APAR: IZ76938

Symptom: Documentation Update:
Steps for manually configuring referential integrity plug-in on IBM Tivoli Directory Server are incorrect in ITIM Info center Installation and configuration guide section.

Note: The correct steps for manually configuring referential integrity plug-in on IBM Tivoli Directory Server are as follows. The following correction will be posted in a future update of the ITIM Info center at link
http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.itim.doc/ims510_install53.htm#tsk_ins_dir_itds_referential as:

Manually configuring the referential integrity plug-in on the IBM Tivoli Directory Server

The referential integrity plug-in for Tivoli Identity Manager on the IBM Tivoli Directory Server helps maintain consistency in references to objects that are deleted from the directory. The referential integrity plug-in is configured when you run the middleware configuration utility. The following steps explain how to manually configure the referential integrity plug-in on the IBM Tivoli Directory Server:

IBM Tivoli Directory Server versions 6.1

1. Stop the IBM Tivoli Directory Server.
2. Copy the referential integrity plug-in file libdelref.* from
   ITIM_HOME\lib\PLATFORM to the default installation directory for IBM Tivoli Directory Server.

   Where,

   - *ITIM_HOME* is the directory where Tivoli Identity Manager is installed
   - *PLATFORM* is aix, linux, win, plinux, sun, hpux11, or zlinux

   The default installation directory for IBM Tivoli Directory Server is in the following location:

   - Windows:
     - 32-bit: *ITDS_HOME*\lib. For example, copy the file to the C:\Program Files\IBM\LDAP\lib directory.
     - 64-bit: *ITDS_HOME*\lib64. For example, copy the file to the C:\Program Files\IBM\LDAP\lib64 directory.
   - UNIX:
     - 32-bit: *ITDS_HOME*/lib. For example, copy the file to the usr/IBM/LDAP/lib directory.
     - 64-bit: *ITDS_HOME*/lib64. For example, copy the file to the usr/IBM/LDAP/lib64 directory.

   On UNIX systems, ensure that the file permission on the referential integrity plug-in file is set to -r-xr-xr-x, via the chmod 755 command.

3. Copy the timdelref.conf file from ITIM_HOME\config\ldap\ibm directory to the *ITDS_INSTANCE_HOME*\etc directory. For example, copy the file to the C:\idsslapd-ldapdb2\etc directory.
4. Edit the ibmslapd.conf configuration file for IBM Tivoli Directory Server in the following directory:
    o UNIX: *ITDS_INSTANCE_HOME*/etc. For example, locate the file in the /home/*instance_owner_name*/etc directory.
    o Windows: *ITDS_INSTANCE_HOME*\etc. For example, locate the file in the C:\idsslapd-idsinst\etc directory.
5. In the configuration file, specify the referential integrity file for Tivoli Identity Manager:
    a. Locate the following line:

       ibm-slapdPlugin: database *path_to_rdbmfilename* rdbm_backend_init

       The *path_to_rdbmfilename* variable is one of the following files:

       ▪ AIX: /lib/libback-rdbm.a
       ▪ UNIX other than AIX: /lib/libback-rdbm.so
       ▪ Windows: \lib\libback-rdbm.dll

       The Windows path is specified with a forward slash.

    b. Add the following line, all on one line, directly after the previous line (for 64-bit environments, replace lib with lib64):
       ▪ Solaris:

         ibm-slapdPlugin: preoperation
         ITDS_HOME/lib/*lib_filename* DeleteReferenceInit
         file="*ITDS_INSTANCE_HOME*/etc/timdelref.conf" dn="*itim_suffix*"

       ▪ UNIX other than Solaris:

         ibm-slapdPlugin: preoperation
         ITDS_HOME/lib/*lib_filename* DeleteReferenceInit
         file=*ITDS_INSTANCE_HOME*/etc/timdelref.conf dn=*itim_suffix*

       ▪ Windows:

         ibm-slapdPlugin: preoperation "*ITDS_HOME*/lib/*lib_filename*"
         DeleteReferenceInit file="*ITDS_INSTANCE_HOME*/etc/timdelref.conf"
         dn=*itim_suffix*

         Notes:

         i. The *ITDS_HOME* variable is the default installation directory for the IBM Tivoli Directory Server. The *lib_filename* variable is the name of the referential integrity plug-in filename, as identified in step 2.
         ii. The *itim_suffix* variable is a value such as dc=com.

> > > > iii. On the Windows operating system, to specify the path to the libdelref.dll and the timdelref.conf files, ensure that you enclose the value of *lib_filename* in quotation marks. Additionally, specify the path to the libdelref.dll file with a forward slash (/).
6. Save the changes that you made to the configuration file.
7. Start the IBM Tivoli Directory Server.
8. Determine whether the referential integrity plug-in is reconfigured and loaded appropriately. Locate the IBM Tivoli Directory Server log file for the configuration.
   - Windows:
     - *ITDS_INSTANCE_HOME*\logs\ibmslapd.log. For example, the file is in the C:\idsslapd-ldapdb2\logs directory.
   - UNIX/Linux:
     - *ITDS_INSTANCE_HOME*/etc/ibmslapd.log. On Linux, for example, the file is in the /home/ldapdb2/idsslapd-ldapdb2/etc/logs directory.

You see a message like this one:

Plugin of type PREOPERATION is successfully loaded
from /usr/ldap/lib/libdelref.a

If you stop and start the IBM Tivoli Directory Server multiple times, more than one message occurs in the log file. Examine the timestamp on the most recent message in the file. If the operation does not succeed, ensure that the referential integrity plug-in and configuration files are in their target directories.

IBM Tivoli Directory Server versions 6.2

1. Stop the IBM Tivoli Directory Server.
2. Copy the timdelref.conf file from ITIM_HOME\config\ldap\ibm directory to the *ITDS_INSTANCE_HOME*\etc directory. For example, copy the file to the C:\idsslapd-idsinst\etc directory.
3. Edit the ibmslapd.conf configuration file for IBM Tivoli Directory Server in the following directory:
   - UNIX: *ITDS_INSTANCE_HOME*/etc. For example, locate the file in the /home/*instance_owner_name*/etc directory.
   - Windows: *ITDS_INSTANCE_HOME*\etc. For example, locate the file in the C:\idsslapd-idsinst\etc directory.
4. In the configuration file, specify the referential integrity file for Tivoli Identity Manager (for 64-bit environments, replace lib with lib64):
   a. Locate the line that starts ibm-slapdPlugin: preoperation \lib\libdelref.dll DeleteReferenceInit and edit the file and dn values. If the line does not exist, add this sample and edit the file and dn values.

   ibm-slapdPlugin: preoperation \lib\libdelref.dll DeleteReferenceInit
   file=*C:\idsslapd-ldaptest\etc\tdsdelref.conf* dn=*o=sample*

   where *C:\idsslapd-ldaptest\etc\tdsdelref.conf* is the path where you copied the timdelref.conf file and *o=sample* is the suffix you used for the Tivoli Identity Manager LDAP database.

b. Ensure that the ibm-slapdReferentialIntegrityPlugin attribute is set to true otherwise the plug-in does not get loaded. The default setting is false.

   ibm-slapdReferentialIntegrityPlugin: TRUE

c. Save the changes that you made to the configuration file.
d. Start the IBM Tivoli Directory Server.
e. Determine whether the referential integrity plug-in is reconfigured and loaded appropriately. Locate the IBM Tivoli Directory Server log file for the configuration.
   - Windows:
     - *ITDS_INSTANCE_HOME*\logs\ibmslapd.log. For example, the file is in the C:\idsslapd-ldapdb2\logs directory.
   - UNIX/Linux:
     - *ITDS_INSTANCE_HOME*/etc/ibmslapd.log. On Linux, for example, the file is in the /home/ldapdb2/idsslapd-ldapdb2/etc/logs directory.

   You see a message like this one:

   Plugin of type PREOPERATION is successfully loaded
   from /usr/ldap/lib/libdelref.a

   If you stop and start the IBM Tivoli Directory Server multiple times, more than one message occurs in the log file. Examine the timestamp on the most recent message in the file. If the operation does not succeed, ensure that the referential integrity plug-in and configuration files are in their target directories.