# Tech Note 930 Wonderware Application Server Clean-up Guide

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### Introduction

When working with a Galaxy, some of the Galaxy-related files can become quite large, impacting system performance. Investigation and continued testing has confirmed that "cleaning up" certain file sets provides the following benefits:

- Improves time to open templates and objects.
- Improves time to check-in objects and templates.
- Deploying the InTouch app is faster.
- Restoring a Galaxy is faster.
- Backup was faster and smaller.

You can delete the files listed in the following sections. Doing so can shrink the Galaxy size dramatically. Although some of the directories can safely be deleted even while the Galaxy is deployed, it is strongly recommended that any deletions should be done when all the display nodes of a Galaxy have been un-deployed, (i.e. during an upgrade). When all the display nodes of a Galaxy are un-deployed, none of these directories should exist, so they can all be deleted.

Important: Always make backups before you delete anything!

## **Application Versions**

• Wonderware Application Server 3.1 and later (including 2012 R2 [3.6])

## Assumptions

This Tech Note assumes you are familiar with the following:

- Galaxy operations such as Deploy, Un-deploy, Object Export, Backup/Restore, etc.
- SQL Server Database management operations.

Note: See Tech Note 976 SQL Server Transaction Log Not Truncating for detailed diagnostic information about the SQL Server

Transaction Log.

## Delete \$\$\$ExportTempFolders

The **\$\$\$ExportTempFolders** are created when you do an Object Export from the Galaxy. These files are normally automatically deleted on completion. If the export fails or something goes wrong during the export, these directories are not deleted and remain there. All the \$\$ExportTempFolders directories can be deleted.



### FIGURE 1: \$\$\$ExportTempFolders

**Delete BAK Directories** 

The BAK directories are created when you make a backup of an InTouch Application when opening the application from within the IDE using WindowMaker. The default directory is in the application directory itself, so it permanently doubles the size of the application.

When a backup is required, specify an alternate directory and **do not** use the default. You can delete all the BAK directories.

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🛨 퉲 Bin	retentiv.x	5/12/2013 9:10 PM	X File	11
🕀 퉲 Docs	tag_ext.x	5/12/2013 9:10 PM	X File	18 K
🖃 퉬 FileRepository	agbrw.dat	5/12/2013 9:10 PM	DAT File	1 K
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	wm	5/12/2013 9:10 PM	Configuration settings	11
	ww_wdws.nbk	5/12/2013 9:10 PM	NBK File	11
Objects	ww_wdws.ndx	5/12/2013 9:10 PM	NDX File	11

## FIGURE 2: BAK DIRECTORY CONTENTS

## **Delete Deployed Directories**

Important! These files should only be deleted after all the display nodes of the Galaxy are un-deployed.

The Deployed directories are sometimes created when you deploy an InTouch application, but are not always deleted again when the

application is un-deployed. These files can build up over time.

• Un-deploy all the display nodes, and then delete all the directories left over. Afterwards deploy all the InTouch Applications again.



#### FIGURE 3: DEPLOYED DIRECTORIES

## **Delete InTouch Application Directories**

Important! These should only be deleted when all the display nodes of the Galaxy have been un-deployed.

For each deployed InTouch Application, a copy is created in this directory.

Various scenarios can result in these directories building up over time (Backing up and restoring the Galaxy, running Platform remove on file:///Cl/inetpub/wwwroot/t002746/t002746.htm[8/29/2013 6:56:55 AM]

a node that hasn't been un-deployed, etc).

• Un-deploy all the display nodes, and then delete all the directories that are left over. Afterwards deploy all the InTouch Applications again.

Folders	Name A	Size Type	Date Modified
🗟 🛄 Program Files 🧄	AAMOCore	File Folder	2012/06/19 08:35 AM
🗄 🙆 Adobe	ArchVisObjects_GR_Runtme	File Folder	2012/06/19 08:35 AM
🗄 😋 Analog Devices	Assmang_10_F1_PC01_PC05_Furnace1_2_Vew	File Folder	2012/06/19 08:35 AM
🗄 😂 Archestr A	Assmang_10_F1_PC01_PC06_VewApp	File Folder	2012/06/19 08:35 AM
🗟 🦳 Framework	Astmang_10_F1_PC01_PC07_VenApp	File Folder	2012/06/19 08:34 AM
🖩 🦳 Bri	Assmang_10_F1_PC01_PC08_View	File Folder	2012/06/19 08:34 AM
III 🗀 Docs	Assmang_10_F1_PC01_PC09_View	File Folder	2012/06/19 08:34 AM
E C FleRepository	Assmang_10_F1_PC01_PC10_Furnace1_2_Vew	File Folder	2012/06/19 08:34 AM
🖂 🎦 Catoridge_20120608	Astimang_10_F2_PC01_PC05_WeiiAcp	File Folder	2012/06/19 08:33 AM
\$\$\$\$\$xportTempFolder_(\$\$483F87-2748-48EA-9249-889C0A306804)	Assmang_10_F2_PC01_PC08_Furnace1_2_Vew	File Folder	2012/06/19 08:33 AM
\$\$\$\$ExportTempFolder_(18CC3484-760F-4F76-85CD-3208298738EF)	Assmang_10_F2_PC01_PC09_Wew	File Folder	2012/06/19 08:32 AM
\$\$\$ExportTempFolder_{095CE8C0-C718-#9E-8368-#6A38423AP99}	Assmang_10_F3_PC01_PC05_Vew	File Folder	2012/06/19 08:32 AM
\$\$\$ExportTempFolder_{156C5C1A-65D1-4593-AE6C-62A855DCFE66}	Assmang_10_F3_PC01_PC08_Assmang/lew	File Folder	2012/06/19 08:32 AM
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\$\$\$ExportTempFolder_(A99EE484-5583-4206-84D7-6966573CF37A)	Assmang_10_F4_PC01_PC08_AssmangView	File Folder	2012/06/19 08:31 AM
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BaseTemplatePDFs	Assmang_10_F6_PC01_PC05_AssmangGlobal	File Folder	2012/06/19 08:31 AM
B ObjectFileStorage	Assmang_10_F6_PC01_PC08_AssmangClobal	File Folder	2012/05/19 08:31 AM
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R Objects	Assmang_10_F6_PC01_PC11_Vew	File Folder	2012/06/19 08:30 AM
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A COMPANY TO BE DOUBLE DATE TO BE DOUBLE DATE			

FIGURE 4: INTOUCH APPLICATION DIRECTORY COPIES

## Clear GOBJECT\_CHANGE\_LOG Table

The size of the table in the MSSQL Galaxy Database called **dbo.GOBJECT\_CHANGE\_LOG** can become very large over time when there is a large amount of development. This table can be cleaned up by executing the following script on the database:

USE Test

DELETE FROM gobject\_change\_log WHERE change\_date <= DATEADD(dd,-15,GetDate())

This query deletes all the entries in the change log more than 15 days old.



#### FIGURE 5: CLEAR THE CHANGE LOG

## Shrink Transaction Log Files

You can shrink the Database Log Files. In SQL Server Management Studio, select the Database which corresponds to the Galaxy Name

(e.g. KH\_G).

- 1. Right-click the Database item, then click Tasks.
- 2. Click Shrink, then Files (Figure 6 below).

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+	<u> </u>	atabas	se Snapshots			
+	间 A	rchest	rAServicesDB			
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				-	Restore •	45
			Start PowerShell			-

FIGURE 6: SHRINK DATABASE LOG FILES

3. In the File type list, click Log, then OK. Leave all the other defaults.

🧵 Shrink File - Base_Applicati	on_Server_log		<u></u>		
Select a page	🔄 Script 👻 📑 Help				
General	The size of the database file	se is reduced by shrinking in s, use Shrink Database.	dividual files to release unallocated space. To		
	Database:	Test			
	Database files and fileg	roups			
	File type:	Log			
	Filegroup:	<not applicable=""></not>	<b>_</b>		
	File name:	Base_Application_Server_lo	og 🔽		
	Location:	C:\Program Files (x86)\Micr	osoft SQL Server\MSSQL10.MSSQLSERVER\MS		
	Currently allocated s	pace:	16.19 MB		
	Available free space	e:	13.98 MB (86%)		
	Shrink action				
Connaction	Release unused space				
Connection	C Reorganize page	es before releasing unused spa	ace		
EGYMO2008	Shrink file to:		16 - MB (Minimum is 0 MB)		
Connection: EGYMO2008\Administrator	C Empty file by mig	rating the data to other files in	the same filegroup		
View connection properties					
Progress					
Ready					
			OK Cancel		

FIGURE 7: SHRINK FILE TYPE: LOG

4. In this example, the original allocated space was 16.19 MB. After shrinking, it is reduced to 0.49 MB (Figure 8 below).

🧊 Shrink File - Base_Applicati	on_Server_log			_ 🗆 🗙		
Select a page	🔄 Script 👻 📑 Help					
General	The size of the databas shrink all database file	se is reduced by shrinking in s, use Shrink Database.	ndividual files to release unallocated sp	ace. To		
	Database:	Test				
	Database files and fileg	roups				
	File type:	Log				
	Filegroup:		~			
	File name:	Base_Application_Server_I	log	•		
	Location:	C:\Program Files (x86)\Micr	rosoft SQL Server\MSSQL10.MSSQLSE	RVER\MS		
	Currently allocated s	pace:	0.49 MB			
	Available free space	e:	0.26 MB (52%)			
	Shrink action					
Connection	Release unused space					
Connection	C Reorganize pages before releasing unused space					
EGYMO2008	Shrink file to:		0 🚽 MB (Minimum 0 MB)	)		
Connection: EGYMO2008\Administrator	C Empty file by mig	rating the data to other files in	the same filegroup			
View connection properties						
Progress						
Ready						
			ОКС	ancel		



# Truncate the Log

You can truncate log data by using the following script:

DECLARE @DBNAME nvarchar(max) SET @DBNAME= 'Test' /\* Set the correct galaxy name here\*/ DECLARE @RTp nvarchar(max)

```
SELECT @RTp = recovery_model_desc
FROM sys.databases WHERE name = @DBNAME ;
IF (@RTp is not null)
BEGIN
DECLARE @LOGNAME varchar(100
DECLARE @sql nvarchar(max
SET @sql = 'ALTER DATABASE '+ @DBNAME +' SET RECOVERY SIMPLE'
IF
   (upper(@RTp)<> 'SIMPLE'
  EXEC (@sql)
IF (coalesce(object_id(N'tempdb..##tt'),0)>0)
  DROP TABLE ##tt;
SET @sql = 'select name into ##tt from sys.database_files where type =0'
  EXEC sp_executesql @sql
DECLARE users_cursor
CURSOR FOR SELECT name FROM ##tt
OPEN users_cursor
FETCH NEXT FROM users_cursor
INTO @LOGNAME
WHILE @@FETCH_STATUS = 0
BEGIN
--Print @LOGNAME
DBCC SHRINKFILE (@LOGNAME 1
FETCH NEXT FROM users_cursor -- have to fetch again within loop
INTO @LOGNAME
END
CLOSE users cursor
DEALLOCATE users_cursor
SET @sql = 'DBCC SHRINKDATABASE (''' + @DBNAME +''' , TRUNCATEONLY)'
  EXEC(@sql)
SET @sql = 'ALTER DATABASE '+ @DBNAME +' SET RECOVERY FULL;'
IF (upper(@RecoveryModel)<> 'SIMPLE')
  EXEC (@sql)
END
```

## Clean Up Unused Galaxy Objects

Execute the internal\_delete\_unused\_packages stored procedure to get rid of unused Galaxy Objects:

DECLARE @return\_value int, @all\_finished int EXEC @return\_value = [dbo].[internal\_delete\_unused\_packages] @all\_finished = @all\_finished OUTPUT SELECT @all\_finished as N'@all\_finished' SELECT 'Return Value' = @return\_value

### Run Galaxy Database Scrubber on Database

The Wonderware Galaxy Database Scrubber utility should only be run on Galaxies that have been completely un-deployed and backed up. This scrubber utility will delete all Unused Packages in the database and clean the Transaction Log files.

1. Double-click GalaxyDatabaseScrubber.exe to start the scrubber. Please take note of the warning pop-up:

Galaxy_DB_Scrubber				_O×		
G V Local Disk (C:) + Galaxy_DB_Scrubber	- 🛃	Search Galaxy_DB_Scrubbe	r	<u> 2</u>		
Organize 🔻 🛅 Open New folder			8	= • 🔟 🕐		
Favorites Name ^		Date modified	Туре	Size		
Desktop GalaxyDataba	aseScrubber	9/29/2009 12:27 PM	Application	68 KB		
Downloads CalaxyDataba	aseScrubberReadme	9/29/2009 12:27 PM	HTML Document	14 KB		
🛃 Galaxy Database Scrubber v. 1.0						<u>_   X</u>
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	Galaxy Database Scrub	ber		×		<b>A</b>
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						.::
GalaxyDatabaseScrubber Date modified: 9/2 Application Size: 68.	9/2009 12:27 PM Dat 0 KB	te created: 6/2/2013 6:57 PM		<b>&gt;</b>		

### FIGURE 9: GALAXY SCRUBBER WARNING MESSAGE AT STARTUP

- 2. Select the Galaxy that needs to be scrubbed and click **Connect**.
- 3. Click the Scrub Database button and wait until it is finished.

#### Wonderware South Africa and M. Salah

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