



# Aleph Installation Kit

Version 22

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Document released: March 19, 2014

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# 1

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## Introduction

Ex Libris provides an automated Aleph Installation Kit (AIK) for customer self-installation. The installation should be performed by a local System Administrator. The installation can take up to a few hours, depending on the server.

---

### NOTE:

To ensure that your server is suitable for Aleph v.22, fill out and e-mail a copy of the *Aleph ARC Sizing Request Form* to [Sizing.Manager@exlibris.com](mailto:Sizing.Manager@exlibris.com). Ex Libris has created a sizing calculator that allows you to do this calculation for your site on your own.

These documents are posted in the Upgrade Express part of the Documentation Center. Certification of your server hardware is a necessary step before installing the new version.

If you are purchasing new hardware for Aleph, you must receive confirmation of your proposed configuration prior to ordering it. Do not use the sizing calculator in this case. Instead, contact your sales representative, who will work with you and with the Ex Libris Sizing Manager to make sure the hardware and operating system you order are adequate to run the new release. If you have any questions at all about the capability of your hardware configuration, your sales representative can help you get definitive answers about it.

---

### NOTES:

- If you plan to install Oracle or create the Oracle database without using the Aleph Installation Kit, you must coordinate this in advance with Ex Libris by sending an SI to Aleph Support. Refer to the document *Database Installation Requirements for RAC and Single Database* for details on how to perform this type of installation.
  - Ex Libris offers installation services at a cost to interested customers. Contact your local office to obtain a price.
-

This document provides instructions for the automatic installation of Aleph 22 using the Aleph Installation Kit (AIK). The package facilitates installation of Aleph 22, Oracle 11g, and the creation of an Oracle database.

The AIK includes the following components:

- Installation package - scripts and init files
- Aleph software - Aleph application and pre-generated third-party products (Java, Perl, Apache, and so on)
- Oracle RDBMS v.11.2 Enterprise edition
- Oracle database for Oracle RDBMS v.11.2

The Aleph installation using AIK involves the following steps:

- Download software from FTP server
- Pre-installation tasks
- Oracle database installation and configuration
- Third-party product installation
- Aleph software installation and configuration
- Post-installation tasks

---

**NOTE:**

During the Aleph installation, two reboots of the server are required: one for new values of the system parameters to take effect and the other to test startup scripts. Other Ex Libris applications on the server that use Oracle experience a short downtime as well when the new Oracle 11g listener is configured. The downtimes occur during Step 3 of the Oracle installation and configuration. For more information, see **Step 3: Oracle Database Installation and Configuration** on page 22.

---



# 2

---

## Pre-Installation Information

This section includes:

- [Overview](#) on page 9
- [Preparing for Installation](#) on page 10
- [Downloading the AIK from the FTP Server](#) on page 11

### Overview

The AIK can be downloaded from the Ex Libris FTP server or, in special circumstances, supplied as a DVD package for customers with strict security policies.

Customers should open a support incident (SI) in order to:

- Obtain the Aleph Installation Kit (AIK) and license
- Order an installation based on a contract
- Order an installation as a professional service

See [Appendix E: How to Obtain a New Aleph Installation](#) on page 47 for more information.

The Aleph installation is performed in the following standard directories:

- Aleph software under the directory `/exlibris/aleph/a22_<slot>`
- Oracle software under the directory `/exlibris/app/oracle/product/11r2`

A single log file containing confirmation and feedback on the installation, the status of each step, and reporting errors is created. This log file is placed under:

`/exlibris/ftp_from_exlibris/aik/log/aleph_installation_kit.log`

## Supported Topologies

The Aleph Installation Kit supports the following two kinds of Aleph topologies:

- All-in-one installation – both application and data base are installed at the same server
- TWO-TASK mode – application and database installed on separate servers. For more information, see [Appendix F: Two-Task Installation](#) on page 49.

Coordinate the installation of any other kind of topology with the local support office and installation team.

## Preparing for Installation

Before the AIK can be installed, the server must meet specific requirements and contain a download directory for the installation files.

### Creating the `ftp_from_exlibris` Directory

If you are installing a fresh copy of Aleph 22.01 on a server that does not have an earlier version of Aleph, perform the following steps to create the `ftp_from_exlibris` directory:

- 1 Log on to the server as `root`.
- 2 Enter the following commands to create the `ftp` directory:

```
cd /exlibris
mkdir ftp_from_exlibris
```

### Checking System Requirements

Before installing Aleph, verify that all operating system components comply with the Aleph requirements, as outlined in *Requirements for Aleph Installation*.

Check and update the `/etc/hosts` file as follows, if required:

```
vi /etc/hosts
```

**Figure 1** shows an example of a `/etc/hosts` file. When configuring the file:

- The first active line should be configured exactly as shown.
- The second line should contain the internal IP address followed by the fully qualified name (host name + domain name), and then the short name and possible aliases.

```
# Do not remove the following line, or various programs
# that require network functionality will fail.
127.0.0.1    localhost.localdomain    localhost
10.1.222.22 aleph-inst.corp.aleph.com  aleph-inst
```

Figure 1: Example of /etc/hosts File

The internal IP address can be found using the following command. The same command can be used for Sun, Linux , and AIX (as the root user):

```
ifconfig -a | grep inet | grep -v 127.0.0.1 | grep -v
:: | awk '{print $2}'
```

---

**IMPORTANT:**

Any changes in the /etc/hosts file should be performed by a qualified System Administrator only.

---

## Downloading the AIK from the FTP Server

To download the installation package from the Ex Libris FTP server, execute the following commands from your server:

```
cd /exlibris/ftp_from_exlibris
ftp ftp.exlibrisgroup.com [<username>:ver22 ;
<password>]
ftp prompt> bin
ftp prompt> get
aik.22.<date>.tar ftp
prompt> quit
```

Enter the following command to extract the AIK package:

```
tar -xvf aik.22.<date>.tar
cd aik
./ikit_menu
```



# 3

---

## Aleph Installation

This section includes:

- **Introduction** on page 13
- **Installation Properties** on page 15
- **Step 1: Download Software from FTP Server** on page 15
- **Step 2: Pre-Installation Tasks** on page 17
- **Step 3: Oracle Database Installation and Configuration** on page 22
- **Step 4: Third-Party Product Installation** on page 26
- **Step 5: Aleph Software Installation and Configuration** on page 28
- **Step 6: Post-Installation Tasks** on page 30

### Introduction

Perform all AIK steps in the order displayed in the AIK main menu - that is, first complete the functions under Step 1 in the order listed. When those functions are completed, proceed to Step 2, and so forth.

---

**NOTE:**

Steps that should be performed by the `root` or `oracle` user have a corresponding note. All other steps should be performed as the `aleph` user.

---

You can exit the AIK at any stage of the installation. To restart the process, enter the following commands:

```
cd /exlibris/ftp_from_exlibris/aik
./ikit_menu
```

A single log file, containing confirmation and feedback on the installation, the status of each step, and reporting errors can be found under:

```
/exlibris/ftp_from_exlibris/aik/log/aleph_installation_kit.log
```

## The AIK Main Menu

The AIK main menu (see **Figure 1**) is used throughout the Aleph installation, outlining the main steps of the installation. The main menu has a header that includes the current date and operating system used. The Aleph directory and the Oracle database fields are populated once the relevant components are installed.

```

                                Aleph Installation Kit
-----
Date: Sun Feb 04 14:55:20 IST 2007
OS: Linux
Aleph version: 22.00
Aleph directory:
Oracle database:
-----

- 0. Update kit parameters
- 1. Download software from FTP server
- 2. Pre-installation tasks
- 3. Oracle database installation and configuration
- 4. Third-party products installation
- 5. Aleph software installation and configuration
- 6. Post-installation tasks

Enter key (q to quit) [q]:
```

Figure 1: The Main AIK Menu

## Installation Properties

Enter 0 to update the AIK parameters. For example:

```

Installation Properties:
=====
[E]-mail                = Avi.Bitter@HotSinger.com
[D]ownload directory   = /exlibris/ftp_from_exlibris
[P]assive ftp          = --passive-ftp
[A]pplication properties:
  Installation copy    = 1

[O]racle params :
  Oracle server        = il-inst03
  Oracle host          = il-inst03
  Oracle SID           = aleph22
  Oracle Home          = /exlibris/app/oracle/product/11r2
  DB Archiving disk    = /exlibris
  DB Sys and Redo disk = /exlibris
  DB Data files disk   = /exlibris

Insert the letter in the square parentheses to update, 'q' to
quit:

```

The file contains a list of the properties that you entered at the initial stage of the installation process. Editable options are marked with a letter in brackets. To edit a property, enter the letter of the property you want to edit.

---

### NOTE:

Changing the value of one property can affect the value of other properties.

---

## Step 1: Download Software from FTP Server

The first step in the main menu is to download the software from the FTP site. Enter 1 to display the Download software from FTP server menu (see [Figure 2](#)).

---

### NOTE:

Root access is required to perform the download tasks.

---

```

                                Aleph Installation Kit
-----
Date: Sun Feb 04 14:56:47 IST 2007
OS: Linux
Aleph version: 22.00
Aleph directory:
Oracle database:

-----
1. Download software from FTP server

- 1. Download Aleph software
- 2. Download Oracle software
- 3. Check if the Aleph software was downloaded correctly
- 4. Check if Oracle software was downloaded correctly

Enter key (q to quit) [q]:

```

Figure 2: The Download Software from FTP Server Menu

## Download Aleph Software

This utility uses the `wget` client for downloading Aleph software from the Ex Libris FTP server.

An e-mail message is sent to the address you specify when the FTP download completes. (If you do not see the e-mail in your Inbox, check your spam folder.)

Enter **1** to download the Aleph software. The system prompts for the following:

- target download directory name — The default is `/exlibris/ftp_from_exlibris`.
- Press `y` to use passive FTP.
- e-mail address for the download confirmation message — Enter your e-mail address.

---

### NOTE:

Ex Libris recommends using the suggested defaults wherever possible to avoid changes.

---

## Download Oracle Software

This utility uses the `wget` client for downloading the Oracle software from the Ex Libris FTP server.

An e-mail is sent to the specified address when the FTP download is complete.



Enter **2** to download the Oracle software. The system prompts for the following:

- target download directory name – The default is `/exlibris/ftp_from_exlibris`.
- e-mail address for the download confirmation message – Enter your e-mail address. The default is the e-mail address you entered in the previous step.

## Check if Aleph Software Was Downloaded Correctly

This utility checks whether or not the Aleph software was downloaded correctly. When complete, an e-mail is sent to the specified address.

This step prompts for the following information:

- target download directory name – The default directory is `/exlibris/ftp_from_exlibris`.
- e-mail address for the download confirmation message – The default is the e-mail address entered previously (see [Download Aleph Software](#) on page 16).

## Check if Oracle Software Was Downloaded Correctly

This utility checks to see whether or not the Oracle software was downloaded correctly. When complete, an e-mail is sent to the specified address.

This step prompts for:

- target download directory name – The default directory is `/exlibris/ftp_from_exlibris`.
- e-mail address for the download confirmation message – The default is the e-mail address entered previously (see [Download Aleph Software](#) on page 16).

If you encounter a problem with the download and cannot resolve it, contact your local support office.

## Step 2: Pre-Installation Tasks

This menu (see [Figure 3](#)) contains the tasks that must be entered before installation.

---

**NOTE:**

Root access is required to perform the pre-installation tasks.

---

```
Aleph Installation Kit
-----
Date: Sun Feb 04 14:57:37 IST 2007
OS: Linux
Aleph version: 22.01
Aleph directory:
Oracle database:
-----
2. Pre-installation tasks

- 1. Pre-installation checks
- 2. Inserting listener definition to the /etc/services file as root
  user
- 3. Change system parameters as root user
- 4. Create oracle user and dba group as root user
- 5. Create aleph user and exlibris group as root user
- 6. Create Aleph and Oracle directories as root user
- 7. Install COBOL software as root user
- 8. Create system auto startup/shutdown script and links as root user
- 9. Choose Regional settings

Enter key (q to quit) [q]:
```

Figure 3: Pre-Installation Tasks Menu

## Pre-Installation Checks

This step checks whether the server meets the specifications required for Aleph version 22 installation described in the *Requirements for Aleph 22 Installation* document. Detailed operating system requirements can be found in the *Operating System Requirements for the Sun Platform* and the *Operating System Requirements for Red Hat Enterprise Linux* documents.

Contact your local system administrator if the following message is displayed after running the pre-installation checks:

```
-----FAILED-----
Error: The pre-installation checks has failed
```

Detailed information about faults found during the pre-installation checks are located in `/exlibris/ftp_from_exlibris/aik/log/aleph_installation_kit.log` and are also sent to you by e-mail. Review all lines marked as `FAULT`.

## Inserting Listener Definition to the /etc/services File as root User

This step inserts the following string into the `/etc/services` file, if required:

```
listener          1521/tcp          # Oracle listener
```

## Change System Parameters as root User

This step checks the system parameters in the system configuration file.

Open a new session on your server as the root user and check that the system variables in the configuration file include the parameters below:

### NOTE:

The following system parameters are a required minimum. They can be changed later according to the size of the DB on the server.

- **Linux Servers** – Using any text editor, create or edit the `/etc/sysctl.conf` file, and add or edit lines similar to the following. Include lines only for the kernel parameter values that you want to change. For the semaphore parameters (`kernel.sem`), you must specify all four values. However, if any of the current values are larger than the minimum value, then specify the larger value:

```
fs.file-max = 65536
kernel.shmall = 2097152
kernel.shmmax = 2147483648
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 262144
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048576
```

Enter the following command to change the current values of the kernel parameters:

```
# /sbin/sysctl -p
```

- **Sun Solaris 10 and 11** – Add the following parameters:

```
projadd group.dba
projmod -s -K "project.max-shm-
memory=(privileged,10GB,deny)" group.dba
```

## Create Oracle User and DBA Group as root User

This step creates the `dba` group and Oracle 11g `oracle` user with the user home set to `/exlibris/app/oracle/product/11r2` and user shell set to `/bin/csh`.

The name of new `oracle` user must contain only alphanumeric characters. Alphabetic characters must be lowercase. When creating the new user for Oracle 11g, the utility prompts for a new UNIX password. Set the password accordingly to your password policy on site.

If the Oracle 11.1/10g `oracle` user already exists in the system, the utility prompts for the name of the Oracle 11g user. Give the new Oracle 11g user a different name than the Oracle 11.1/10g user (such as `oracle11`).

---

### NOTE:

The new Oracle11g user is created with the same UID as the existing Oracle 11.1/10g user.

---

## Create aleph User and exlibris Group as root User

This step creates the `exlibris` group and the `aleph` user with the user home set to `/exlibris/aleph` and the user shell set to `/bin/csh`.

If the `aleph` user already exists, make sure its home directory is set to `/exlibris/aleph` by running the following command:

```
echo ~aleph
```

If the home directory for this user is not `/exlibris/aleph`, delete the user and then re-run this step to recreate it with the correct definitions.

When creating the new `aleph` user, the utility prompts for a new UNIX password. Set the password accordingly to your password policy on site.

## Create Aleph and Oracle Directories in the Disk /exlibris as root User

This step prompts you for the following:

- The installation type. Select `SW_ONLY` if the database already exists or will be installed on a remote server. Select `DB_ONLY` when Aleph 22 SW exists or will be installed on a remote server. If you select `ALL` or `DB_ONLY`, you are also prompted for database datafile locations.
- The database disk location for archiving `[/exlibris]`
- The database disk location for redo files `[/exlibris]`
- The database disk location for data files `[/exlibris]`

For example:

- The database disk location for archiving [/exlibris] /exlibris1
- The database disk location for redo files [/exlibris] /exlibris2
- The database disk location for data files [/exlibris] /exlibris1

**NOTE:**

Directories for DB installation can be installed on three different mount points.

This step creates the following directories:

Table 1. Directories

Directory	Permissions
/exlibris1/oradata	oracle:dba permissions
/exlibris2/oradata	oracle:dba permissions
/exlibris1/oradata	oracle:dba permissions
/exlibris/app/oracle/product	oracle:dba permissions
/exlibris/aleph	aleph:exlibris permissions
/exlibris/aleph/ora_aleph	aleph:exlibris permissions
/exlibris/aleph/backup_temp	aleph:exlibris permissions
/exlibris/tmp	aleph:exlibris permissions
/exlibris/startup	aleph:exlibris permissions
/exlibris/product	aleph:exlibris permissions

## Install COBOL Software as root User

This step prompts you to enter the location for the third-party product distribution package (default is /exlibris/ftp\_from\_exlibris).

- Linux Servers – COBOL Server Express 5.0 is installed.
- SUN Servers – COBOL Server Express 2.2 is installed.

If Cobol 4.0.0 is already installed on the server, you are prompted to confirm the upgrade. Upgrading is highly recommended but not mandatory.

If another applications installed on the server is using Cobol 4.0.0, you need to link that application to the new Cobol version. For instructions, see [Appendix D: Relink Other Products/Copies to New Cobol](#) on page 45.

## Create System Auto Startup/Shutdown Script and Links as root User

This step creates the main startup/shutdown script in `/etc/init.d/exlibris`, if required.

Required links for automatic startup and shutdown of Aleph and the database (when rebooting) are also created.

---

### NOTE:

If the startup mechanism already exists, AIK only updates files in the `/exlibris/startup` directory and checks if relevant files and links in the system directories exist.

---

## Choose Regional Settings

This step prompts you to enter information concerning additional languages to install (fre/ger/ita/dan/swe):

- Should the selected language be the main language [Y/n]
- Do you wish to install Aleph regions [Y/n]?
  - If you press `y`, you are asked to choose the region name:  
Please choose the region you wish to install: Insert e for elib (or q to quit)
  - If you press `n`, the elib region is deleted.

---

### NOTE:

The Aleph Region (ELIB) functionality is relevant for Swedish or Danish customers only. Press `n` if the installation is not for Swedish or Danish customers.

---

## Step 3: Oracle Database Installation and Configuration

---

### NOTE:

You must run step **Extract Oracle Software as root User** on page 23 as the root user. All later steps can use either the `oracle11` user or the root user.

---

```

Aleph Installation Kit
-----
Date: Sun Feb 04 14:57:50 IST 2007
OS: Linux
Aleph version: 22.01
Aleph directory:
Oracle database:
-----
3. Oracle database installation and configuration

- 1. Extract Oracle software
- 2. Create listener.ora and tnsnames.ora file
* 3. Install database
- 4. Check connection to the database via listener
* 5. Create Oracle start/stop scripts(only on Dedicated Oracle
Server)

Enter key (q to quit) [q]:

```

Figure 4: Oracle Database Installation and Configuration Menu

## Extract Oracle Software as root User

This step prompts you to enter the location of the Oracle 11g software distribution package files (default is `/exlibris/ftp_from_exlibris`).

This step extracts the Oracle software to the following directory:

```
/exlibris/app/oracle/product/11r2
```

## Install Database

This step prompts you to enter the following parameters:

- location of the database installation script files — The default is `/exlibris/ftp_from_exlibris`.
- location of the database media files — The default is `/exlibris/ftp_from_exlibris`.
- name of the database you want to install — The default is `meta4`.
- confirmation of the DB files distribution:
  - location of the database archive files [default is `/exlibris`]
  - location of the database system files [default is `/exlibris`]
  - location of the database data files [default is `/exlibris`]

**Figure 5** is an example screen shot:

```
Install database

Please enter the location of the db_copy scripts [/exlibris/
ftp_from_exlibris] :
Please enter the location of the db files [/exlibris/
ftp_from_exlibris] :
Please enter the name of the database,no longer then 8 chars [aleph22]
:
According to your info Data-Base will be installed on the following:
for each value, enter new value or confirm
Archiving [/exlibris] :
Redo logs and System files [/exlibris] :
Data files [/exlibris1] :

Installing database ... please wait ...
```

Figure 5: Install Database

## Create listener.ora and tnsnames.ora Files

This step adds the created database definitions to the `listener.ora` and `tnsnames.ora` files.

If this is a remote DB, you are prompted for the following:

```
Enter the Oracle host [<FQDN>]
```

```
Enter the Oracle SID [aleph22]
```

## Start Up Oracle Listener

This step starts up the Oracle 11g listener.

If the Oracle 10g/11.1 listener is already running (for example, if other Ex Libris applications are running on this server), instructions for shutting down the running listener are provided.

---

### NOTE:

Shutting down the Oracle 10g/11.1 listener in order to start up the Oracle 11g listener, results in a short downtime for all applications on this server that are running Oracle.

---

The following procedure should be used if there is a listener already running:

- 1 Log on to the server as the running listener user and type:

```
lsnrctl stop
```

The AIK menu takes you through the next steps:

- 2 Do not close the existing window. Open a new terminal window. In the second window, perform a shutdown of the other Ex Libris applications on



the server that are using currently running listener (using a standard shutdown procedure for each application).

- 3 In this additional terminal window, shut down the currently running Oracle listener using UTIL O/2 or standard utility for listener shutdown (as oracle, `lsnrctl stop`).
- 4 In the first terminal window, re-run this procedure.
- 5 In the additional terminal window, start up the other Ex Libris applications on this server that were shut down (using the standard startup procedure for each application).

---

**NOTE:**

Once Oracle 11g is started, all applications running Oracle on this server will operate on the new Oracle 11g listener.

---

## Check Connection to the Database Via Listener

This step checks the connection to the created database via the listener.

---

**NOTE:**

Listener status is available after at least two minutes have passed since the previous step was executed.

---

## Create Oracle Start/Stop Scripts (Only on Dedicated Oracle Server)

Creating start/stop scripts should only be done on the Oracle server. If the server is both the Aleph server and the Oracle server, the Start/Stop scripts are supplied by the AIK and do not need to be created.

## Increase Tablespace Size for Customer Databases

The Aleph Installation Kit provides databases with minimal tablespace sizes. Some of these tablespaces should be increased for normal Aleph functionality. The following table contains the recommended sizes for TEMP and UNDO tablespaces:

Table 2. Tablespace Size Recommendations

DB Size	Tablespace Size	
	UNDO	TEMP
DEMO	500MB	1GB
SMALL	1GB	2GB
LARGE	2GB	4GB

Increase the tablespace size with the Aleph `UTIL O/13/2` utility. For more information on `UTIL O`, refer to the *Aleph System Administration Guide*.

---

**NOTE:**

To increase the performance of the Oracle database, adjust the Oracle SGA size for the created database. For more information, see **Appendix G: Oracle SGA Sizing** on page 51.

---

## Step 4: Third-Party Product Installation

```
Aleph Installation Kit
-----
Date: Sun Feb 04 14:58:23 IST 2007
OS: Linux
Aleph version: 22.01
Aleph directory:
Oracle database:
-----
4. Third-party product installation
- 1. Extract binary product package

Enter key (q to quit) [q]:
```

Figure 6: Third-Party Product Installation

### Extract Binary Product Package

The utility installs all relevant third-party products under the `/exlibris/product` directory.

It first prompts you to enter the location of the third-party product distribution package files. The default location is `/exlibris/ftp_from_exlibris`.

```
Installing /exlibris/product directory

Please enter the location of the Aleph software media files [/
exlibris/ftp_from_exlibris] :

Installing /exlibris/product ... please wait ...

/exlibris/ftp_from_exlibris/aik
INFO:  Extracting files...
INFO:  relocating product dirs...
INFO:  apache-ant-1.6.1
INFO:  apache-tomcat-5.5.25
INFO:  db-4.5.22
INFO:  gnu_ghostscript-8.15
INFO:  httpd-2.0.61
INFO:  ImageMagick-6.4.1
INFO:  jakarta-tomcat-5.0.25
INFO:  jasper-1.900.1
INFO:  jdk1.5.0_14
INFO:  jpeg2000.sdk.3.18
INFO:  jpeg-6b
.....
.....
.....
.....
INFO:  libpng-1.2.18
INFO:  libxml2-2.6.29
INFO:  libxslt-1.1.21
INFO:  linklist
INFO:  make-3.80
INFO:  md5
INFO:  openssl-0.9.8g
INFO:  patch-2.5
INFO:  perl-5.8.8
INFO:  saxon
INFO:  tar-1.15.1
INFO:  tiff-3.8.2
INFO:  wget-1.9
INFO:  bin/shutdown.sh
INFO:  bin/startup.sh
INFO:  bin/tar
INFO:  bin/wget
INFO:  Fixing product permissions
INFO:  Erasing temporary product dir
INFO:  Third party product installation done

The binary product package was extracted to the /exlibris/product

Press any key to continue
```

Figure 7: Extract Binary Product Package

## Step 5: Aleph Software Installation and Configuration

For a completely new installation of Aleph, you must run the first step (Extract Aleph software) as user `root`.

If the Aleph installation exists on the same server, this step can be performed as user `aleph`.

The rest of the steps can be performed as user `aleph` or continued as user `root`.

```
Aleph Installation Kit
-----
Date: Sun Feb 04 14:58:39 IST 2007
OS: Linux
Aleph version: 22.01
Aleph directory:
Oracle database:
-----
5. Aleph software installation and configuration

- 1. Extract Aleph Base
- 2. Aleph software configuration
- 3. Update license
- 4. Install Service Pack
- 5. Relocate alephe directory
- 6. Update auto startup/shutdown script

Enter key (q to quit) [q]:
```

Figure 8: Aleph Software Installation and Configuration

### Extract Aleph Base

This step has two phases:

- The first prompts you to enter the:
  - location of Aleph software files [default is `/exlibris/ftp_from_exlibris`]
  - copy number of Aleph installation [default **1**]
- The second phase prompts for selecting cataloging formats. You can choose from the following [`mab`, `uni`, `usm`] or no default. At least one must be chosen. When installing more than one format, enter each one in a different line (with ENTER between formats). See the following example:

```
Please choose format, insert preferable one first, the available
Formats are: mab,uni,usm,dan,swe:(q to quit) usm
Please choose format, insert preferable one first, the available
Formats are: mab,uni,usm,dan,swe:(q to quit) uni
Please choose format, insert preferable one first, the available
Formats are: mab,uni,usm,dan,swe:(q to quit) q
```

Figure 9: Extract Aleph Base

Selecting all three is also acceptable.

---

**IMPORTANT:**

The first format entered is the main format of the installation.

---

## Aleph Software Configuration

This step prompts you to enter:

- The server WWW server name (FQDN)
- The Oracle server short hostname

## Update License

This step asks the installer to update the Aleph 22 license files using the UNIX vi text editor.

The license files are located at:

- /exlibris/aleph/a22\_<slot>/alephe/tab/license
- /exlibris/aleph/a22\_<slot>/alephe/tab/license.www\_x

---

**IMPORTANT:**

This is a mandatory step. If it fails, do not continue with the installation.

---

## Install Service Pack

This step installs the Aleph 22 Service Pack (if applicable). It prompts you to enter the location of the Aleph Service Pack distribution package files. The default is

/exlibris/ftp\_from\_exlibris.

A failure message may be displayed during SP installation if the installed version is equal or higher than the SP package. This is not actually an installation failure.

For example:

```
Error: Your Service Pack level is 2261. sp.utility not
found. Exiting.
Error: failed to install the service pack
```

## Relocate alephe Directory

This step:

- deletes unnecessary language files
- deletes unused DB users, according to the selected formats
- relocates the alephe directory and creates the u tree

## Update Auto Startup/Shutdown Script

This step creates the startup scripts and the `init.dat` file under the `/exlibris/` startup directory.

## Step 6: Post-Installation Tasks

This menu contains the post-installation tasks (see [Figure 10](#)).

```
-----
                          Aleph Installation Kit
-----

Date: Sun Feb 04 15:00:21 IST 2007
OS: Linux
Aleph version: 22.01
Aleph directory:
Oracle database:

-----

6. Post-installation tasks

- 1. Update aleph user login menu
- 2. Run test compilation
- 3. Add table spaces util
- 4. Startup Aleph software
- 5. Install Oracle Security Fix

Enter key (q to quit) [q]:
```

Figure 10: Post-Installation Tasks

## Update aleph User Logon Menu

This step adds the newly installed Aleph software to the aleph user login menu.

The files `/exlibris/aleph/def_aleph.dat` and `/exlibris/aleph/def_version` are updated.

## Run Test Compilation

This step checks if the installed Aleph software is configured correctly and is ready for future Aleph 22 Service Pack installations.

## Add Tablespace Util

**To add the tablespace utility:**

- 1 In order to add data files to the new Aleph 22 database, you need to get a list of data files and sizes from the previous Aleph version. Get the list of data files by using the `sdbdesc.sh util` or `util 0148` as described in [Appendix C: Create Source Database Files List and Sizes](#) on page 43.
- 2 If the `/exlibris/ftp_from_exlibris/sdbdesc/tmp/src_ts_list.list` file exists, the system uses it automatically; otherwise, enter the mount points for the database files at the prompt, for example:  
`/exlibris, /exlibris1`  
If you have a remote database, enter the mount points and available space for each.
- 3 Enter the first mount point name than press ENTER. Enter the second mount point name and press ENTER and so on. To quit press `q`.

---

**NOTE:**

Make sure that for every mount point entered there is there is a `/oradata/<ORACLE_SID>` directory.

---

- 4 Select one of the following tablespaces: TS1D, TS2D, TS3D, or TS4D.
- 5 For each tablespace enter the size in GB. Only whole numbers are valid. For each tablespace, the system automatically generates an Index table one third the size of the tablespace (1GB minimum).

The system prints the data and generates an SQL file with proper commands.

---

**NOTE:**

You can view or change the SQL under `./log` file name:  
`CreateAddDataFiles.sql`.

---

The system executes the command in the background and sends an e-mail notification when completed.

## Startup Aleph Software

This step starts Apache and the Aleph 22 software.

## Install Oracle Security Fix

This step installs the fix for Oracle Security Aleph CVE-2012-1675. For more information about the alert and the fix, refer to the *Oracle Security Alert CVE-2012-1675 Implementation Clarifications for Automatic Fix* document located on the Documentation Center at **Cross-Product > Technical Documentation > Oracle**.

Consult the document before running this step.

---

### NOTE:

The fix implementation influences all applications and databases installed on the same server. Read the document carefully before implementing the fix.

---



# 4

## Post-Installation Checks

This section includes:

- **Check that the Aleph Software Started Successfully** on page 33
- **Confirm That Aleph 22 Demo Data Has Been Uploaded Properly** on page 34

After you have installed Aleph, perform the following post-intrallation tasks.

### Check that the Aleph Software Started Successfully

- 1 Run the `server_monitor` command and check that Aleph services started up properly. You should see input similar to the following:

Port	Pid	Server Type	Started At	Status
4991	9457	WWW Server	May 17 11:27:27	Free
4991	9471	WWW Server c	May 17 11:27:27	Free
4991	9472	WWW Server c	May 17 11:27:27	Free
5331	19208	SC Server	May 16 03:06:47	Free
5332	19239	SC Server	May 16 03:06:48	Free
5333	19320	SC Server	May 16 03:06:49	Free
5771	18824	Generic	May 16 03:06:43	Free
5991	18964	NCIP Server	May 16 03:06:45	Free
5992	19020	NCIP Server	May 16 03:06:45	Free
5993	19094	NCIP Server	May 16 03:06:46	Free
6121	28870	PC Server	May 16 08:24:00	Free
6121	28871	PC Server c0	May 16 08:24:00	Free
6121	28873	PC Server c0	May 16 08:24:00	Free
6121	28874	PC Server c0	May 16 08:24:00	Free
6121	28872	PC Server c0	May 16 08:24:00	Free
7991	23377	Z39 Gate	May 16 16:03:03	Free
9991	18718	Z39 Server	May 16 03:06:42	Free

- 2 Get the address of the Aleph Web server with the following command:

```
echo ${WWW_HOST}:${WWW_SERVER_PORT}
```

- 3 Connect to the Aleph OPAC server using your Web browser, logon as a GUEST, and perform a simple search operation to check that Aleph is working properly.

## Confirm That Aleph 22 Demo Data Has Been Uploaded Properly

The AIK 22 loads USMnn, MABnn, or UNInn tables accordingly to your choice. Confirm that this data uploaded properly.

- 1 Perform the following commands (accordingly to the set of DEMO libraries that you loaded):

```
s+ usm01
SQL> select count(*) from z00;
```

The result of the `select count` command should be `> 0`.

- 2 Repeat the above command for `[mab01]` and `[uni01]`, if necessary.
- 3 Ensure that the Administrative DEMO data was upload correctly. Perform following commands:

```
s+ usm50
SQL> select count(*) from z30;
```

The result of the `select count` command should be `> 0`.

- 4 Repeat the above commands for `[mab50]` and `[uni50]`, if necessary.

---

# Appendixes

This guide contains the following appendixes:

- **Appendix A: Manual Database Creation** on page 37
- **Appendix B: Import Demo Libs** on page 41
- **Appendix C: Create Source Database Files List and Sizes** on page 43
- **Appendix D: Relink Other Products/Copies to New Cobol** on page 45
- **Appendix E: How to Obtain a New Aleph Installation** on page 47
- **Appendix F: Two-Task Installation** on page 49



# A

---

## Manual Database Creation

### To manually create a database:

- 1 Log on as an Oracle 11 user and extract the create db scripts:

```
cd /exlibris/ftp_from_exlibris
tar xzvf install_ora.tar.gz
cd oracle/11
```

- 2 Execute the install db script and follow the instructions:

```
oracle11@il-inst03(aleph22)oracle/11$csh -f
pre_db_creation.csh
Enter some parameters ...
Oracle SID: aleph22
Server short Host Name (without domain name): [il-
inst03] il-inst03
Host's Domain [corp.exlibrisgroup.com]:
corp.exlibrisgroup.com
Set environment parameter ORACLE_BASE to determine the
location of DB creation scripts and logs
Enter ORACLE_BASE path or default to [/exlibris/app/
oracle]: /exlibris/app/oracle
ORACLE_HOME is set to /exlibris/app/oracle/product/11r2
Is this correct?
If not, correct the environment of oracle11 before you
continue
Continue ? [y]: y
```

- 3 Enter the data files locations.

- 4 Insert each disk. For each disk you insert, make sure that it has `oradata` directory with `oracle:dba` permissions.

```

Enter Disk 1 Name or Enter to end of list [/exlibris]:
/exlibris
Enter Disk 2 Name or Enter to end of list: /exlibris2
Enter Disk 3 Name or Enter to end of list:
*****
*****

Enter Exlibris Product
 1 - ALEPH <- default
 2 - METALIB
 3 - DIGITool
 4 - VERDE
 5 - ARC
 6 - PRIMO
 7 - DPS
 8 - URM

[1]:1

```

- 5 Type 1 for Aleph DB installation.

Date tablespaces definition:				Service tablespaces definition:			
Table- space	Count* Size	Type	Seg. space management	Table- space	Count* Size	Type	Seg. space management
-- DEMO database:							
ts0	1*4000Mb	System	Auto	For All Sizes			
ts1	1*4000Mb	System	Auto	-----+-----+-----+-----			
temp	1*1G	system	Uf.(1Mb)	system	1*640Mb	System	Manual
undo	1*500Mb	system	Auto	users	1*200Mb	Uf.(40K)	Auto
SMALL database:				tslob			
ts0	1*4000Mb	System	Auto	sysaux	1*640M	System	Auto
ts1	1*4000Mb	System	Auto	log	1*64M	System	Auto
ts1d	1*1000Mb	System	Auto	-----+-----+-----+-----			
ts2d	1*4000Mb	System	Auto				
ts3d	1*6000Mb	System	Auto				
ts4d	1*2000Mb	System	Auto				
ts1x	1*1000Mb	System	Auto				

```

ts2x      1*4000Mb System      Auto      |
ts3x      1*4000Mb System      Auto      |
temp      1*1G      system      Uf.(1Mb) |
undo      1*1G      system      Auto      |
LARGE database:
ts0       1*4000Mb System      Auto      |
ts1       1*4000Mb System      Auto      |
ts1d      1*4000Mb System      Auto      |ts1x      1*2000Mb System      Auto
ts2d      1*4000Mb system      Auto      |ts2x      1*4000Mb System      Auto
ts3d      1*8Gb      System      Auto      |ts3x      1*8000Mb System      Auto
ts4d      1*16Gb     System      Auto      |ts4x      1*16Gb      System      Auto
temp      1*3G      system      Uf.(1Mb) |
undo      1*2G      system      Auto      |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
Enter database size DEMO/SMALL/MEDIUM/LARGE/HUGE [DEMO]: SMALL

```

**6** Choose the size you need according to the above. In this example a small size is chosen.

```

*****
Mirror redo log files can be created in a database where more than one DISK is
specified. Otherwise the database only uses one group of the redo logs.
Configuration parameters:
-----Product
ALEPH
Oracle SID           aleph22
DB Character Set     UTF8
Oracle Owner         oracle11
Oracle Group         dba
Oracle Home          /exlibris/app/oracle/product/11r2
Oracle Global Name   aleph22.il-inst03.corp.exlibrisgroup.com
Database size        SMALL
Mirroring of the redo logs is Yes
Tablespaces:
-----
--SYSTEM,TEMP tbs., REDOLOG files  /exlibris
INDEX tbs.                          /exlibris2
Mirror Redo Log files                /exlibris2
UNDO tbs.                            /exlibris2
DATA tbs.                            /exlibris

```

```
Continue ? [y]:y
Starting preparations for DB Creation ...
** If you want to change tablespace files location/size further, please
open additional terminal,
correct /exlibris/ftp_from_exlibris/oracle/11/tbs.ini file
and continue installation
Continue ? [y]: y
The Oracle network files(listener.ora and tnsnames.ora) were created correctly
*****
**Note:
** All Database creation scripts were created in :
    /exlibris/app/oracle/admin/aleph22/scripts
** You can review/change the files,
    as user oracle11 on another window and then continue
    or exit and submit the creation script later, by issuing :
csh -f /exlibris/app/oracle/admin/aleph22/scripts/aleph22.csh
** If you want to change tablespace files location/size , please review
/exlibris/app/oracle/admin/aleph22/scripts/CreateDB.sql
/exlibris/app/oracle/admin/aleph22/scripts/CreateDBFiles.sql
/exlibris/app/oracle/admin/aleph22/scripts/CreateDBFilesAdd.sql
/exlibris/app/oracle/admin/aleph22/scripts/CreateDBFilesMirrRedo.sql
*****
**Enter Exit/Continue [Continue]:
*****
**Note:
** Database creation will start now in the background,
use tail -f /exlibris/app/oracle/admin/aleph22/log/db_creation.log to view
creation progress
**After creation ends please check all log files at:
    /exlibris/app/oracle/admin/aleph22/log
*****
**To continue press Enter:
[1] 17429
```

To increase the performance of the Oracle database, adjust the Oracle SGA size for the created database. For more information, see [Appendix G: Oracle SGA Sizing](#) on page 51.

Now database creation is running in the background. After database installation completes successfully, continue with [Appendix B: Import Demo Libs](#) on page 41.



# B

---

## Import Demo Libs

---

### NOTES:

- Only perform the Import Demo Libs operation if you did the manual database creation (as described in **Appendix A: Manual Database Creation** on page 41) and not the normal automatic database creation.
  - VIR01 is normally a DEMO library. If the DEMO libraries import is done on a server where customer data has already been loaded and is in use, shut down Aleph (or at least the `pc_server` and `www_servers`) while the importing is running in order to avoid conflicts in the use of the `vir01` tables.
  - If your `usr_library` or `pw_library` in `aleph_start` is set to `USR00`, this process deletes your patron and password data. (It is our strong recommendation that the `USR00` not be used as your `usr_library` or `pw_library`).
- 

Perform the following steps after the Aleph software is installed and configured:

- 1 Download the `aleph22` dump file from the FTP:

```
su - root
chmod 777 /exlibris/ftp_from_exlibris
su - aleph
cd /exlibris/ftp_from_exlibris
wget --passive-ftp "ftp://
ver22:<password>@ftp.exlibrisgroup.com/dpdump/*"
```

- 2 Run the import:

```
bash imp_demo_22.sh
```

---

### NOTE:

For installation in `TWO_TASK` mode, contact Ex Libris Installation Support at [installations.support@exlibrisgroup.com](mailto:installations.support@exlibrisgroup.com) for detailed instructions.

---



# C

---

## Create Source Database Files List and Sizes

To create a list of files and sizes, use `sdbdesc.sh` or to Util 0 14 8 in the source Aleph copy.

Create a file to describe the database files and sizes.

### To create the file:

- 1 Log on to the Source DB server as aleph user:

```
cd /exlibris/ftp_from_exlibris
```

---

### NOTE:

Make sure that the aleph user has write permissions.

---

- 2 Download the DB description util:

```
wget -c "ftp://ver22:M0zart22@ftp.exlibris.co.il/scripts/sdbdesc.sh"
```

- 3 Execute the util:

```
sh sdbdesc.sh
```

When the util is successfully completed, a file is created under `/exlibris/ftp_from_exlibris/sdbdesc/tmp/src_ts_list.list`

This output file describe the source database files and the sizes that are required when adding files to the new Aleph 22 database.

If the source server and target server are different, copy the file to a specific folder on the target server (the location of the `aik` directory):

**To copy the file to a specific folder:**

- 1 Create a folder on the target server:

```
mkdir -p sdbdesc/tmp
```

- 2 Create the `src_ts_list.list` file however you want. (for example, `scp`, `cut&paste`). The DB files creation step requires this file.

# D

---

## Relink Other Products/Copies to New Cobol

If there are other copies or applications installed on the server that use cobol\_4.0.0, re-link the Cobol to the new Cobol software that comes with the kit.

For example, when Aleph 22 is installed in parallel with Aleph 19.01, do the following:

- 1 Log on to Aleph 19.01.
- 2 Go to the local product:

```
cd $aleph_product/local
rm cobol
ln -s /exlibris/product/cobol5 cobol
```



# E

## How to Obtain a New Aleph Installation

To obtain a new Aleph installation, log on to Pivotal and open a support incident.

Log Off My Profile Home Help

### Create New Incident

Please complete the information below.  
Fields with an asterisk (\*) are mandatory.

#### Incident Information

* What product (registration) do you need help with?	How would you rate the priority of this incident?	What type of difficulty are you experiencing?
5444:ALEPH 500: 16.02	Normal	Upgrade
* Category	Subject	Target (SFX KB)

#### Incident Details

* Incident Title
We would like to use Aleph Installation Kit
* Problem Details

Figure 1: How to Obtain a New Aleph Installation

Fill in the form according to the following table:

Table 1. How to Obtain a New Aleph Installation

Field	Response
What product do you need help with?	Enter your current Aleph version.
How would you rate the priority of this incident?	Leave the default <code>Normal</code> .
What kind of difficult are you experiencing?	Upgrade
Category	Upgrade
Subject	Enter one of the following: <ul style="list-style-type: none"> <li>■ AIK</li> <li>■ By contract</li> <li>■ Paid service</li> </ul>
Incident Title	Enter one of the following: <ul style="list-style-type: none"> <li>■ We would like to use Aleph Installation Kit.</li> <li>■ We would like to schedule Aleph Installation according to our contract.</li> <li>■ We would like to order Aleph Installation from Ex Libris as a professional service.</li> </ul>
Problems Details	<ul style="list-style-type: none"> <li>■ Indicate if the required license is for Test server or Production server.</li> <li>■ Enter the IP of the server where you are going to install Aleph 22.</li> </ul>

If you have chosen as the subject **Ex Libris installation according to contract** or **We request that Ex Libris install Aleph as a paid service**, add to the SI the following documents, as appropriate:

- *Request for Aleph Installation Form*
- *03\_Aleph ARC Sizing Request Form*
- *04\_Automated\_Server\_Sizing\_Check\_For\_Upgrade\_Compatibility*



# F

---

## Two-Task Installation

To configure two-task installation mode:

- 1 On the DB server, install the Oracle Client and the Aleph database. For information on how to do this, see **Step 3: Oracle Database Installation and Configuration** on page 22.
- 2 On the application server, run a full installation, but skip the install database and startup Oracle listener steps.
- 3 Insert the Oracle host name (database server name) in Step 5: Aleph Software Installation and Configuration. For more information, see **Step 5: Aleph Software Installation and Configuration** on page 28.





---

# Oracle SGA Sizing

## Introduction

By default, the database is created with an SGA size of 700MB (the memory in Oracle Shared Global Area for this database). To increase Oracle performance, increase this value.

According to Oracle directives, the cumulative amount of SGA sizes for all running databases on the server should be less than server RAM / 3. So, according to SGA sizes defined for all the present databases, as well as the server RAM, you can increase the DB SGA.

## Checking the SGA Size

**To check the SGA size:**

- 1 Log on as the `oracle` user.
- 2 Enter the following commands to check the SGA size for database `<DB_NAME>`. In the following example, the SGA size for the connected database is 700 MB:

```
idle> show parameter memory
**** Hit return to continue ****
NAME TYPE VALUE
-----
memory_max_target      big          integer      700M
memory_target          big          integer      700M
```

## Increasing the SGA Size

### CAUTION:

Oracle SGA resizing should be performed by an Oracle expert only. When performing an upgrade, we recommend referencing the parameters of the DB used in a previous version (the version to be upgraded).

Oracle recommends that you set the SGA size to 1/3 of the RAM size on a non-dedicated DB server. The following is a table with recommended Oracle SGA sizes for installations where the DB and the application are installed on the same server:

Table 2. Recommended Oracle SGA Sizes

RAM Size (GB)	Oracle SGA Size (MB)
8	2000
16	4000
32	10000
64	Consult your DBA or Ex Libris Sizing Manager

- 1 To increase SGA size to 2000 MB (for example) for database <DB\_NAME> for Oracle 11, type the following, as the `oracle` user:

```
> setenv ORACLE_SID <DB_NAME>
> sqlplus /nolog idle> connect /as sysdba
idle> alter system set MEMORY_MAX_TARGET=2000M SCOPE=spfile;
idle> alter system set MEMORY_TARGET=2000M SCOPE=spfile;
```

- 2 Restart the database by entering the following commands:

```
idle> shutdown immediate
idle> startup
```

## Solving an SGA Parameter Error

On Solaris 10, since a classic system parameter change in the `/etc/system` file has no effect, you may encounter problems when increasing the SGA size after a DB restart:

```
ORA-27102: out of memory
SVR4 Error: 22: Invalid argument
```

In this case, change the relevant OS memory parameter as the root user and run the following:

```
# projmod -s -K "project.max-shm-memory=(privileged,  
10GB,deny)" group.dba
```

If a problem occurs while setting this SGA parameter, define the appropriate Solaris project for Oracle by running the following commands as the root user:

```
# projadd group.dba  
# projmod -s -K "project.max-shm-memory=(privileged,  
10GB,deny)" group.dba
```

When this has been completed, restart the database.

