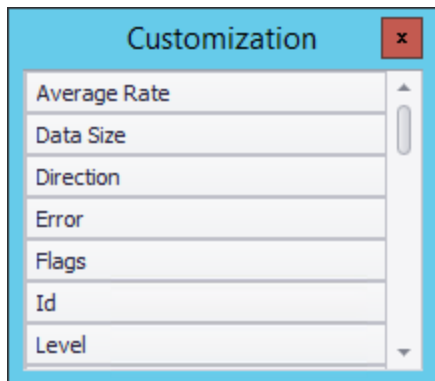
The current dataset is exported to the selected location.

## Manipulate the Data View

### Add Columns

1. Right-click a column heading
2. Select **Column Chooser**.

The Customization dialog displays.



3. Drag a column from the Customization dialog into the desired position on the header row.

## Sort Columns

1. Right-click a column heading.
2. Select a sort order:
  - Sort Ascending - Sort the data in ascending order.
  - Sort Descending - Sort the data in descending order.
3. To clear the sorting, right-click the column heading and select Clear Sorting.

## Filter Columns from Existing Values

This option displays all of the unique values for a field, such as all Session IDs, from the open log file. Columns can be filtered by a specific value from the dataset.

1. Hover over a column heading and click the filter icon.

A list of unique values within the column displays.

Time Stamp	User Time	Kernel Time	PID	TID	Event
12/23/2014 10:41:27 683	1	5	26		
12/23/2014 10:41:27 712	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 714	1	6	26		
12/23/2014 10:41:27 715	1	6	26		
12/23/2014 10:41:27 715	1	6	26		
12/23/2014 10:41:27 715	1	6	26		
12/23/2014 10:41:27 716	1	6	26		
12/23/2014 10:41:27 716	1	6	26		
12/23/2014 10:41:27 768	0	0	26		
12/23/2014 10:41:27 768	0	0	26		
12/23/2014 10:41:27 768	0	0	2616	2752	Etw Log Message
12/23/2014 10:41:27 768	3	7	2616	1752	Etw Log Message
12/23/2014 10:41:27 768	0	0	2616	2860	Etw Log Message

2. Select a value on which to filter the selected column.

The data is filtered to show only entries that match the criteria.

### Filter Columns using Auto Filter Row

The Auto Filter Row displays above the dataset and allows columns to be filtered by entering basic filtering criteria.

1. Select **View > Filters > Auto Filter Row**.

The Auto Filter Row displays below the column headings.

2. To filter a column, enter the text into the Auto Filter Row.

Live		EmTraceLog					
	Time Stamp	User Time	Kernel Time	TID	PID	Component	Raw Log Line
▼					4976		
	12/23/2014 10:44:04 204	0	16	5000	4976	Emuser	Event: Emuser Main E
	12/23/2014 10:44:04 237	0	17	5000	4976	Emuser	GetUserToken Got use
	12/23/2014 10:44:04 238	0	17	5000	4976	Emuser	UserInfo::GetUserDef
	12/23/2014 10:44:04 239	0	17	5000	4976	Emuser	LogSystemDetails Sys

The data is filtered to show only entries that match the criteria entered in the Auto Filter Row.

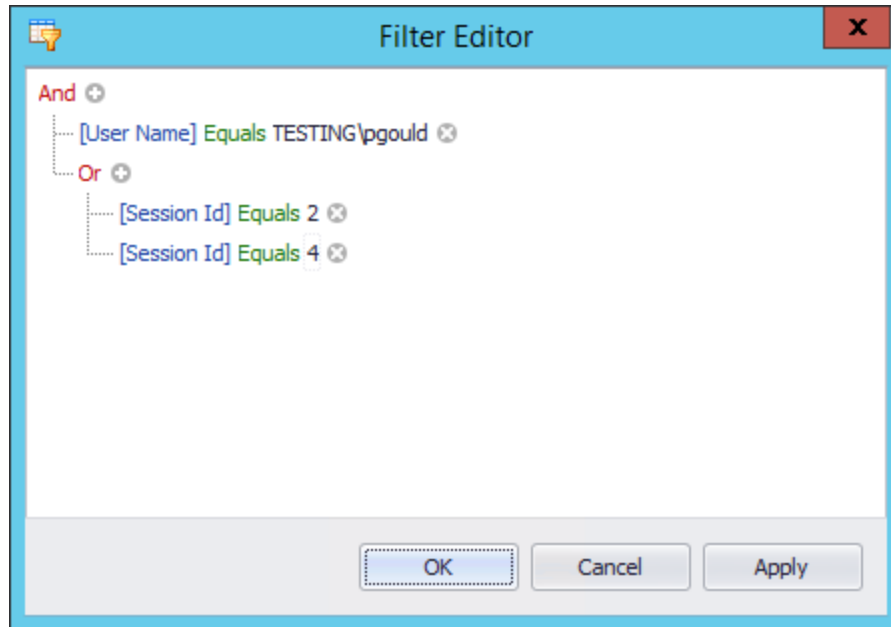
3. To clear the filtering, select **View > Filters > Clear**.

### Filter Columns using Filter Editor

The Filter Editor allows conditions to be created to target specific data in the dataset. Complex conditions can be created by using multiple expressions and nested Boolean operators.



1. Select **View > Filters > Filter Editor**.
2. Edit the condition as required:
  - Click a red Boolean operator, such as **And**, to edit the operator or add a new condition group.
  - Click a blue field name, such as **[Time Stamp]**, to change the field to match.
  - Click a green operator, such as **Equals**, to edit the operator.
  - Click either **<enter a value>** or a black value to enter a value.
  - Click **+** to add a new expression to the condition.



3. Click **Apply** to preview the filter.
4. Click **OK**.

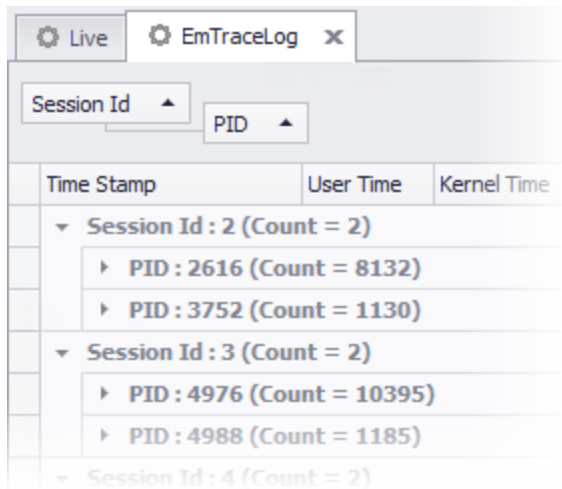
The data is filtered to show only entries that match the criteria entered in the Filter Editor.
5. To clear the filtering, select **View > Filters > Clear**.

## Group Columns

1. Select **View > Groups > Group By Box**.

The Group By box displays above the column headings.

2. Drag a column heading into the Group By box. More columns can be dragged into the Group By box to create nested groupings.



The data is grouped by the fields specified in the Group By box.

3. To clear the grouping, right-click the Group By box and select **Clear Grouping**.

## Search Log Entries

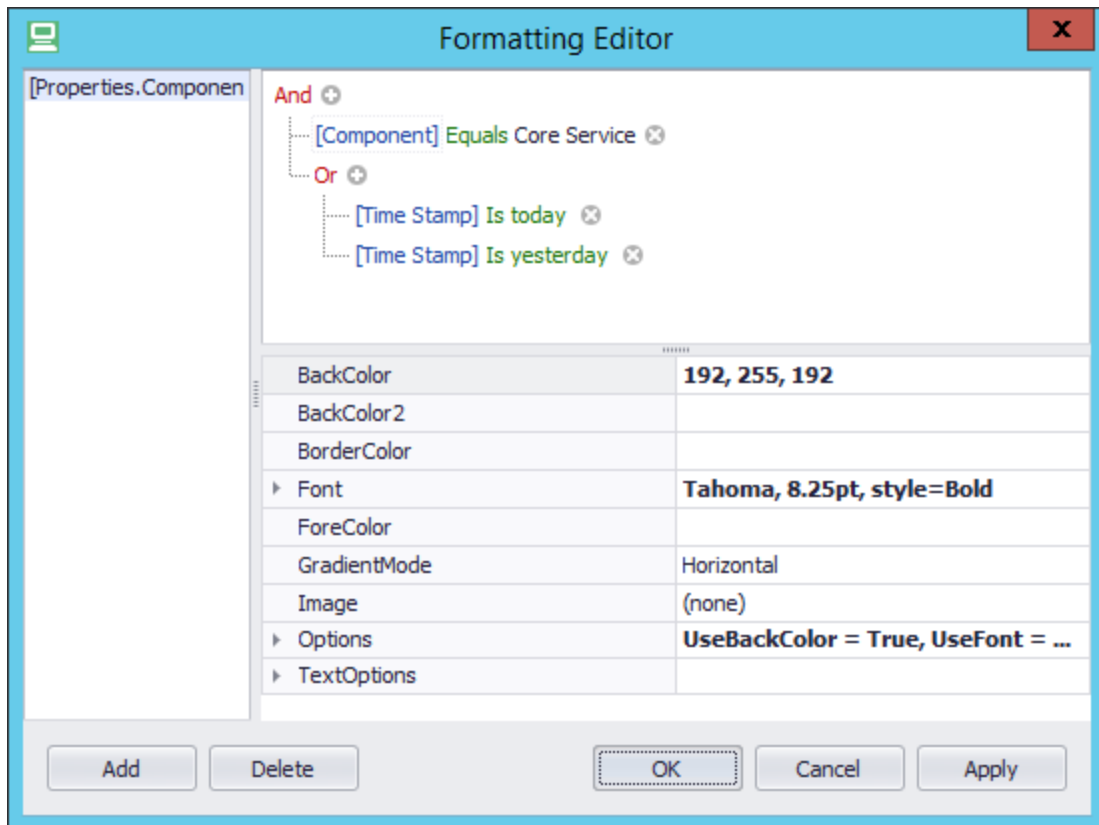
1. Select **Edit > Find Panel**. The Find Panel displays above the column headings.  
Enter a search term.
2. Click **Find**. Rows containing text in any column that matches the entered search term are displayed.
3. To clear the search, click **Clear** in the Find Panel or close the Find Panel.

## Add Conditional Formatting

Conditional formatting allows rows or text to be formatted based upon the data within one or more fields.

1. Select **Tools > View > Formatting Editor**.  
The Formatting Editor dialog displays.
2. Click **Add** to add a new condition. Edit the condition as required:
  - Click a red Boolean operator, such as **And**, to edit the operator or add a new condition group.
  - Click a blue field name, such as **[Time Stamp]**, to change the field to match.
  - Click a green operator, such as **Equals**, to edit the operator.
  - Click either **<enter a value>** or a black value to enter a value.
  - Click to add a new expression to the condition.

- Once the condition has been constructed, set the formatting properties for rows that match the condition. Available options include row background color, row border color and text formatting.



- Click **Apply** to preview the conditional formatting.
- Click **OK**.
- Rows matching the criteria specified in the Formatting Editor are formatted.
- To clear the formatting, select **View > Formatting > Clear**.

## View Footer

The footer allows statistics to be displayed for one or more fields. The sum, minimum, maximum, count, and average values are available for each field.

- Select **View > Footer**.

The footer displays above the status bar.

2. Below a column, right-click the footer. Select a statistic from the following options:

- Sum
- Min
- Max
- Count
- Average

The statistic displays in the footer and automatically updates as data is added or removed.

12/23/2014 10:41:27 826	3	10	2616	1752	Etw Log Message	Et
12/23/2014 10:41:27 827	0	0	2616	3040	Etw Log Message	Et
12/23/2014 10:41:27 827	0	1	2616	3040	Etw Log Message	Et
12/23/2014 10:41:27 828	0	0	2616	3020	Etw Log Message	Et
AVG=1085.83						
214833 of 214833 events						

### Copy Log Lines to New Tab

One or more log lines can be copied to a new tab to allow the data to be analyzed independently. Tabs can be renamed to make it easier to work with multiple tabs.

1. Select one or more log lines from the log file. Multiple lines can be selected by using the Ctrl or Shift keys.
2. Select **Edit > Copy To New Tab**
3. A new tab is created containing the selected log lines.
4. To rename the created tab, right-click the tab and select **Rename**.

### Merge and Compare Tabs

Data from two tabs can be merged and compared in a single view. The rows are color-coded to differentiate between the two sources.

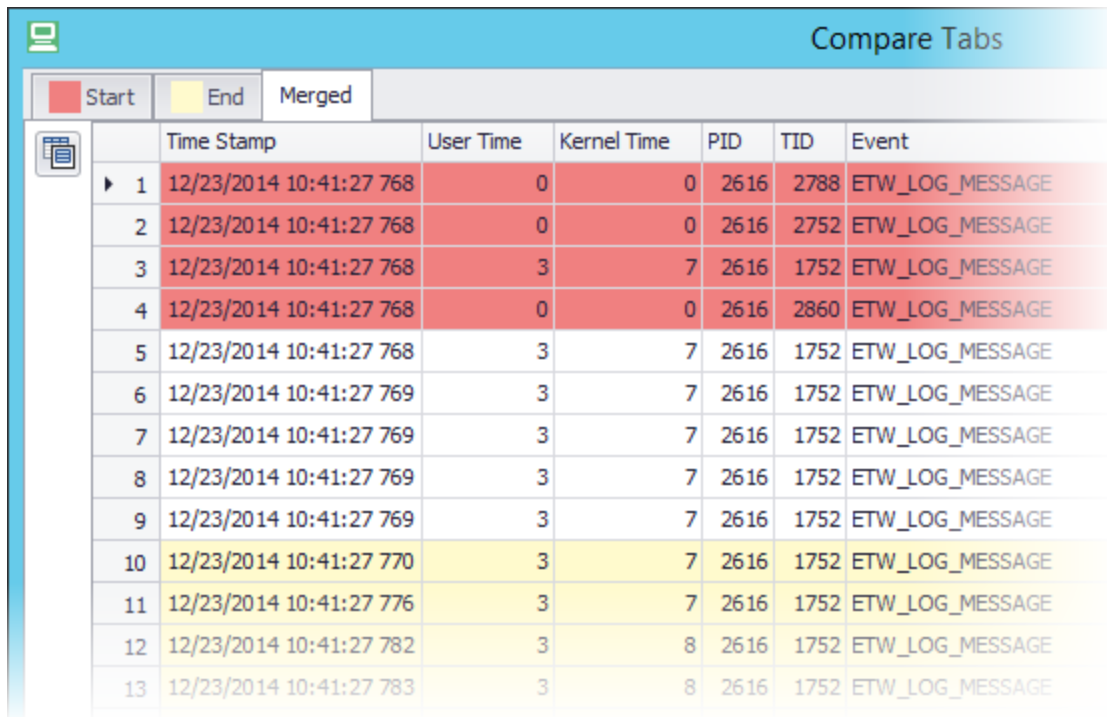
1. Select the first tab to compare.
2. Select **Tools > Compare With**.

A list of open tabs displays.

3. Select a tab to compare with the current tab.




The Compare Tabs dialog displays.

Log lines that are present in both tabs display in white, those from only the first tab display in red and those from only the second tab display in yellow.



	Start	End	Merged		Time Stamp	User Time	Kernel Time	PID	TID	Event
▶ 1					12/23/2014 10:41:27 768	0	0	2616	2788	ETW_LOG_MESSAGE
2					12/23/2014 10:41:27 768	0	0	2616	2752	ETW_LOG_MESSAGE
3					12/23/2014 10:41:27 768	3	7	2616	1752	ETW_LOG_MESSAGE
4					12/23/2014 10:41:27 768	0	0	2616	2860	ETW_LOG_MESSAGE
5					12/23/2014 10:41:27 768	3	7	2616	1752	ETW_LOG_MESSAGE
6					12/23/2014 10:41:27 769	3	7	2616	1752	ETW_LOG_MESSAGE
7					12/23/2014 10:41:27 769	3	7	2616	1752	ETW_LOG_MESSAGE
8					12/23/2014 10:41:27 769	3	7	2616	1752	ETW_LOG_MESSAGE
9					12/23/2014 10:41:27 769	3	7	2616	1752	ETW_LOG_MESSAGE
10					12/23/2014 10:41:27 770	3	7	2616	1752	ETW_LOG_MESSAGE
11					12/23/2014 10:41:27 776	3	7	2616	1752	ETW_LOG_MESSAGE
12					12/23/2014 10:41:27 782	3	8	2616	1752	ETW_LOG_MESSAGE
13					12/23/2014 10:41:27 783	3	8	2616	1752	ETW_LOG_MESSAGE

4. Click  to access merge and compare options.

Compare Tabs			
 Start		 End	
 Merged			
Name	Visible	Calculated	
Time Stamp	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 12/23/2014 10:41:27 768
User Time	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 12/23/2014 10:41:27 768
Kernel Time	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 12/23/2014 10:41:27 768
PID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4 12/23/2014 10:41:27 768
TID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5 12/23/2014 10:41:27 768
Level	<input type="checkbox"/>	<input type="checkbox"/>	6 12/23/2014 10:41:27 769
Event	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7 12/23/2014 10:41:27 769
Component	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8 12/23/2014 10:41:27 769
Session Guid	<input type="checkbox"/>	<input type="checkbox"/>	9 12/23/2014 10:41:27 769
Session Id	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10 12/23/2014 10:41:27 770
Id	<input type="checkbox"/>	<input type="checkbox"/>	11 12/23/2014 10:41:27 776
Raw Log Line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12 12/23/2014 10:41:27 782
Result	<input type="checkbox"/>	<input type="checkbox"/>	13 12/23/2014 10:41:27 783
			14 12/23/2014 10:41:27 784
			15 12/23/2014 10:41:27 819
			16 12/23/2014 10:41:27 821

5. Change the options as required and click **Refresh**. The following options are available:

- **Visible** - Change the columns that are displayed in the comparison.
- **Calculated** - Change the columns that are used for the comparison.

The merged data is displayed with the specified columns visible.

## Look Up Error Codes

Look up system error codes from the log file using the built-in tool.

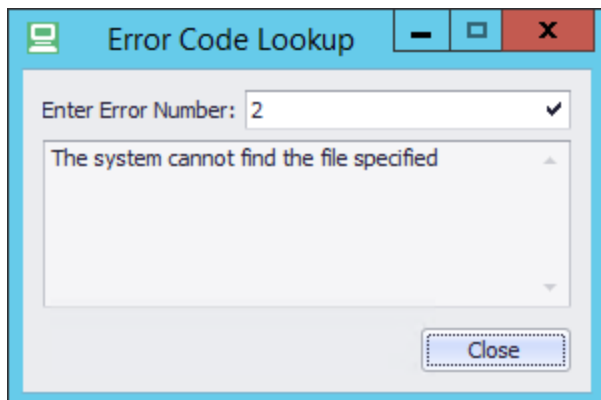
1. Click **Tools > Error Code Lookup**.

The Error Code Lookup dialog displays.

2. Enter an error code.

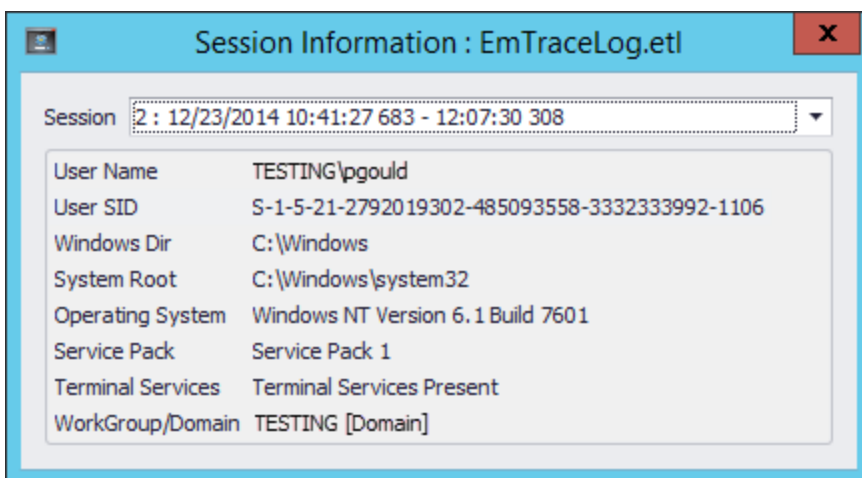
3. Click ✓.

The error information displays for the entered error code.



## View Session Information

The Session Information dialog provides information about each user session from the loaded log file. The drop-down lists the session number and the logon and logoff times. When a session is selected, detailed information about the session displays.



# Analyze Log Files from Disk

This view displays an analysis of the loaded log file. Log entries relating to the same event are collected together.

## Filters Pane

## Work Area

The screenshot displays the 'Analyze Log Files from Disk' view in the Environment Manager 10.1 FR4 Administrative Tools. The interface is divided into three main panes:

- Filters Pane:** Located on the left, it contains a tree view for filtering log entries. The 'Policy' node is expanded, showing sub-nodes like 'Triggers', 'Computer', 'User', 'Logon', 'Logoff', 'Process Started', 'Process Stopped', 'Network Connected', 'Network Disconnected', 'Session Reconnected', 'Session Disconnected', 'Session Locked', 'Session Unlocked', 'Windows Personalization', 'Policy Nodes', 'Actions', 'Custom & Execute', 'Drive & Printers', and 'Environment'. The 'Result' node is also expanded, showing 'Passed' and 'Failed'.
- Work Area:** The central pane displays a grid of log entries. The grid has columns for 'Type', 'Name', 'Description', 'Session Id', 'Category', and 'Start Time'. The entries are grouped by 'User Name: DEVELOPMENT\pmoran (Count = 2)' and 'Session: 3/18/2015 14:04:45 247 - 14:47:58 249 (Count = 22)'. The entries include 'Trigger', 'Action', and 'Condition'.
- Details Pane:** Located at the bottom, it provides a detailed view of the selected log entry. It shows the 'Name' (EARLY\_LOGON), 'Session Id' (2), 'User Name' (DEVELOPMENT\pmoran), 'Trigger Id' (1C1CE105-BEAB-404A-AF15-87987160B), 'Result' (Passed), 'Start Time' (3/18/2015 14:04:48), 'End Time' (3/18/2015 14:04:49), and 'Duration' (68ms). It also shows a table of raw log lines with columns for 'Time Stamp', 'User Time', 'Kernel Time', 'PID', 'TID', 'Event', 'Component', 'Session Id', and 'Raw Log Line'.



## Grid View

The Grid view provides an analysis of activity. Each row is an event, such as an action or condition.

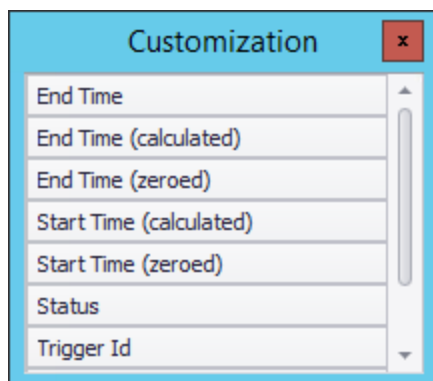
Type	Name	Description	Session Id	Category	Start Time
User Name: TESTING\pgould (Count = 2)					
Session : 3/18/2015 14:04:45 247 - 14:47:58 249 (Count = 22)					
Trigger	EARLY_LOGON	Early Logon	2		3/18/2015 14:04:45
Action	Set environment variable 'E...	\\EARLY_LOGON\07\Set en...	2		3/18/2015 14:04:45
Action	Set Session Variable 'Sessio...	\\EARLY_LOGON\07\Set Se...	2		3/18/2015 14:04:45
Condition	File '%USERPROFILE%\De...	\\EARLY_LOGON\File\File A...	2		3/18/2015 14:04:45
Trigger	LOGON	Logon	2		3/18/2015 14:04:45
Action	Set environment variable 'E...	\\LOGON\07\Set environme...	2		3/18/2015 14:04:45
Action	Set Session Variable 'Sessio...	\\LOGON\07\Set Session Va...	2		3/18/2015 14:04:45
Action	Custom Action VBScript. Ru...	\\LOGON\07\Custom Acti...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\03\03_01\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\02\02_02\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\03\03_03\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\03\03_02\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\02\02_01\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\01\01_02\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\01\01_03\Creat...	2		3/18/2015 14:04:45
Action	Create Folder >%USERPR...	\\LOGON\01\01_01\Creat...	2		3/18/2015 14:04:45

You can sort, filter, group, search, and format the dataset to display the relevant information.

### Add Columns

1. Right-click a column heading
2. Select **Column Chooser**.

The Customization dialog displays.



3. Drag a column from the Customization dialog into the desired position on the header row.

## Sort Columns

1. Right-click a column heading.
2. Select a sort order:
  - **Sort Ascending** - Sort the data in ascending order.
  - **Sort Descending** - Sort the data in descending order.
3. To clear the sorting, right-click the column heading and select **Clear Sorting**.

## Filter Columns from Existing Values

This option displays all of the unique values for a field, such as all Session IDs, from the open log file. Columns can be filtered by a specific value from the dataset.

1. Hover over a column heading and click the filter icon.  
A list of unique values within the column displays.

Time Stamp	User Time	Kernel Time	PID	TTD	Event
12/23/2014 10:41:27 683	1		5	261	in Enter
12/23/2014 10:41:27 712	1		6	261	essage
12/23/2014 10:41:27 714	1		6	261	essage
12/23/2014 10:41:27 714	1		6	261	essage
12/23/2014 10:41:27 714	1		6	261	ormation
12/23/2014 10:41:27 714	1		6	261	essage
12/23/2014 10:41:27 714	1		6	261	essage
12/23/2014 10:41:27 714	1		6	261	essage
12/23/2014 10:41:27 715	1		6	261	essage
12/23/2014 10:41:27 715	1		6	261	essage
12/23/2014 10:41:27 715	1		6	261	essage
12/23/2014 10:41:27 715	1		6	261	essage
12/23/2014 10:41:27 716	1		6	261	essage
12/23/2014 10:41:27 716	1		6	261	essage
12/23/2014 10:41:27 768	0		0	261	essage
12/23/2014 10:41:27 768	0		0	261	essage
12/23/2014 10:41:27 768	0		0	2616	2752 Etw Log Message
12/23/2014 10:41:27 768	3		7	2616	1752 Etw Log Message
12/23/2014 10:41:27 768	0		0	2616	2860 Etw Log Message

2. Select a value on which to filter the selected column.  
The data is filtered to show only entries that match the criteria.
3. To clear the filtering, right-click the column heading and select **Clear Filter**.

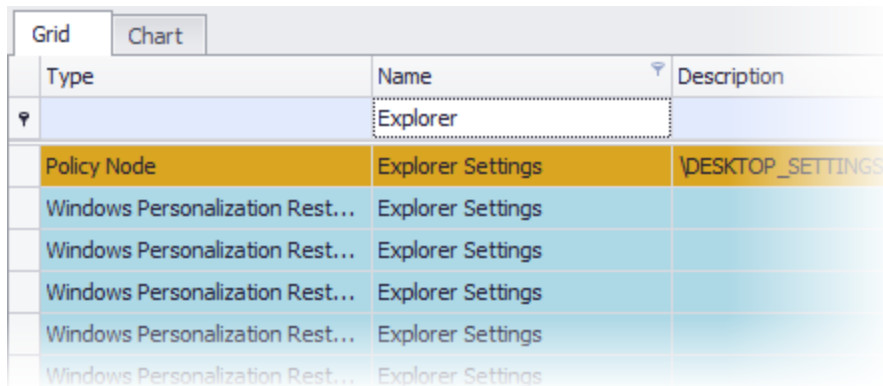
## Filter Columns using Auto Filter Row

The Auto Filter Row displays above the dataset and allows columns to be filtered by entering basic filtering criteria.

1. Right-click a column heading and select **Show > Auto Filter Row**.

The Auto Filter Row displays below the column headings.

2. To filter a column, enter text into the Auto Filter Row.



Grid	Chart	Type	Name	Description
			Explorer	
		Policy Node	Explorer Settings	DESKTOP_SETTINGS
		Windows Personalization Rest...	Explorer Settings	
		Windows Personalization Rest...	Explorer Settings	
		Windows Personalization Rest...	Explorer Settings	
		Windows Personalization Rest...	Explorer Settings	
		Windows Personalization Rest...	Explorer Settings	

The data is filtered to show only entries that match the criteria entered in the Auto Filter Row.

3. To clear the filtering, right-click the column heading and select **Clear Filter**.

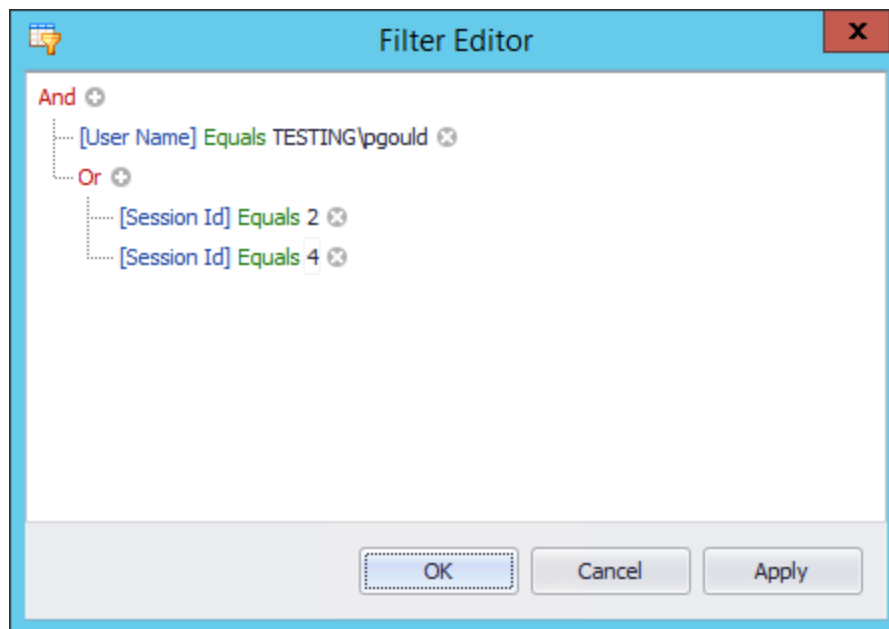
## Filter Columns using Filter Editor

In the Filter Editor, create conditions to target specific data in the dataset. Use multiple expressions and nested Boolean operators to create complex conditions.

1. Right-click a column heading and select **Filter Editor**.

The Filter Editor dialog displays.

2. Edit the condition as required:
  - Click a red Boolean operator, such as **And**, to edit the operator or add a new condition group.
  - Click a blue field name, such as **[Time Stamp]**, to change the field to match.
  - Click a green operator, such as **Equals**, to edit the operator.
  - Click either **<enter a value>** or a black value to enter a value.
  - Click **+** to add a new expression to the condition.



3. Click **Apply** to preview the filter.
4. Click **OK**.

The data is filtered to show only entries that match the criteria entered in the Filter Editor.
5. To clear the filtering, right-click a column heading and select **Clear Filter**.

## Group Columns

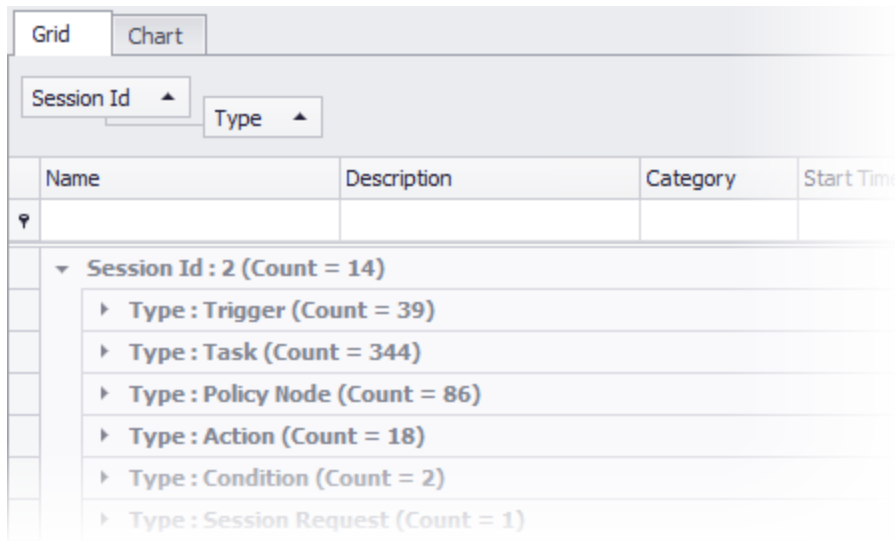
Data can be grouped by one or more columns to create nested datasets. By default, the view is grouped by Username followed by Session Description to create a nested view of users and each user's sessions.

The username and Session ID are captured at logon. If logging is enabled mid-session, these fields may not be populated.

1. Right-click a column and select **Group By Box**.

The Group By box displays above the column headings.

2. Drag a column heading into the Group By box. More columns can be dragged into the Group By box to create nested groupings.



The data is grouped by the fields specified in the Group By box.

3. To clear the grouping, right-click on the Group By box and select **Clear Grouping**.

### Export and Compress Session Logs

Individual session logs can be exported and compressed in ZIP format. The log can be emailed to Support if required. Group the log by Username followed by Session Description. For further information, see [Group Columns](#).

1. Right-click a session heading and select **Export and Compress Session**.
2. The Browse for Folder dialog displays.
3. Select a location to save the exported session log and click **OK**.
4. The session log is exported to the selected location.

### Search Log Entries

1. Click inside the grid.
2. Press **Ctrl+F**.  
The Find Panel displays above the column headings.
3. Enter a search term.
4. Click **Find**.  
Rows containing text in any column that matches the entered search term are displayed.
5. To clear the search, click **Clear** in the Find Panel or close the Find Panel.

### Recalculate Times

The start date and time of the log can be set to a different date and time. This allows timings of each

event to be displayed relative to a specified date and time.

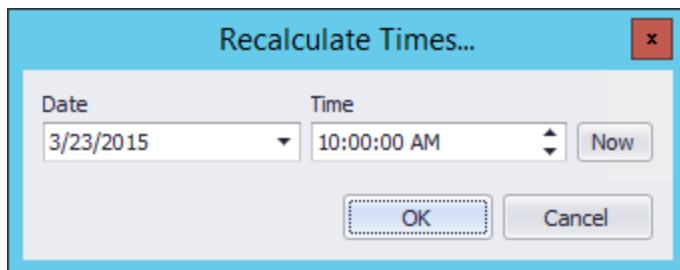
Add the Start Time (calculated) and End Time (calculated) columns to the grid.

For further information about adding columns, see [Add Columns](#).

1. Right-click in the work area and select **Update Calculated Times**.

The Recalculate Times dialog displays.

2. Enter a date and time for the start of the log. To specify the current date and time, click **Now**.



The dialog box titled "Recalculate Times..." has a close button (X) in the top right corner. It contains two input fields: "Date" with a dropdown menu showing "3/23/2015" and "Time" with a spinner showing "10:00:00 AM". To the right of the Time field is a "Now" button. At the bottom are "OK" and "Cancel" buttons.

3. Click **OK**.

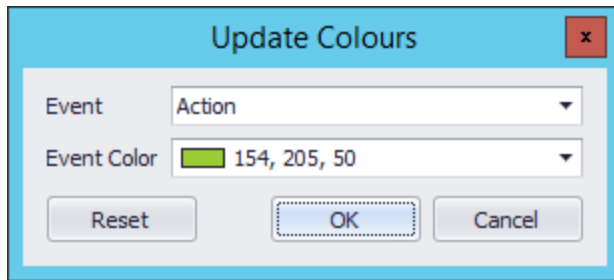
The Start Time (calculated) and End Time (calculated) columns update to represent the log start time specified.

Grid		Chart			
Type	Name	Start Time	Start Time (calculated)	Description	
Session Request		12/23/2014 10:41:28 371	3/23/2015 10:00:00 688		
Configuration Request		12/23/2014 10:41:28 989	3/23/2015 10:00:01 305		
Task	EM_TASK_CLIENT_INITIALIZE	12/23/2014 10:41:30 302	3/23/2015 10:00:02 619	Client Initialize	
Task	EM_TASK_NODE_EXECUTIO...	12/23/2014 10:41:30 309	3/23/2015 10:00:02 626	Node Execution	
Trigger	EARLY_LOGON	12/23/2014 10:41:30 310	3/23/2015 10:00:02 626	Early Logon	
Policy Node	Pre Session	12/23/2014 10:41:30 312	3/23/2015 10:00:02 629	EARLY_LOGON	
Action	Set environment variable 'Pr...	12/23/2014 10:41:30 314	3/23/2015 10:00:02 630	EARLY_LOGON	
Session Request		12/23/2014 10:41:30 369	3/23/2015 10:00:02 686		
Configuration Request		12/23/2014 10:41:30 494	3/23/2015 10:00:02 810		
Task	EM_TASK_USER_EARLY_LO...	12/23/2014 10:41:30 673	3/23/2015 10:00:02 990	User Early Logon	
Task	EM_TASK_DS_SNAPSHOT	12/23/2014 10:41:30 945	3/23/2015 10:00:03 261	Ds Snapshot	
Task	EM_TASK_DS_SNAPSHOT	12/23/2014 10:41:30 946	3/23/2015 10:00:03 262	Ds Snapshot	

## Change Row Colors

Modify default row background colors to uniquely identify event types.

1. Right-click a row and select **Update Colors**.
2. The Update Colors dialog displays.



3. From the Event field, select the event type.
4. From the Event Color field, select a new color for the event. Click **More Colors** to set a custom color.
5. Click **OK**.
6. To revert to the default colors, open the Update Colors dialog and click **Reset**.

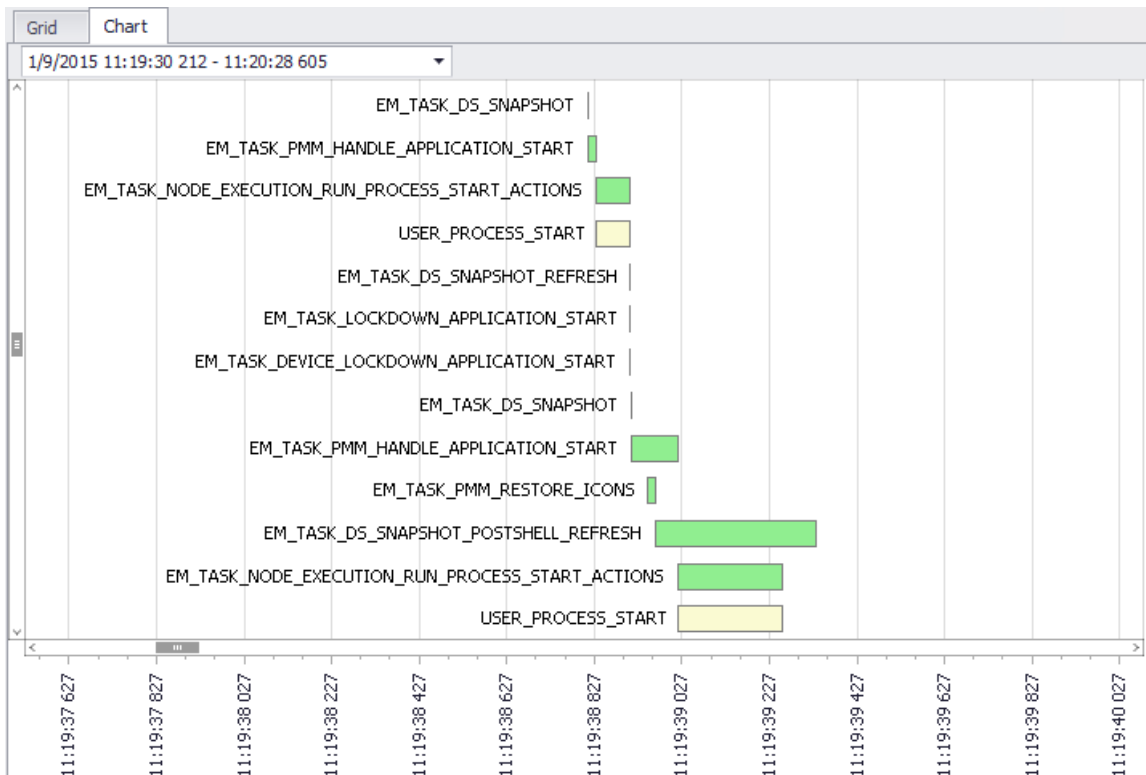
## Chart View

The Chart View provides a graphical representation of activity over time. Each bar is an event, such as an action or condition.

The drop-down lists user sessions in the loaded log file. From the drop-down, filter the chart by selecting or deselecting user sessions.

Use the mouse scroll wheel to change the zoom level or press **Ctrl+Plus** to zoom in and **Ctrl+Minus** to zoom out. To zoom to a specific chart area, press **Shift** and draw a rectangle around the required elements. If zoomed in, drag within the chart to pan.

The context menu provides view options, such as bar and axis labels.



To display the bar relating to a specific event from the Grid view, right-click the row and select **Show in Chart**. To display the row relating to a specific bar from the Chart view, right-click the bar and select **Show in Grid**.

## Filters Pane

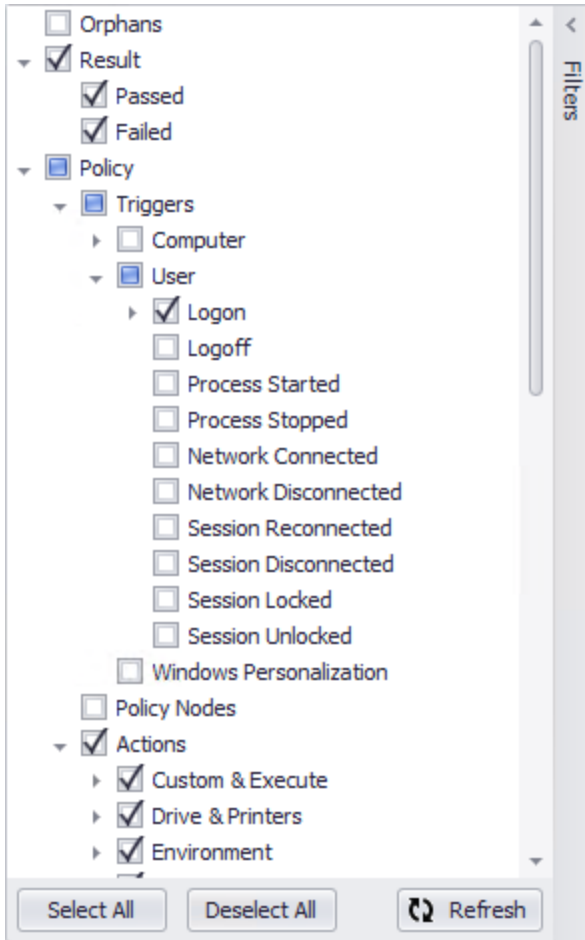
The Filters pane provides filters that can be applied to the current dataset.

You can apply trigger filters in conjunction with other selected filters. For example, selecting **Logon** and **Actions** displays action events in the Logon trigger.



To show events for the Citrix vDisk Client Settings condition, add **File & Folder** to the filter.





To apply filters:

1. Click **Filters** to expand the Filters pane.
2. Select the required filters. Click **Select All** to select all filters or **Deselect All** to deselect all filters.
3. Click **Refresh**.  
The filter is applied to the grid or list.
4. To clear the filtering, expand the Filters pane, click **Select All** and click **Refresh**.

## Details Pane

The Details pane provides further information about the selected item in the Grid or Chart view.

The left-hand section shows detailed information about the event, such as error details, duration, user name, user session, and Policy configuration node path. The right-hand section shows the raw log lines for the selected event.

Details									
Name	EM_TASK_CLIENT_INITIALIZE	Time Stamp	User Time	Kernel Time	PID	TID	Event	Component	Session Id
Session Id	1	1/9/2015 11:19:31 827	1	0	2696	2768	Start Task	Emuser	1 Event: Start Task Id: 3
User Name	TESTING\pgould	1/9/2015 11:19:31 827	1	0	2696	2768	Etw Log Message	Emuser	1 HandlerNode::RunHandler
Task	Client Initialize	1/9/2015 11:19:31 827	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis
Type	Both	1/9/2015 11:19:31 827	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis
Message	Client Initialize	1/9/2015 11:19:31 827	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis
Start Time	1/9/2015 11:19:31 827	1/9/2015 11:19:31 828	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis
End Time	1/9/2015 11:19:31 839	1/9/2015 11:19:31 828	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis
Duration	012ms	1/9/2015 11:19:31 828	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis
		1/9/2015 11:19:31 828	1	0	2696	2768	Etw Log Message	Emuser	1 EmEventDispatcher::Regis

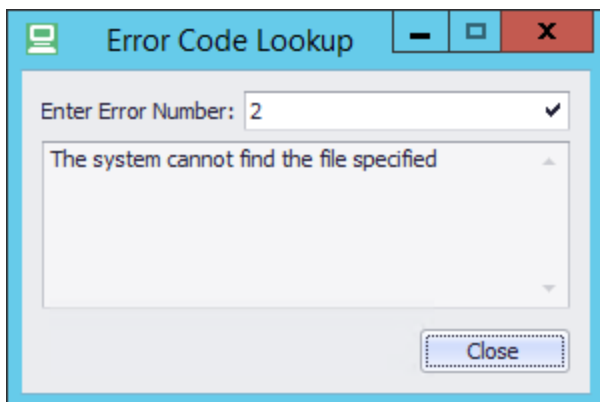
You can sort, filter, group, and search the data in the Details pane just as you can in the work area. For more information, see [Work Area](#).

## Look Up Error Codes

Look up system error codes from the log file using the built-in tool.

1. Right-click within the work area and select **Error Code Lookup**.  
The Error Code Lookup dialog displays.
2. Enter an error code.
3. Click ✓.

The error information displays for the entered error code.



## User Scenarios

The following sections provide procedures to guide you through common tasks when using this feature. The scenarios are high level with the processes already documented elsewhere in *Environment Manager Administrative Tools*. They may not exactly reflect your particular Environment Manager setup or business requirements but demonstrate how the feature can be used.

### Diagnose a Failed Map Drive Action

#### Scenario

As an administrator, you want to diagnose why a Map Drive action in your Policy configuration fails.

#### Process

In the Environment Manager Monitor tool:

1. Load an Environment Manager log file from an affected user.
2. Click **Search for failed actions and conditions**.
3. In the Filters pane, deselect all actions and conditions except for Map Drive and click **Refresh**.
4. In the work area, select one of the failures.

In the Details pane, the error code and error details display.

Details		Time Stamp	Use...	Ker...	PID	TID	Event	Component	Session Id	Raw Log Line
Node Name	Pre Desktop	12/23/2014 10:41:31 696	0	0	2616	3004	Star...	Emuser	2	Event: Start Action Id: 47
Node Path	\\LOGON\\Pre Desktop\\Map Drive > Z:\ to \\SERVER\SHARE	12/23/2014 10:41:31 696	0	0	2616	3004	Etw ...	Emuser	2	CEMExecutionNode::Execute
Task Id	53C6E9A5-230A-4E30-A107-DEB67D12BB7B	12/23/2014 10:41:31 767	0	0	2616	3004	Etw ...	Emuser	2	CEMAction::Execute Create
Result	Failed	12/23/2014 10:41:31 767	0	0	2616	3004	Etw ...	Emuser	2	EM::Config::CConfigCOMCreat
Error Code	3	12/23/2014 10:41:31 767	0	0	2616	3004	Etw ...	Emuser	2	CreateDriveMapAction
Error	The system cannot find the path specified	12/23/2014 10:41:31 767	0	0	2616	3004	Etw ...	Emuser	2	EM::Config::CXMLConfig::Dere
Type	EMX.MapDrive	12/23/2014 10:41:31 767	0	0	2616	3004	Etw ...	Emuser	2	EM::Config::CreateComAction
Start Time	12/23/2014 10:41:31 696									
End Time	12/23/2014 10:41:36 899									
Duration	05s 203ms									

#### Result

The path to the mapped drive cannot be found. Check the Policy configuration to ensure that the path is correct.

## View Long-Running Logon Actions

### Scenario

As an administrator, you want to locate long-running Logon actions in the Policy configuration.

### Process

In the Environment Manager Monitor tool:

1. Load an Environment Manager log file.
2. Click **Find trigger bottlenecks**.
3. In the Filters pane, deselect all triggers except for Logon and click **Refresh**.
4. Sort the work area by the Duration field in descending order.

The work area displays the longest running Logon actions.

In the following example, the Logon trigger took 5s 307ms to complete due to four failing Map Drive and Map Printer actions:

Type	Name	Description	Session Id	Category	Start Time	Duration
Task	EM_TASK_NODE_EXECUTION_RUN_POST...	Node Execution Run Post Logon Actions	2	Policy	12/23/2014 10:47:22 602	06s 216ms
Trigger	POST_LOGON	Post Logon	2		12/23/2014 10:47:22 602	06s 215ms
Policy Node	Test Actions	\POST_LOGON\Test Actions	2		12/23/2014 10:47:22 624	06s 193ms
Action	Custom Action PowerShell. Run for 0 Secon...	\POST_LOGON\Test Actions\Custom Action Pow...	2		12/23/2014 10:47:22 628	06s 187ms
Task	EM_TASK_NODE_EXECUTION_RUN_LOGO...	Node Execution Run Logon Actions	2	Policy	12/23/2014 10:41:31 689	05s 309ms
Trigger	LOGON	Logon	2		12/23/2014 10:41:31 690	05s 307ms
Policy Node	Pre Desktop	\LOGON\Pre Desktop	2		12/23/2014 10:41:31 693	05s 302ms
Action	Map Printer > \\SERVER\PRINTER	\LOGON\Pre Desktop\Map Printer > \\SERVER\P...	2		12/23/2014 10:41:31 696	05s 298ms
Action	Map Printer > \\SERVER\PRINTER1	\LOGON\Pre Desktop\Map Printer > \\SERVER\P...	2		12/23/2014 10:41:31 696	05s 293ms
Action	Map Drive > Y:\ to \\SERVER\SHARE1	\LOGON\Pre Desktop\Map Drive > Y:\ to \\SERV...	2		12/23/2014 10:41:31 696	05s 228ms
Action	Map Drive > X:\ to \\SERVER\SHARE2	\LOGON\Pre Desktop\Map Drive > X:\ to \\SERV...	2		12/23/2014 10:41:31 696	05s 216ms
Task	EM_TASK_NODE_EXECUTION_RUN_LOGO...	Node Execution Run Logon Actions	2	Policy	12/23/2014 11:42:46 736	05s 205ms
Trigger	LOGON	Logon	2		12/23/2014 11:42:46 738	05s 203ms

### Result

The failure of the Map Drive and Map Printer actions need to be investigated. If the Policy configuration is incorrect, it requires updating to avoid this action failing or timing out on each user logon.

For a user scenario about investigating failed Map Drive actions, see [Diagnose a Failed Map Drive Action](#).

## View Bottlenecks for Single Session

### Scenario

As an administrator, you want to locate Policy or Personalization bottlenecks within a single user session.

### Process

1. In the Environment Manager Monitor tool:
2. Load an Environment Manager log file.
3. Click **View/Search all detailed logging**.
4. Filter the view so that only a single session is displayed.
5. Select **Parsing > Find trigger bottlenecks** to view Policy bottlenecks or **Parsing > Find personalization bottlenecks** to view Personalization bottlenecks.

### Result

The bottleneck report is displayed for a single user session only. The report can be analyzed to compare multiple user sessions.

# Environment Manager Logging Setup

The Environment Manager Logging Setup tool provides a user interface to enable and disable the generation of diagnostic log files.

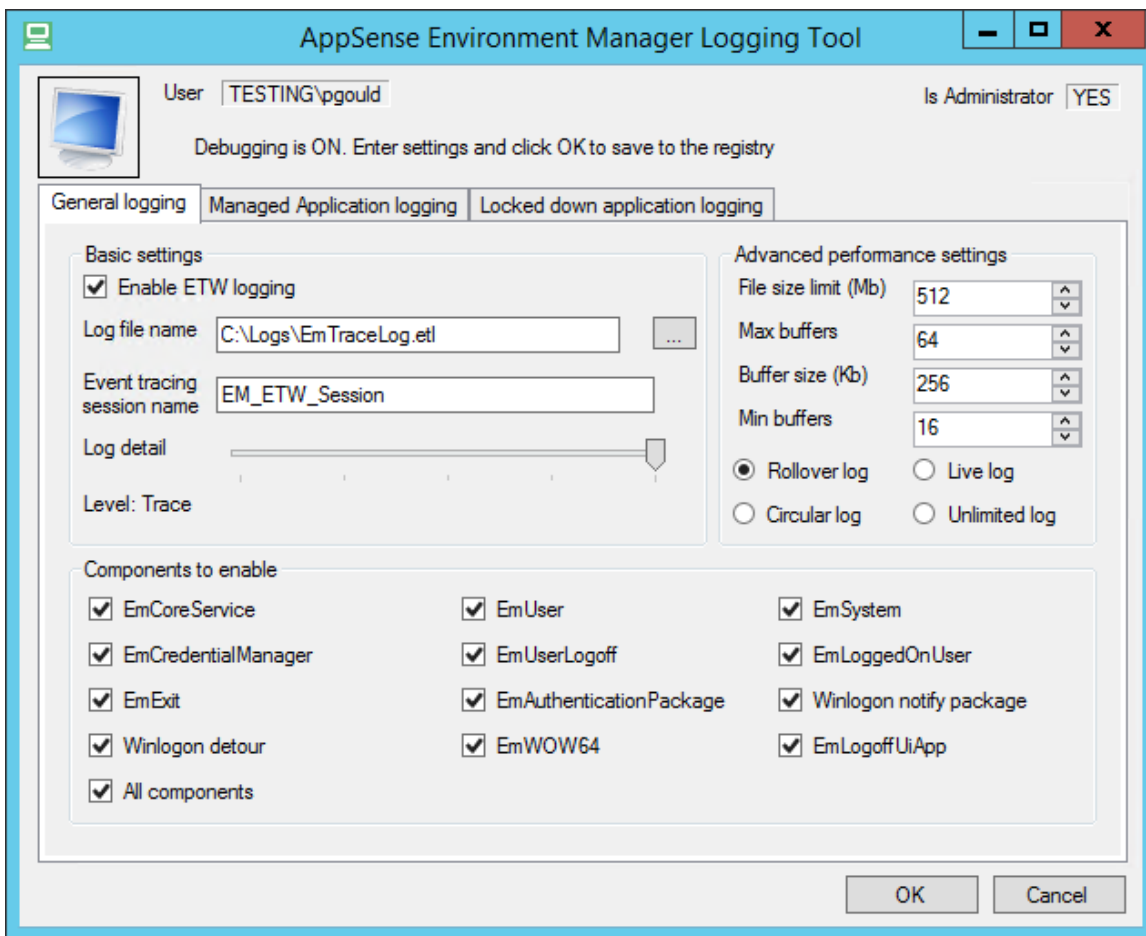
Administrators or our Support team may need log files to diagnose unexpected Environment Manager behavior, such as Personalization failing for a specific application, or Policy configuration actions not applying as expected.

Environment Manager uses Event Tracing for Windows (ETW) to record log events. Log files are stored in ETL format that can be opened using Environment Manager Monitor.

For information about using Environment Manager Monitor to view and analyze ETL files, see [Environment Manager Monitor](#).


## User Interface

Enable or disable logging in the user interface. Use the options to enable logging for specific components or set advanced logging settings.



## Enable Logging

1. Click the **On/Off** button located at the top left-hand corner of the dialog to enable logging.
2. Select the **General logging** tab and modify the settings as required.

Setting	Description
Enable ETW logging	Enable or disable logging on the local endpoint.
Log file name	The location and name to which the log file is written.
Event tracing session name	The name for the event tracing session. This name is used in Performance Monitor.
Log detail	<p>The level of detail that is logged.</p> <hr/>  Unless advised otherwise by Support, it is recommended that the Log detail slider is set to Trace.
Components to enable	The components that are logged.
File size limit	The maximum size of the log file in Mb if Circular Logging or Live Logging is enabled.
Max buffers	The maximum number of buffers.
Buffer size	The size of each buffer in Kb.
Min buffers	The minimum number of buffers.
Log File Mode	<p>Set the log file mode. The following options are available:</p> <ul style="list-style-type: none"> <li>• <b>Rollover log</b> - The log file grows to the specified size limit. Once it has reached the limit, a new log file is created with a version number appended to the name.</li> <li>• <b>Live log</b> - Logging can be viewed in real time using the Environment Manager Monitor. This is the equivalent of <i>Real Time</i> logging in Windows Event Tracing. For more information about opening the live log in the Environment Manager Monitor, see <a href="#">Load Live Logs</a>.</li> <li>• <b>Circular log</b> - The log file grows to the specified size limit. Once it has reached the limit, the log file automatically overwrites the oldest entries.</li> <li>• <b>Unlimited log</b> - The log files grows indefinitely regardless of the size limit.</li> </ul>

3. Select the **Managed Application logging** tab and modify the settings as required.

Setting	Description
Enable PVC logging	Enable or disable logging for the PVC (Personalization Virtualization Component). A separate log is generated for each managed process that runs on the endpoint. PVC logging is in text file format.
Enable FBR logging	Enable or disable logging for the FBR (File Based Registry) files used for Application Personalization. FBR logging is in text file format
Enable FBR logging if a file is detected as corrupted	Enable or disable logging for the FBR (File Based Registry) files used for Application Personalization if an FBR file is detected as corrupted.
Check FBR file for corruption when logging enabled	Check FBR files for corruption and attempt to repair the file where possible. Logging must be enabled for this setting to take effect.

Enabling PVC or FBR logging causes a significant increase in system utilization. Unless reproducing a problem or advised otherwise by our Support team, it is recommended that FBR and PVC logging are disabled.



4. Select the **Locked down application logging** tab and modify the settings as required.

Setting	Description
Enable Lockdown logging	<p>Enable or disable logging for Environment Manager Policy Lockdown activity. Lockdown logging is in text file format. Select which applications are logged:</p> <ul style="list-style-type: none"> <li>• <b>All applications</b> - Log Lockdown activity for all applications.</li> <li>• <b>The selected application</b> - Log Lockdown activity for specific applications. Enter one or more executable names in the Application name field. Separate executable names with semicolons.</li> </ul>
Enable EmLoader logging	Enable or disable logging for the injection of the EmLoader component. EmLoader logging is in text file format
EmLoader and Lockdown log directory	The location and name to which the EmLoader and Lockdown log files are written.

Enabling EmUser or Lockdown logging causes a significant increase in system utilization. Unless reproducing a problem or advised otherwise by Support, it is recommended that EmUser and Lockdown logging are disabled.

- Click **OK**
- A confirmatory dialog displays.
- Click **OK** to confirm.

A log file is created in the specified location and logging is enabled on the endpoint. A reboot or agent restart is not required for the change to take effect.

## Disable Logging

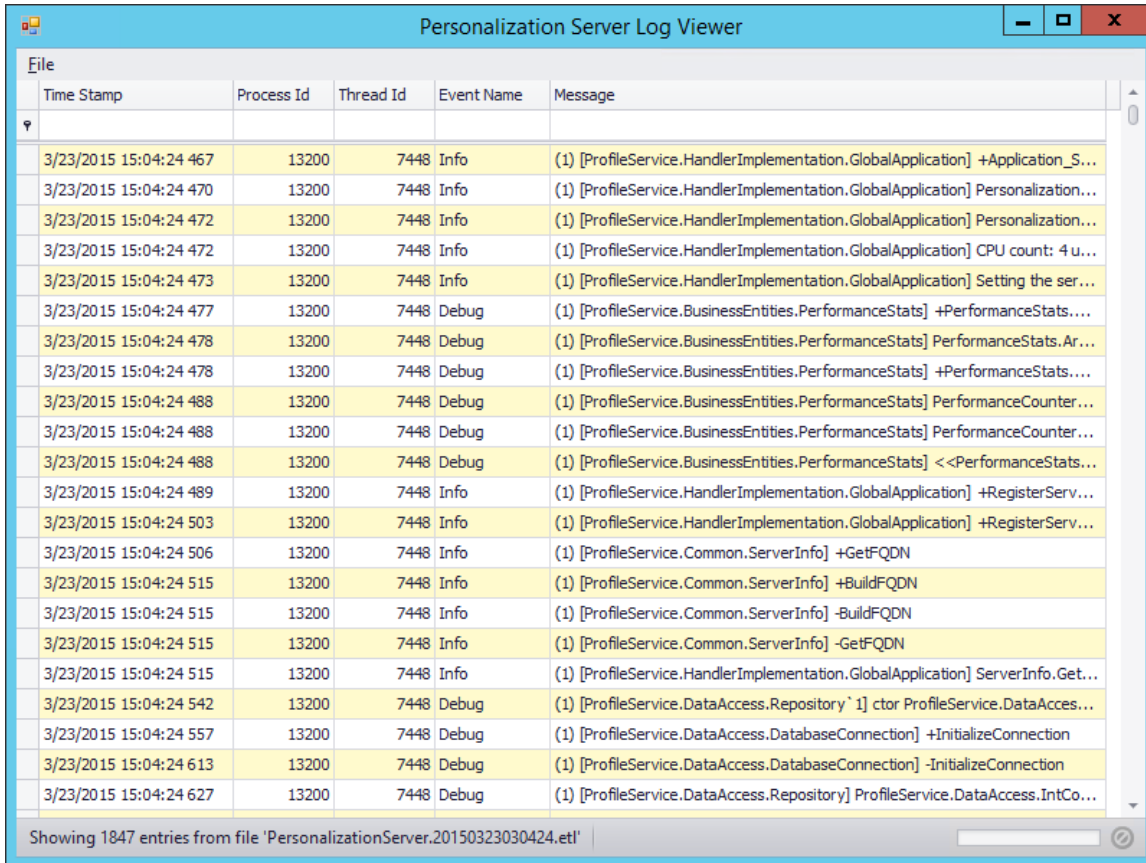
- Click the **On/Off** button located at the top left-hand corner of the dialog to disable logging.
- Click **OK**.  
A confirmatory dialog displays.
- Click **OK** to confirm.

Logging is disabled on the endpoint. A reboot or agent restart is not required for the change to take effect.

# Personalization Server Log Viewer

## Interface Overview

Personalization Server Log Viewer provides a user interface to view and analyze log files from the Environment Manager Personalization Server.



The tool is compatible with Personalization Server log files in an ETL format only

For information on how to analyze endpoint log files, see [Environment Manager Monitor](#).

## Load a Log File

1. Select **File** > **Open**.

A file browse dialog displays.

2. Select an ETL log file and click **Open**.

Personalization Server Log Viewer loads the log file. The loading progress displays at the bottom of the dialog.

## Export Logs

1. Select **File > Export**.

Select a format to export to. The following options are available:

- Excel
- CSV
- Text
- Rich Text
- Web Page
- PDF:

A file save dialog displays

2. Select an export location and click **Save**.

The current dataset is exported to the selected location.

## Sort Columns

Right-click a column heading.

Select a sort order:

- **Sort Ascending** - Sort the data in ascending order.
- **Sort Descending** - Sort the data in descending order.

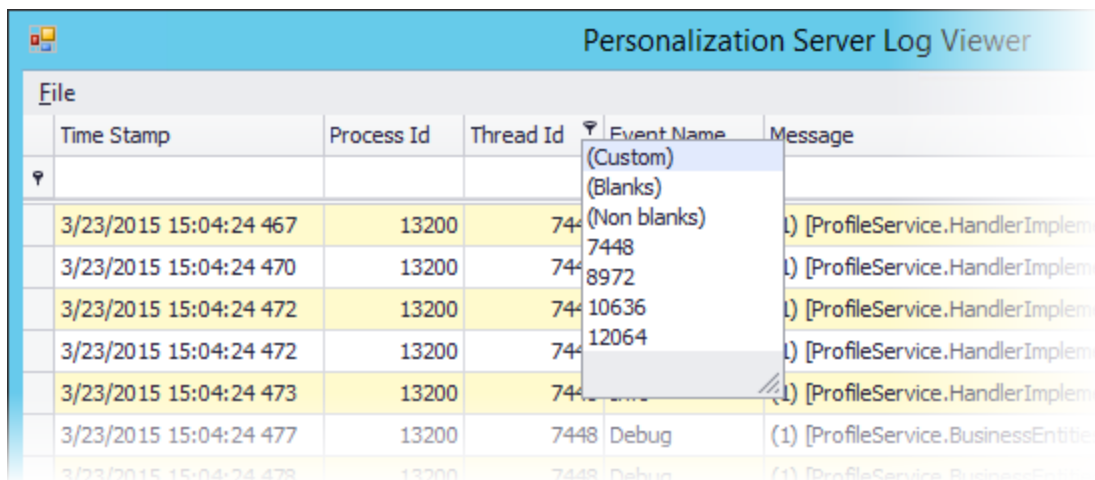
To clear the sorting, right-click the column heading and select **Clear Sorting**.

## Filter Columns from Existing Values

This option displays all of the unique values for a field, such as all Thread IDs, from the open log file. Columns can be filtered by a specific value from the dataset.

1. Hover over a column heading and click the filter icon.

A list of unique values within the column displays.



2. Select a value on which to filter the selected column.

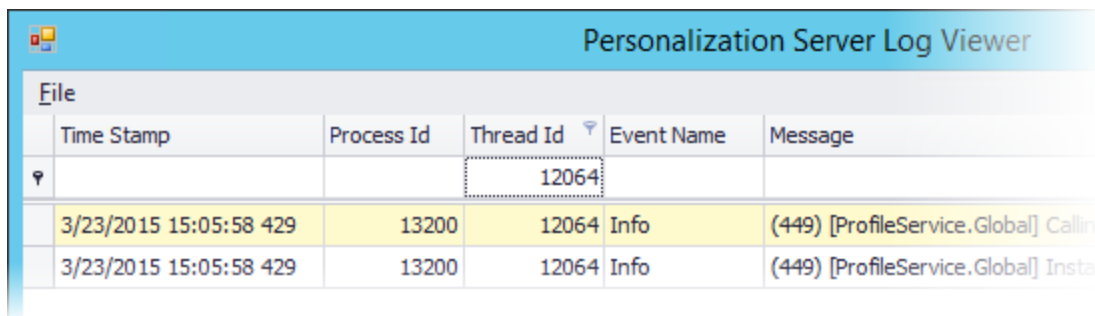
The data is filtered to show only entries that match the criteria.

To clear the filtering, right-click the column heading and select **Clear Filter**.

## Filter Columns using Auto Filter Row

The Auto Filter Row displays above the dataset and allows columns to be filtered by entering basic filtering criteria.

1. Right-click a column heading and select **Show Auto Filter Row.**
2. The Auto Filter Row displays below the column headings.
3. To filter a column, enter text into the Auto Filter Row.



The screenshot shows a window titled "Personalization Server Log Viewer". Inside, there is a table with columns: Time Stamp, Process Id, Thread Id, Event Name, and Message. An "Auto Filter Row" is present below the column headers, with a filter value of "12064" entered in the "Thread Id" column. The table displays two rows of log data, both of which match the filter criteria.

Time Stamp	Process Id	Thread Id	Event Name	Message
3/23/2015 15:05:58 429	13200	12064	Info	(449) [ProfileService.Global] Calling
3/23/2015 15:05:58 429	13200	12064	Info	(449) [ProfileService.Global] Instan

The data is filtered to show only entries that match the criteria entered in the Auto Filter Row.

4. To clear the filtering, right-click the column heading and select **Clear Filter.**

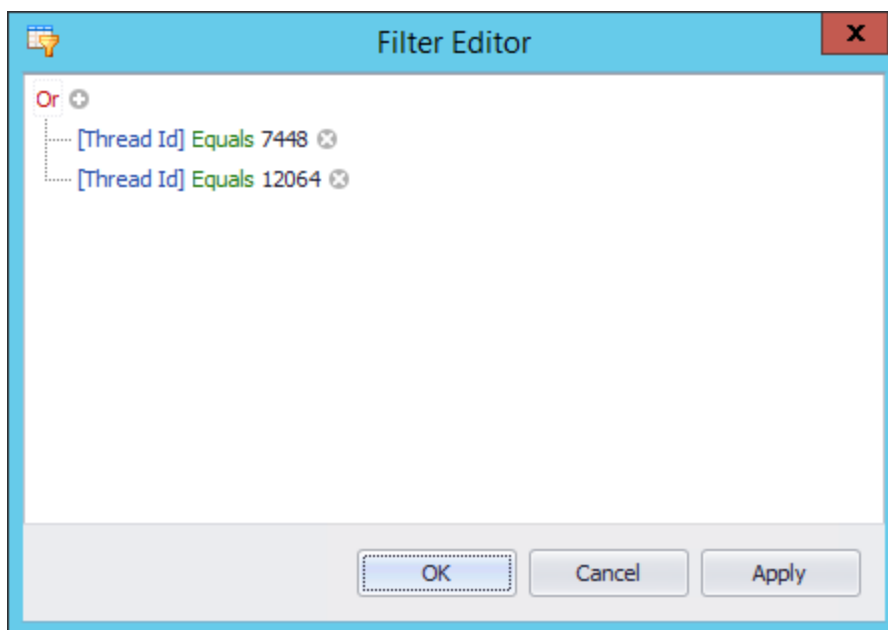
## Filter Columns using Filter Editor

The Filter Editor allows conditions to be created to target specific data in the dataset. Use multiple expressions and nested Boolean operators to create complex conditions.

1. Right-click a column heading and select **Filter Editor**.

The Filter Editor dialog displays.

2. Edit the condition as required:
  - Click a red Boolean operator, such as **And** to edit the operator or add a new condition group.
  - Click a blue field name such as **[Time Stamp]** to change the field to match.
  - Click a green operator such as **Equals** to edit the operator.
  - Click either **<enter a value>** or a black value to enter a value.
  - Click **+** to add a new expression to the condition.



3. Click **Apply** to preview the filter.
4. Click **OK**.

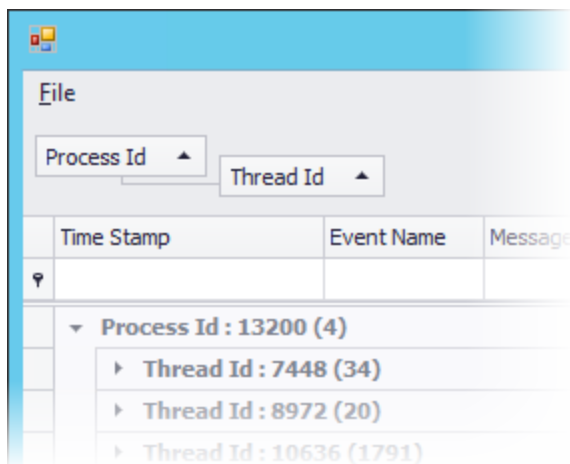
The data is filtered to show only entries that match the criteria entered in the Filter Editor.

To clear the filtering, right-click a column heading and select **Clear Filter**.

## Group Columns

Data can be grouped by one or more columns to create nested datasets.

1. Right-click a column and select **Group By Box**.  
The Group By box displays above the column headings.
2. Drag a column heading into the Group By box. More columns can be dragged into the Group By box to create nested groupings.



The data is grouped by the fields specified in the Group By box.

To clear the grouping, right-click on the Group By box and select **Clear Grouping**.

## Search Log Entries

1. Press **Ctrl+F**.  
The Find Panel displays above the column headings.
  2. Enter a search term.
  3. Click **Find**.  
Rows containing text in any column that matches the entered search term are displayed.
- To clear the search, click **Clear** in the Find Panel or close the Find Panel.

## Command Line Interface

The Personalization Server Log Viewer tool also provides a command line interface. The following commands are available:

- Open the user interface

```
EtwLogFileReader.exe
```

- Open an ETL log file in the user interface

```
EtwLogFileReader.exe C:\Logs\Input.etl
```

- Convert an ETL log file to text file

```
EtwLogFileReader.exe C:\Logs\Input.etl /export
```

- Convert an ETL log file to text file in a different output directory

```
EtwLogFileReader.exe C:\Logs\Input.etl /export:C:\Temp\Output.txt
```



## Environment Manager Log File Conversion

The Environment Manager Log File Conversion tool (Etl2Txt) is a command line driven tool to convert ETL log files to text files.

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It is recommended that the Environment Manager Monitor is used to view and analyze ETL log files. For further information, see [Environment Manager Monitor](#).

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The Environment Manager Log File Conversion tool is located in the Tools installation folder and is run from the command prompt.

To run the Environment Manager Log File Conversion tool:

1. Open the Run dialog and enter *cmd.exe*.
2. Using the command prompt, navigate the Tools installation folder -  
%ProgramFiles%\AppSense\Environment Manager\Tools\.

3. Run the Etl2Txt.exe, together with the appropriate parameters as detailed in the following table:

Parameters	Input Arguments	Parameter Details
<code>-?</code> <code>-help</code>	n/a	Outputs the help text to the console.
<code>-f</code> <code>--filename</code>	filename	Specify the name of the source ETL file to convert. This is a required parameter.
<code>-c</code> <code>--components</code>	components	Specify the name of the Environment Manager components to include in the conversion: <ul style="list-style-type: none"> <li>• EmUser</li> <li>• EmCoreService</li> <li>• EmSystem</li> <li>• EmUserLogoff</li> <li>• Other</li> </ul> Separate multiple components with a space. If the parameter is not specified, all components are included by default.
<code>-s</code> <code>--split_output</code>	yes or no	Specify whether output log files are split or collated: <ul style="list-style-type: none"> <li>• <b>yes</b> - Output log files split by Environment Manager component.</li> <li>• <b>no</b> - Output a single collated log file for all Environment Manager components.</li> </ul> If the parameter is not specified, the argument defaults to <b>yes</b> .
<code>-i</code> <code>--include_events</code>	yes or no	Specify whether trace events are included in the output: <ul style="list-style-type: none"> <li>• <b>yes</b> - Output trace events with the raw log lines.</li> <li>• <b>no</b> - Output raw log lines only.</li> </ul> If the parameter is not specified, the argument defaults to <b>no</b> .
<code>-e</code> <code>--events_only</code>	yes or no	Specify whether trace events are output: <ul style="list-style-type: none"> <li>• <b>yes</b> - Output trace events only.</li> </ul>

Parameters	Input Arguments	Parameter Details
		<ul style="list-style-type: none"><li>• <b>no</b> - Output raw log lines and, if <code>--include_events</code> is set to <b>yes</b>, trace events.</li></ul> If the parameter is not specified, the argument defaults to <b>no</b> .
<code>-o</code> <code>--output_dir</code>	path	Specify the directory for the output files. If the parameter is not specified, the current directory is used for the output.
<code>-t</code> <code>--text_levels</code>	yes or no	Specify how log levels are displayed: <ul style="list-style-type: none"><li>• <b>yes</b> - Output log levels as text.</li><li>• <b>no</b> - Output log levels as numbers.</li></ul> If the parameter is not specified, the argument defaults to <b>no</b> .

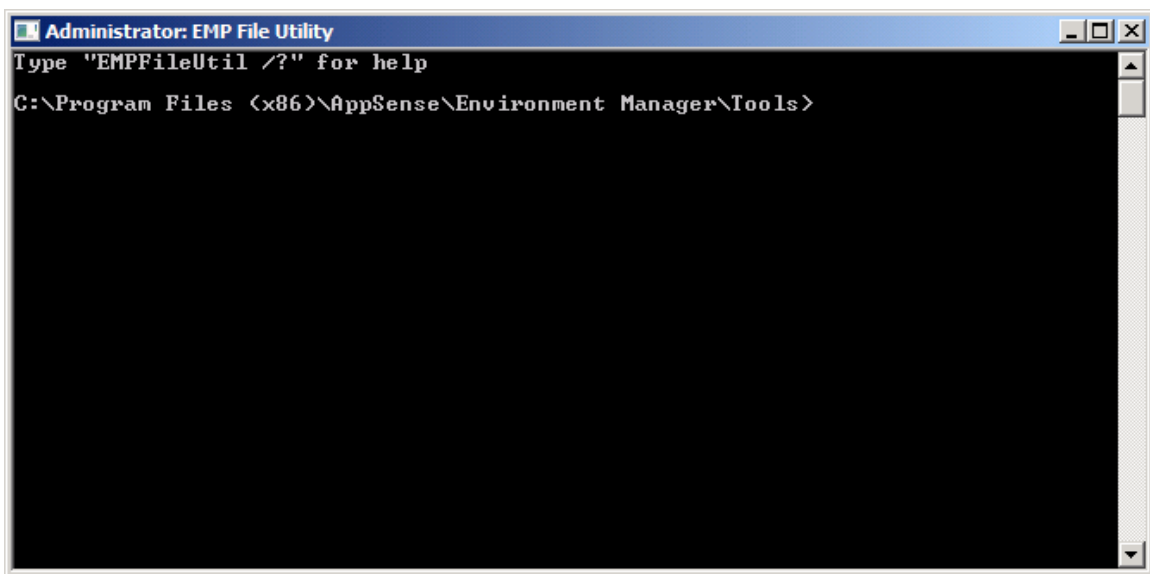
# EMP File Utility

The Environment Manager Personalization File Utility (EMP File Utility) imports and exports files to and from the Environment Manager Personalization database using a command-line interface. Before the tool can be used, a valid connection string to the database must be defined. The user specified in the connection string must have the privilege to read, write, and run stored procedures in the database. The simplest privilege is "dbowner".

The utility accesses the database directly and does not use a Personalization Server.



This is a low level tool that uses elements of scripting in the command-line interface to input commands and set parameters. A knowledge of command-line utilities and scripting is an advantage when using this tool.



## Requirements

A username and password of a user with access to the database tables is required because the utility accesses the database directly. Using the Personalization service account will not work.

## Supported software versions

The EMP file utility no longer supports older versions of Environment Manager. The 8.5 utility can only be used on software version 8.5.

## Windows Settings Group Support

The file utility may be used to import and export files from windows settings groups contained in the parent Windows Settings profile. To do this the application name is replaced by the Windows setting group name prefixed by "wsg:". For example, to import and export from the Windows Setting group named Appearance and Personalization, specify *wsg:Appearance and Personalization* as the application name.

## Usage Scenario

A typical scenario is when a specific user or group requires that a certain file is updated through a batch process rather than via a user interface. The EMP File Utility can also be used in conjunction with Environment Manager Policy Configuration to directly manipulate the users settings within the database.

## Export a File from a Database

A valid connection string to the database must be defined in the environment variable `EMPFileUtilConnectionString` in the same command window in which EMPFileUtil is run. This procedure shows how to set the environment variable and then run the utility.

1. Select **Start > AppSense > Environment Manager > Tools > EMP File Utility**.
2. On the command line, enter `SET EMPFileUtilConnectionString=<connection string>`

For example, `SET EMPFileUtilConnectionString=Data Source=(local);Initial Catalog=PersonalizationServer;Integrated Security=SSPI`

3. Press **Enter**.



This environment variable can also be set globally in the System Properties. For Windows Vista and above, right-click **Computer** on the Start menu and select **Properties**. Select **Advanced system settings**, click the **Advanced tab** and select the **Environment Variables** button.

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4. In the command line, enter a command in the following format: `EMPFileUtil EXPORT <username> <usergroup> <application> <databaseroot> <outputfolder>`

Where:

Parameters	Definition
<username>	The user's name with preceding domain, for example, appsense\smithj
<usergroup>	The personalization group for the user, for example, "Default Users"
<application>	<p>The name of the application or group (not the name of the executable, although it may be the same, for example Notepad), or the name of the Windows Settings group prefixed by "wsg:". If the name contains spaces, the entire parameter, including the wsg:, must be included in quotation marks. The following reserved application names are recognized:</p> <ul style="list-style-type: none"> <li>• Certificates (for Legacy Certificates profile)</li> <li>• Legacy Certificates</li> <li>• Windows Settings</li> <li>• Windows Personalization (for Windows Settings profile)</li> <li>• Legacy Session Data</li> </ul>
<databaseroot>	<p>The root of the file tree to be exported in "raw" format, for example, {CSIDL_APPDATA}.</p> <p>The value * (asterisk) may be used here to export all of the files in the directory. This also exports the registry file "settings.fbr" (or "registry.fbr" in the case of a Windows Setting group). These files should be re-imported only to the same user because they contain the user's SID.</p> <p><b>Note:</b> In such cases it might be more appropriate to use the EMP Registry Utility for transfer of registry settings.</p> <p>See <a href="#">EMP Registry Utility</a> for further details.</p>
<outputfolder>	<p>The folder where the files are to be exported. A directory structure is built here matching the one in the database. Relative paths can be used, for example, a dot refers to the current path.</p> <p>Existing files are not overwritten and folders are created as required.</p>

Parameters	Definition
Parameters	Definition
<username>	The user's name with preceding domain, for example, appsense\smithj
<usergroup>	The personalization group for the user, for example, "Default Users"
<application>	<p>The name of the application or group (not the name of the executable, although it may be the same, for example Notepad), or the name of the Windows Settings group prefixed by "wsg:". If the name contains spaces, the entire parameter, including the <i>wsg</i>;, must be included in quotation marks. The following reserved application names are recognized:</p> <ul style="list-style-type: none"> <li>• Certificates (for Legacy Certificates profile)</li> <li>• Legacy Certificates</li> <li>• Windows Settings</li> <li>• Windows Personalization (for Windows Settings profile)</li> <li>• Legacy Session Data</li> </ul>
<databaseroot>	<p>The root of the file tree to be exported in "raw" format, for example, {CSIDL_APPDATA}.</p> <p>The value * (asterisk) may be used here to export all of the files in the directory. This also exports the registry file "settings.fbr" (or "registry.fbr" in the case of a Windows Setting group). These files should be re-imported only to the same user because they contain the user's SID.</p> <p><b>Note;</b> In such cases it might be more appropriate to use the EMP Registry Utility for transfer of registry settings.</p> <p>See <a href="#">EMP Registry Utility</a> for further details.</p>
<outputfolder>	<p>The folder where the files are to be exported. A directory structure is built here matching the one in the database. Relative paths can be used, for example, a dot refers to the current path.</p> <p>Existing files are not overwritten and folders are created as required.</p>



Parameters must be enclosed in quotes if they include embedded spaces.

5. Press **Enter** to export all applicable files.

## Import a File to the Database

Select **Start > AppSense > Environment Manager > Tools > EMP File Utility**.

On the command line enter a command in the following format:

```
EMPFileUtil IMPORT <importdescription>.xml
```

The XML file contains information about users, application groups, and files to be loaded into the database.

There can be one XML file per user, or lots of users in the same file.

### Example XML File

```
<?xml version="1.0" encoding="utf-8"?>
<Users>
  <User
    Name="appsense\smithj"
    RetrieveSID="yes" >
    <PersonalizationGroup
      Name="Default Users">
        <Application
          Name="Group1"
          Type="group"
          DeleteExisting="yes"
          RootFolder="c:\Dev\TestData\Group1" />
        <Application
          Name="Notepad"
          Type="single"
          DeleteExisting="yes"
          RootFolder="c:\TestImport\Notepad" />
        </PersonalizationGroup>
      </User>
    <User
      Name="appsense\jonesa"
      RetrieveSID="no"
      Sid="S-1-5-21-203209604-3446334822-3473717970-1002" >
      <PersonalizationGroup
        Name="Default Users">
          <Application
            Name="Office"
            Type="group"
            DeleteExisting="yes"
            RootFolder="c:\TestImport\Office" />
          <Application
            Name="Notepad"
            Type="single"
            DeleteExisting="yes"
            RootFolder="c:\TestImport\Notepad" />
          </PersonalizationGroup>
        </User>
      </Users>
```

There can be one or more `<User>` elements under the top-level `<Users>` element. Each User element can specify multiple Personalization groups (User groups) for a user if required.

Multiple applications can be specified under the `<PersonalizationGroup>`. Each application has a folder where the utility finds the files to read - the `RootFolder` attribute.



Element	Attribute	Meaning
User	Name	User name in the form domain\user. This user need not exist if the SID is specified. The user need not have logged on to the Personalization server previously.
	RetrieveSID	Value is "yes" or "no". If "yes", EMPFileUtil will check AD (if in a domain) or the local machine (if not) to find the user's SID.
	SID	User's Sid, required if RetrieveSID="no" has been specified.
PersonalizationGroup	Name	Name of the group to which the user and applications are to be loaded. This group must exist already. Note that you will create redundant data if the memberships do not put the user in the group.
Application	Name	Name of the application, application group or Windows Settings group preceded by "wsg:". A group must be assigned to the Personalization Group or EMPFileUtil reports an error. Reserved application names (as listed for export above) may be used, but note that importing into a legacy profile will only affect legacy clients.
	Type	"Single" for an application or "group" for an application group.
	DeleteExisting	"Yes" or "no". If the application already exists with data for the user/group, specifying "yes" will cause EMPFileUtil to delete all the old data. If "no", new files will be added. If a new file has the same name and path as the old, a duplicate key error is generated and processing stops.
		Path where files to be imported are situated. The root must contain subdirectories of the form {CSIDL_xxx}, and no files. Below this anything is allowed and will be loaded into the database. Registry files cannot be loaded - this must be done instead with EMPRegUtil.

## Personalization Analysis

Once the XML file has been imported you can drill into the users settings using the Personalization Analysis too.

For more information on Personalization Analysis see [Personalization Analysis](#) in the Environment Manger Help system.

## EMP Migrate Utility

The Environment Manager Personalization Migrate Utility (EMP Migrate Utility) is a standalone tool that allows user data to be copied from a source database to a target database, mapping the user names to the target domain and adjusting saved registry settings accordingly. The utility contacts the respective databases directly and does not use existing personalization servers.

The utility checks the personalization group of each user that it encounters on the source database with a group of the same name on the target database. If incomparable data exists whereby users or groups are listed on the source but not the target databases, an Import/Export operation from the Environment Manager console has to be performed to align both the source and target databases. When the comparison is complete you can view an output summary by clicking **View Log**.

The following table shows the EMP Migrate Utility version requirements for source and target databases.

EMP Migrate Utility Version	Source Version	Target Version
8 FR4	8.1, 8.2, 8.3 or 8 FR4	8 FR4
8.5	8.5	8.5
8.6	8.5 or 8.6	8.6
10.x	8.5 or later	10.x

For more information about the Import/Export function, see [Import and Export Personalization Configurations](#) in the Environment Manager help.

Usage counts are not transferred for applications so the count starts again on the new database. Therefore transferred applications do not appear on the Application Usage report. Usage counts for discovered applications are set to one on transfer and appear on the Discovered Application report.

### Usage Scenario

Typical usage of the EMP Migrate Utility can be when a specific user or group requires access to, for example, a User Acceptance Testing (UAT) environment for testing a particular application. The EMP Migrate Utility can be used to migrate the users existing personalization data from a UAT database into the production database to ensure the user has a consistent experience in both environments.

Another example is when a specific user is moving from one region to another, the EMP Migrate Utility can be used to migrate the users personalization data ahead of time to ensure that the user has a consistent experience in the new location.

## Run the EMP Migrate Utility

1. Select **Start > All Programs > AppSense > Environment Manager > Tools > EMP Migrate Utility**.
2. In the Target Database dialog, enter the following information for the target database that will receive data:
  - SQL Server Name\Instance
  - SQL Database Name
  - User ID and Password (or select Use Windows Authentication to use the current Windows identity)

The user must have sufficient privileges to modify data in the tables directly in the database. The service account user (used by Personalization Servers) is not sufficient, as this only has permission to run stored procedures.

**Target Database**

Data Source

Server Name\Instance:

DEVSQL\SQL\_DOCS

Database Name

Database Name

PersonalizationServer

SQL Server Authentication

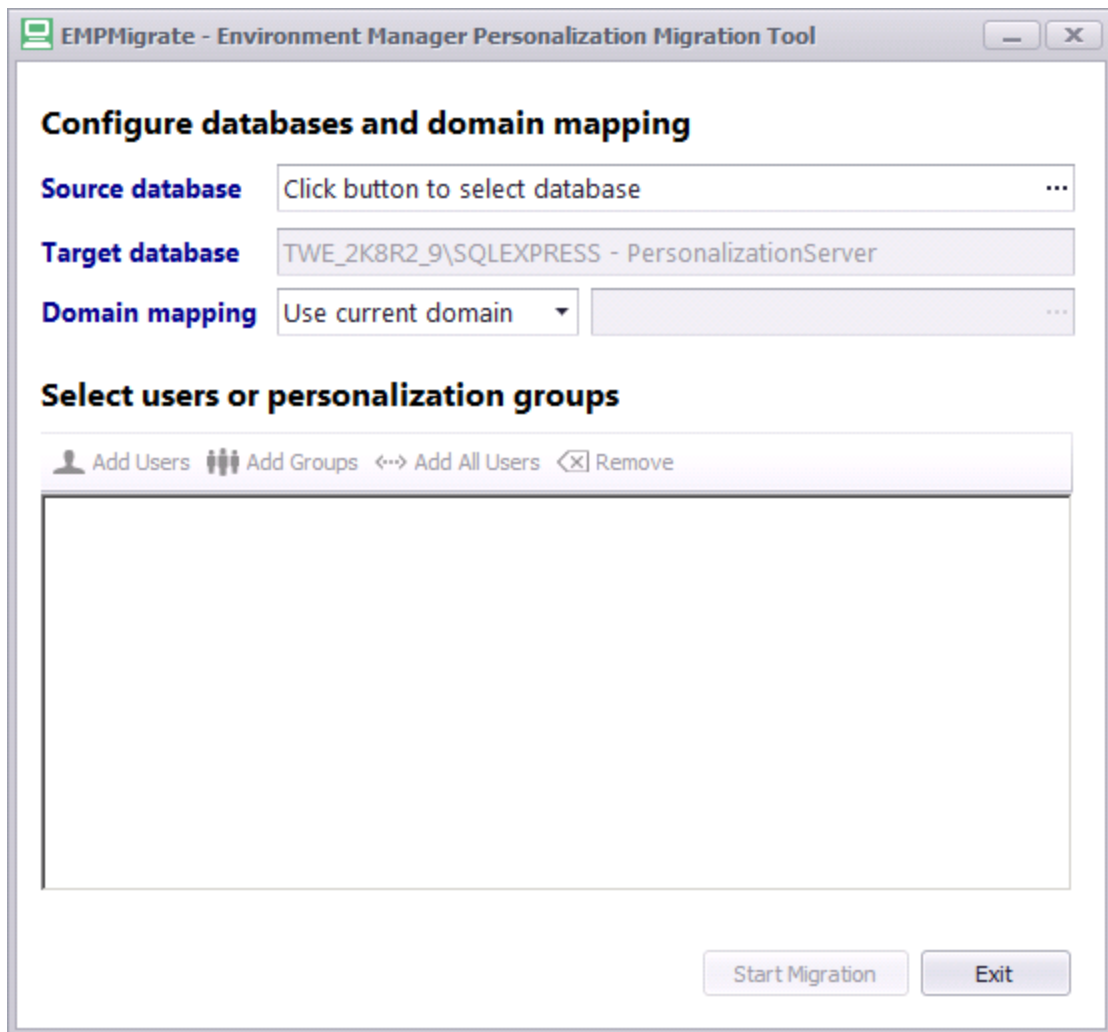
Login:

Password:

☒ Use Windows Authentication

Test OK Cancel

3. Click **OK** to connect and display the console.



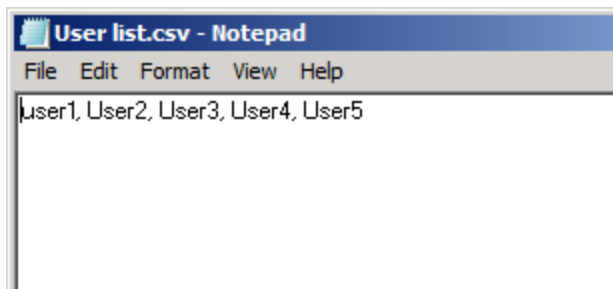
4. Click the ellipsis (...) to select the Source database.
5. Select the domain mapping from the Domain mapping drop-down menu:
  - **Use current domain**- The domain in which the utility is running is used
  - **Map to new domain**- Use the ellipses to select the domain or enter the NetBIOS name of the domain directly into the field.
  - **No domain mapping**- Users are not modified if this option is selected. This is useful for combining databases in the same domain.

If domain mapping is used, the domain of all selected users is altered to the target database, regardless of the previous values. The utility must be able to look up the SID of each user in the target domain.



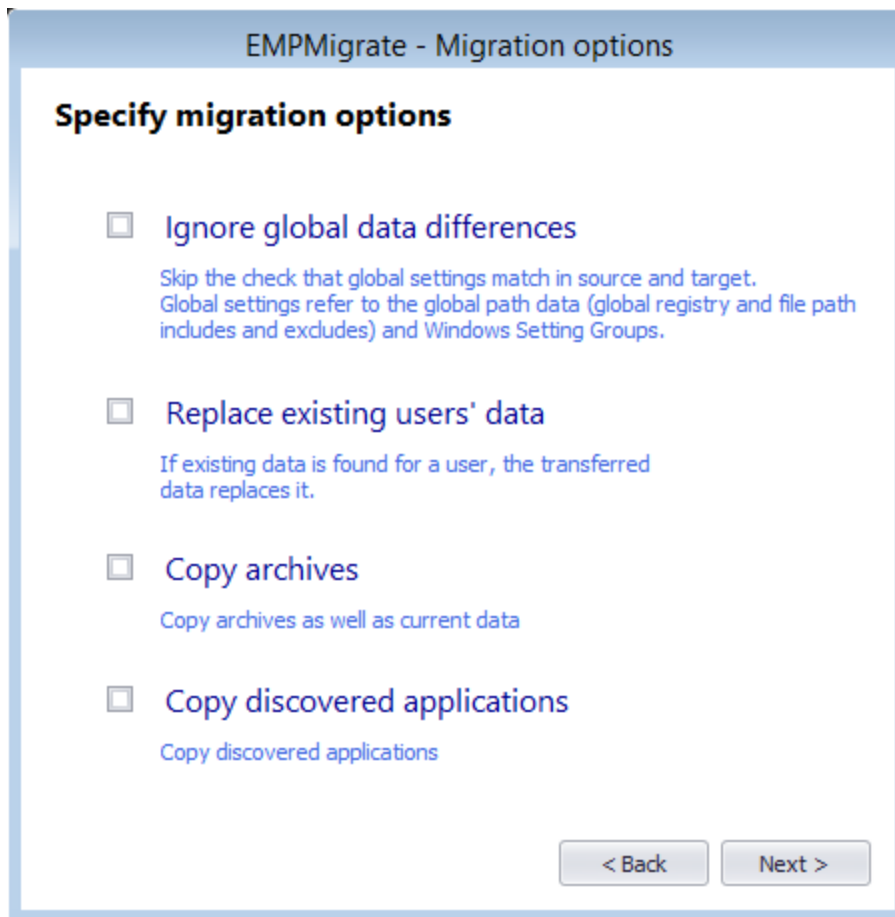
The utility does not add the users to Active Directory for the target domain.

6. Select the users you want to add using the following options:
  - **Add Users** - Select users from available groups. Enter the name, optional domain or select a user group and click **Search** to display the users within that group.
  - Click the **Load file...** button to load a list of users from a CSV file. Each user must be separated by a comma:



- **Add Groups** - Select all users from a group.
  - **Add All Users** - Select all available users from the database.
7. Users and groups can be taken out of the migration using the **Remove** button.
  8. Once all the required users have been added, click **OK**.

9. Click the **Start Migration** button to display the Migration Options.



10. Use the check boxes to apply the following settings:
- **Ignore global data differences** - If any global data differences exist between the source and target databases the tool will ignore these discrepancies and proceed with the migration. Global data refers to the global path data, such as global registry file path includes and excludes and Windows Setting Groups.
  - **Replace existing users' data** - If the same user is found for a user, the old data is deleted and replaced by the source data. If unchecked the old data is not replaced.
  - **Copy archives** - Archive data as well as current data is transferred.
  - **Copy discovered applications** - Discovered applications are transferred.
11. Click **Next** to start the transfer.
12. A processing dialog displays, showing the number of transfers which pass and fail.
13. When complete, the Error and View Logs can be scrutinized using the available buttons. The logs are written to the current user's Documents folder.

14. Once you have migrated the data, you can launch the Personalization Analysis tool on the target database to see the data exist for the migrated user.



The EMP Migrate Utility does not remove the users data from the source database.

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# EMP Migrate Command Line Utility

The Environment Manager Personalization Migrate Command Line Utility (EMP Migrate Command Line Utility) is a command line driven tool that allows user data to be copied from a source database to a target database, mapping user names to the target domain and adjusting saved registry settings accordingly. The utility contacts the respective databases directly and does not use existing personalization servers. The EMP Migrate Command Line Utility provides the same functionality as the EMP Migrate Utility.

The EMP Migrate Command Line Utility is located in the Tools installation folder and is run from the command prompt.

## Run the EMP Migrate Command Line Utility

1. Open the Run dialog and enter **cmd.exe**.
2. Using the command prompt, navigate the Tools installation folder:  
`%ProgramFiles%\AppSense\Environment Manager\Tools\`
3. Run the **EMPMigrateCmd.exe** together with the appropriate parameters as detailed in the table below.

## EMP Migrate Command Line Utility Parameters

Parameters	Input Arguments	Parameter Details
<code>/?</code> <code>/help</code>	n/a	Outputs the help text to the console.
<code>/sourcedb</code>	dbname	The name of the source database. This is a required parameter
<code>/sourceinstance</code>	server[\\instance]	The server or instance name for the source database. The instance name is optional. This is a required parameter.
<code>/targetdb</code>	dbname	The name of the target database.
<code>/targetinstance</code>	server[\\instance]	The server or instance for the target database. The instance name is optional. This is a required parameter.
<code>/sourcewindowsauth</code>	true or false	The authentication type used to connect to the source database: <ul style="list-style-type: none"> <li>• <b>true</b> - use this argument to use the Windows authentication type.</li> </ul>

Parameters	Input Arguments	Parameter Details
		<ul style="list-style-type: none"> <li><b>false</b> - use this argument to select the SQL authentication type.</li> </ul> <p>If an argument is not specified Windows authentication is automatically used.</p>
<code>/sourcesqlusername</code>	username	The username for SQL authentication on the source database. If SQL authentication is required set the sourcewindowsauth parameter to <b>false</b> .
<code>/sourcesqlpassword</code>	password	The password for SQL authentication on the source database. If SQL authentication is required set the sourcewindowsauth parameter to <b>false</b> .
<code>/targetwindowsauth</code>	true or false	<p>The authentication type used to connect to the target database:</p> <ul style="list-style-type: none"> <li><b>true</b> - use this argument to use the Windows authentication type.</li> <li><b>false</b> - use this argument to select the SQL authentication type.</li> </ul> <p>If an argument is not specified Windows authentication is automatically used</p>
<code>/targetsqlusername</code>	username	The username for SQL authentication on the target database. If SQL authentication is required set the sourcewindowsauth parameter to <b>false</b> .
<code>/targetsqlpassword</code>	password	The password for SQL authentication on the target database. If SQL authentication is required set the sourcewindowsauth parameter to <b>false</b> .
<code>/domainmapping</code>	[current][map] [nomap]	The type of mapping to apply for users to the new domain. If not specified this parameter defaults to current.
<code>/mapto</code>	domainname	The target domain name if the mapto parameter is set to <b>map</b> .
<code>/users</code>	[all][group][list]	Specifies which users to migrate:

Parameters	Input Arguments	Parameter Details
		<ul style="list-style-type: none"> <li>• <b>all</b> - migrate all users.</li> <li>• <b>group</b> - migrate users in a personalization group.</li> <li>• <b>list</b> - migrate user listed to a specified file.</li> </ul> <p>This is a required parameter.</p> <p>If duplicate users are found in the source database, only the most recent user will be migrated.</p>
<code>/usersgroup</code>	groupname	The name of the personalization group to migrate. Used when users is set to <b>group</b> .
<code>/userlist</code>	listfile	<p>Full path to a file containing a list of users to migrate. Used then users is set to <b>list</b>.</p> <p>The file path must be enclosed in quotation marks. Each user listed in the file must be on a separate line or in CSV format.</p> <p>If a filename is specified without a path, the EMPMigrateCmd.exe working directory is assumed.</p>
<code>/options</code>	[replace], [ignoreglobal], [copyarchives], [copydiscovered]	<p>One or more of these options can be specified by comma separating parameters:</p> <ul style="list-style-type: none"> <li>• <b>replace</b> - this option replaces existing user data in the target database.</li> <li>• <b>ignoreglobal</b> - ignores differences in global data settings.</li> <li>• <b>copyarchives</b> - copies the user's archives together with their current data.</li> <li>• <b>copydiscovered</b> - copies the user's discovered applications.</li> </ul>
<code>/output</code>	outputfile	The output location of the report file. When specifying the output path, the path name must be enclosed in quotation marks. If a path has not been specified, a default path of <code>%USERPROFILE%\Documents\EMPMigrate.log</code> is used.

Parameters	Input Arguments	Parameter Details
<code>/threads</code>	number	The number of threads used when migrating the data. A value of 0 forces the number of threads used to equal the processor count and is the default value.

## Required Format of User Names

User names must match the *dbo.User.Name* field in the Source database. These are in the down-level logon name format as defined by Microsoft. For example, the format for the user, ExampleUser, in the local domain AppSense.local is APPSENSE\ExampleUser. Using the fully qualified APPSENSE.local domain name causes the user to be ignored and not migrated. While technically correct, it does not correspond to the Name field specified in the database.

The User Principal Name (UPN) format is not supported.

## Usage Scenarios and Solutions

The following scenarios demonstrate how the EMPMigrate Command Line Utility can be used. For the purpose of these scenarios *SrcSQL* represents the source location and *TgtSQL* the target destination. Each scenario includes an outline of a task to be completed, followed by the command line solution.

### Scenario One

Using Windows Authentication, you are required to migrate a Personalization Group called Prod Users to a new target location and replace existing user's data in the target database with from the source database. To migrate the group, you must check if the Personalization Group exists on your target location and check for no difference in the global data settings.

#### Solution

```
EMPMigrateCmd.exe /SourceInstance SrcSQL /SourceDB PSDB /TargetInstance  
TgtSQL /TargetDB PSDB /Users Group /UserGroup "Prod Users" /Options Replace
```

### Scenario Two

Using Explicit SQL Credentials for both the Source and Target locations, you are required to migrate all users to a target location. The migration must replace existing Personalization Groups, ignoring any global data differences but must not map to a new domain.

#### Solution

```
EMPMigrate.exe /SourceInstance SrcSQL /SourceDB PSDB /SourceSQLUsername sa  
/SourceSQLPassword sourcePass /TargetInstance TgtSQL /TargetDB PSDB  
/TargetSQLUsername sa TargetSQLPassword targetPass /DomainMapping NoMap  
/Users All /Options Replace,IgnoreGlobal
```

### Scenario Three

Using Windows Authentication in the source location, you are required to migrate a list of users found in *c:\Temp\UserList.txt* to a target location that requires explicit SQL credentials. The migration must replace existing Personalization Groups and include data for Discovered Applications. It must ignore any difference in global data settings but must not map to a new domain.

#### Solution

```
EMPMigrate.exe /SourceInstance SrcSQL /SourceDB PSDB /TargetInstance TgtSQL  
/TargetDB PSDB /TargetSQLUsername sa /TargetSQLPassword targetPass /Users  
List /UserList "c:\Temp\UserList.txt" /Options  
Replace,IgnoreGlobal,CopyDiscovered
```

## EMP Registry Utility

The Environment Manager Personalization Utility (EMP Registry Utility) is a command-line utility that can import and export REG files to and from an Environment Manager personalization database. It also includes a function to delete keys. The REG files are in the same format used by the Microsoft RegEdit utility. All functions apply to a single application for a single user.

### Requirements

A username and password of a user with access to the database tables is required because the utility accesses the database directly. Using the Personalization service account will not work.

### Windows Settings Group Support

The registry utility can be used to import and export registry setting files from Windows Settings groups contained in the parent "Windows Settings" profile. To do this the application name is replaced by the Windows Setting group name prefixed by "wsg:". So to import and export from the Windows Setting group named "Appearance and Personalization", specify "wsg:Appearance and Personalization" as the application name.

### Usage Scenario

A typical scenario is when a user or group requires that a certain registry key is updated through a batch process rather than via a user interface. The EMP Registry Utility can also be used in conjunction with Environment Manager Policy Configuration to directly manipulate the users settings within the database.

## Define a Connection String for the Database

A valid connection string to the database must be defined in the environment variable `EMPFileUtilConnectionString` in the same command window that `EMPRegUtil` is run. This procedure shows how to set the environment variable and subsequently run the utility.

1. Select **Start > AppSense > Environment Manager > Tools > EMP Registry Utility**.
2. On the command line, enter `SET EMPRegUtilConnectionString=<connection string>`.  
  
For example, `SET EMPRegUtilConnectionString=Data Source=(local);Initial Catalog=PersonalizationServer;Integrated Security=SSPI`
3. Press **Enter**.
4. This environment variable can also be set globally in the System Properties.
5. On the command line, enter `EMPRegUtil` followed by the command and parameters for the required function:
  - `EXPORT <user> <group> <app> <key> <file>`
  - `IMPORT <user> <group> <app> <file>`
  - `DELETE <user> <group> <app> <key>`
6. For example: `EMPRegUtil EXPORT domain1\smithj "Default Users" Outlook HKEY_CURRENT_USER\Software\Outlook Outlook.reg.`
7. Press **Enter** to perform the specified function.

## File Based Registry Explorer

When Environment Manager personalizes an application on an endpoint, registry writes from the application are captured to a File Based Registry (FBR) file called settings.fbr in the virtual cache for that application. Registry keys captured are those defined in the global inclusion/exclusion list and any application-specific list defined in the personalization database.

When the application exits, Environment Manager saves the cache contents, including the settings.fbr file, to the personalization database. When the application is next run, the cache contents are restored from the database.

The FBR Explorer provides a way to view the settings.fbr file on the endpoint. Although it is possible to make edits to the file in the FBR Explorer, they are ineffective because the file will be overwritten with the copy from the database the next time the application is run. To make changes, it is necessary to edit the database copy using the registry edit function of Personalization Analysis in the Environment Manager console.

Although the FBR Explorer is available to use it is recommended to use Personalization Analysis in the Environment Manager console.

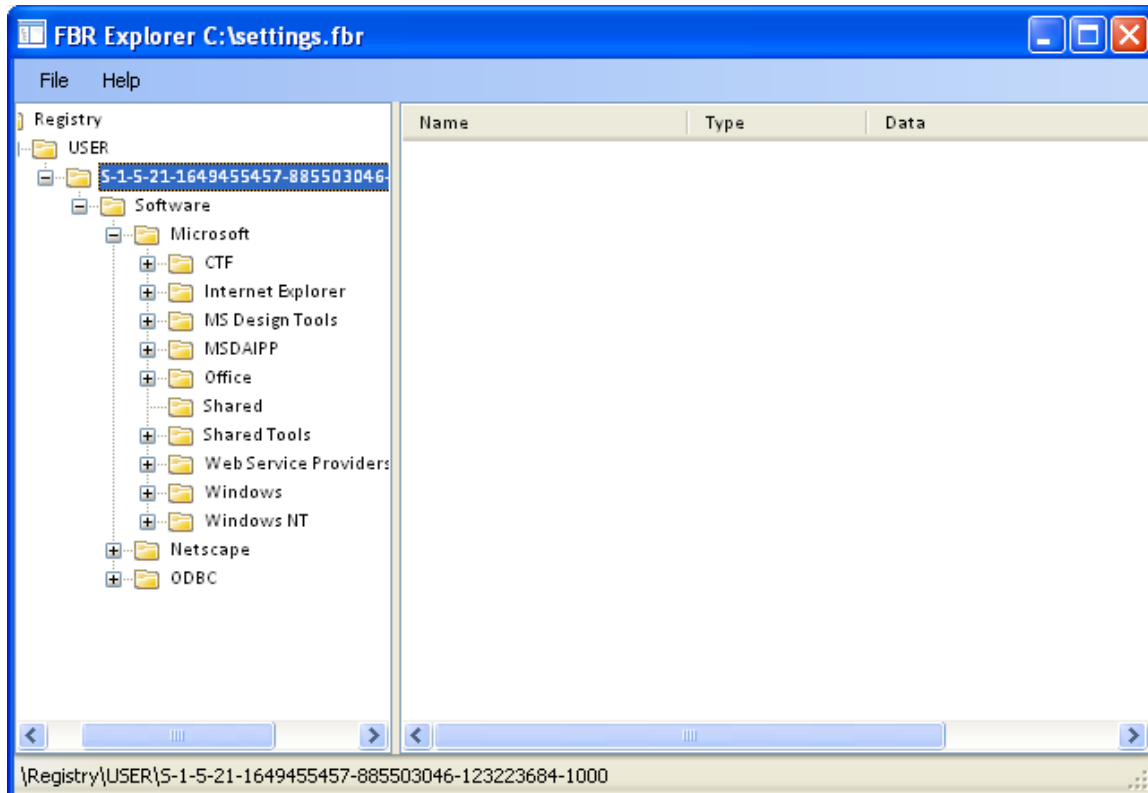
For more information, see the [AppSense Environment Manager Personalization Product Guide](#).

Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer.



## Usage Scenario

The FBR Explorer is used to open the virtual FBR files created by User Personalization and allows you to view a given users virtual registry for a given application. The FBR Explorer provides a client side ability to open and view a FBR file for an application, allowing you to review which registry keys are being used by the application with regards to the user.



## Create a New Entry or Data Type, Rename, or Delete

1. Select **Start > All Programs > AppSense > Environment Manager > Tools > FBR Explorer**.
2. Select **File > Open**.  
The Open dialog displays.
3. Navigate to the FBR file and click **Open**.  
The FBR file displays in the FBR Explorer and is organized into a tree format.
4. To refresh the FBR Explorer tree at any time, select **File > Refresh** or press the **F5** key.
5. Perform one or more of the following actions:
  - To create a new entry or data type, right-click a node or data type in the FBR Explorer tree and select **New**.
  - A new node or data type is created.
  - To rename an entry or data type, right-click a node or data type and select **Rename**. Enter the new name for the node or data type in the FBR Explorer tree.
  - For a data type specify the Value type and Value data and click **OK**.  
For more information on data types, see [Data Types](#).
6. To delete an entry, right-click the node and select **Delete**.  
The node and all sub-nodes are deleted.:



When you delete a node or data type from within the FBR Explorer it is automatically deleted. A confirmation message is not displayed and you cannot undo. Ensure that you want to delete the node before selecting the Delete command.

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## Export a FBR File from the FBR Explorer

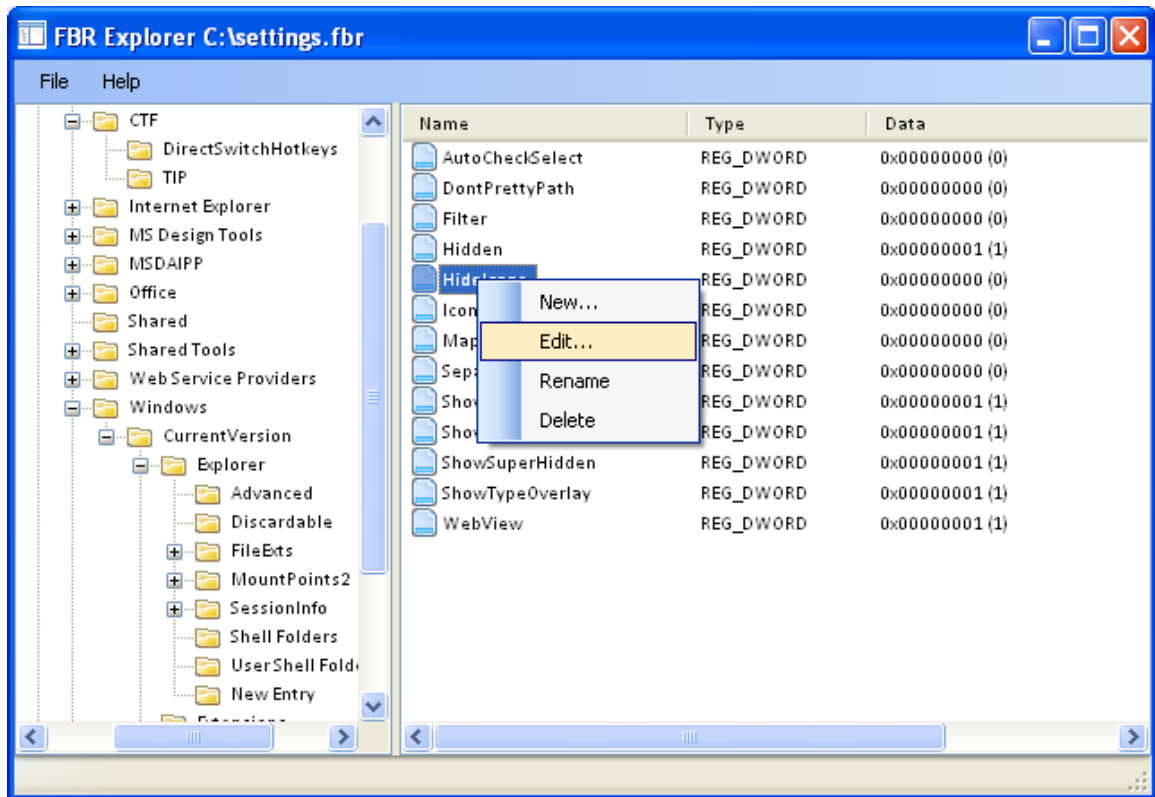
You can export the entire FBR file for a single user or a section of the FBR file. The default export file extension is REG. You can double-click this file to add the information contained within the file to the registry.

1. Do one of the following:
  - To export the complete FBR file for a user, right-click the Registry node in the FBR Explorer tree and select **Export**.
  - Right-click the node that contains the section you want to export and select **Export**.
2. Enter a name for the export file and click **Save**.

## Edit the Data Value for a Data Type within an FBR File

1. Right-click the node that contains the data type and select Edit.  
The Edit Value dialog displays.

2. Edit the data value and click OK.



## Data Types

The following table shows the data types currently defined and used by the system.

Data type	Description
REG_BINARY	Raw binary data. Most hardware component information is stored as binary data and displays in the Registry Editor in hexadecimal format.
REG_DWORD	Data represented by a number that is 4 bytes long. Many parameters for device drivers and services are this type and are displayed in the Registry Editor in binary, hexadecimal, or decimal format.
REG_EXPAND_SZ	A variable length data string. This data type includes variables that are resolved when a program or service uses the data.
REG_MULTI_SZ	A multiple string. Values that contain lists or multiple values in a form that people can read are usually this type. Entries are separated by spaces, commas, or other marks.
REG_SZ	A fixed length text string.
REG_FULL_RESOURCE_DESCRIPTOR	A series of nested arrays designed to store a resource list for a hardware component or driver.