

How to Debug the EPM Add-in

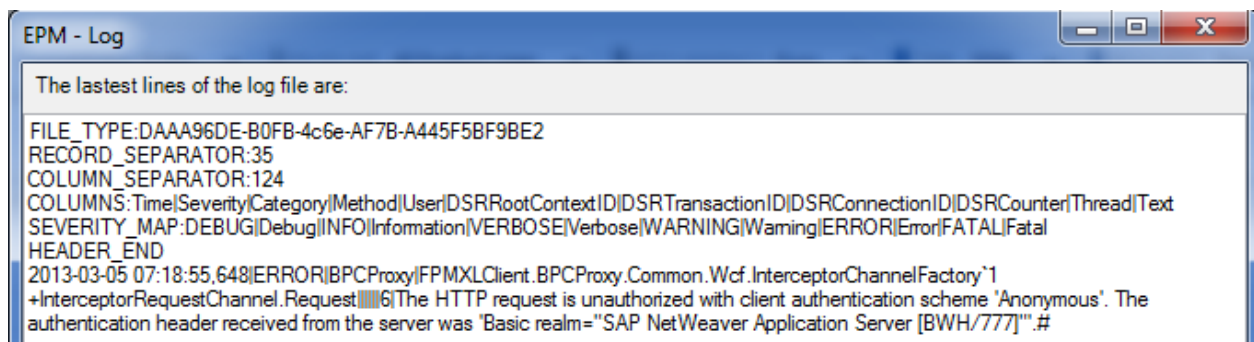
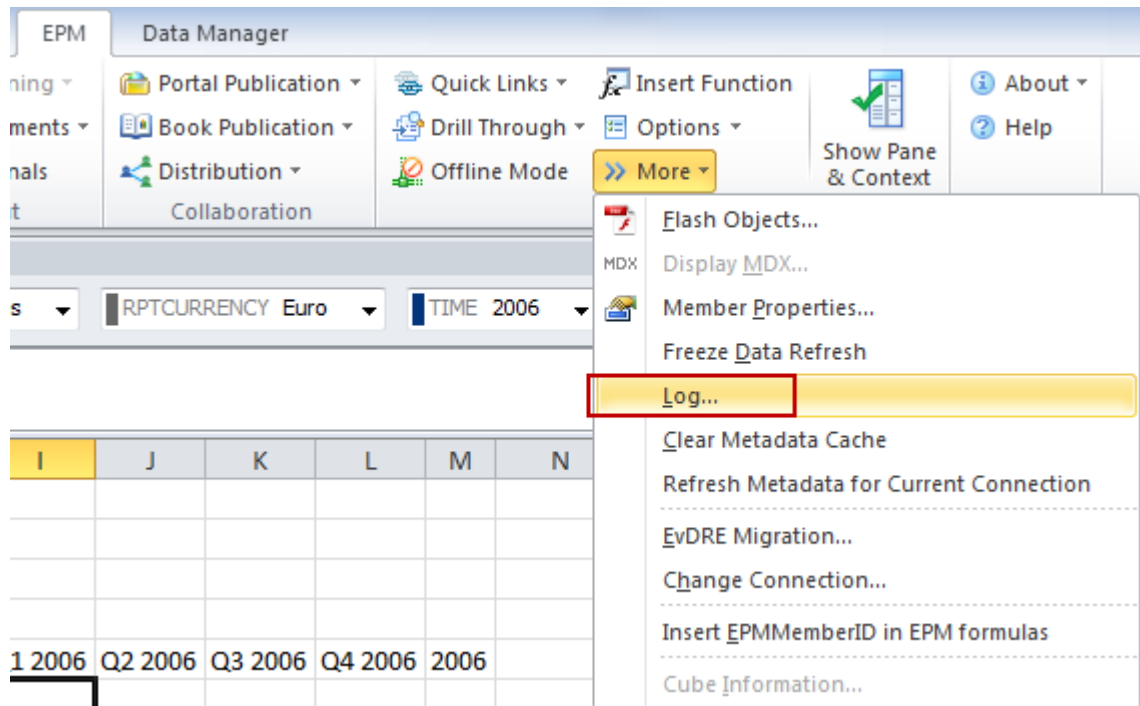
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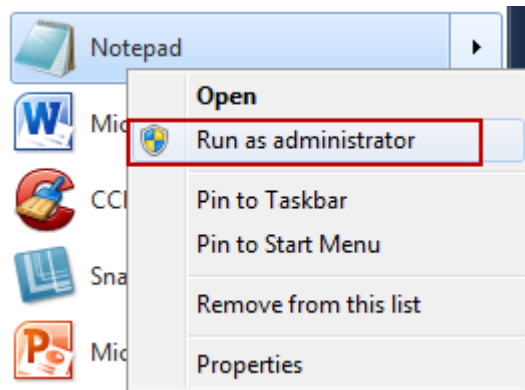
When debugging reports or input forms in the EPM Add-in, you may need to set certain parameters stored on the client system. Follow this How To Guide in order to understand where these files are as well as what parameters to turn on/off.

FILES TO MODIFY

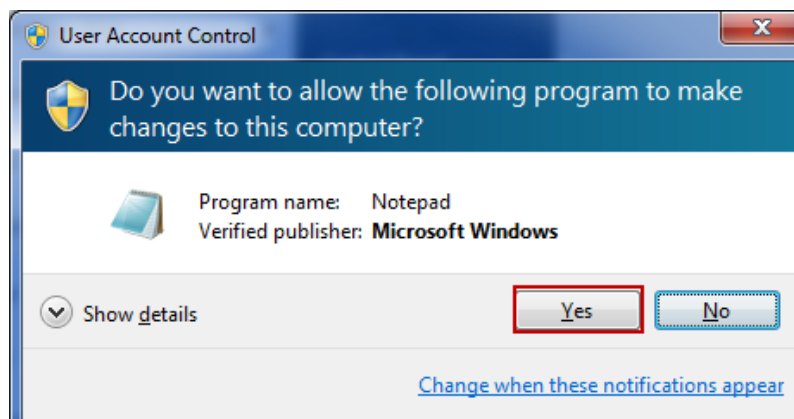
To view the log within the EPM Add-in, simply click More->Log. This will show you any errors that your report/input form may have, but it will not show your performance issues.



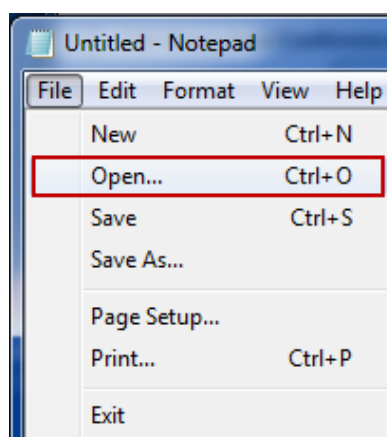
But sometimes, this log doesn't show everything you need like performance issues. In order to trace performance issues, you will need to change the logging level. First, open Notepad and choose to "Run as an Administrator" (right click on the icon Notepad).



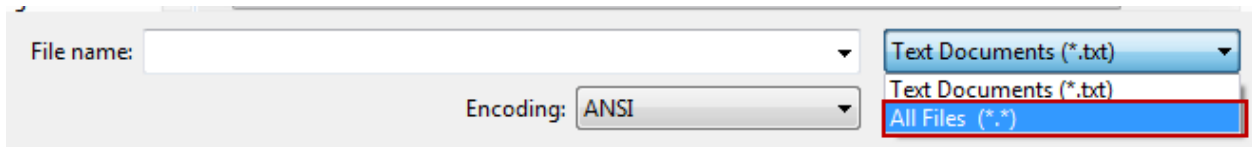
You will receive the following prompt, click Yes.



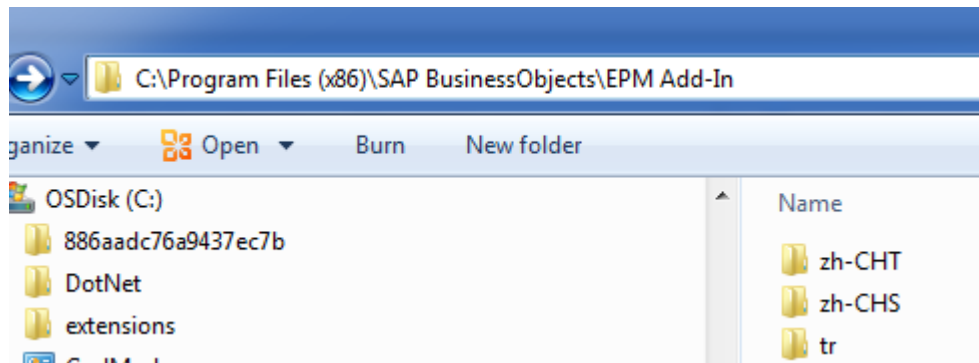
Once Notepad is opened, from the File menu, choose Open...



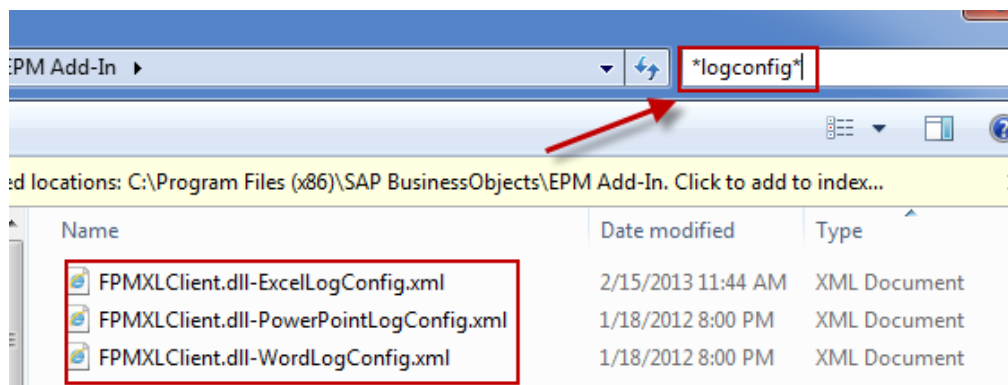
In order to find the correct file(s), you must change the type of files to display from (*.txt) to All Files (*.*)



Navigate to where the EPM Add-in is installed. If you have taken the defaults during the installation process, you will need to navigate to C:\Program Files (x86)\SAP BusinessObjects\EPM Add-In.



Within the directory type in *logconfig* in the Filter box (assuming you are using Windows 7) which will display three different files: one for Excel Logging, one for PowerPoint logging, and one for Word logging.



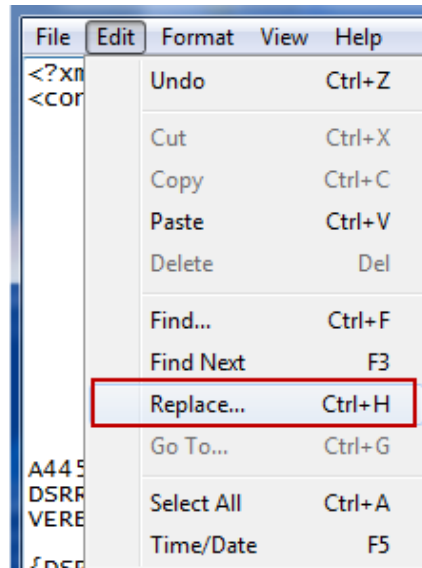
Each of these files contains the same information, but for this exercise we will concentrate on Excel logging. Highlight FPMXLClient.dll-ExcelLogConfig.xml and click Open (do not double click on the file as the file will open without Admin privileges).

Within this file, you will notice it is broken up into five sections:

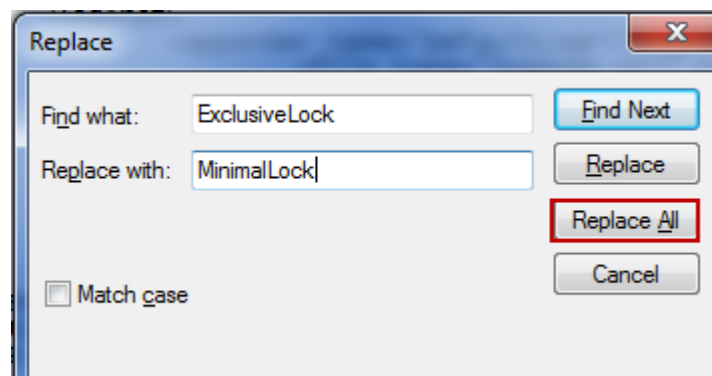
- DefaultLogFileAppender – default log
- DefaultTraceFileAppender – default trace
- PerfLogFileAppender – performance log
- PerfTraceFileAppender – performance trace
- MigrationLogFileAppender – Migration log (log for the migration of EVDRE report's/input forms to the EPM Add-in)

One of the first things you may want to do is change the locking mechanism for each of these sections which has been improved in SP13. Prior to SP13, there was one log file, one trace file, and one performance file, etc. despite opening multiple Excel instances. Now, each log is appended with the instance number so a user can create logs per instance.

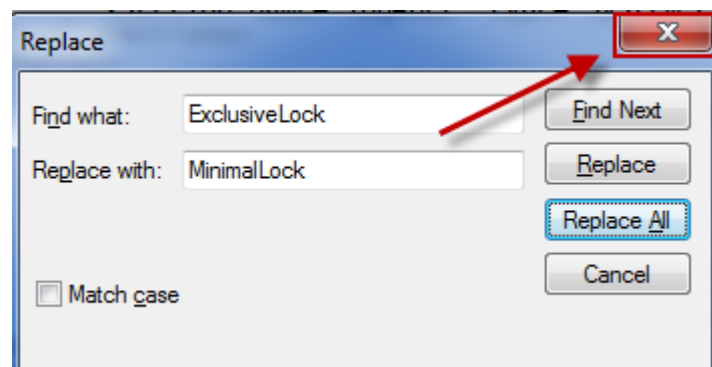
When the EPM Add-in is first installed, each file is created with an Exclusive lock, meaning once Excel is open, you cannot modify/delete the log until Excel is closed. Sometimes, a developer may want to clear out the logs while Excel is still open in order to isolate a single report/input form. To change this, scroll to the top of the file and press Ctrl+H or from the menu, Edit -> Replace.



In the Find what text box, type in ExclusiveLock. In the Replace with text box, type in MinimalLock. Click Replace All when finished.



After all changes have been made, close the window by clicking the red X in the upper right hand corner.



Log Levels

Within the EPM Add-in, there are several log levels to choose from:

- ALL
- ALERT
- ERROR
- WARN
- NOTICE
- INFO
- DEBUG
- TRACE
- VERBOSE

These levels, excluding ALL, are in a hierarchical order based on priorities. Alert is priority 1, Error is priority 2, Warn is priority 3, etc. This means if you set the logging to WARN, then the EPM Add-in will write all Alerts, Errors, and Warnings to the log. If you set the level to TRACE, the EPM Add-in will write all Alerts, Errors, Warnings, Notice, Info, Debug, and Trace logs to the file. When tracking down performance issues, TRACE will give you the best results as Verbose writes the performance of loading connections to the ribbon.

When the EPM Add-in is first installed, the defaults for the logs are:

- Migration – ALL
- Log – ERROR
- Trace – ERROR
- Performance Log – ERROR
- Performance Trace - ERROR

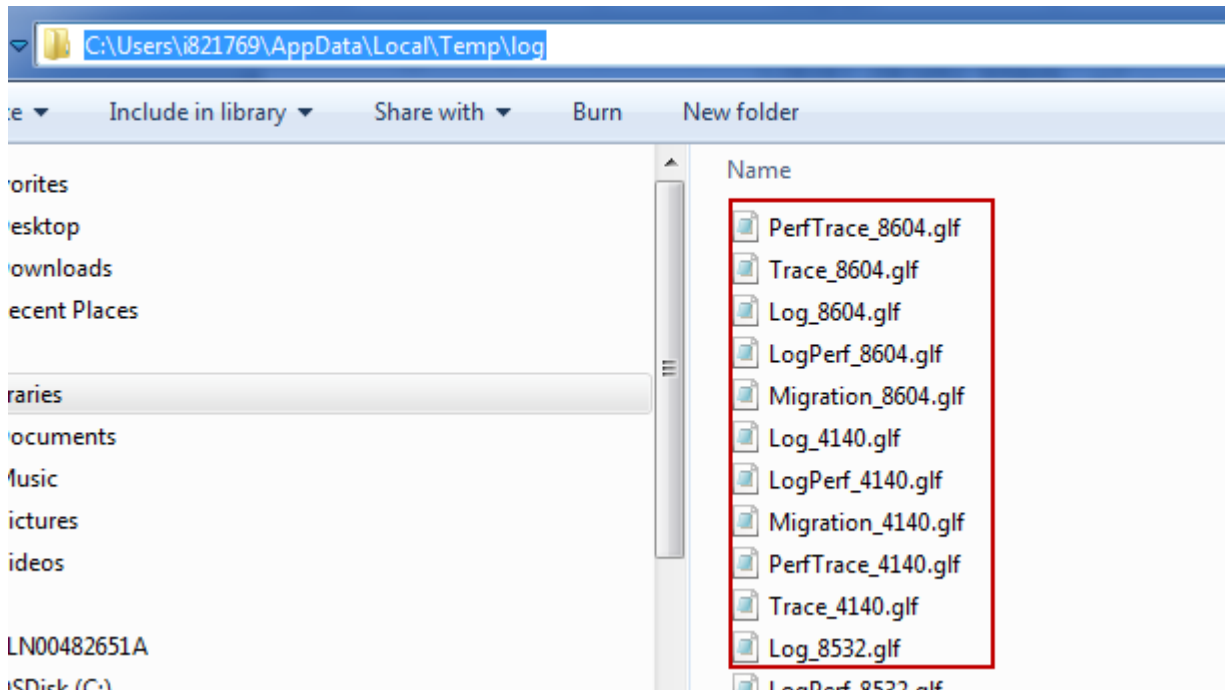
When a report/sheet is having performance issues, simply change the Trace.Performance to TRACE which is the most commonly used for tracking performance issues. By setting the log level to TRACE, this does add performance overhead, but much less since SP13 came out. Prior to SP13 when the logs were being written to, EPM Add-in would open the file, write to the file, and then close the file (MinimalLock). With SP13 (ExclusiveLock), the file is always open (by Excel instance) so the EPM Add-in simply needs to write to the file. Even with this improvement in a production environment, it is best to have the log level set at ERROR or ALERT for all logs which will write the least amount of data as well as setting the lock level to ExclusiveLock.

```
<!-- ... -->
<logger name="Log.FPMXLClient.Migration">
  <level value="ALL" />
  <appender-ref ref="MigrationLogFileAppender" />
</logger>
<logger name="Log">
  <level value="ERROR" />
  <appender-ref ref="DefaultLogFileAppender" />
</logger>
<logger name="Trace">
  <level value="ERROR" />
  <appender-ref ref="DefaultTraceFileAppender" />
</logger>
<logger name="Log.Performance">
  <level value="ERROR" />
  <appender-ref ref="PerfLogFileAppender" />
</logger>
<logger name="Trace.Performance">
  <level value="TRACE" />
  <appender-ref ref="PerfTraceFileAppender" />
</logger>
</!-- ... -->
```

Save the file and if Excel is open, please close it and start again.

Finding the Logs

The easiest way to find the logs is to type %temp%/log in Windows Explorer which will take you to C:\Users\i821769\AppData\Local\Temp\log, assuming you are on Windows 7.



As stated before, each Excel Instance will have four logs (PerfTrace, Trace, Log, and Migration) with the appended instance number. Each log will do the following:

- PerfTrace – Used to trace the execution times of features within the EPM Add-in
- Trace – Contains all the functions called by the code
- Log – Contains high level information
- Migration – Contains information related to migration of EVDRE reports/input forms

Contents of the log

Each action is written to the log, with the beginning time as well as the ending time for each event. Some of the start and end times have other events embedded. In the below example, you can see the start and end times for the event “Insert Local Members” and “ClearOnData” are in sequence, but the “Clear report” event contains the event “ClearOnData”.

```
2013-02-25
12:46:20,415|TRACE|Performance|FPMXLClient.Office.EPMExcelReportManager.RefreshReports|i8217
69||||1|Measure [Insert Local Members] start#
2013-02-25
12:46:20,429|TRACE|Performance|FPMXLClient.Office.EPMExcelReportManager.RefreshReports|i8217
69||||1|Measure [Insert Local Members] end, duration = 0.000 s#
2013-02-25
12:46:20,472|TRACE|Performance|FPMXLClient.Office.EPMExcelReportManager.RefreshReports|i8217
69||||1|Measure [Clear report] start#
2013-02-25
12:46:20,488|TRACE|Performance|FPMXLClient.Office.ExcelReportCleaner.ClearOnData|i821769||||1|
Method [ClearOnData] start#
2013-02-25
12:46:20,502|TRACE|Performance|FPMXLClient.Office.ExcelReportCleaner.ClearOnData|i821769||||1|
Method [ClearOnData] end, duration = 0.001 s#
```

2013-02-25
12:46:20,515|TRACE|Performance|FPMXLClient.Office.EPMExcelReportManager.RefreshReports|i821769||||1|Measure [Clear report] end, duration = 0.029 s#

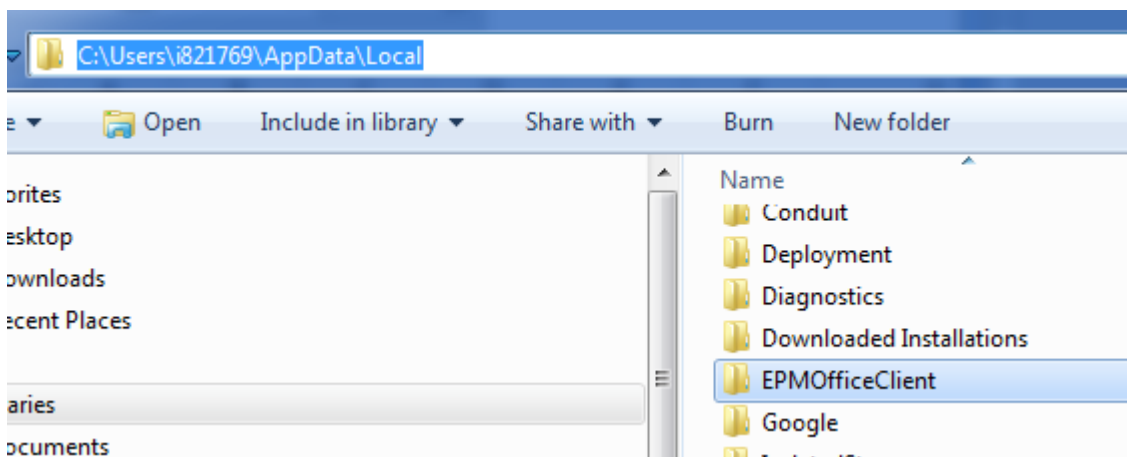
At the end of the trace, you will see the ending event “RefreshSheetWithScan” which is the summation of all events and corresponds to the total time it took to refresh a report or input form.

2013-02-25
12:46:21,515|DEBUG|Performance|FPMXLClient.AddIn.RefreshSheetWithScan|i821769||||1|Method [RefreshSheetWithScan] end, duration = 2.876 s#

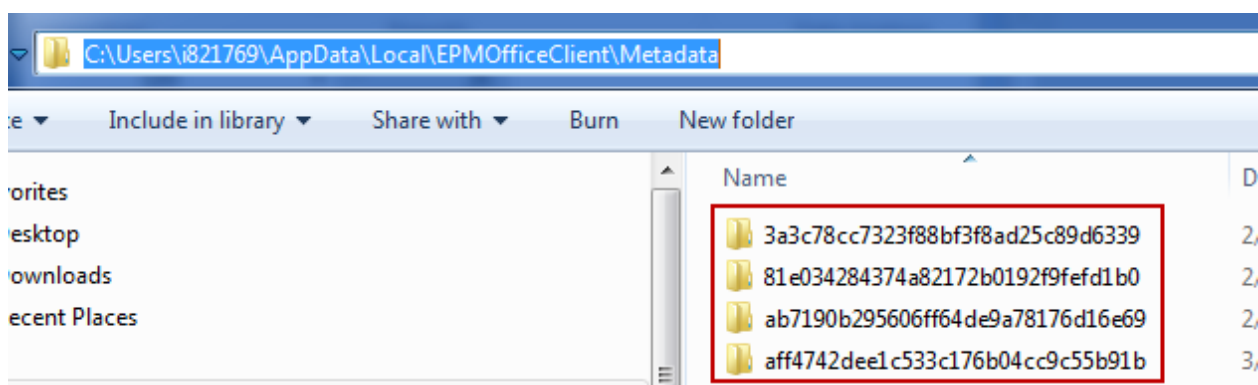
OTHER DIRECTORIES AND FILES

EPMOfficeClient

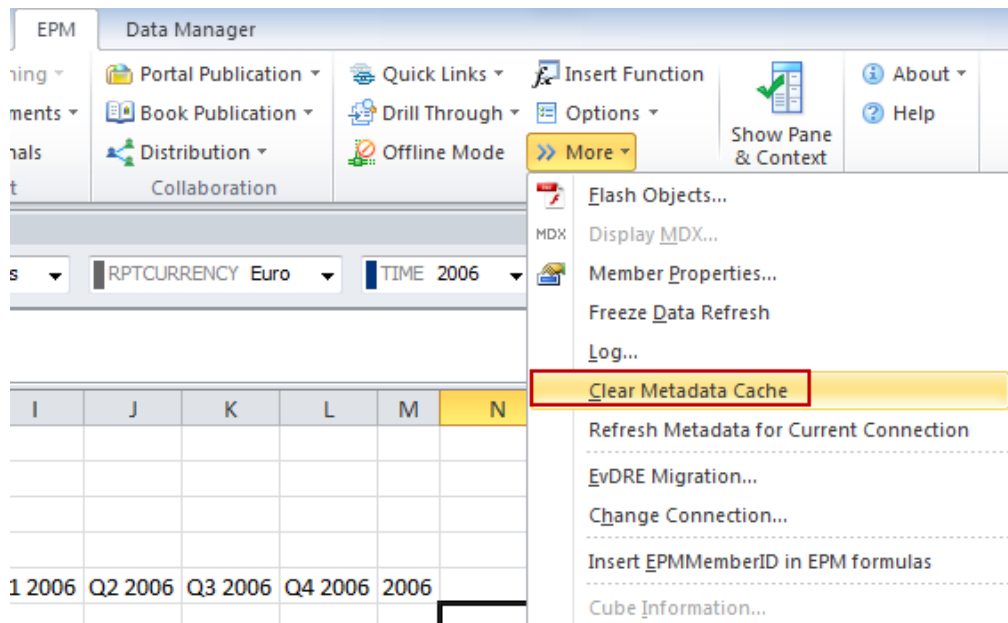
The EPMOfficeClient can be found in your local directory. The easiest way to find this is to open Windows Explorer and type in %temp%, then go up one level.



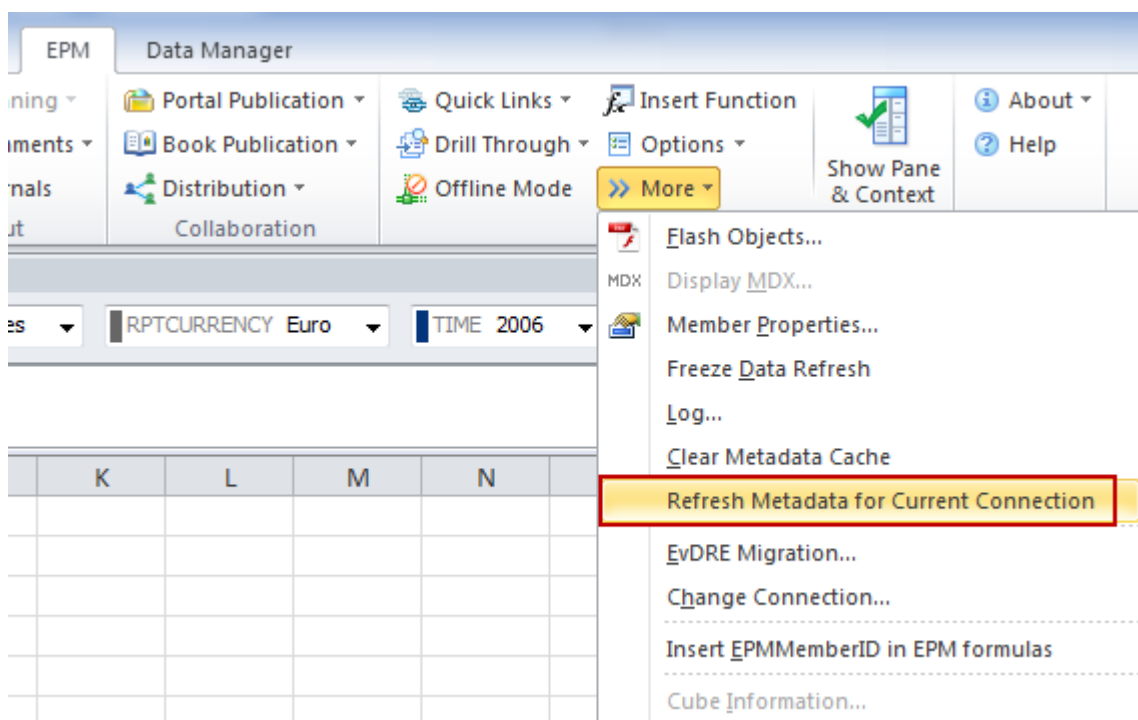
Within this directory, you will find a directory for the downloaded metadata (Metadata). Each directory is a connection to a model/cube. To delete the metadata, simply delete these directories.



Another way to clear the metadata is via the EPM Add-in. Simply navigate to More->

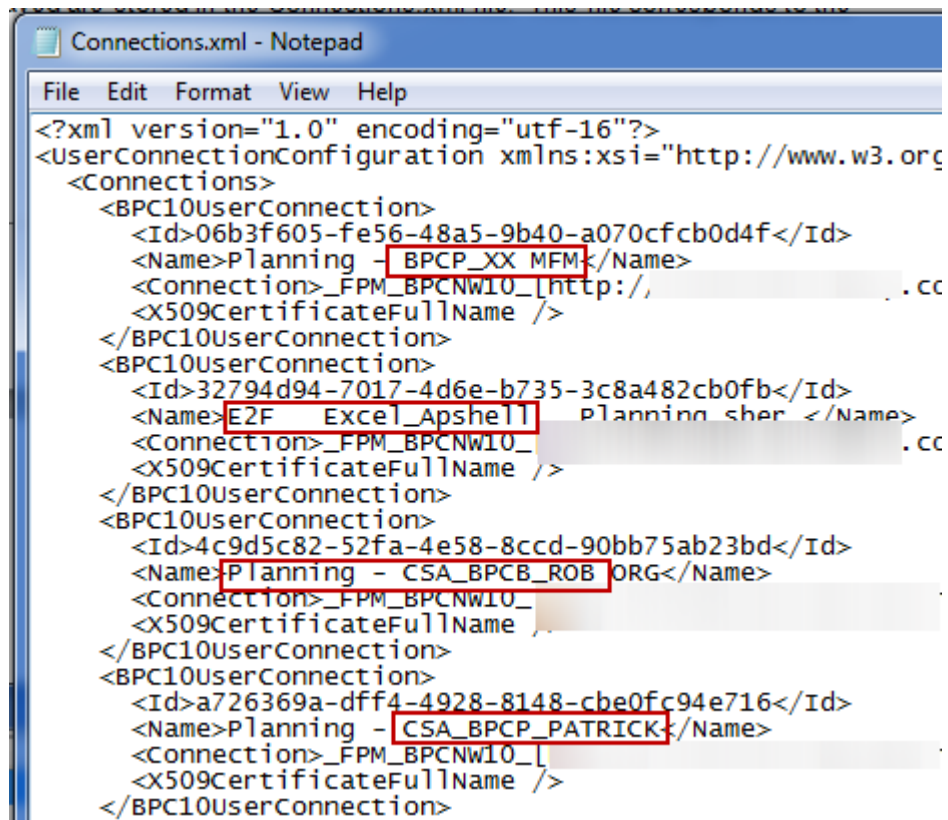
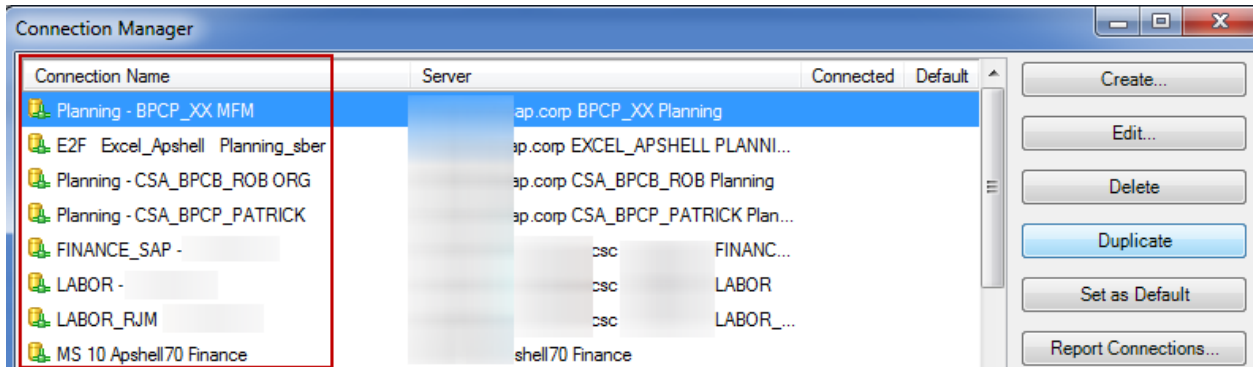


As of SP13, patch 2, there is new functionality to refresh Metadata for the current connection meaning the user will not have to log out of the EPM Add-in in order to refresh the metadata. This new functionality can be found at More -> Refresh Metadata for Current Connection.



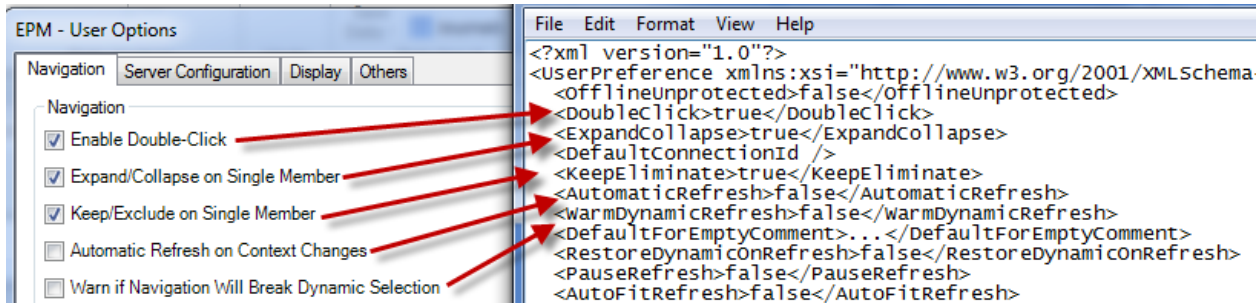
Connections

All local connections made and saved are stored in the Connections.xml file. This file corresponds to the Connection Manager listing.



EPMXLClientPreference.XML

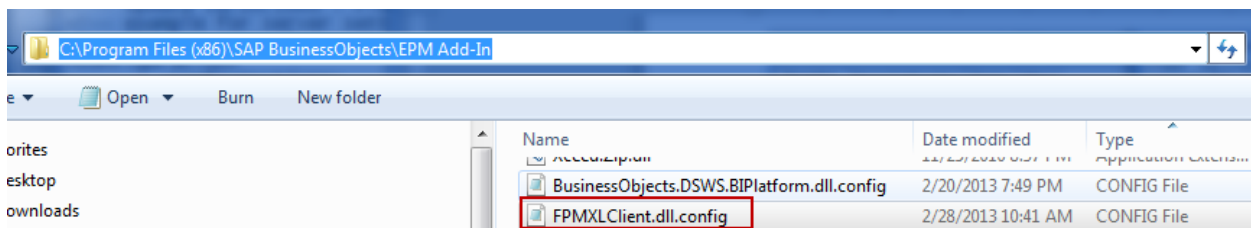
The EPMXLClientPreference.XML file stores user preferences, current view of all connections, last selected members, and the default sheet options. The values stored in this file directory correlate to the User Preference tab within the EPM Add-in.



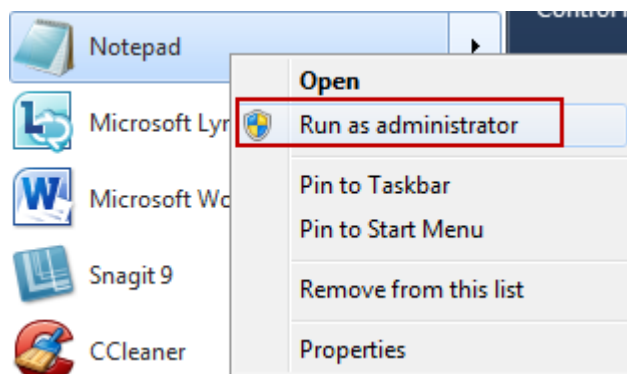
It has been asked by several clients, how do we ensure our users have the same connections as well as preferences? To do this, simply copy the default files (Connections.xml and EPMXLClientPreferences.XML) to each users machine and place them in the correct directory (C:\Users\i821769\AppData\Local\EPMOfficeClient) where i821769 is the user name for the machine.

FPMXLClient.dll.config

Not often, but some users may need to change the global settings of the EPM Add-in. To do this, navigate to the installation directory and locate the file FPMClient.dll.config.



In order to change these values, you will need to open up Notepad and choose to run as administrator.



Within this file, you will see the following:

```

</configuration>
<appSettings>
  <add key="LastUsedConnection" value="" />
  <add key="BaseTemplateUrlBPC" value="http://[Server]:[Port]/sap/bpc/" />
  <add key="ClientSettingsProvider.ServiceUri" value="" />
  <add key="Log4NetEXCELInitFile" value="./FPMXLCClient.dll-ExcelLogConfig.xml"/>
  <add key="Log4NetWINWORDInitFile" value="./FPMXLCClient.dll-wordLogConfig.xml"/>
  <add key="Log4NetPOWERPNTInitFile" value="./FPMXLCClient.dll-PowerPointLogConfig.xml"/>
  <add key="AccessControl" value="true"/>
  <add key="SkipLoadingWhenEmbedded" value="false"/>
  <add key="UploadChunkSize" value="262144"/>
  <add key="LimitAmountAxisTupleInAxis" value="200000"/>
  <add key="LimitToAsymmetric" value="50000"/>
  <add key="LimitTDHCountInCache" value="3"/>
  <add key="SaveDynAxisIfStaticAxisLengthExceed" value="2000"/>
  <add key="SmartQueryEngineThreshold" value="5"/>
  <add key="SmartQueryEngineMaxAxisRequests" value="1"/>
  <add key="SmartQueryEngineMaxTupleByCellRequest" value="20000"/>
  <add key="SmartReportValueWritingMinBlockSize" value="500"/>
  <add key="SmartReportValueWritingMaxBlockSize" value="10000"/>
  <add key="SmartReportValueWritingMinBlockRowsRatio" value="10"/>
  <!-- EA : External Addin -->
  <add key="EA_ExternalAddin" value="false"/>
  <add key="EA_DefaultDataSource" value="" />
  <add key="KeepBlankStatic" value="false"/>
  <add key="RefreshReportsDataOnlyAfterSubmit" value="true"/>
  <!-- END -->
  <add key="SubmitChunkSize" value="30000"/>
  <add key="LimitToRefreshWarning" value="5000"/>

  <add key="SsoKeepAlive" value="true"/>
  <add key="SsoKeepAliveDefaultTime" value="600"/>
</appSettings>

```

Of these settings, I have only had to change one and that was for a model with large dimensions. When trying to return a large number of dimension members in a report, you may encounter an MDX error or a splash screen stating you have requested too many tuples. The default is 150,000 but this may need to be increased. To change this value, update the parameter LimitAmountAxisTupleInAxis.

```

<add key="AccessControl" value="true"/>
<add key="SkipLoadingWhenEmbedded" value="false"/>
<add key="UploadChunkSize" value="262144"/>
<add key="LimitAmountAxisTupleInAxis" value="200000"/>
<add key="LimitToAsymmetric" value="50000"/>
<add key="LimitTDHCountInCache" value="3"/>
<add key="SaveDynAxisIfStaticAxisLengthExceed" value="2000"/>

```

Remember, if these parameters are changed, you will need to exit out of Excel and start it again.

RELATED CONTENT

NEW SAP Community Network - <http://scn.sap.com/welcome>

BPC Blogs - <http://wiki.sdn.sap.com/wiki/display/CPM/BPC+Blogs>

EPM Add-in Academy - <http://wiki.sdn.sap.com/wiki/display/CPM/EPM+Add-in+Academy>

EPM Add-in Connections Explained - <http://wiki.sdn.sap.com/wiki/display/CPM/EPM+Add-In+Connections+explained>

How to use Fiddler -

https://wiki.wdf.sap.corp/wiki/download/attachments/1019784835/fiddlerV2_reviewed_final.docx?version=1&modificationDate=1361296507320

BPC Forums - <http://scn.sap.com/community/epm/businessobjects-planning-and-consolidations-for-netweaver>

EPM Roadmap - <https://websmp103.sap-ag.de/roadmap>

Idea Place to influence our software, submit an idea, vote, or add a comment -

<https://cw.sdn.sap.com/cw/community/ideas>

Customer case studies and references -

<http://www.sap.com/solutions/sapbusinessobjects/large/enterprise-performance-management/customers/index.epx>

Customer case studies and references - <http://www.youtube.com/watch?v=nt4ab4APd2I>

BPC How to Guides -

<https://wiki.sdn.sap.com/wiki/display/BPX/Enterprise+Performance+Management+%28EPM%29+How-to+Guides>

BPC Sizing Guide - <https://websmp110.sap-ag.de/sizing>

BPC Help Files - http://help.sap.com/saphelp_bpc10_nw/helpdata/en/bpc_nw_index.htm

BPC Install, upgrade, and logic Guides - <https://websmp107.sap-ag.de/instguidesepm-bpc>

BPC Release Notes - <http://service.sap.com/releasenotes>

BPC 10 Consolidation Demo on Youtube - <http://www.youtube.com/watch?v=5nu3v9sVzA>

BPC 10 Reporting Demo on Youtube - <http://www.youtube.com/watch?v=8u6orTHi1IY>

SAP Product Availability Matrix for support end of life and platform support -

<https://websmp110.sap-ag.de/pam>

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[David Williams - SAP BusinessObjects Planning and Consolidation and SAP HANA: A Peanut Butter-and-Chocolate Combination – Sweet!](#)

[John Appleby - The Realtime Organisation - Planning when you need it with SAP BPC on HANA](#)

[Sheldon Edelstein - Installation Options for Business Objects Planning and Consolidation 10.0, version for Netweaver](#)

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