Upgrade Express
22.01 to 23.01 User Guide
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1. Introduction

The Aleph integrated library system is constantly under development in order to accommodate ongoing changes in automated library market requirements, respond to Aleph customers’ development requests, and adopt and integrate new hardware and software technologies. Ex Libris releases a new version of Aleph annually that includes new features and enhancements to existing features and is compliant with new hardware and software technologies.

The Aleph upgrade process is the process of replacing a version of Aleph with a newer version. The main objective of the Upgrade Express is to perform the upgrade of Aleph versions quickly and efficiently so that the cutover phase will take less than 36 hours (a weekend). It is important to note that during this period, the library’s OPAC can function in read-only mode. In other words, activities such as hold requests, photocopy requests, and so on are disabled.

The methodology of Upgrade Express is simple. A copy of the 22.01 utree and database is added to the new version, Aleph 23.01. This creates an Aleph 23.01 software environment with 22.01 configuration and data.

It is also possible to upgrade from lower versions, such as v.16 to v.23, without installing v.16, v.17, v.18, v.19, v.20, v.21 and v.22. In this case, a copy of the 16.01 utree and database is added to the new version, Aleph 23.01. Minor changes need to be made to allow logging on. After these changes, the upgrade process is executed eight times (v.16 to v.17, v.17 to v.18, v.18 to v.19, v.19 to v.20, v.20 to v.21, v.21 to v.22 and v.22 to v.23). It transforms the configuration and data into the Aleph 23.01 format. Such a big jump is only possible if you are not using the Aleph ILL module. If you are using the Aleph ILL module, you need to install and work with v.18 in order to migrate the old ILL data and to setup the new ILL.

Note that when upgrading from a version lower than 23, all the documentation of the previous versions of the Upgrade Express (such as 18 to 19, 19 to 20, 20 to 21, and 21 to 22) must be reviewed. One of the main issues to consider is the upgrade of the Oracle version.

This process can be performed several times for testing before the final cutover. We highly recommend performing at least one test.

Although much of the upgrade is performed automatically, some configuration has to be performed manually, for example, the implementation of changes to Web files. Some of these changes may take longer than 36 hours. For this reason, there is a mechanism to store these changes during the test phase and restore them instantly during the cutover phase.

This document explains, step-by-step, how to perform the upgrade from Aleph 22.01 to Aleph 23.01 using Upgrade Express.
2. Upgrade Conventions and Requirements

Conventions
The Upgrade Express documentation refers to the “source” and “target” versions or environments.

The source version is the current Aleph version environment that the customer would like to upgrade. In this document, the source version refers to Aleph 22.01.

The target version is the new production Aleph version environment that is the target of the upgrade process. In this document, the target version refers to Aleph 23.01

Prerequisites
Installing the Target Version (23.01)

The first step in the actual upgrade process is the preparation of the target environment. The hardware and operating system requirements for version 23.01 and the size of the customer’s database must be taken into account. The installation is scheduled with the local Ex Libris representative. You may be required to complete the Request for Installation form.

Note: In order to estimate the size of exported data, you can use the "expdp" utility with the "ESTIMATE_ONLY=y" flag, as follows:

expdp $ALEPH_ADMIN ESTIMATE_ONLY=y full=y

The result is in the following format:

Total estimation using BLOCKS method: 4.403 GB
Job "ALEPH_ADMIN"."SYS_EXPORT_FULL_01" successfully completed at 16:50:41

Downloading the Upgrade Express Package

The Upgrade Express Package should be downloaded either to the source or target environment, depending on the Upgrade Express method that you choose to use. The standard Upgrade Express method involves downloading the Upgrade Express Kit to the source environment and following the instructions in section 0.

Download the Upgrade Express package to the target (23.01) environment. The Upgrade Express package is available for download from the FTP server. The package is a .tar file that can be extracted anywhere, but it is recommended that you extract it to $ALEPH_MOUNT, as follows:

ftp ftp.exlibris.co.il
Ver23up/<password to be obtained from a local representative>
bin
get <filename>

For example:
get upgrade_expression_2201_2301.tar.1.01.gz
To open the kit:

```bash
gzip -d <filename>
```

For example:

```bash
gzip -d upgrade_express_2201_2301.tar.1.01.gz
```

```bash
tar -xf <filename>
```

## 3. Using the Upgrade Express Kit

The following is a detailed description of the steps that can be performed using the Upgrade Express Kit. If you are running two upgrade packages (such as when upgrading from 21 to 23), it is recommended that you run the standard final actions (such as UTIL I/6 and others described under the Packaging and Final Steps section) only after running the last upgrade.

To access the Upgrade Express menu, `upgrade_express_2201_2301` directory by typing the following:

```bash
cd $ALEPH_MOUNT/upgrade_express_2201_2301
```

Open the Upgrade Express menu by entering the following command:

```bash
source ./upgrade_util.
```

The Upgrade Express utility identifies your current Aleph version. When running the Upgrade Express from the source version, the following menu is displayed:

```
+------------------------------------------------------------+
| Upgrade Express Utility 22.01 -> 23.01 Version 1.01 Source |
| +------------------------------------------------------------+
  0. Exit
  -- 1. Define upgrade parameters
  -- 2. Export customer data
  -- 3. Transfer customer data to the target location
  4. View logfiles
```

If the Upgrade Express utility identifies your current Aleph version as the Target (such as in option 2 described in section 2 Upgrade Conventions and Requirements) the following menu is displayed:

```
+------------------------------------------------------------+
| Upgrade Express Utility 22.01 -> 23.01 Version 1.01 Target |
| +------------------------------------------------------------+
  0. Exit
  1. View/Update upgrade parameters
  2. Check environment
  3. Run upgrade express
  4. Perform Post Upgrade Express Actions
  5. View logfiles
  6. Backup/Restore Oracle Tables to be Upgraded
  7. Store/Restore configuration files
  9. Transfer data / configuration files between servers
```
1. Define upgrade parameters
Define your upgrade parameters using the first option displayed above. In this step, you define the libraries that are upgraded and the e-mail address to which you want to send the results of the export, import, and Upgrade Express utility. Note that defining or updating the parameters without using the utility may cause problems when running the Upgrade Express. The proper way to define or update the upgrade parameters is by using the utility.

**Note:**
Although the illsv is defined as a demo library it is used by ILL customers and it is upgraded. Therefore if your library uses illsv you must include it in the definitions so it can be exported.

After performing each step, the (--) symbols change to (++) symbols.

2. Pack library data and configuration tables

<table>
<thead>
<tr>
<th>Upgrade Express Utility 22.01 -&gt; 23.01 Version 1.01 Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Exit</td>
</tr>
<tr>
<td>-- 1. Define upgrade parameters</td>
</tr>
<tr>
<td>-- 2. Export customer data</td>
</tr>
<tr>
<td>-- 3. Transfer customer data to the target location</td>
</tr>
<tr>
<td>4. View logfiles</td>
</tr>
</tbody>
</table>

Choose one of the following options to export the data and u-tree.

<table>
<thead>
<tr>
<th>Export of Oracle data and u-tree from source machine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Exit</td>
</tr>
<tr>
<td>1. Export Oracle data</td>
</tr>
<tr>
<td>2. Pack the u-tree</td>
</tr>
<tr>
<td>3. Export Oracle data &amp; pack the u-tree in one step</td>
</tr>
</tbody>
</table>

Each of the options suits a different workflow according to which the library can decide to work (depending on the available servers and the amount of data). Before packing the u-tree, reduce the size of the scratch and print directories as much as possible.

There is an option to exclude tables Z97 and Z98 (since their export/import takes a lot of time). If you want to exclude them, run manage_01 after performing the upgrade. The data is downloaded into the data/ directory of the Upgrade Express.

The data pump option enables you to extract and upload the data faster.
You may also choose to pack the library data and configuration tables manually. In this case make sure that Aleph is down on the target version (run $alephe_root/aleph_shutdown). Copy the complete utree from the source (22.01) to the target (23.01) using the tar command (in order to copy the symbolic links correctly).

Note that the utree delivered with the target installation (23.01) by Ex Libris must be backed up. Some steps in the upgrade process make use of files in this tree. It is recommended that you clean the copied utree as much as possible. Remove all unnecessary files from all directories (such as scratch, print, files and so on).

The following are example of the commands that can be used:

```
cd /exlibris/aleph/
Backup u23_1 tree: mv u23_1/ u23_1.orig/
Tar u22_1 tree: tar -cf u22_1.tar u22_1/
Move u22_1 to u23_1: mv u22_1/ u23_1/
Restore u22_1 tree: tar -xvf u22_1.tar
```

3. Transfer data and perform manual changes

<table>
<thead>
<tr>
<th>Upgrade Express Utility 22.01 -&gt; 23.01 Version 1.01 Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Exit</td>
</tr>
<tr>
<td>-- 1. Define upgrade parameters</td>
</tr>
<tr>
<td>-- 2. Export customer data</td>
</tr>
<tr>
<td>-- 3. <strong>Transfer customer data to the target location</strong></td>
</tr>
<tr>
<td>4. View logfiles</td>
</tr>
</tbody>
</table>

If you are performing this step from the target server/slot the following screen is displayed:

<table>
<thead>
<tr>
<th>Upgrade Express Utility 22.01 -&gt; 23.01 Version 1.01 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Exit</td>
</tr>
<tr>
<td>1. View/Update upgrade parameters</td>
</tr>
<tr>
<td>2. Check environment</td>
</tr>
<tr>
<td>3. Run upgrade express</td>
</tr>
<tr>
<td>4. Perform Post Upgrade Express Actions</td>
</tr>
<tr>
<td>5. View logfiles</td>
</tr>
<tr>
<td>6. Backup/Restore Oracle Tables to be Upgraded</td>
</tr>
<tr>
<td>7. Store/Restore configuration files</td>
</tr>
<tr>
<td>9. <strong>Transfer data / configuration files between servers</strong></td>
</tr>
</tbody>
</table>
Note that option 9 is used in cases where you want to move data/configuration from between 2 servers which are in the same version.

This utility also updates `tab_version`, `license` and `license.www_x` files, and restores `aleph_startup` and `aleph_shutdown` files supplied with the version.

Manually synchronize the new `/alephe/aleph_start` file with the `aleph_start` file supplied with the target installation under the `utree` supplied with the version. It is recommended to merge the files by taking the file supplied with the installation and adding local specifications into the new file.

When the data is uploaded from the target version, the u-tree is unpacked and the following changes are automatically performed:

Apache is restored from `alephe.orig`. (for detailed explanation regarding this function, see Appendix A – Copying Apache.

- The links under `apache/htdocs` are rebuilt (using the `create_htdocs_links` routine)
- License files and `tab_system_status` are restored from `alephe.orig/tab`
- The `aleph_startup` and `aleph_shutdown` are restored from `alephe.orig`
- The `alephe/tab/tab_version` is updated with the new version number.

All the steps above are performed automatically when using the Upgrade Express utility. For more information, see Appendix A – Copying Apache.

Shutdown Aleph on the target Aleph 23. Install Upgrade Express kit on the target. (There is no need to configure the kit). Transfer the data from the source to the target location (v.23) using Upgrade Express Util/3 on the source server (the third option in the first screen above) and review the log files (Upgrade Express Util/4, the fourth option in the first screen above):

Transfer customer data
========================
Do you want to continue Y/N: Y
Enter transfer method to sftp/ftp:
Enter target server I.P./hostname: demo-server
Enter root directory on demo-server
   [/exlibris/aleph/upgrade_express_2201_2301]:
Enter user name on demo-server [aleph]:
sftp'ng aleph@ demo-server
Enter to continue
Connecting to demo-server...
aleph@ demo-server 's password:
sftp> sftp> sftp> Remote working directory:
/exlibris/aleph/upgrade_express_2101_2201/data

Note that when both versions are on the same machine, there is no need for FTP. You just log on to the server in the target version and run the Upgrade Express from the same location.

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Note:
The location of exported data is under the "data" directory of the Upgrade Express kit.

4. Importing Demo Libraries
This section is only relevant for the cloned database.

Important Note:
Every installation must have one of the following sets of demo libraries: mab, uni, or usm. This demo data is used as the base library for the util g/3 (Create Initial Library Parameters) and by Ex Libris staff and your staff to reproduce problems occurring with your libraries' tables and data.

At this point, the data of the demo libraries is also in the format of the source database (22.01). To replace this data with the demo data supplied by the installation, run the following commands:

1. Download the aleph23 dump file from the ftp:
   cd /exlibris/ftp_from_exlibris
   wget "ftp://ver23:M0zart21@ftp.exlibris.co.il/dpdump/*"
   cat aleph21_demo_libs.dmp.gz_* > aleph23_demo_libs.dmp.gz
   gzip -d aleph23_demo_libs.dmp.gz
   chmod 777 aleph23_demo_libs.dmp
   rm aleph23_demo_libs.dmp.gz_??

2. Recreate Oracle schemas:
   dlib usm01
   ap
   foreach lib ( $DEMO_LIBS )
       create_ora_user_b $lib
   end

3. Define dumpdir directory:
   sqlplus ALEPH_DBA/ALEPH_DBA as sysdba
   create or replace directory dumpdir AS '/exlibris/ftp_from_exlibris';
   GRANT READ,WRITE ON DIRECTORY dumpdir TO ALEPH_ADMIN;
   exit

4. Execute the import:
   set DLIBS=`echo $DEMO_LIBS | sed 's/ /,/'
   set DD=`date +%y%m%d`
   impdp $ALEPH_ADMIN schemas=$DLIBS DIRECTORY=dumpdir DUMPFILE=aleph22_demo_libs.dmp LOGFILE=aleph23_libs.$DD.log \
   >& /tmp/impd.demo_libs.log &

Note that this process can take around 1-2 hours, depending on the capacity of the server.

Notes
- VIR01 is normally a DEMO library. If the Demo libraries importing is being done on a server where customer data has already been loaded and is in use, then
Aleph (or at least the \texttt{pc\_server} and \texttt{www\_server}) should be shut down while the importing is running, in order to avoid conflicts in the use of the \texttt{vir01} tables.

- If your \texttt{usr\_library} and/or \texttt{pw\_library} in \texttt{aleph\_start} is set to USR00, this process will delete your patron and/or password data. (It is our strong recommendation that the USR00 not be used as your \texttt{usr\_library} or \texttt{pw\_library}.)

5. View/Update Upgrade Parameters and Check Environment

Before performing "6. Backup/Restore Oracle Tables to be Upgraded" and "3. Run upgrade express" confirm that all of your libraries are specified so that Upgrade Express runs only on the libraries specified there. To specify the libraries, select "5. View/Update upgrade parameters".

6. Back Up the Oracle Tables

<table>
<thead>
<tr>
<th>Upgrade Express Utility 22.01 -&gt; 23.01 Version 1.01 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Exit</td>
</tr>
<tr>
<td>1. View/Update upgrade parameters</td>
</tr>
<tr>
<td>2. Check environment</td>
</tr>
<tr>
<td>3. Run upgrade express</td>
</tr>
<tr>
<td>4. Perform Post Upgrade Express Actions</td>
</tr>
<tr>
<td>5. View logfiles</td>
</tr>
<tr>
<td>6. <strong>Backup/Restore Oracle Tables to be Upgraded</strong></td>
</tr>
<tr>
<td>7. Store/Restore configuration files</td>
</tr>
<tr>
<td>9. Transfer data / configuration files between servers</td>
</tr>
</tbody>
</table>

You can back up the tables that are modified by the Upgrade Express. Although this step is optional, it is recommended.

To backup the tables:

1. Open the Upgrade Express menu as explained in the previous step.

2. Select **Backup/Restore Oracle Tables to be Upgraded**. The following choices are displayed:

   - Backup
   - Restore
   - List all backed up tables

The **Backup** option enables you to create a backup of the tables that are modified by the upgrade. If you select this option, you are prompted to supply a directory for export and the table name of the tables to be backed up. (ALL can be used for all tables involved in the upgrade.)

If you supplied an e-mail address when defining parameters, a notification e-mail message will be sent when the export is complete.
The following Oracle tables are modified by the 22.01 – 23.01 Upgrade Express process: Z303, Z304, Z308, Z353, Z700 and Z900.

The **List all backed up tables** option enables you to view the list of tables that you have backed up.

The **Restore** option enables you to restore the backed up Oracle tables if something went wrong with the upgrade. As with the **Backup** option, you are prompted to supply the directory of the exported files to be imported and the table name of the tables to be imported. (ALL can be used for all tables involved in the upgrade.)

If you supplied an e-mail address at the parameter stage, a notification e-mail message is sent when the restoration has been completed.

### 7. Upgrade Express Localization

**Note:** For most customers this section is not relevant.

The Upgrade Express supports multi-language environments. The localization process includes the translation of the Upgrade Express to other languages other than English. This translation is usually performed by distributors and offices and does not require customer involvement.

The Upgrade Express can be translated into one or more different languages during the same upgrade. While running, each language-related step is performed for each defined language. The languages are defined during the configuration stage. Each language has a separate directory under `upgrade_express_2101_2201/conf` in which all language-related steps are configured. New languages must be added to this location by copying the original `eng` directory and translating all files within this directory.

Non-language-related configuration files (there are usually only a few of these) are located in the `upgrade_express_2201_2301/conf/general` directory.

### 8. Run the Upgrade Express

All previous steps can be considered prerequisites for the Upgrade Express process. To run the upgrade, open the Upgrade Express menu and select the **Run Upgrade Express** option.

<table>
<thead>
<tr>
<th>Running the Upgrade Express</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade Express runs in the background. At the end of the process you will get an email to the address specified in the parameters.</td>
</tr>
</tbody>
</table>

0. Exit  
1. Run all steps  
2. Run a specific step  
3. Run all steps >999 (Oracle data only)  

Please select [0]:
The upgrade program runs a number of steps that include conversion of data and setup. Every step is listed in a log file that explains what action is included in the step and whether the step was successful.

The **Run Upgrade Express** option enables you to run a single step, the complete set of steps, or the Oracle data steps only. It is highly recommended that you run the complete set of steps the first time around. The option to run a single step should only be used if you find that a particular step failed and you do not want to rerun the entire process. The option to run all steps > 999 should be used to upgrade the Oracle data but not the configuration tables.

The upgrade program may take several hours to run, depending on the size of the database and server resources.

Note that while the upgrade is running, all menu options are disabled in order to avoid conflicts that may arise as a result of actions performed during this time (for example, if you change the initial parameters while the upgrade is running).

If you supplied an e-mail address during the parameter stage, a notification e-mail message will be sent as soon as the upgrade is complete.

### 9. Analyzing the Upgrade Express Results

As explained above, the Upgrade Express includes a number of steps and tasks. After running the upgrade, a log file for each of the steps is created in the log directory located under upgrade_express 2201 2301. Each task performed has been assigned a numeric identifier and the log file appears in the directory according to the following convention:

```
[step_number].log (for example, 198.log)
```

The log files contain a description of each task performed as well as information pertaining to the success or failure of each task.

As soon as the Upgrade Express concludes, analyze these log files in order to detect whether problems occurred. In the event of failed steps, you may need to perform certain tasks manually, or rerun steps after making certain changes.

You can view the log file by selecting **View Log Files** from the Upgrade Express menu. This option enables you to view the main log file or the log file for a single step. In addition, you can view the log files of previous upgrade runs.

```
View Log Files
-----------------------------
  0. Exit                      
  1. View Main Log            
  2. View a Specific Step Log 
  3. View Older Logs          

Please select [0]:
```

**Examples:**

1. A step adds a new form to the `form_eng` directory of the administrative library. While running the upgrade, the program detects that the file already exists in the
target `utree`. In this case, the step’s log file states that the file was not added. The user must then decide whether to keep the original file, or manually copy the new file.

2. A step adds changes to a form in the `form_eng` directory. Based on the Upgrade Express methodology, changes to the `form_eng` files are added only if the target file is identical to the source installation’s (22.01) demo file. If the files differ, the step’s log file contains a message informing the user that the changes could not be made and that they should be implemented manually.

Section 6 Step Descriptions contains a detailed description of the configuration changes performed by the upgrade kit. If the the error message “The file can not be upgraded automatically. Merge manually!” is displayed, see section 6 Step Descriptions to see what change was introduced to the file in v.21.

For information on how to save modified files so that potential subsequent upgrade runs do not override these files, see section 4.1 Manual Changes: Store and Restore section.

Implementation Notes
In addition to failed steps, which need to be handled manually, there are a number of configuration files (mainly HTML files) that require manual upgrading. A list of the changes required to these files is included in section 0.6.2 Changes in Configuration Files.

Packaging and Final Steps
The final step of the upgrade includes a set of standard actions. These actions can be performed by selecting Perform Post Upgrade Express Actions from the Upgrade Express menu.

```markdown
Perform Post Upgrade Express Actions
-------------------------------------------
0. Exit
1. Remove UTF files (util-x-7)
2. Clear VIR sessions (util-x-8)
3. Repack Cataloging tables (util-m-7)
4. Create Print Templates Package for the PC Client (util-i-6)
6. Synchronize pcb files
7. Synchronize error files
```

The following actions should be performed:
- Remove the UTF files.
• Clear the VIR sessions.
• Repack the cataloging tables (UTIL M/7).
• Create a Print Templates Package for the PC Client (UTIL I/6).
• Run Util H/2 and Util H/3 to synchronize headers. (Although this step is not in the menu above, it is required).

After these steps are completed, restart the servers and run the UE processes. The system is then operational.

**Note:** When upgrading two separate packages, restart the server and run Upgrade Express processes only after the second package upgrade. For example, if you are upgrading from 21.01 to 22.01 and then from 22.01 to 23.01, the Post Upgrade Express Actions should be run only after the second upgrade has been performed.

4. Guidelines for the Upgrade Methodology

4.1 Manual Changes: Store and Restore

<table>
<thead>
<tr>
<th>Upgrade Express Utility 22.01 -&gt; 23.01 Version 1.01 Target</th>
</tr>
</thead>
</table>
0. Exit
1. View/Update upgrade parameters
2. Check environment
3. Run upgrade express
4. Perform Post Upgrade Express Actions
5. View logfiles
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7. Store/Restore configuration files
9. Transfer data / configuration files between servers

All configuration files that are modified during the Upgrade Express process must be saved in a separate location; otherwise, subsequent upgrade runs override them. The Upgrade Express package has a mechanism for storing files that have been modified during the process.

**Store/View/Restore Configuration Files**

```
Storage directory is:
exlibris/aleph/kit.23.01/upgrade_expression_2201_2301/../upgrade_expression_2101_2201.store
0. Exit
1. Add files to store
```
2. View list of stored files
3. Create a report of differences
4. Restore files from
   /exlibris/aleph/kit.23.01/upgrade_express_2101_2201/../upgrade_express_2101_2201/store

All saved files can be restored after a subsequent run of the Upgrade Express.

### 4.2 Aleph 22 and Apache Tomcat 7

Aleph version 22 and later are working with the new Tomcat 7 (replacing JBoss version 5). The new Tomcat 7 is part of version 23 installation.
During version 23 installation, the old ng tree will be replaced in order to match the new Tomcat.
As a result, External adapters (JAR files) in old “ng” tree (if used), should be copied manually to version 23 ng tree.
If you configured your own vendor’s information for the SMSProxy, copy SmsProxyConf.xml file from v.21 “ng” tree to v.22 “ng” tree. (File path is: ./ng/aleph/home/system/conf/).

### 4.3 Aleph 23 and Oracle 12 – Case Sensitive Passwords

Aleph version 23 uses a new version of Oracle Database server - version 12. For better security, Oracle 12 uses by default case sensitive passwords.
The upgrade of Aleph 23 version changes the DB passwords automatically to uppercase.
After the upgrade is completed, the passwords can either stay uppercase (as a result of the upgrade process) or be changed as per customer security policy.

### 4.4 Not Included in Upgrade Express

The Upgrade Express upgrades the customer’s Aleph system with the aim of maintaining the current setup and functionality. Do not implement new functionality, as this will interfere with the upgrade itself. New functionality should be implemented after the switch to production with the new version. The Upgrade Express does not include automatic setup for implementing new and enhanced functionality, unless it must be implemented to maintain the current functionality. The Upgrade Express from 22.01 to 23.01 does not add new setup files or make changes in setup files unless these changes are mandatory. For instruction regarding changes in setup files that are not mandatory, refer to the Release Notes document.

### 4.5 Cleanup Utilities

Due to architectural changes in Aleph, and for clarity and upgrade purposes, version 17.01 pc_b_[lng] and error_[lng] directories are located in the aleph directory, which means that they are part of the installation of the product. However, the customer can still configure these files within the aleph directory, as in previous versions of Aleph. To avoid duplication and errors, you should clean up these files in
alephe. The Upgrade Express includes two utilities that can help you clean up the pc_b_[lng] and error_[lng] directories.

**pc_b_[lng] File Cleanup Utility**
This utility is available from the main menu of the Upgrade Express:

6. Organize pcb files
It compares the ./aleph/pc_b_[lng] directory to the customer's ./alephe/pc_b_[lng] directory. A report, which includes the detailed current situation of the directory and advice regarding the action that should be taken, is provided.

For example, the following may be provided:
- Similar files in the two compared directories can be deleted from ./alephe/pc_b_[lng].
- Files with differences may be customized and should remain under alephe.
- Files that appear only under ./alephe/pc_b_[lng] and not under ./aleph/pc_b_[lng] are not in use anymore by Aleph and can be deleted.

The **Delete Obsolete Files** menu option deletes all files with a file name identical to the updated file from ./alephe/pc_b_[lng].

**error_[lng] File Cleanup Utility**
This utility is available from the main menu of the Upgrade Express:

7. Organize error files
It compares the ./aleph/error_[lng] and ./alephe/error_[lng] directories. A report, which includes the detailed current situation of the directory and advice regarding the action that should be taken, is provided.

For example, the following may be provided:
- Similar files in the two compared directories can be deleted from ./alephe/error_[lng].
- If files differ in one or more error message lines, the files should be merged.

The **Delete Similar Files** menu option deletes all files that have the same name as the new file. The merge actions should be performed manually by the customer.

**5. Installing the New GUI**
The 23.01 GUI installation program includes the option of upgrading your current GUI. This means that setup parameters (*.ini files) from your older version clients are copied to the new 23.01 clients and synchronized, minimizing the need to customize the new GUI. To apply the upgrade program, install the new GUI in the same directory in which the older version GUI is installed. The old GUI version is automatically saved under the same directory (for example Acq.sav). Install the new GUI in the original or copied directory.
At the end of the installation of the 23.01 GUI, the setup program checks the previous GUI version and prompts you to confirm whether you want to run the upgrade program. The upgrade program synchronizes the 23.01 installation with special changes (for example, formats and names changes) that were done in previous versions.

6. Step Descriptions

6.1 Introduction

This includes steps 1 – 999. The changes are performed in the relevant configuration tables.

The description relates to the following libraries:

<table>
<thead>
<tr>
<th>Library</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>adm_libs</td>
<td>Administrative libraries</td>
</tr>
<tr>
<td>bib_libs</td>
<td>Bibliographic libraries</td>
</tr>
<tr>
<td>hol_libs</td>
<td>Holding libraries</td>
</tr>
<tr>
<td>union_catalog_libs</td>
<td>Union Catalog</td>
</tr>
<tr>
<td>crs_libs</td>
<td>Course reading libraries</td>
</tr>
<tr>
<td>ill_libs</td>
<td>ILL libraries</td>
</tr>
<tr>
<td>pw_libs</td>
<td>password libraries</td>
</tr>
</tbody>
</table>

Changes in Oracle tables relate to steps that are greater than 999. The changes are performed in the ORACLE database.

6.2 Changes in Configuration Files

*******************************************************************
*******************************************************************
Step 1 - Description:

Changed XSL / TRN in ILL libraries:

1) Replace the following line in ./[ILL Library]/form_lng/ill-lend-item-list.xsl:
   <xsl:with-param name="value" select="concat(./z416-ill-unit, ':',./z700-name)/">
   By
   <xsl:with-param name="value" select="concat(./z416-ill-unit, ':',./lender-name)/">

2) Replace the following lines in ./[ILL Library]/form_lng/ill-patron-letter-4.xsl:
   <xsl:with-param name="value" select="/z410-doc-number"/>
   By
   <xsl:with-param name="value" select="/z410-doc-number"/>
   AND
   <xsl:with-param name="value" select="/z410-open-date"/>
   By
   <xsl:with-param name="value" select="/z410-open-date"/>

*******************************************************************
*******************************************************************
Step 2 - Description:

Update $alephe_tab/user_function.LNG with the following changes:

1) Add the line:
REREQUESTS-S  L Requests Services  CIR-38  L CIR-38 Hold Shelf Reminder Letters

Step 3 - Description:

Changed XSL / TRN in BIB libraries:

1) A fix in 'deleted-lost-loans.xsl' - French version only (removal of redundant quotation marks):
   In your local file ./[BIB library]/form_fre/deleted-lost-loans.xsl, replace the following:
   
   `<xsl:with-param name="title" select="Liste des suppressions de prêts "perdus" et payés"/>`

   with this: (the word 'perdus' with no quotation marks)
   
   `<xsl:with-param name="title" select="Liste des suppressions de prêts perdus et payés"/>`

Step 4 - Description:

New XSL / TRN in ADM libraries:

1) The following files are new in ADM libraries:
   ./[adm_libs]/form_{lng}/reset-password-mail-00
   ./[adm_libs]/form_{lng}/reset-password-confirm-00

Step 1000 - Description:

Changed the following field size in Z77 of the ADM library:
Increase the size of the Z77_I_NOTE to VARCHAR2(200)

Step 1001 - Description:

Changed the following field size in Z304 of the USR library:
Increase the size of the Z304_EMAIL_ADDRESS to VARCHAR2(200)
7. OPAC Implementation Notes

Abstract
This section lists the changes that you must apply to the revision in order to be able to work with it.

In order not to override the customization that you may have added to previous releases, the HTML pages and tables that were customized from the previous release are used. The list of changes you must make to these pages and tables is listed below.

The following table summarizes the new/removed and modified files. It also provides a list of changes made to the modified files.

<table>
<thead>
<tr>
<th>New files:</th>
<th>Deleted Files:</th>
<th>Modified Files:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Files under www_f_eng</td>
<td>Files under www_f_eng</td>
<td>Files under www_f_eng</td>
</tr>
<tr>
<td>forgot-password</td>
<td></td>
<td>bor-new bor-new-last-first-name</td>
</tr>
<tr>
<td>forgot-password-rst</td>
<td></td>
<td>bor-update bor-update-password</td>
</tr>
<tr>
<td></td>
<td></td>
<td>login login-acq-session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>login-ill login-item</td>
</tr>
<tr>
<td></td>
<td></td>
<td>login-request login-session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>copyrights</td>
</tr>
</tbody>
</table>

Updated Files
The following files under $alephe_root/www_f_lng were changed to allow for new features or bug fixes. The detailed changes are listed for each file. The string to change appears in red.

File changes can be related to:
- Update Patron Email Attachment option
- Increase Patron Email Address
- Enhancing Forgot Password with a new option
- Miscellaneous

**Update Patron Email Attachment option**

**bor-info**

After:

```<select id="mail_attachment" name="mail_attachment">```
Add:

```html
<option value="L" $$7300-S"L">HTML Body Only</option>
```

**bor-update**

After:

```html
<select id="mail_attach" name="mail_attachment">
    Add:

    ```html
    <option value="L" $$7300-S"L">HTML Body Only</option>
    ```

**Increase Patron Email Address**

**bor-new**

Change:

```html
<input id="email" name="N_Z304_EMAIL" size=30 maxlength=60 value="$1300">
```

To (change the "maxlength" to 200):

```html
<input id="email" name="N_Z304_EMAIL" size=30 maxlength=200 value="$1300">
```

**Enhancing Forgot Password with a new option**

This should be applied only by customers that want to activate the new forgot password flow.

For more information refer to the *Aleph 23 Release Notes* and to the *Forgot Password* section of the *Aleph 23 System Librarian Guide - Web OPAC*.

**forgot-password**

**forgot-password-rst**

Add these two files to ./alephe/www_f_lng under the utree.

These files can be copied from ./alephe/www_f_lng under the atree.

**login**

**login-acq-session**

**login-ill**

**login-session**

In these four files:

Change:
To:

If you forgot your password, you can use the "Password Bypass" mechanism by selecting one of the questions and answering it.

Question Database:

If you forgot your password, you can use the "Password Bypass" mechanism by selecting one of the questions and answering it.

Question answer

Remove:

Remove:
We suggest that you choose a question and give an answer, in order to be able to Log On in the future, although you have forgotten your password. Remember the question and the answer!

Questions:

<table>
<thead>
<tr>
<th>Option</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Your eye color</td>
</tr>
<tr>
<td>02</td>
<td>Your lucky number</td>
</tr>
<tr>
<td>03</td>
<td>Shoe size</td>
</tr>
<tr>
<td>04</td>
<td>Your father’s name</td>
</tr>
<tr>
<td>05</td>
<td>Your mother’s name</td>
</tr>
</tbody>
</table>

Question answer:

8. Upgrade Express Checklist after Upgrade

This checklist is intended to help you test the conversion of data and configuration tables by checking basic functionality in the various modules of the system. After the upgrade process has been completed, (including the manual parts of the upgrade), go through the following list and test the specified functions.

<table>
<thead>
<tr>
<th>General</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test that jobs run correctly in job_list.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Cataloging and Items

<table>
<thead>
<tr>
<th>Task</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create new record using File → New Record / create a new record using a pre-defined template</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search for created record in Web and confirm that it is retrieved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scan the indexes listed in &quot;find&quot; in the cataloging module and make sure they work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search for each of the accesses listed in &quot;scan&quot; in the cataloging module and make sure it works</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load record from server → modify it → send to server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure character display of foreign characters and diacritics is correct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check authority control functionality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that library can download records from its usual supplier. This will test Z39.50 configuration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Push the above created record to items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add new item.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In item form, confirm that the drop-down boxes appear correctly</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Acquisitions and Serials

<table>
<thead>
<tr>
<th>Task</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open module and do a search and scan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search Budget file</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search Vendors file</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search Budget transactions per active budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that users can view and modify budgets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test EDI functionality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Push record to Serials module from other modules</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare subscription information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare publication schedule forms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do “arrive” on an expected issue and confirm that it opens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>View serial items in the Web OPAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ILL

<table>
<thead>
<tr>
<th>Task</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check borrowing/lending requests summary tree – compare requests from previous ILL to new ILL (numbers, status, bib info, etc).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check ILL-Admin-Partner list, potential suppliers, customer ID, APDU Exceptions (number of records, record info, etc)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check borrowing requests basic flow for returnable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material (request creation, send to supplier, register arrival, return to supplier)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check lending requests basic flow for returnable material (request creation, supply material, check-in material)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check OPAC-Library card-ILL info (compare previous ILL to new ILL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulation</td>
<td>Confirmed by</td>
<td>Date</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------------</td>
<td>------</td>
</tr>
<tr>
<td>Search for borrowers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On lower version server create a Loan report (cir-04) or Overdue and lost billing notices (cir-50) report. Compare these results with searches in the Circulation module. A recent report may already exist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open new borrower and inform library of number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan the new item you entered to the new borrower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test renewal, renew all, return, whatever fine regime is used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test overdue/courtesy notice generation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare cash transactions between test server data and production server data of the previous version.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activate and check self-check server transactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run p_cir_60 and p_cir_65 in order to check advanced booking function. (Only on test server)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Web OPAC</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign in as the user you entered above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that your loan appears correctly as “user” in Web</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that your information appears in “user” correctly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search for the record you created, then click “items” and confirm that you see that it is on loan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Try keyword and browse searches, in full and in logical bases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use basket and e-shelf, e-mail results to yourself</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check customization generally, menus and navigation links</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connect to a remote link</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verify that Course Reading works</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure character display of foreign characters and diacritics is correct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verify that related searches (tab_service) are working</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verify that ‘limit’ functionality works OK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the sorting of records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check analytical records for connections between main analytical records and locations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test interaction between the Web OPAC and staff client; create an ILL request on the Web OPAC and check the data fed into the GUI, place a hold request, check display of Advanced Booking slots.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Course Reading

<table>
<thead>
<tr>
<th>Description</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open the module and see that the data appears: courses, reading lists, items.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make sure that course that had a proxy have the proxy’s course number on the course note.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare the existence of courses in the old CR and new CR- use course-06.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Course Management basic flow (new course, update, delete, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare reading lists in old CR and new CR – use course-01.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add document to reading list (by search, catalog new, load file), make sure that it appears in the list.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test reading list management basic flow (suppress, remove, edit notes, etc.).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connect to OPAC, Course Reading base. Compare Search results to results in old CR: the results should be the same BUT not duplicated.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Search in GUI Modules

<table>
<thead>
<tr>
<th>Description</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search for records via various fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Browse for records via various fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add records to navigation map and send to different modules</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure character display of foreign characters and diacritics is correct: Font.ini must have appropriate settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verify that related searches (tab_service) are working</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Z39.50

<table>
<thead>
<tr>
<th>Description</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check all Z39.50 targets for standard searches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do tables cater correctly for translation of diacritics and foreign characters?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MetaLib/SFX

<table>
<thead>
<tr>
<th>Description</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to check that ALEPH resource in MetaLib works. Need to check interactions between ALEPH/SFX/MetaLib. Do deep links work correctly? ALEPH as an SFX source. ALEPH as an SFX target.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### X-server

<table>
<thead>
<tr>
<th>If library is using X-server, verify that links via X-server are OK</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>When all is complete</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cleanup / Delete data added for testing</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ask installation team to switch Web port to new version (production server only)</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Verify that archiving is on when going live with version 6 (production server only)</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Verify that library knows how to do backup and that it is working properly.</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Send official letter to library that version 22 data has been uploaded and indexed</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

Customers that used Publishing in the former version should check the following:

<table>
<thead>
<tr>
<th>Publishing</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configure new set in xxx01/tab/tab_publish</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Run p_publish_04 with the new set.</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Run p_publish_05 on part of the new set</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Run p_publish_06 on new set</th>
<th>Confirmed by</th>
<th>Date</th>
</tr>
</thead>
</table>

### 9. Appendix A – Copying Apache

The utility copies the Apache directory supplied with the version (under the backed up `utree`) to the new `utree` that is to be upgraded.

You may choose to copy apache manually:

1. Copy the directory by using the `tar` command to preserve the links. Avoid copying the links as directories. Note that the links might point to locations that do not exist. In this case, it is necessary to recreate the links.

   To locate the `tar` Apache directory in the original `u21_1/` tree:
   ```bash
   cd /exlibris/aleph/u22_1.orig/alephe
   tar -cf apache.tar apache/
   ```

2. Move `apache.tar` to the "real" `ver 22` `tree`:

   ```bash
   mv apache.tar /exlibris/aleph/u22_1/alephe
   cd /exlibris/aleph/u22_1/alephe
   ```

3. “Untar” using the following command:

   ```bash
   tar -xvf apache.tar
   ```
4. After copying the Apache directory, perform the following:
   a) If necessary, add any local configuration (such as local files) that was a part of your previous Apache configuration.
   b) Clean up the logs directory (./alephe/apache/logs) by removing all files (rm *).
   c) Recreate the Apache links by running the following command from the apm directory (get to this directory by typing apm at the command line):
      d) create_htdocs_links
   e) Restart the Apache server.

10. **Appendix B – JBoss to Tomcat upgrade**

Aleph 22 and later versions are delivered with Apache Tomcat - the Servlet and Java Server Pages container, as a replacement to JBoss.

The configuration files under "$alephe_root/jboss_conf" are still relevant and used for Tomcat - in the same way as it was in JBoss.

For backing up and restoring the configuration files, see the instructions below.

**New Location for Java Classes**

Aleph 23 is installed with new Java WAR files:

```
rest-dlf.war, aleph-api.war, core-sms-proxy.war.
```

These files are located in the new Aleph 22 “jdeploy” directory:

```
$aleph_dev/ng/aleph/home/system/thirdparty/tomcat/aleph-webapps
```

For manual deployment - you should copy the files:

```
rest-dlf.war, aleph-api.war, core-sms-proxy.war
```

- from the v. 21 "jdeploy" directory:

```
$aleph_dev/ng/aleph/home/system/thirdparty/openserver/server/default/deploy-
```

- into V. 22 "jdeploy" directory:

```
$aleph_dev/ng/aleph/home/system/thirdparty/tomcat/aleph-webapps.
```