



Rehost Guide

Windchill 7.0 and Windchill 8.0

June 2006

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Scope

WebServer

Apache

Servlet Engine

Tomcat

Windchill Application Components/Functions

In Scope

File Vaulting

Content Replication (With Limitations)

Not in Scope

ESI

Pro/I Gateway

Windchill Visualization Service

Introduction

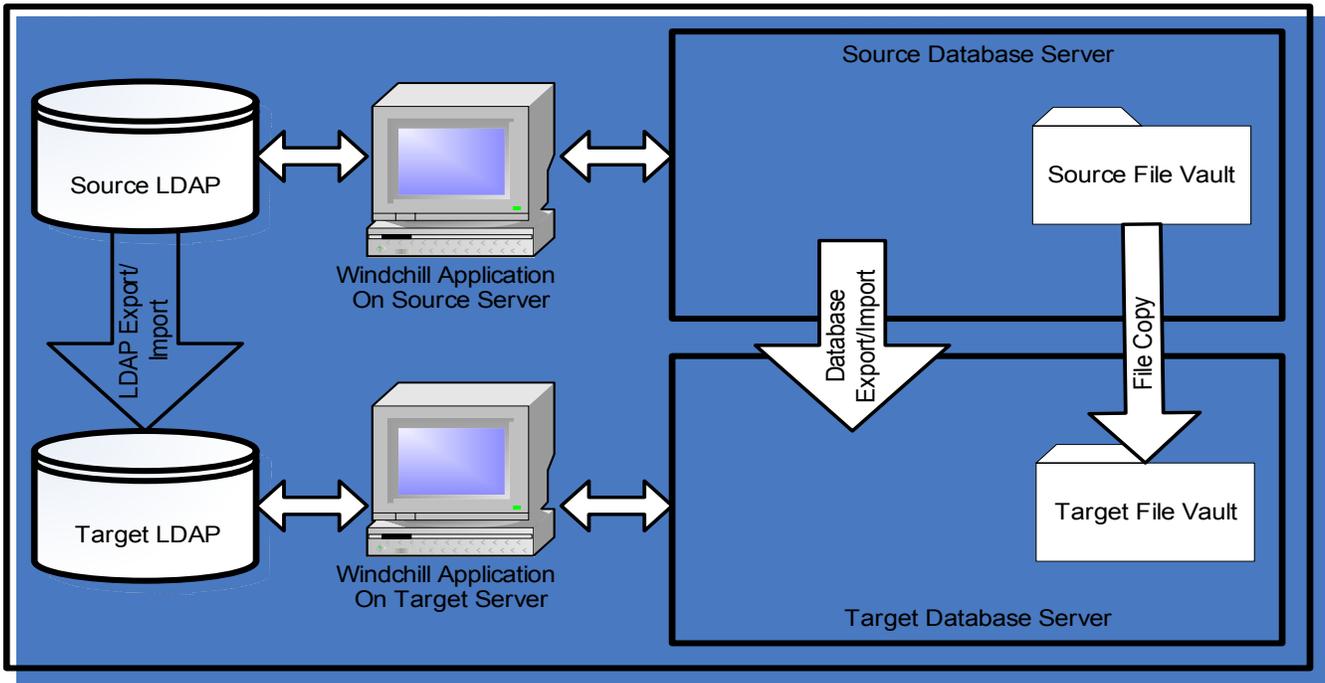
This rehost guide describes how to move your Windchill solution from one host to another host system. This process involves recreating your remote Windchill server with the same enterprise data on another remote system by following the procedures in this guide.

Although there are multiple ways to rehost, PTC supports the two procedures in this guide. Use the first Multi-User test rehosting procedure to test systems with multiple users where access from more than one client is needed. Use the Development rehosting procedure for a development system which will be an exact copy of the source. The Development rehosting procedure only changes the host name without making any changes to LDAP. It is a faster process, but it is not recommended for rehosting test systems with multiple users

Sample Windchill Application Deployment

Windchill makes it possible to store the content files of some ContentHolder objects as files directly accessible at the operating system level instead of using Oracle Binary Large Objects (BLOBs). This functionality uses Windchill objects called 'Vaults' and 'Folders' and links these to real file system folders with a mount. This may seem problematic when such systems need to be relocated on another host because the data is not only stored in the Oracle database, but also as local files on the file system. Special care must be taken or the links between the metadata and the local files may be broken. The same is true for LDAP.

This diagram depicts the flow of copying source database, LDAP and vault from one server to another and also explains how to configure a Windchill application server to work with this copied database. This holds true for all the Windchill solutions.



The Windchill application on the source server is used to load data in the source database server and is also configured to write the secondary content into the source file vault. The Windchill metadata on the source database server is exported using oracle export command and imported into the Windchill target database using the oracle import command. The source file vault on the source database server will also be copied onto the target file vault on the target database server. The Windchill application on the target server needs to be configured to work with the copied database and vault. The LDAP data will also be exported from source LDAP server to the target LDAP server. The detailed steps are explained as follows.

Prerequisites

1. Database administrator privileges for source database and target database.
2. If using vaults, make sure the revaulting scheduler is turned off on the source Windchill server.
3. Same source base dn structure is required to use on the target system. This prerequisite does not have any effect on the systems being rehosted to different domains.
4. Same vault and folder structure as well as the relative file vault location is used on the target system.
5. No other Windchill installations exist on the target system.
6. Copy <Windchill>/loadXMLFiles folder to the target system for ProjectLink systems.

Assumptions

The following table describes the information you will need during the rehosting process. This document assumes these values for illustration purpose. You can print this table and write down the values.

Name	Description	Sample Values	Entered Values	Required In Phase
Source Host Name	Machine name of the source server	mymachine.com		
Source Installation directory	Installation directory of the windchill application on the source server	On Windows: C:\ptc\Windchill On Unix: /ptc/Windchill		

Source DB server host	Source Windchill database server	mysourcedbhost		
Source Oracle dbUser	Db user name of the source database	wcadmin		
Source Oracle dbPassword	Db password of the source database	wcadmin		
Source Oracle serviceName	Service:port:sid of the source database	mysourcedbhost port:sourcesid		
Source Base DN	Base DN of the source system	cn=Windchil, cn=Application Services, o=ptc		
Source LDAP server	Source LDAP server used by Source Windchill application server	ldap://sourceLDAPhostname		
Source db dump file name	Dump file name of the exported database on the source server	wcadmin.dmp		
Source db dump exported to:	The directory the database dump exported to:	C:\ptc\export		
Source JNDI adapter ptcServiceName	ServiceName of the JNDI adapter on the source server	mysource.company.com		
Target Host Name	Machine name of the target server	mytarget.company.com		
Target Installation directory	Installation directory of the windchill application on the target server	On Windows: D:\ptc\Windchill On Unix: /ptc/Windchill		
Target DB server host	Target Windchill database server	mytargetdbhost		
Target Oracle dbUser	Db user name of the target database	wcadmin		
Target Oracle dbPassword	Db password of the target database	wcadmin		
Target Oracle serviceName	Service:port:sid of the target database	mytargetdbhost:port:targetsid		
Target Base DN	Base DN of the target system	cn=Windchil, cn=Application Services, o=ptc		
Target LDAP Server	Target LDAP Server used by Target Windchill application server	ldap://targetLDAPhostname		
Db dump copied from source on to the target server:	The directory the database dump copied from source on to the target server:	D:\ptc\export		
Target JNDI adapter ptcServiceName	ServiceName of the JNDI adapter on the target server	mytarget.company.com		

Multi-User Test Rehosting Procedure:

Overview

This section outlines the steps involved in the overall process and can be used as a checklist.

- [Phase 1: Installing and validating the target system](#)
- [Phase 2: Export the target configuration branch](#)
- [Phase 3: Exporting the database from the source system](#)
- [Phase 4: Exporting the Custom adapters from the source system](#)
- [Phase 5: Exporting the LDAP from the source system](#)
- [Phase 6: Copying the vault content from the source](#)
- [Phase 7: Importing the database to the target system](#)
- [Phase 8: Importing the LDAP to the target system](#)
- [Phase 9: Import the target configuration branch](#)
- [Phase 10: Importing the Custom adapters to the target system](#)
- [Phase 11: Updating the Database on the target system](#)
- [Phase 12: Configure database connection](#)
- [Phase 13: Disabling Content Replication](#)
- [Phase 14: Restart the servers](#)
- [Phase 15: Disabling the Queues](#)
- [Phase 16: Update Vaulting Configuration](#)

Phase 1: Installing and validating the target system

1. Install Apache, Tomcat, Aphelion, and Info*Engine as described in the *Windchill Installation Configuration Guide-Windchill*. During the installation, the Info*Engine prompts for base dn (Distinguished name of LDAP configuration properties base) as shown in **Figure 1**. Replace the default value provided by the installer with the source base dn, the distinguished name of LDAP configuration properties base of the source system. The target Info*Engine node structure has to match with the source base dn.

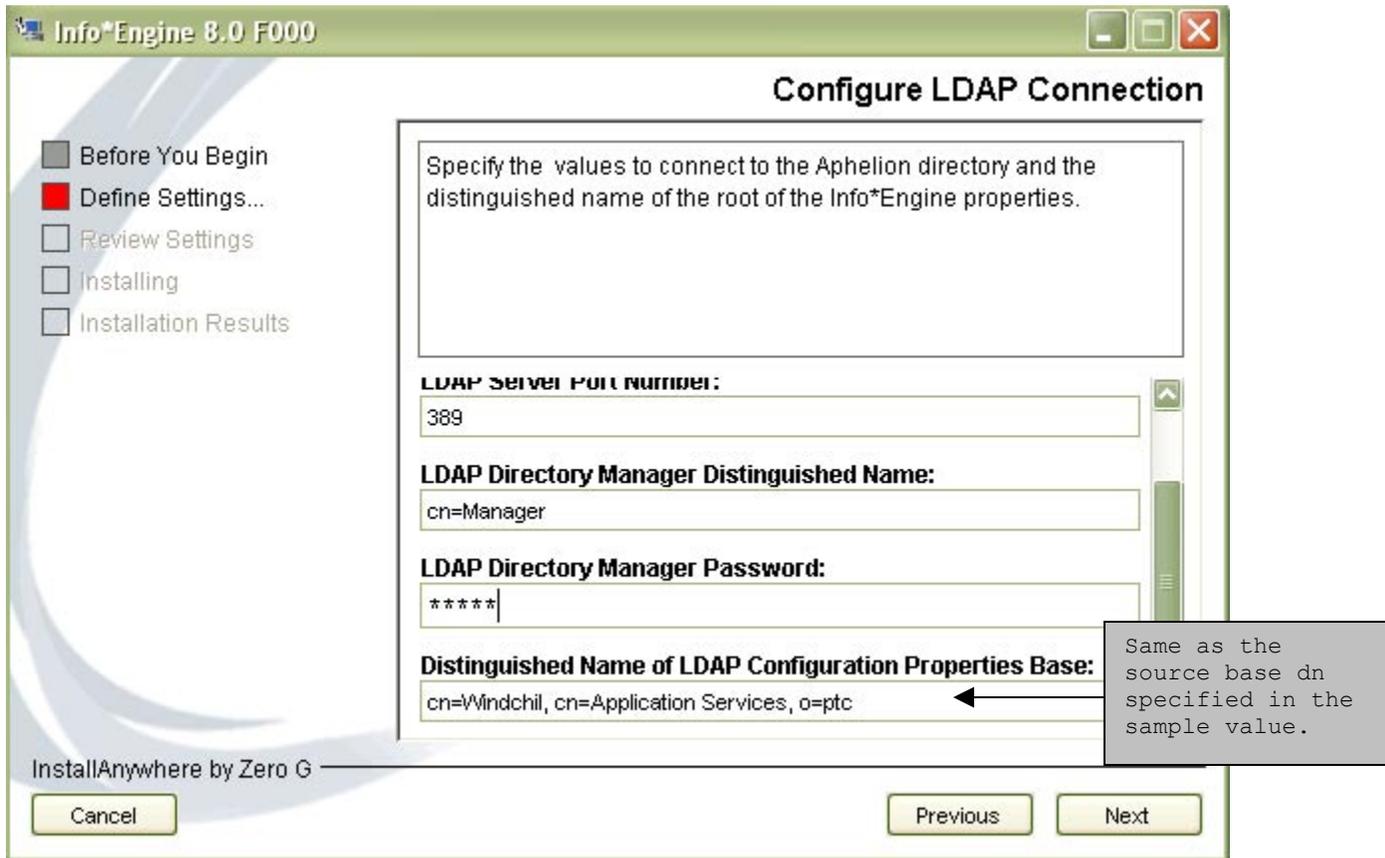


Figure 1

2. Follow the steps in the *Windchill Info*Engine Installation and Configuration Guide* to install Windchill Services, Windchill solution and Oracle.
3. Install the maintenance release currently installed on the source system to the target system. Apply any temp patches currently applied to the source system to the test system.
4. Complete rest of the installation as described in the *Windchill Installation Guide*.
5. Deploy customizations from the source system on to the target system.
6. Verify successful operation of the target system. These tests could vary based on the installation and customizations installed.
7. Back up site.xconf of the target system.

Phase 2: Export the target configuration branch

1. Export Windchill target configuration branch from test installation's LDAP. To export the configuration branch information to a file for use in a later phase, open a Windchill shell and run the following command:

```
windchill com.infoengine.util.LDAPEXport -dir <Target_Home>
-ldiff file <Targetconfigbranch_file > -reldn <Relative_Sub_Node>
```

For example:

On Windows

```
windchill com.infoengine.util.LDAPEXport -dir
C:\ptc\Windchill -ldiff file TargetConfigBranch.ldif
-reldn "dc=com"
```

On Unix

```
windchill com.infoengine.util.LDAPEXport -dir
/ptc/Windchill -ldiff file TargetConfigBranch.ldif
-reldn "dc=com"
```

The command above exports the relative sub node (and all its children) within the base dn (from ie.properties under windchill home directory specified above).

2. If the domain of the target system does not end in ".com", you need to run this command a second time to generate a LDIF file to save the content of the other domain sub tree.

```
windchill com.infoengine.util.LDAPEXport -dir <Target_Home>
-ldiff file <Targetconfigbranch_file > -reldn <Relative_Sub_Node>
```

For example:

Windows

```
windchill com.infoengine.util.LDAPEXport -dir
c:\ptc\Windchill -ldiff file TargetConfigBranch_net.ldif
-reldn "dc=net"
```

Note: the domain is assumed to be "net"

Unix

```
windchill com.infoengine.util.LDAPEXport -dir
/ptc/Windchill -ldiff file TargetConfigBranch_net.ldif
-reldn "dc=net"
```

Note: the domain is assumed to be "net"

Note: Back up your entire target LDAP instance (if it needs to be restored for validating target installation).

Phase 3: Exporting the database from the source system

1. Verify you have the database administrator privileges for the source database
2. Verify <oracle home>/bin is in the path.
3. Export the Oracle database from the source system to a dump file. The following command can be used as an example.

```
exp <dbUser>/<dbPassword>@<sid> file=<db_dump_file> log=<db_exp.log>  
owner=<source_dbusername> compress=y statistics=none
```

Example:

On Windows

```
exp system/manager@sourcesid file=c:\ptc\export\wadmin.dmp  
log=wadmin_exp.log owner=wadmin compress=y statistics=none
```

On Unix

```
exp system/manager@sourcesid file=/ptc/wadmin.dmp  
log=wadmin_exp.log owner=wadmin compress=y statistics=none
```

Phase 4: Exporting the Custom adapters from the source system

Perform the following instructions if custom JNDI adapters are defined on the source system other than the PTC out of the box JNDI adapters.

1. Export the custom JNDI adapters and the corresponding repository.

For example: we are considering mysource.company.com as the source server and the nodes ptcServiceName=CorporateJNDIAdapter and dc=CorporateJNDI as the custom JNDI adapter and the corresponding repository for illustration purpose

- a) Open the LDAP browser and select the Source LDAP server, check the LDAP properties of Source server by pressing the “Edit” button

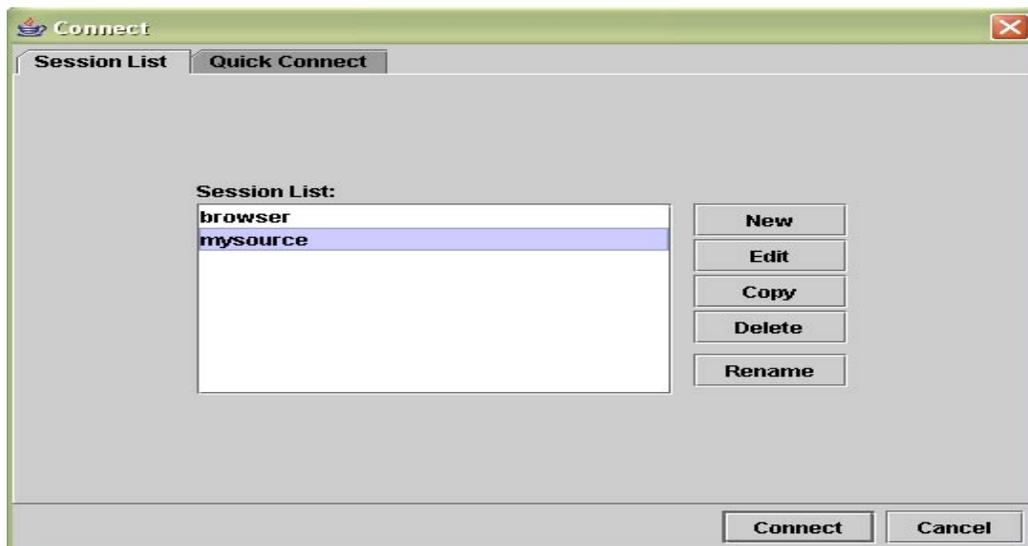


Figure 2

- b) Make sure Name, Host, Base DN, Port, User DN, and Password of the Source server are correct.

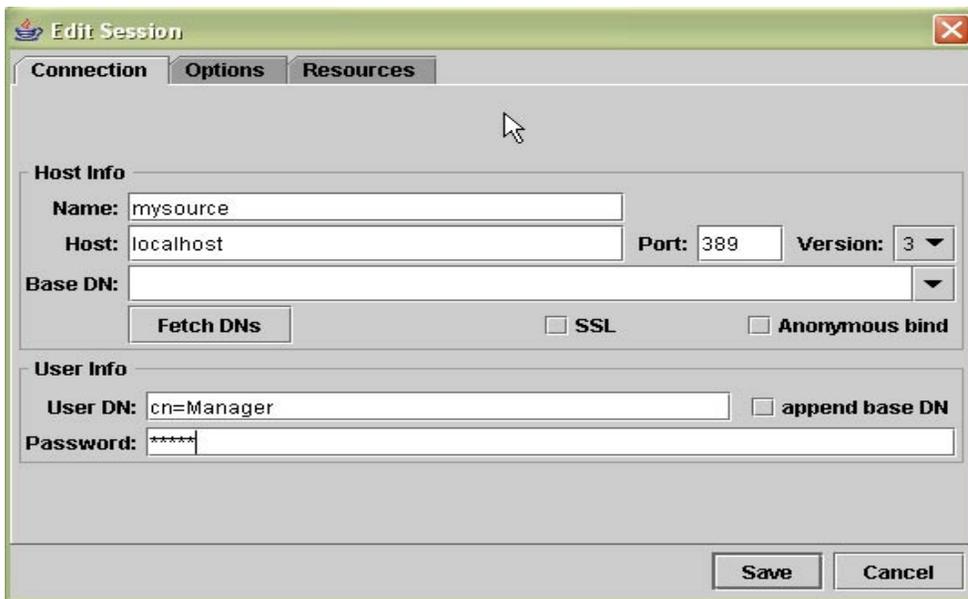


Figure 3

- c) Select the custom JNDI adapters and the corresponding repository node as shown in the following screen shot.

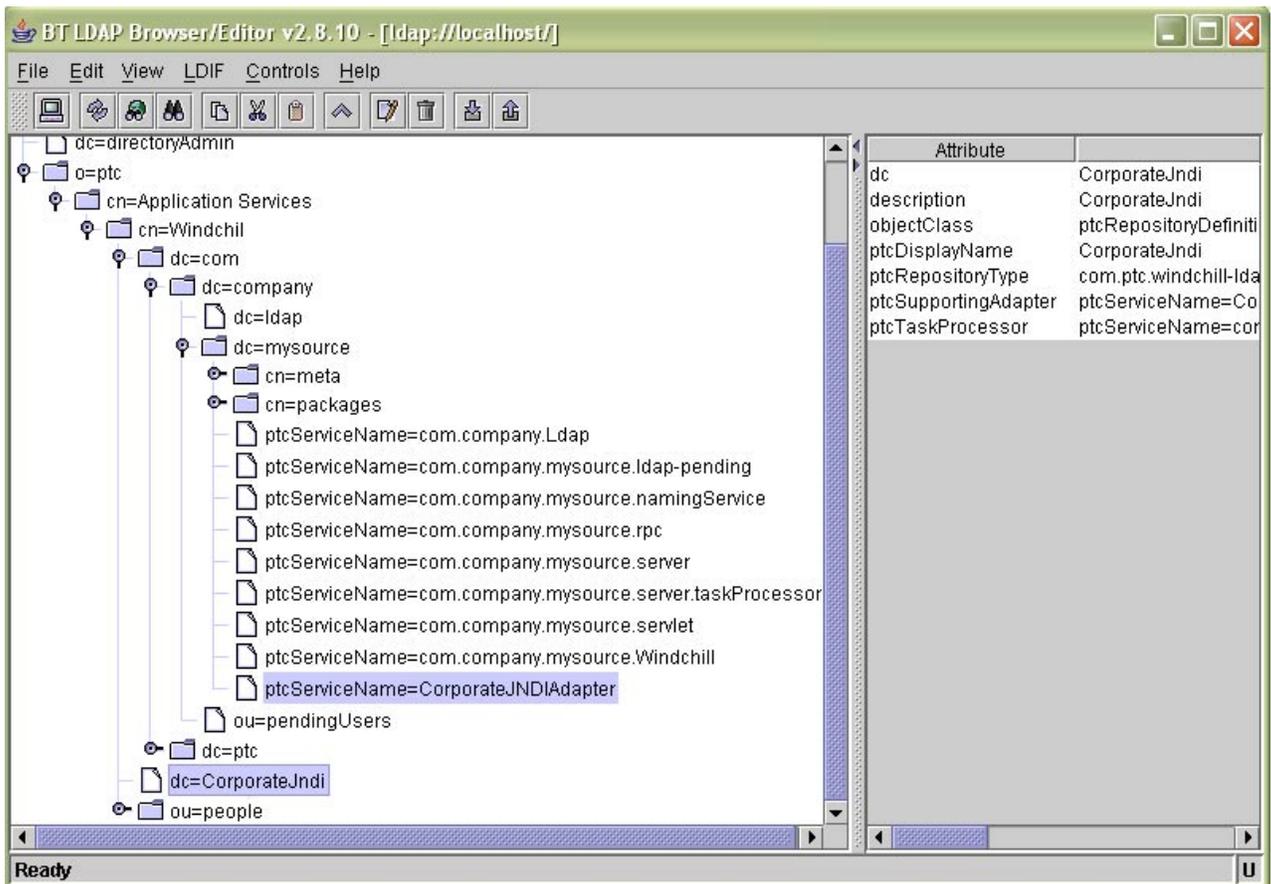


Figure 4

d) Select LDIF/Export from the menu

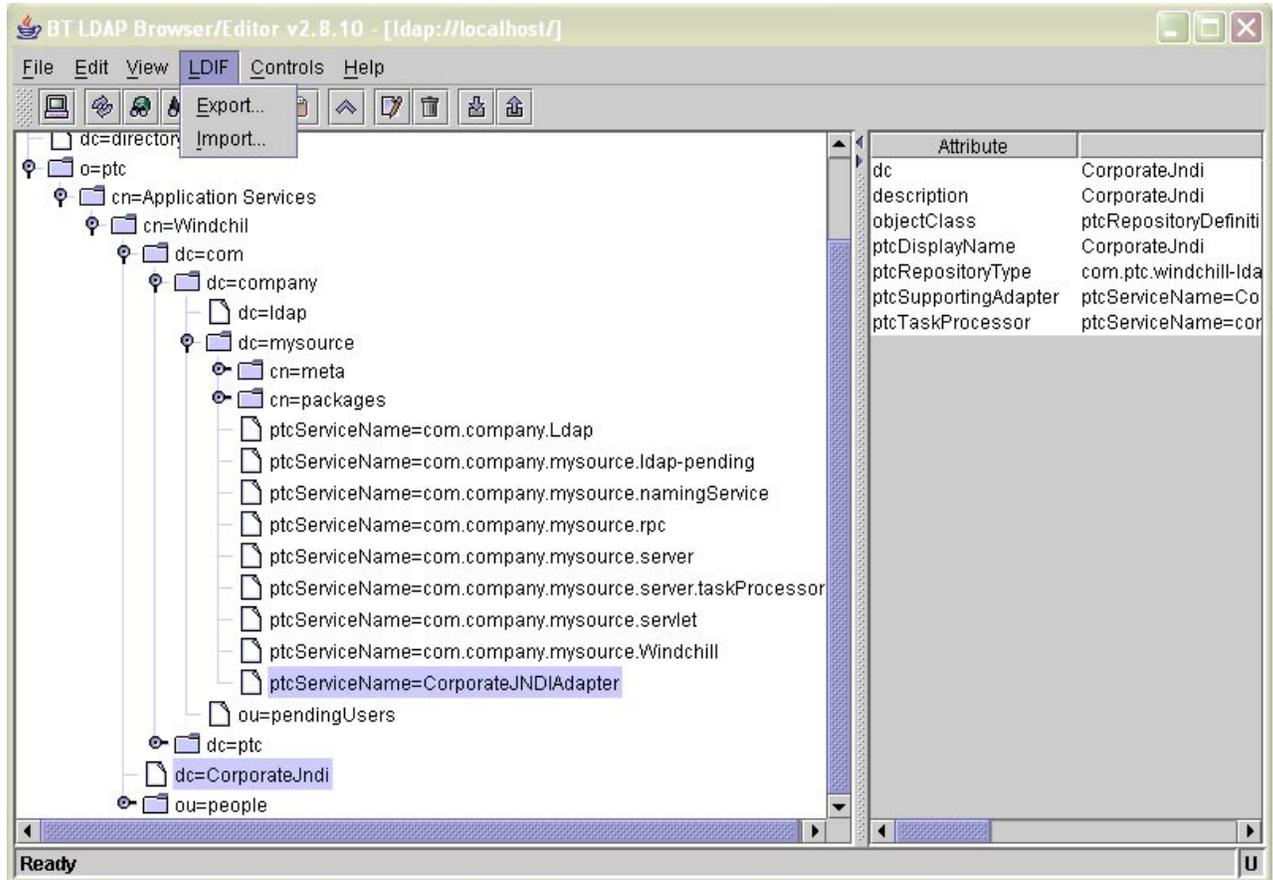


Figure 5

e) Select a safe directory where the custom JNDI adapter's export file can be created. Type the full file name including the extension in the "File Name" section and press the "OK" button.

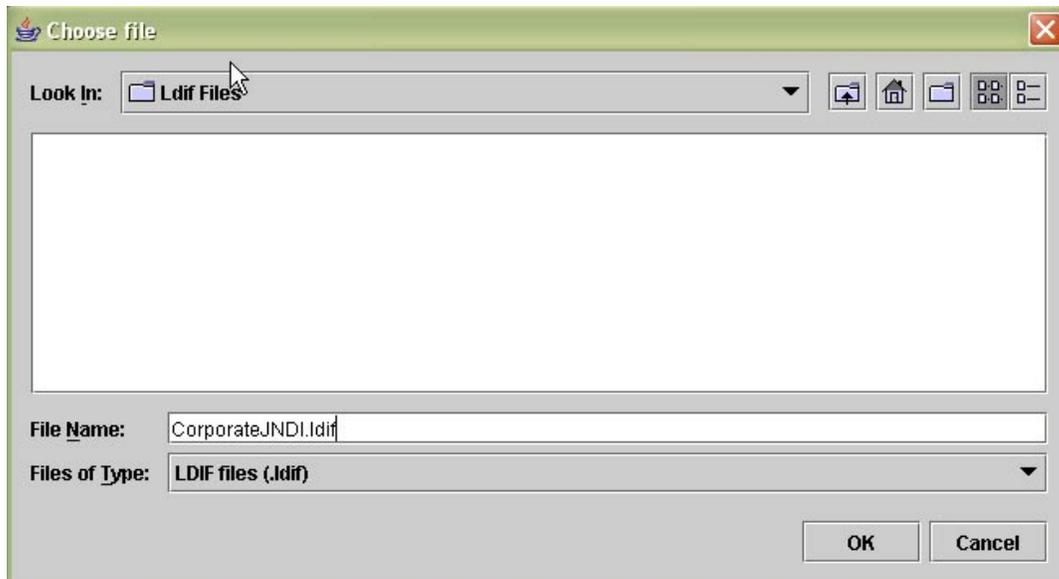


Figure 6

f) Select the "All children" radio button in the "LDIF export" menu. Press the export button.



Figure 7

g) Press the ok button when the export is done.



Figure 8

Phase 5: Exporting the LDAP from the source system

Perform the following instructions to export the existing source Aphelion LDAP directory. There are different instructions for Windows and UNIX. See the appropriate section

Windows

For Windows, use the following procedure to export data from an existing LDAP directory:

1. From the **Control Panel**, double-click **Services**.
2. Select **Aphelion Services** and click **Stop** to stop the Aphelion Services.
3. Open a command shell and make the Aphelion mapped drive active

R:

4. Change directory by entering the following:

```
cd \usr\var\lde\PTCLdap
```

5. Enter the following command:

```
\usr\sbin\lde\export -f R:\usr\var\lde\PTCLdap\PTCLdap_lde.conf
```

6. Open the Aphelion lde.log.general file:

```
R:\usr\var\lde\PTCLdap\PTCLdap_logs\lde.log.general
```

7. Verify that the export completed properly by locating the following message in lde.log.general file:

Export of all requested databases completed normally.

Note: If this message has the time stamp corresponding to your export, the export was successful; you can ignore other messages in the file.

- 8 Copy the exported root.ldif file found under R:\usr\var\lde\PTCLdap\PTCLdap_database into a safe directory. If the directory you are backing up does not have an empty naming context, refer to the *Aphelion Directory 2003.2 Administration Guide* and compare the files.

UNIX

For UNIX, use the following procedure to export data from an existing LDAP directory:

Note: In some instances on UNIX systems, the file size limit for the Aphelion lde.log.general and lde.log.requests files can be exceeded, causing the Aphelion LDAP services to stop. This situation can occur during high volume updates (for example, migrations) to the LDAP database. Before initiating a high volume update process, ensure that the files are located on a disk partition that has sufficient free space to hold the files. Also, check the file sizes and either archive or delete the files as necessary. The log files are located in the /usr/var/lde/var/PTCLdap/PTCLdap.logs/ directory. For additional information about setting log file parameters, refer to the Aphelion documentation.

1. Stop Aphelion using the appropriate script for your platform.
2. Change the directory by entering the following:

```
cd /opt/lde/var/PTCLdap
```
3. Enter the following command:

```
/opt/lde/sbin/export -f ./PTCLdap_lde.conf
```
4. Open the Aphelion lde.log.general file:

```
/opt/lde/var/PTCLdap/PTCLdap_logs/lde.log.general
```
5. Verify that the export completed properly by locating the following message in file:

```
Export of all requested databases completed normally.
```

Note: If this message has the time stamp corresponding to your export, the export was successful; you can ignore other messages in the file.

Copy the exported root.ldif file found in

/opt/lde/var/PTCLdap/PTCLdap_database into a safe directory.

If the directory you are backing up does not have an empty naming context, refer to the *Aphelion Directory Administration Guide* and compare the files.

6. Copy the exported root.ldif file found in /opt/lde/var/PTCLdap/PTCLdap_database to a safe directory. If the directory you are backing up does not have an empty naming context, refer to the *Aphelion Directory Administration Guide* and compare the files.

For more detailed explanation refer to the instructions described in "Exporting Existing LDAP Directory Content" found in *Windchill Info*Engine installation and Configuration Guide*.

Phase 6: Copying the vault content from the source

Perform the following steps if the source system is using the File Vaults:

1. Create the same vault structure as in the Source system on the target system.
2. Copy the vault content from the source system onto the target system with the same vault structure using the procedures recommended for your OS.

NOTE: This phase is not applicable for the source systems not using File Vaults.

Phase 7: Importing the database to the target system

1. Verify you have the database administrator privileges for the Target database
2. The same username and password as found on the source system must be used on the target system
3. Check for the existence of the source database user on the target system. If the database user already exists, (Make a backup of this user data if required) drop the schema in order to remove all the existing data. From <WINDCHILL>/db/sql directory, login to SQL*Plus as user system and execute:

```
drop user <dbUser> cascade
```

4. If the database user does not exist, then create the database user. From <WINDCHILL>/db/sql directory, login to SQL*Plus as user system and execute(after substituting with actual values):

```
create_user.sql
```

5. Copy the exported Oracle database dump file to the target system and import into the target system. The following command can be used:

```
imp <dbUser>/<dbPassword>@<targetdbsid> fromuser=<sourcedb_username>  
touser=<sourcedb_username> file=<Sourcedb_dumpfile> log=<Sourcedb_log  
file> statistics=compute
```

For example: (These are sample values and these need to be replaced with actual values)

Windows

```
imp system/manager@targetsid fromuser=wcadmin touser=wcadmin  
file=c:\ptc\export\wcadmin.dmp log=wcadmin_imp.log  
statistics=compute
```

Unix

```
imp system/manager@targetsid fromuser=wcadmin touser=wcadmin  
file=/ptc/export/wcadmin.dmp log=wcadmin_imp.log  
statistics=compute
```

6. Ensure that the import completes without any errors or warnings by referring to the log file.

Phase 8: Importing the LDAP to the target system

Perform the following instructions to import the copied source Aphelion LDAP directory. There are different instructions for Windows and UNIX. See the appropriate section.

Windows

For Windows, use the following procedure to import the LDAP data that you had previously exported data:

- 1 From the **Control Panel**, double-click **Services**.
- 2 Select **Aphelion Services** and click **Stop** to stop the Aphelion Services.
- 3 Open a command shell and make the Aphelion mapped drive active

R:

- 4 Copy the exported root.ldif file from the source system that you had previously exported at Phase 3 to the following on the target system:

```
R:\usr\var\lde\PTCLdap\PTCLdap_database\
```

- 4 Change directory by entering the following:

```
cd \usr\var\lde\PTCLdap
```

- 5 Enter the following command:

```
\usr\sbin\lde\import -f R:\usr\var\lde\PTCLdap\PTCLdap_lde.conf
```

- 6 Open the Aphelion lde.log.general file:

```
R:\usr\var\lde\PTCLdap\PTCLdap_logs\lde.log.general
```

- 7 Verify that the import completed properly by locating the following message in file:

```
Import: Index file building completed successfully.  
Import complete: LDE localhost:<port_number>
```

Note: If this message has the time stamp corresponding to your export, the export was successful; you can ignore other messages in the file.

UNIX

For UNIX, use the following procedure to import the LDAP data that you had previously exported data:

- 1 Stop Aphelion using the appropriate script for your platform.
- 2 Copy the exported root.ldif file from the source system that you had previously exported at Phase 3 to the following on the target system:

```
/opt/lde/var/PTCLdap/PTCLdap_database/
```

- 3 Change the directory by entering the following:

```
cd /opt/lde/var/PTCLdap
```

- 4 Enter the following:

```
/opt/lde/sbin/import -f ./PTCLdap_lde.conf
```

- 5 Open the Aphelion lde.log.general file:

```
/opt/lde/var/PTCLdap/PTCLdap_logs/lde.log.general
```

- 6 Verify that the import completed properly by locating the following messages in file:

```
Import: Index file building completed successfully.  
Import complete: LDE localhost:<port_number>
```

Note: If these messages have the time stamp corresponding to your import, the import was successful; you can ignore other messages in the file.

For more detailed explanation refer to the instructions described in "Exporting Existing LDAP Directory Content" found in *Windchill Info*Engine installation and Configuration Guide*.

Phase 9: Import the target configuration branch

1. After importing the ldif file delete the configuration node (E.g dc=com above the ou=people node) to remove the LDAP branch containing the Info*Engine configuration from the source LDAP structure on the target system.

Note: check "delete with children" option

If the domain of the source system does not end in ".com", you need to delete the domain node under the base dn as well.

For example: If the source system is source.company.net then you need to drop "dc=com" and "dc=net" under the base dn.

2. The target LDAP instance configuration branch exported at phase 2 needs to be imported into the LDAP instance under the source base dn. Locate the TargetConfigBranch.ldif file you saved in phase 2
- Export the target Configuration Branch. Using this file, from a windchill shell, run the command:

```
windchill com.infoengine.util.LDAPImport -dir <Windchill_Target> -  
ldiffile <Targetconfigbranch_file>
```

For example: (These are sample values and these need to be replaced with actual values)

Windows

```
Windchill com.infoengine.util.LDAPImport -dir c:\ptc\Windchill  
-ldiffile TargetConfigBranch.ldif
```

Unix

```
Windchill com.infoengine.util.LDAPImport -dir /ptc/Windchill
-ldiffile TargetConfigBranch.ldif
```

If the domain of the target system does not end in ".com" you need to run this command a second time to import two Ldif file for the other domain.

If the target host is target.company.net then you need to run the command again for "dc=net" to save the contents of net sub tree.

For example: (These are sample values and these need to be replaced with actual values)

Windows

```
windchill com.infoengine.util.LDAPImport -dir c:\ptc\Windchill
-ldiffile TargetConfigBranch_net.ldif
```

Unix

```
windchill com.infoengine.util.LDAPImport -dir /ptc/Windchill
-ldiffile TargetConfigBranch_net.ldif
```

Phase 10: Importing the custom adapters to the target system

Perform the following instructions if custom JNDI adapters are defined on the source system other than the PTC out of the box JNDI adapters.

1. Copy the custom JNDI adapter's LDIF file from the source system that you had exported at phase 4 to a safe directory on the target system.
2. Edit the custom JNDI adapter's LDIF file from previous step. The custom JNDI adapter's Ldif file has to be edited to match the target LDAP structure. To do this, look for the entries in the Ldif file defined in the **String** column of the following table and change them to the values in the **Change To** column. This can be done by selecting the edit/replace item of the menu in any text editor.

String	Change To
Ldap:\\< Source LDAP server > Eg: Ldap:\\sourceLDAPhostname	Ldap:\\<Target Ldap server> Eg: Ldap:\\targetLDAPhostname
<Path-to-Source installation directory>/ Eg: On Windows: C:\ptc\Windchill\ On Unix: /ptc/Windchill/	< Path-to-Source installation directory >/ Eg: On Windows: D:\ptc\Windchill\ On Unix: /ptc/Windchill/

3. LDAP Configuration entries are stored with a structure that uses the hostname (in reverse order). These references from source need to be modified to match the target host name in order to import these entries under the correct node (when imported in a later step)

Below is an example to make this change using the sample source and target host name used in this document.

Search for the entry
dc=mysource, dc=comapany, dc=com
and replace with
dc=mytarget, dc=comapany, dc=com

NOTE : Make sure not to change these values if the same structure is used for the base dn

4. Save the file.
5. Import the modified custom JNDI Idif file into the target LDAP instance.
 - a) Open the LDAP browser and select the Source LDAP server, Check the LDAP properties of Source server by pressing the “Edit” button

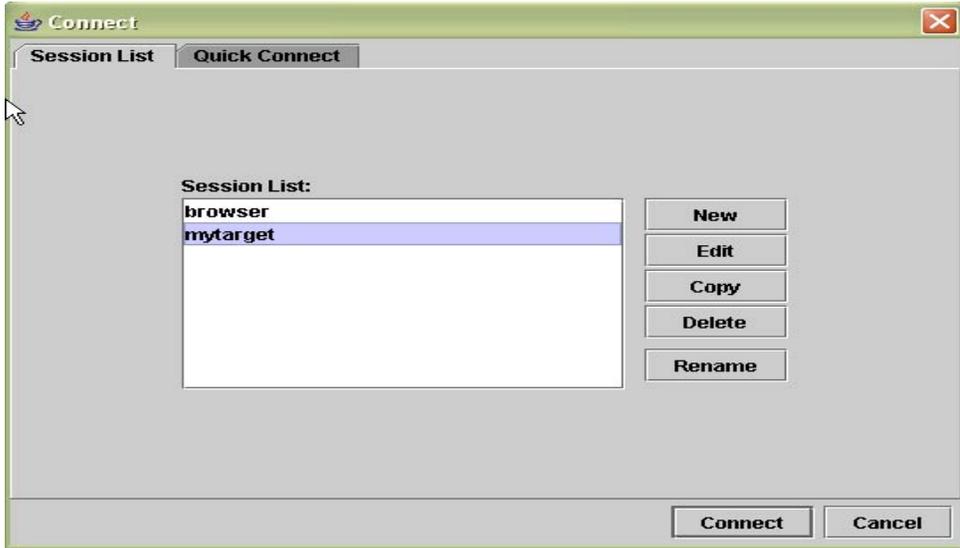


Figure 9

- b) Make sure Name, Host, Base DN, Port, User DN, and Password of the Source server are correct.

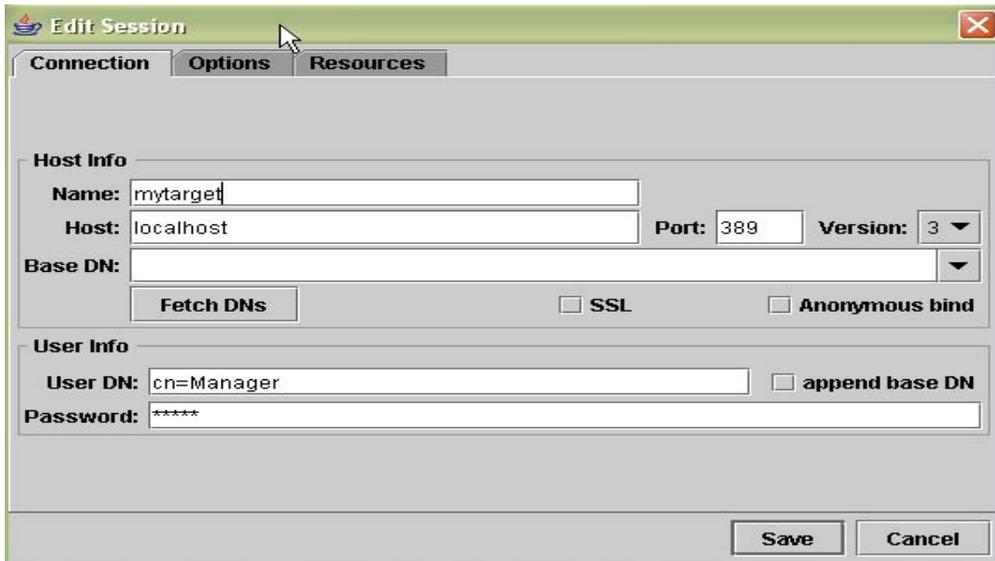


Figure 10

- d) Select LDIF/Import from the menu and locate the modified custom JNDI adapter's Idif file from the folder where it was saved. Press the "ok" button after the selection is made.

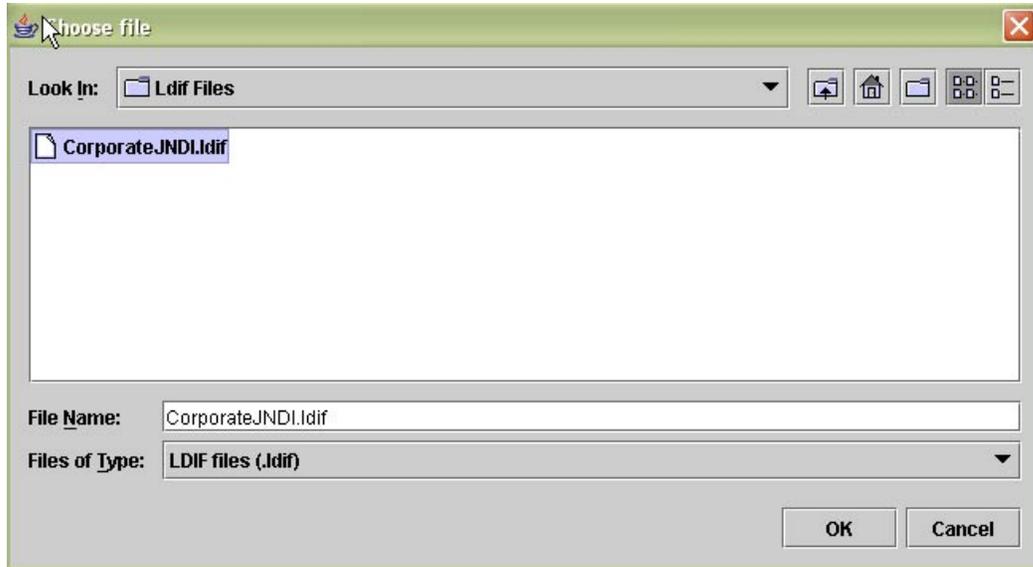


Figure 12

- e) Select the "Update/Add" radio button from the "LDIF Import" screen and press the import button.

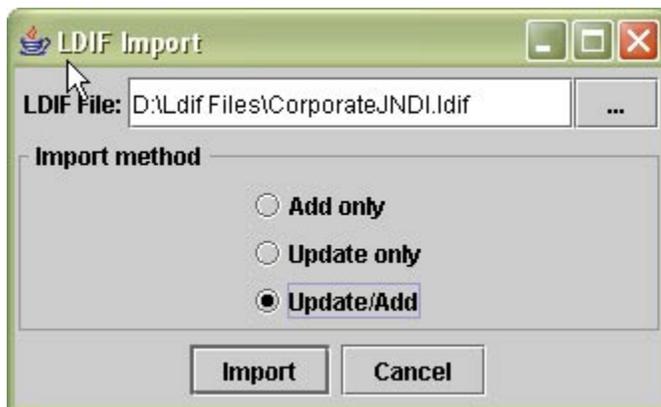


Figure 13

- f) Press the "Ok" button after the import is done.

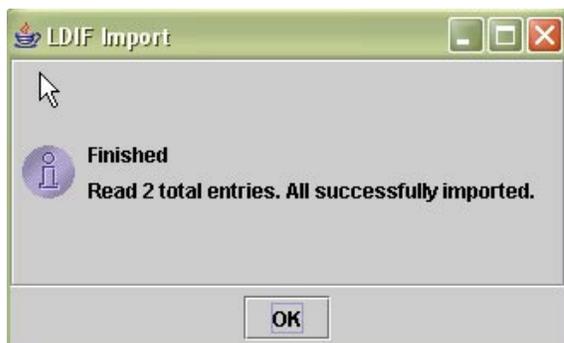


Figure 14

g) The following screen shot is the after importing the custom JNDI and the corresponding repository.

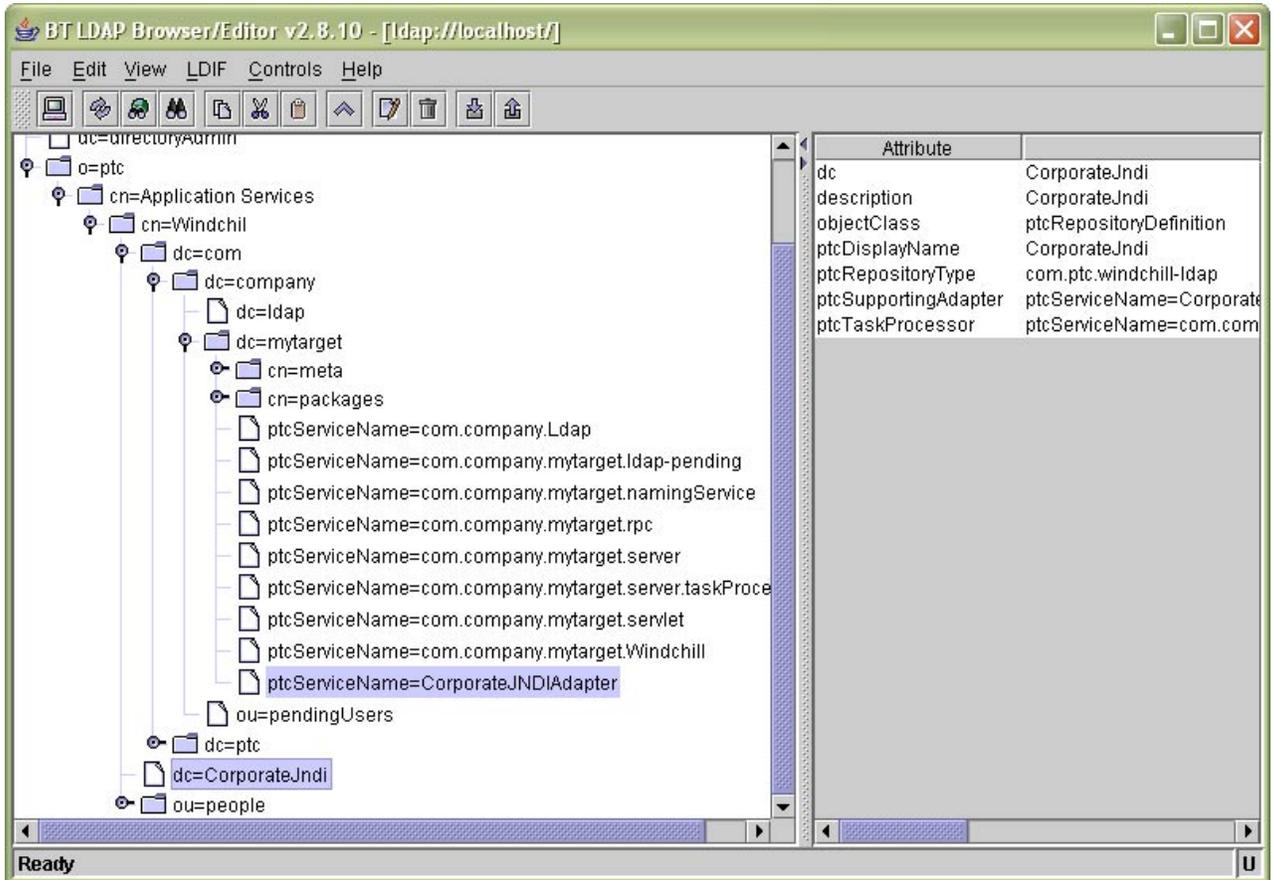


Figure 15

Phase 11: Updating the database on the target system

This section describes the process that must be performed to modify the Repository table in order to match the target configuration.

1. Login as database user (that is imported from source) on the Target system.
2. Update all the entries referencing source.mycompany.com to target.mycompany.com. The SQL commands are,

```
Update repository set Lastknowndomain='<targethostname>' where local=1;
```

```
Update repository set Lastknowndomain='Ldap.targetdomain',guid='Ldap.targetdomain' where Lastknowndomain='Ldap.sourcedomain';
```

For example: (These are sample values and these need to be replaced with actual values)

```
Update repository set Lastknowndomain='mytarget.company.com' where local=1;
```

```
Update repository set
Lastknowndomain='ldap.company.com',guid='ldap.company.com' where
Lastknowndomain='ldap.company.com';
```

Note: This example has sample values where ldap sourcedomain and targetdomain are same, command will be different and needs to be replaced with actual values if you have different ldap sourcedomain and target domain.

3. If there is an entry for the ldap-pending adapter like, ldap-pending.source.mycompany.com.

```
Update repository set Lastknowndomain='ldap-pending.<targethostname>',
guid='ldap-pending.<targethostname>'
where Lastknowndomain='ldap-pending.<sourcehostname>;
```

For example: (These are sample values and these need to be replaced with actual values)

```
Update repository set Lastknowndomain='ldap-
pending.mytarget.company.com',guid='ldap-pending.mytarget.company.com'
where Lastknowndomain='ldap-pending.mysource.company.com';
```

4. Commit and exit

Phase 12: Configure database connection

Ensure that your target installation is configured to point to the Oracle instance and database user that is being rehosted. To do this, update the site.xconf file of your target installation to specify a connection to the db user (on target system) imported from source by modifying the following properties:

- wt.pom.dbUser
- wt.pom.dbPassword
- wt.pom.serviceName

```
<Property name="wt.pom.dbUser" overridable="true" targetFile="db/db.properties"
value="<dbuser_name"/>
<Property name="wt.pom.dbPassword" overridable="true" targetFile="db/db.properties" value="db
user_password"/>
<Property name="wt.pom.serviceName" overridable="true" targetFile="db/db.properties"
value="targetdbhost:port:sid"/>
```

To propagate these properties, from windchill shell execute:

xconfmanager -p

Following command can be executed to set these properties from windchill shell as well.

Windows

```
<Windchill>\bin\xconfmanager -t db\db.properties -s
wt.pom.dbUser=<dbuser-name> -s wt.pom.dbPassword=<dbuser_password>
-s wt.pom.serviceName=<targetdbhostname:port:sid> -p
```

UNIX

```
<Windchill>/bin/xconfmanager -t db/db.properties -s  
wt.pom.dbUser=<dbuser-name> -s wt.pom.dbPassword=<dbuser_password>  
-s wt.pom.serviceName=<targetdbhostname:port:sid> -p
```

For example:

On Windows

```
C:/ptc/Windchill/bin\xconfmanager -t db\db.properties  
-s wt.pom.dbUser=wcadmin -s wt.pom.dbPassword=wcadmin  
-s wt.pom.serviceName=targetdbhost:port:targetsid -p
```

On unix

```
/ptc/windchill/bin/xconfmanager -t db/db.properties  
-s wt.pom.dbUser=wcadmin  
-s wt.pom.dbPassword=wcadmin  
-s wt.pom.serviceName=targetdbhost:port:targetsid -p
```

Phase 13: Disabling Content Replication

This process allows you to delete replica site configuration information contained in the database imported from the source system if using content replication on the source system. Users will not be able to download content from replica sites using this procedure and they will be unable to download content initially uploaded to replica sites even if such content has been replicated to the master site on the target system. The content that is not in the Master Source system will not be cloned.

All steps should be performed on the target system

1. Stop Windchill.
2. Login to SQL*Plus as the Windchill DB user and execute:

```
delete from ReplicatedItem;  
delete from MasteredOnReplica;  
commit;
```

3. Restart Apache, Tomcat and the Method Server on the target server.
4. Start Windchill browser and login as site administrator.
5. Regenerate the master keys
6. Access the External Storage Administrator and delete all folders mounted to replica vaults.
7. Delete all replica vaults.
8. Delete all replica sites.

Phase 14: Restart the servers

Restart Aphelion Services, Apache, Tomcat and the Method Server on the target server.

Phase 15: Disabling the Queues

- 1) wt.mail.mailhost property (in wt.properties) needs to be set to a host name where e-mail server is not configured (assuming that the e-mail shouldn't be delivered from the target system)
- 2) From Windchill Shell (on the target system), Execute
Windchill wt.queue.QueueManager
Choose, Option to select Queue (# before disable queue)
Login as Site Administrator at the Authentication Prompt
Select e-mail Queue (# before the e-mail queue)
Choose, Option to disable queue (# before disable queue)
Choose, Option to exit (# before exit)

Phase 16: Update Vaulting Configuration

- a) Login as site administrator and go to the site tab.

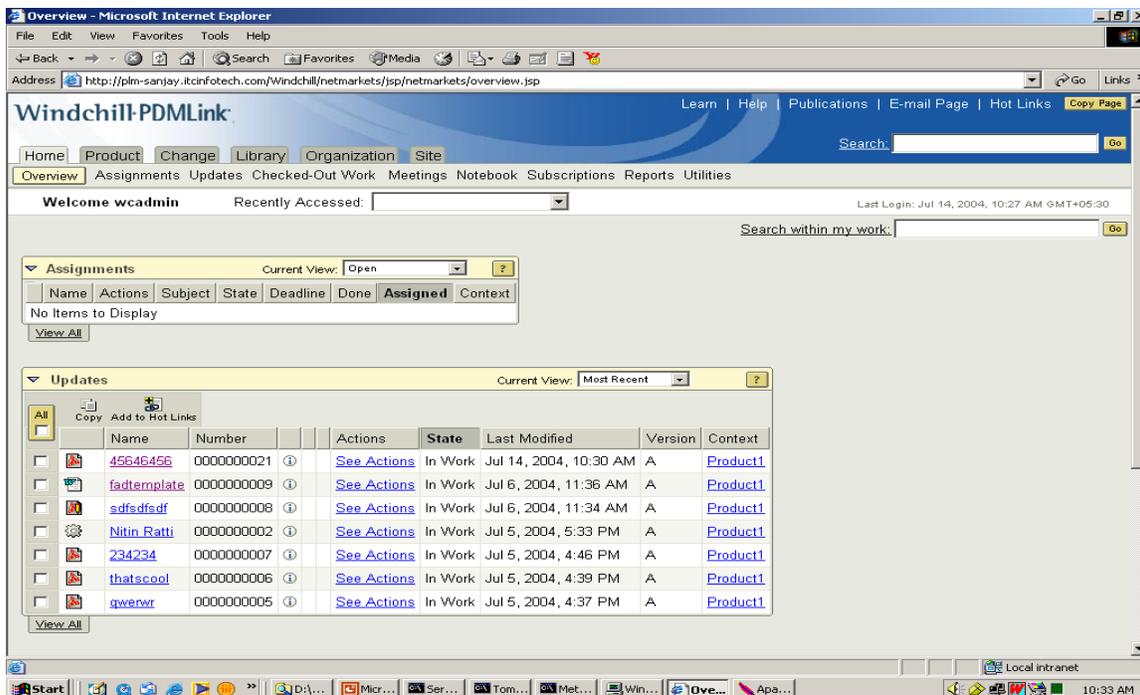


Figure 16

b) Select the External Storage Administrator link.

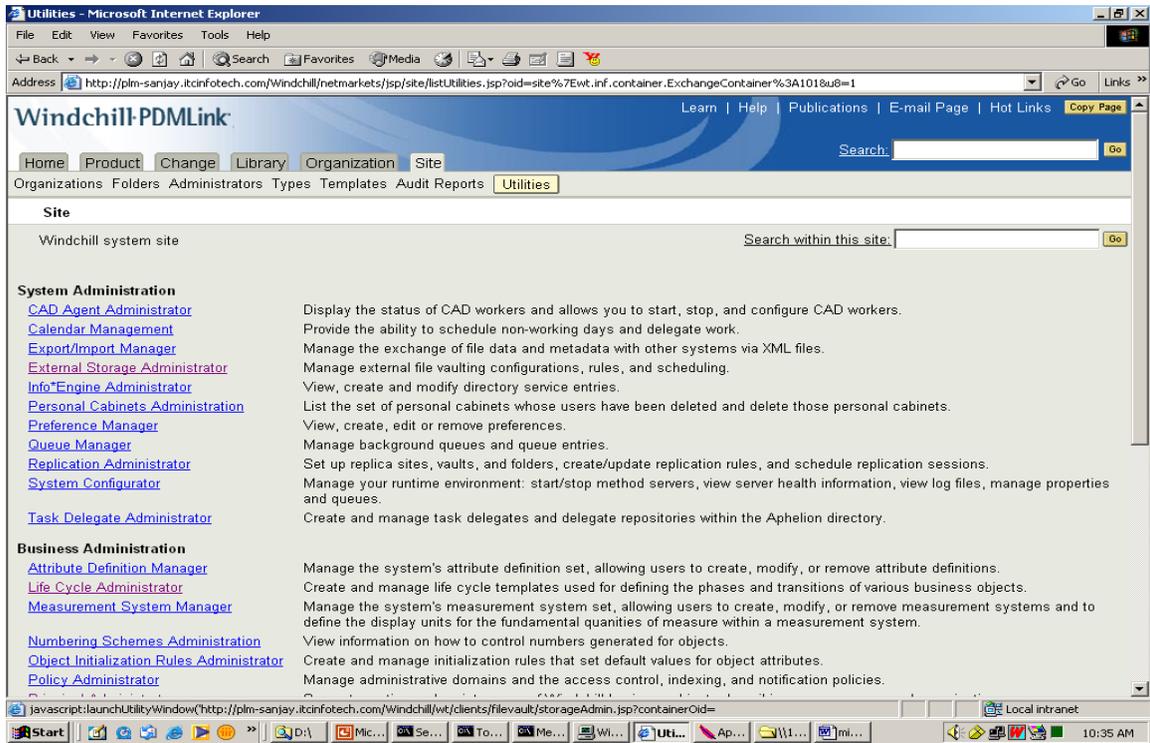


Figure 17

c) Select the Vault Configuration icon

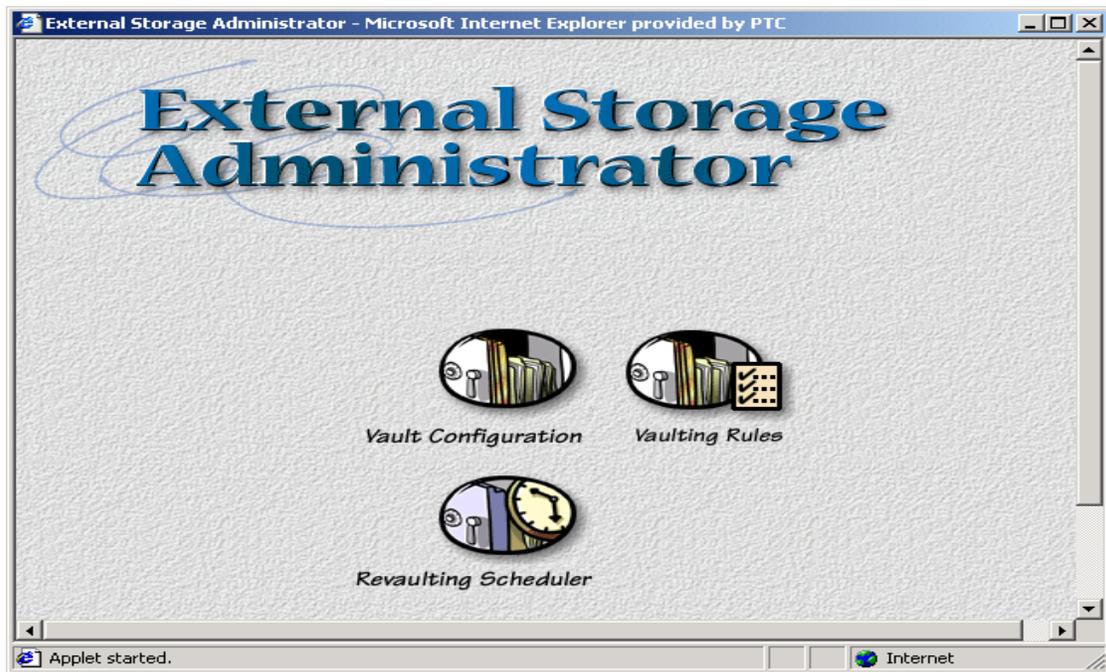


Figure 18

d) Expand the tree on the left side of the pane, select the host, and double click on the host to update the hostname

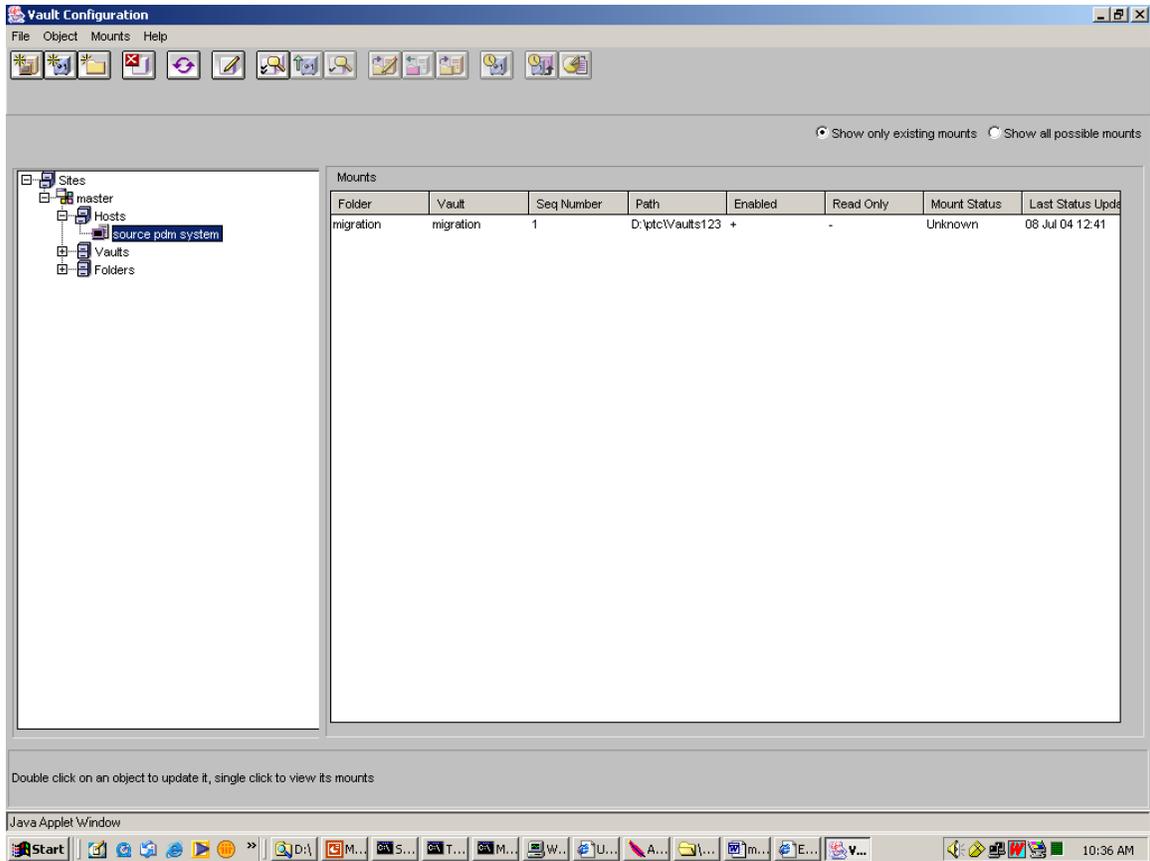


Figure 19

e) Enter the Target hostname and press "ok"

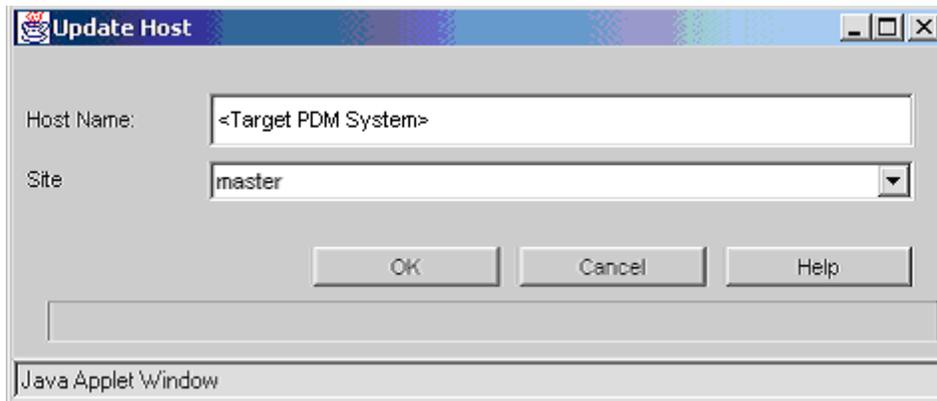


Figure 20

f) Click on the folders and select Object > Validate from the menu. Make sure Mount status is in valid state.

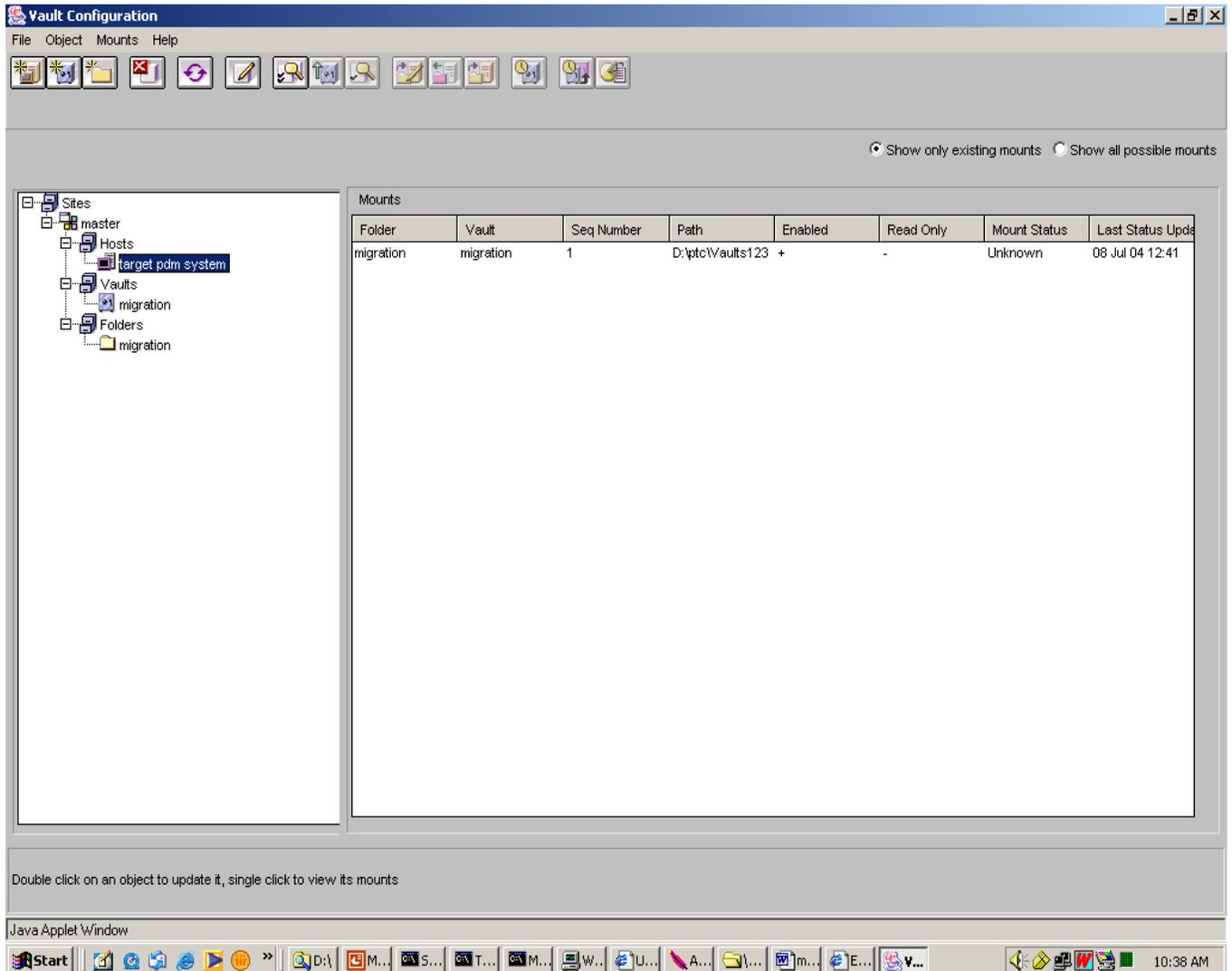


Figure 20

g) Exit and return to the Windchill application home page.

Development Rehosting Procedure:

NOTE: At the request of our customers the following technique has been documented and made available in the PTC Technical Knowledge Base. Its existence does not in anyway indicate that PTC has tested or supports this technique. Currently, it is untested and unsupported. This technique was developed to assist in cloning a test or production environment for development purposes. This technique does not take into account additional Third-Party software that may be installed with Windchill, it is therefore critical that vendors are consulted prior to proceeding with this technique. It is the responsibility of Third-Party vendors to determine whether it is possible or supportable to move their application.

The installation, configuration, or troubleshooting of cloning a Windchill installation to another server is the responsibility of the customer. The following items should be considered before proceeding:

- This suggested technique documents only the process to clone a Windchill system using Apache/Tomcat. Customers using SunOne, IIS/Tomcat, or AIX will need to determine appropriate modifications for these platforms.
- PTC Technical Support can provide assistance, if needed, in installing and configuring Windchill on the target server prior to any cloning operations.
- PTC Technical Support can provide assistance with the basic functionality of the Windchill solution before and after a successful cloning operation.
- PTC Technical Support can provide assistance with issues unrelated to moving the Windchill system from one machine to another.
- If runtime performance of the target server degrades after moving the instance of Windchill, PTC Technical Support will not provide runtime performance assistance.
- Some Third-Party vendors may not support moving their software to a different server. In such a case, the PTC cannot provide any support for moving a system.

The following functionality on a cloned system should be confirmed to work prior to contacting PTC Technical Support. If all of the following functionality is successful, the target system can be supported with regard to issues relating to Windchill functionality:

- Windchill users are able to login.
- Users are able to download content from a folder in all contexts. (NOTE: Some files will not be downloadable if the source system had replica sites used for file upload. See [Advanced Configuration](#) for information regarding content replication.)
- The site administrator can successfully search for users and groups using the Principal Administrator and is able to create a new group in the local LDAP.
- The site administrator is able to create a new subtype of WTDocument using the Type Manager.
- Users are successfully able to search by document title for existing documents.

See the section [Advanced Configuration](#) for information cloning a source system with any of the following. NOTE: For configurations mentioned in **bold**, this technique describes a workaround and does not provide instructions to use this functionality on the target system.

- **Content replication (Disabling)**

- Enterprise Directory Services used for user authentication
- **Retrievalware search and indexing (Disabling)**
- Reverse proxy configurations

Throughout this process the term "source system" refers to the existing Windchill system that is being cloned. The hostname source.company.com is used in examples to refer to this system. The term "target system" refers to the Windchill system which will duplicate the existing system. The hostname target.company.com is used in examples to refer to this system.

It assumed that the web application name on both systems is "Windchill" throughout this technique. The source system's Web application name should be used in place of "Windchill" in URLs throughout this process if another web application name is used.

Phase 1: Installing and validating the target system

PTC Technical Support is able to assist with this phase of the cloning process, since it is a standard Windchill installation with some special requirements.

1. Open the hosts file on the target system (/etc/hosts on UNIX, <WINDOWS>/system32/drivers/etc/host on Windows) and add the following line:

```
127.0.0.1 source source.company.com
```

Until phase 4 is completed, the target system will only be accessible from itself using the hostname of the source system. Other clients can access the target system by mapping source.company.com to the target system's IP address in their hosts file. The target system will be unable to be used as a client to access the source system both during the cloning process and after it is completed.

2. Install Apache, Tomcat, and Aphelion, Info*Engine as described in the Windchill Installation Guide-Info*Engine. During the installation, the Apache and Info*Engine ask for a hostname to be used during the installation. Replace the default value provided by the installer with source.company.com. The Info*Engine installation also prompts for a "Web Application Context Root". The value entered must match the value given by executing xconfmanager -d wt.webapp.name on the source system.
3. Go to <http://source.company.com/Windchill/infoengine/jsp/examples/VerifyIE.jsp> and confirm this page is viewable. You should not be prompted for authentication. If you are prompted for authentication, the browser is accessing the actual source system and the hosts file was not correctly edited prior to beginning the installation.
4. Go to <http://source.company.com/Windchill/infoengine/jsp/admin/index.jsp> and login using the Aphelion username and password entered during installation. Verify that the service and adapter names are prefixed with the source installation's hostname reversed. For example, if the hostname is source.company.com, there should be a service named com.company.source.servlet.
5. Follow the steps in the Windchill Installation and Configuration Guide - Windchill to install Oracle and the Windchill solution. During the Oracle installation, use the same username and password as found on the target system.
6. Install the same maintenance release currently installed on the source system to the target system. Apply any temp patches currently applied to the source system to the test system.
7. Load the Windchill base and demo as described in the Windchill Installation and Configuration Guide - Windchill and verify successful operation of the system using the hostname source.company.com.

Phase 2: Exporting data from the source system

PTC Technical Support is able to assist with exporting the Aphelion LDAP database. Oracle technical support is able to assist with exporting the Oracle database for customer with Oracle support contracts. See <https://metalink.oracle.com/> for more information regarding Oracle Support.

PTC Technical Support is not able to assist with the other steps in this phase

1. Export the Aphelion LDAP database using the instructions described in "Exporting Existing LDAP Directory Content" found in Chapter 7 of the Info*Engine installation and Configuration Guide (Windchill 8.0) or chapter 8 (Windchill 7.0).
2. Export the Oracle Database to a dump file. The following command can be used in many cases:

```
exp <dbUser>/<dbPassword> file=windchillDB.dmp compress=y  
log=windchill_db_exp.log
```

For issues regarding database exports, please contact Oracle Support.

3. Login to SQLPlus as the Windchill Oracle user and execute the following query:

```
select path from fvmount where ida3a5 in (select ida2a2 from fvfolder);
```

Each directory listed contains local file vault contents and a backup copy of the entire directory should be made.

Phase 3: Importing data to the target system

PTC Technical Support is not able to assist with this phase of the cloning process.

Unless otherwise noted, all steps should be performed on the target system.

1. If replica servers are used with the source system, add a line to hosts file to map the hostname of replica servers to 192.168.0.1 in order to avoid allowing the target system to communicate with the replica sites.
2. Stop the Windchill servers, Tomcat, and Aphelion. Clear the Tomcat cache.
3. Copy the Aphelion export file from the source system (located at R:\usr\var\lde\PTCLdap\PTCLdap_database\root.ldif Windows or /opt/lde/var/PTCLdap/PTCLdap_database/root.dif on Unix) to the same location on the target system.
4. Import the Aphelion LDAP database using the instructions described in "Importing Existing LDAP Directory Content" found in Chapter 7 of the Info*Engine installation and Configuration Guide (Windchill 8.0) or chapter 8 (Windchill 7.0).
5. From <WINDCHILL>/db/sql directory, login to SQL*Plus as user system and execute

```
drop user <dbUser> cascade
```

where <dbUser> is the name of the existing Windchill database user.

6. Execute @create_user and enter the same username used for the database user on the source system.
7. If the password of source system database user is not the same as the username, execute alter user <dbUser> identified by <dbPassword> where <dbPassword> is the source system database user password.
8. Copy the Oracle databases export file from the source system and import it into the Oracle database. The following command can be used in many cases:

```
imp <dbUser>/<dbPassword> file=windchillDB.dmp commit=y
log=windchill_db_imp.log
```

For issues regarding database imports, please contact Oracle Support.

9. For each directory identified as containing local file vaults in step 3 of phase 2, the contents of this directory on the source system should be copied to exact same location on the on the target system.
10. Copy the source system <WINDCHILL>/site.xconf file on top of the <WINDCHILL>/site.xconf file on the target system.
NOTE: Some properties may need to be changed if certain Windchill components are not installed the same location on the source and target systems. Any property that directly references a filesystem location may possible need to be changed. Likely properties include:
 - wt.java.cmd - JDK paths often contain the JDK version, including minor version number
 - wt.jdk - JDK paths often contain the JDK version, including minor version number
 - wt.home - the directory where Windchill is installed may have changed
11. From a windchill shell execute xconfmanager -p
12. Start all Windchill servers and attempt to login to <http://source.company.com/Windchill>
13. Confirm all the cloning process was successful using the [tests](#) described earlier in this technique.
14. If the target system will only be used for testing from itself and no other clients need access, the process is complete. If a small number of other clients need to connect to the target system, adding the file line to the hosts files of these clients will enable them to access the target system:

```
<TARGET_SYSTEM_IP> source.company.com
```

If clients will need to access the target system using a different hostname than source.company.com, phase 4 provides instructions for changing hostname used to access the target system.

Phase 4: Changing the hostname used to access the target system (Optional)

All steps in this section should be performed on the target system

1. Stop Windchill and Tomcat and clear the servlet cache.
2. Execute the following xconfamanger commands to update the hostname used by the target system:

```
xconfmanger -s java.rmi.server.hostname=target.company.com -p
xconfmanger -s
com.ptc.core.ca.co.client.doer.task.default.repository=source.company.com
-p
xconfmanger -s
wt.adapter.simpleTaskDispatcher.defaultDomain=source.company.com -p
```

Start Windchill and Tomcat.

3. Confirm all the cloning process was successful using the [tests](#) described earlier in this technique.

Advanced Configuration

These instructions are provided as a high-level overview for customers using certain features of Windchill which may be problematic in using a cloned system. In some cases, no testing has been done. PTC Technical Support cannot assist with these aspects of the cloning process.

Content replication (Disabling)

This process will enable the deletion of replica site configuration information contained in the database imported from the source system. Users will not be able to download content from replica sites using this procedure and they will be unable to download content initially uploaded to replica sites even if such content has been replicated to the master site on the target system.

All steps should be performed on the target system

9. Stop Windchill.
10. Login to SQL*Plus as the Windchill DB user and execute:

```
delete from ReplicatedItem;
delete from MasteredOnReplica;
commit;
```

11. Start Windchill and login as site administrator
12. Access the External Storage Administrator and delete all folders mounted to replica vaults.
13. Delete all replica vaults.
14. Delete all replica sites.

Enterprise Directory Services used for user authentication

1. Stop Windchill, Apache, and Tomcat and clear the Tomcat cache on the target system .
2. Copy the <APACHE>/conf/app-Windchill-auth.conf file from the source system to the same location on the target system.
3. Copy the <WINDCHILL>/tasks/wt/federation/MapCredentials.xml file from the source system to the same location on the target system.
4. Start all servers on the target system.

Retrievalware search and indexing (Disabling)

Execute `xconfmanager -s wt.index.enabled=false -p` to disable Windchill's use of Retrievalware for full text search and indexing.

Reverse proxy configurations

wt.server.codebase should be set to the base URL for the reverse proxy (`http://target-rp.company.com/Windchill` for example). wt.httpgw.mapCodebase should be set to the base URL that would otherwise be used to access the target system (`http://target.company.com`). Using the same reverse proxy for both the source and target systems is outside the scope of this technique

Reporting Problems

If you find errors in this document, you can report them using the PTC Web site. Navigate to the Technical Support section of the Web site at the following URL:

<http://www.ptc.com/support/support.htm>

Click the link to **Log a Technical Call Online**. As you identify the fields, make sure you select "Deployment" for the **Module** and include the title of this document in the **Short Description**. Also, include the PTC solutions, the source and target versions you are working with in the Long Description with your problem report.

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