Embarcadero License Center Version 4.12

Installation, Configuration and Administration Guide

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ELC Admin Guide_v4.12_20090211_0754

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Overview of the Embarcadero License Center

The Embarcadero License Center (ELC) is a software application that provides networked licensing. A networked licensing server allows a customer site to administer and manage licenses without Embarcadero assistance. Networked licensing can refer to named user licensing or concurrent (floating) licensing. The ELC is administered by the customer at the customer site.

Networked licensing differs from single-user, boxed-product licensing. With single-user licensing, users register with Embarcadero and are identified by their Developer Network user name. With networked licensing, users are registered with the ELC within their company and are identified by their login name.

The ELC offers two types of licensing - named user licensing and concurrent (floating) licensing:

- Named user license - assigned to one user, who is identified by name. A named license guarantees a license for the named user.
- Concurrent, or floating, license - shared by a pool of users and allows one user access to the license at a time. This provides the flexibility of having shared licenses available to a large pool of users who only use a license part time. The way concurrent licenses or deployment licenses (as a variation of concurrent licenses) are shared is defined by each product. It can be based on number of users or be based on the number of product installations.

Your company purchased named user licensing, concurrent licensing, or a combination of these license types for a specified number of users. A combination of licenses is useful when certain users need guaranteed availability of licenses, but other users need a license some of the time. If configuration (*.slip) files for both licensing types exist on one client computer, the client computer only sends a request for the named license.

This manual contains the following information:

- Installation—refer to the section Installing the Embarcadero License Center.
- Configuration—refer to the section Configuring the Embarcadero License Center.
- Administration—refer to the section Administering the Embarcadero License Center.
- Reporting—refer to the section Generating Usage Report Logs
- Deployment licensing—refer to the section Deployment Licensing.

Important Information for Existing Customers

To existing Embarcadero customers using the Borland License Server (BLS) with Embarcadero products (JBuilder, Delphi, C++ Builder, and RAD Studio): if BLS version 4 is already in use within your company, you do not need to install ELC version 4.12. There are two options to upgrade:

- Add licenses for Embarcadero to the existing BLS 4 install.
- Install ELC and stop using BLS.

In either case, make sure that both existing and new licenses are set to the same port number. Default port number for BLS is 4467 and default port number for ELC is 5567. Licenses with different port numbers cannot be mixed on the same server. Existing user lists can be transferred from one server to another without modifications..

To existing customer using BLS with Borland products (Together, StarTeam, Caliber, AppServer, and VisiBroker): even though ELC version 4.12 can technically serve Borland products, it is highly recommended that Borland products continue to be served by BLS. Both BLS and ELC can coexist on the same physical machine, as long as licenses are setup for different ports (see default port numbers above).

Installing the Embarcadero License Center

This section shows the minimum system requirements, outlines how to download and run the installer, host a license, and download configuration (*.slip) files for the server and for any Embarcadero clients that require the Embarcadero License Center.

Minimum system requirements are listed below.

Windows®

- Microsoft® Windows® XP Professional, 2003 Server, Vista
- Intel® Pentium® III 800 MHz or compatible
- 512 MB RAM
- 55 MB hard disk space

Linux®

- Red Hat® 7.2, Red Hat® 9.2, Mandrake® 10.0, FreeBSD, Red Hat® Enterprise Linux 3.0
- Intel® Pentium® III 800 MHz or compatible
- 512 MB RAM
- 70 MB hard disk space

Solaris®

- Solaris® 7, Solaris® 8, Solaris® 9
- ULTRASparc® II or higher
- 512 MB RAM
- 75 MB hard disk space

Before installing the ELC, make sure you have the Embarcadero License Certificate sent via email from Embarcadero Order Fulfillment. You cannot complete the installation process until you have this certificate.

Once you have the certificate, go to http://license.codegear.com/lservers/elise.jsp . You can also click this link from the contents of your emailed certificate.

In order to successfully download and install the ELC, follow the steps below:

Important: ELC version 4.12 is fully compatible with Borland License Server (BLS) version 4. If you already have an earlier version of the BLS, you should upgrade to ELC Version 4.12. Named and concurrent licenses issued for previous versions of the BLS work with ELC Version 4.

Step 1 – Downloading the installer

1. Go to http://license.codegear.com/lservers/elise.jsp . (You can link to this site from your License Certificate.)
2. On the License Server Download, Installation, and Hosting screen, select the version of the installer you want to download. The version you download depends on your computer's platform.

Step 2 – Installing with the GUI installer

Start the ELC installer executable file. This runs the installation wizard and installs the ELC. For platform-specific instructions, choose one of the following links:

Running the Installer on Windows

The ELC requires JDK/JRE 1.5. You can install JRE 1.5 at the same time that you install the ELC. To install, double-click the downloaded `elise.exe` file to start the installation wizard. Note the Host Name displayed on the Register Embarcadero Products page of the installation wizard. You need this name when you create configuration (*.slip) files.

Running the Installer on Linux or Solaris

NOTE: It is recommended that you install the ELC with superuser (root) privileges. Superuser access is necessary to for the following reasons:

- Install startup scripts to start the license server as a service at system boot.
- Shut the license server down gracefully at system shutdown.

When the license server is installed and run with superuser privileges it runs as the user `elise` and is started and stopped with superuser privileges, using the `rc` service scripts provided.

If you install the license server as an unprivileged user, the installing user owns the files. In this case, you must start and stop the service manually using the script in `<ELC>/bin/elise.sh`. Depending on the platform and server configuration, the user may also be required to take extra steps to prevent the license server process from being killed when the user logs out; some systems automatically log a user out after an inactivity timeout.

The ELC requires JDK/JRE 1.5. You can install JRE 1.5 at the same time that you install the ELC.

If JDK/JRE 1.5 or above is not installed on the host machine:

1. Verify that you are running as `root`. The installation wizard issues a warning if if you are not.
2. Verify that a user named `elise` exists on host machine. The installation wizard issues a warning if the required user does not exist.
3. Run `./elise.bin` and follow the installation wizard instructions.
4. Note the Host Name displayed on the Register Embarcadero Products page of the installation wizard. You need this name when you create configuration files.

The installation wizard installs the ELC and JRE 1.5.

If JDK/JRE 1.5 or above is installed on the host machine:

1. Verify that you are running as `root`. The installation wizard issues a warning if you are not.
2. Verify that a user named `elise` exists on host machine. The installation wizard issues a warning if the required user does not exist.
3. Verify that the `JAVA_HOME/bin` folder has been added to the path. The installation wizard displays the following message if the path is incorrect:

   ```
   No Java virtual machine could be found from your
   PATH environment variable.
   ```

   You must install a VM prior to running this program.

4. Run `./elise.bin` and follow the installation wizard instructions.
5. One of the installation wizard pages prompts you for a JDK/JRE. Browse to the root directory of the JDK/JRE and click Next. If the JDK/JRE version is not version 1.5 or above, an error message is displayed.

The installation wizard consists of the following pages:

- License Agreement - Accept or reject the license agreement. If you reject the agreement, you are not able to continue.
- Choose Install Folder - Choose the name of the folder you want to install.
- Choose one of the Install options: Typical or Custom. Typical option includes both ELC and Embarcadero Reporting Engine. Custom option allows user to choose one or both tools.
- Install or choose Java Virtual Machine - Choose the home folder for JDK/JRE 1.5 or greater. If the installation wizard cannot detect a JDK/JRE on your computer, an error message is displayed.
- Choose Shortcut Folder - Choose where you want to create product icons. The default is a new program group called ELC.
- Pre-installation Summary - Review your installation selections before installing the ELC.
- Installing ELC - Displays installation progress bar.
- Choose to enable or disable Report Logging
- Set Up ELC as Windows Service - For Windows users, sets up the ELC to run automatically as a service.
- Link to go directly to the License Hosting site, where you create configuration (*.slip) files. You need to have the following information available:
  - Login Name - Available in the Embarcadero License Certificate emailed to you.
  - Password - Available in the Embarcadero License Certificate emailed to you.
  - Server Host Name - Displayed on this page of the wizard; required.
  - Server IP Address - Displayed on this page of the wizard; optional.

- Start the ELC - Displays informational message that the License Server is being started.

Install Complete - Click Done to finish the installation.

Step 3 - Logging into the License Hosting site

The process of generating configuration files is called "hosting." In order to generate your configuration files, you must go to the License Hosting site. You can either go from the License Hosting page of the installation wizard or directly to: https://reg.codegear.com/srs6/el/login.jsp.

To log in:

1. In the Login Name field, enter the login name sent to you on the Embarcadero License Certificate.
2. In the Password field, enter the password sent to you on the Embarcadero License Certificate.

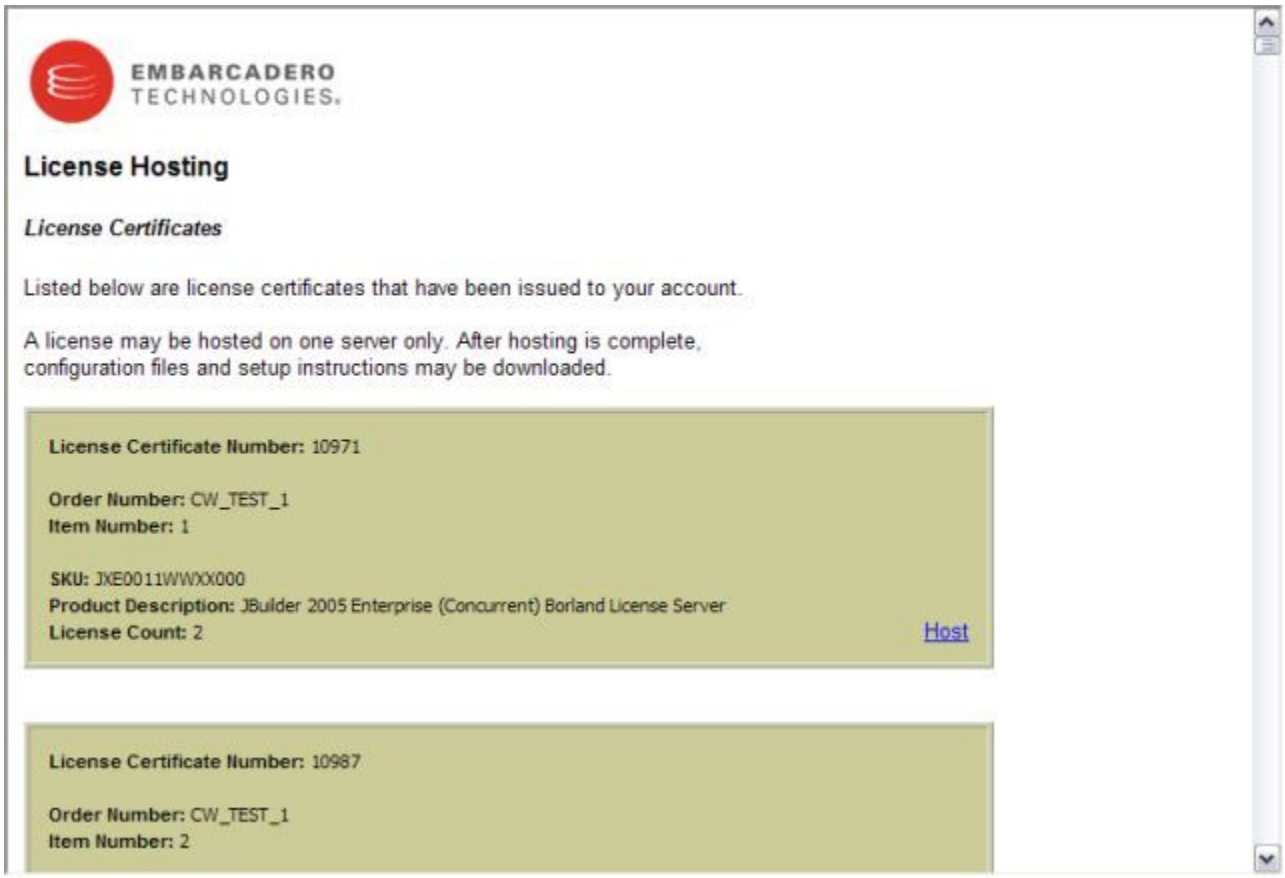
License Hosting Login screen

3. Click the Login button. The License Certificates screen is displayed. Go to Step 4 - Choosing a license certificate to host.

Step 4 - Choosing a license certificate to host

From the License Certificates screen you can choose the license certificate to use generating configuration files,

License Certificates screen



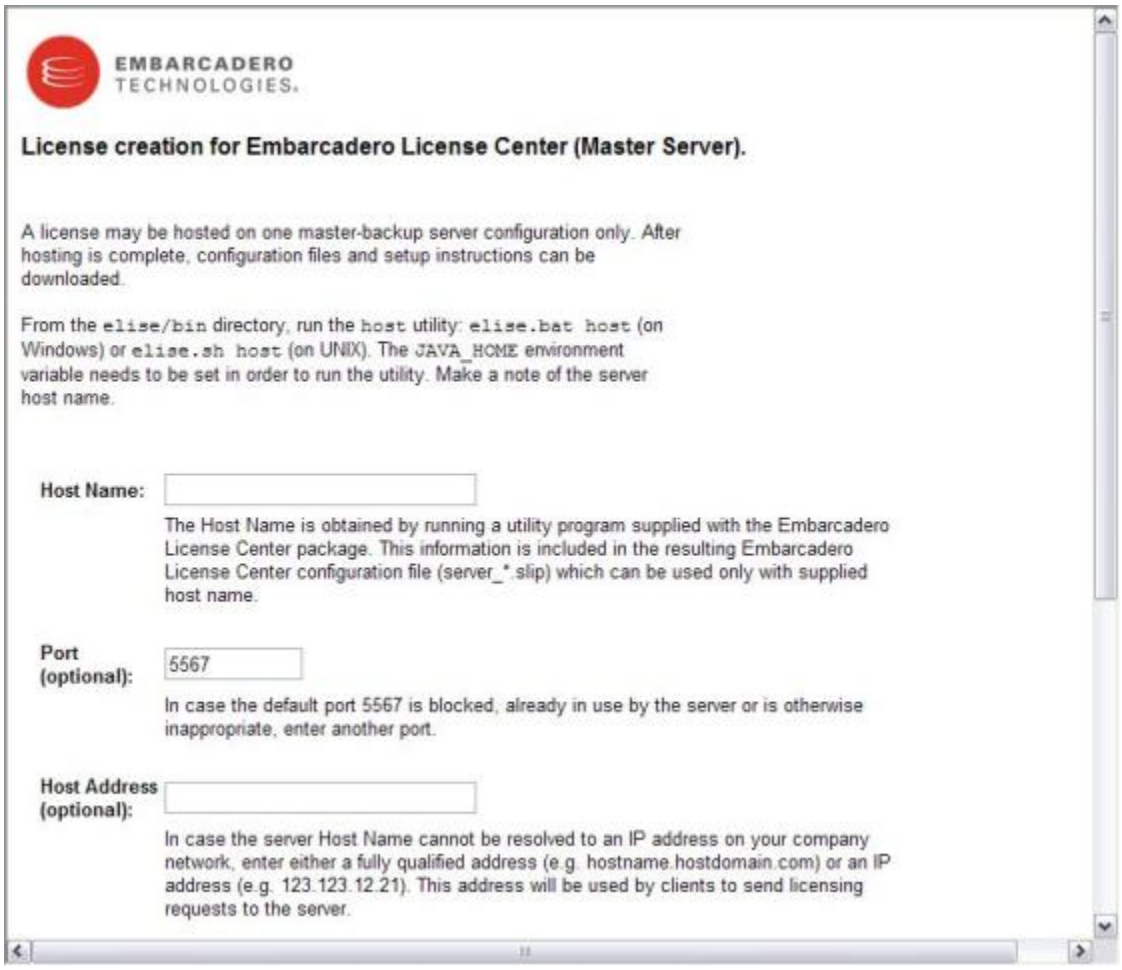
To choose a certificate to host:

1. Scroll through the list of license certificates and select the certificate you want.
2. Click Host. The License Server Host screen is displayed. Go to Step 5 - Configuring a master host for a license.

Step 5 - Configuring a master server host for a license

The Master License Server Host screen specifies a master server for hosting the license certificate you selected in Step 4 - Choosing a license certificate to host. A license can be hosted on one master-backup server configuration only.

Master License Server Host screen



To set a master server for a license certificate:

Stop: Stop here if you do not know the Host Name. It was displayed on the License Hosting Information page of the installation wizard (See Step 2 – Installing with the GUI installer) The host name is included in the resulting configuration file (server_XXX.slip, where XXX is the certificate number). This slip file can only be used with the supplied host name.

If you did not obtain the host name from the installer, run the ELC host utility to find the host name:

- On Windows, run `elise.bat host` from the <ELC>`/bin` directory.
- On Unix, run `elise.sh host` from the `<ELC>/bin` directory.
  NOTE: The `JAVA_HOME` environment variable needs to be set in order to run this utility. The installation wizard automatically sets this for you.

Warning: System utility 'hostname' should not be used, as it may return a different value than the ELC host utility.

Continue: Once you know the host name, enter it into the Host Name field.

1. Enter the port number in the Port field. The default is 5567. Do not change this value unless port 5567 is blocked or already in use by the server.
2. Enter an IP address (e.g., `123.123.12.21`) or a fully qualified address (e.g., `hostname.hostdomain.com`) in the Host Address field. This address is used by clients to send licensing requests to the server.
3. Click the Next button at the bottom of the page to store the Master Server hosting information and move to the Backup Server hosting page. The Backup Server hosting page is displayed. Go to Step 6 - Configuring a backup host for a license.

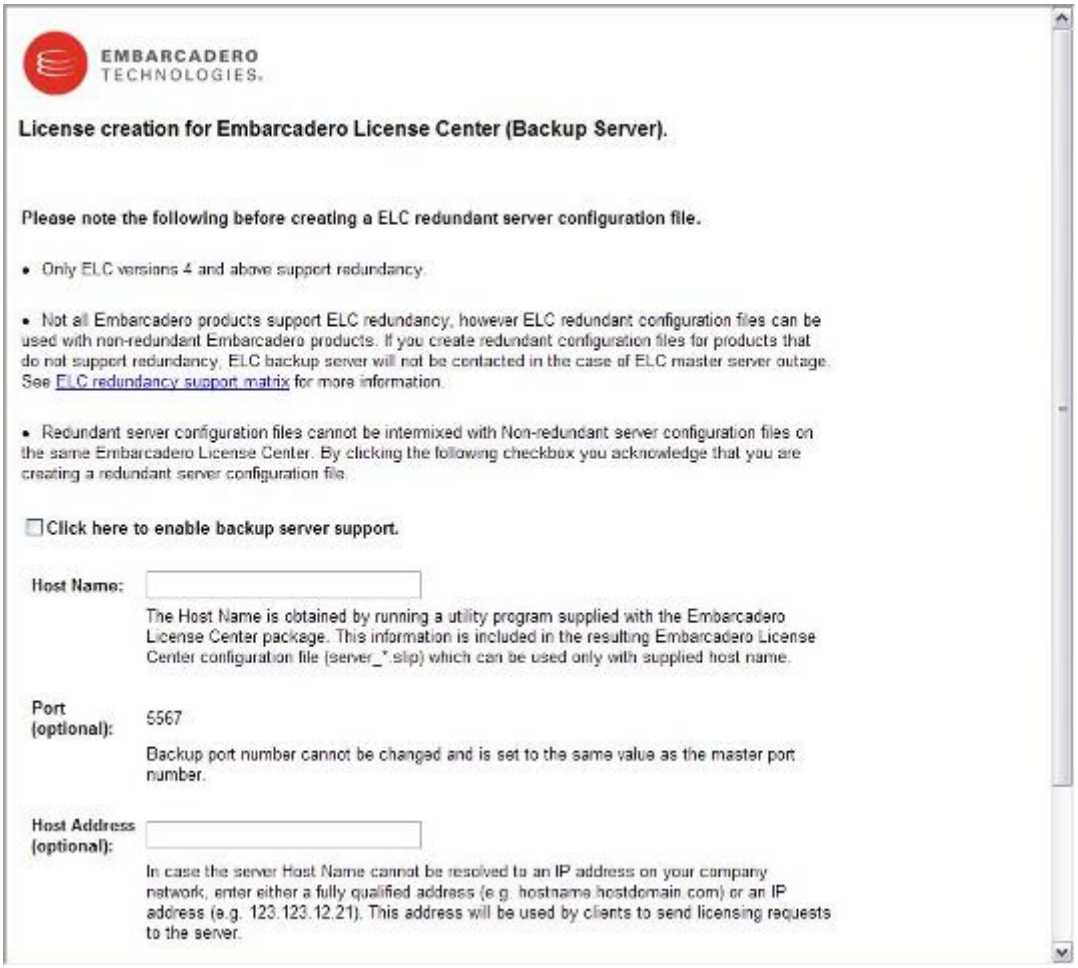
A license can only be hosted on one server at a time. Moving license from one server to another is called rehosting. A common reason to rehost is because you entered incorrect information into either of these fields or because the server computer failed. If you have to rehost (either by changing the Host Name or Port Number fields on this screen), you must contact Embarcadero Customer Support.

Note that you can change the Host Address (third field on the hosting page) any time after the configuration files are issued and re-issue configuration files.

Step 6 - Configuring a backup server host for a license

Use the Backup License Server Host screen to specify a backup server for hosting the license certificate you selected in Step 4 - Choosing a license certificate to host. As previously stated, a license can be hosted on one master-backup server configuration only.

Backup License Server Host screen



To set a backup server for a license certificate:

1. Check the box marked "Click here to enable backup server support" to enable the Backup HostName and Host Address textfields. If the Master Server selected in Step 5 - Configuring a master server host for a license has already been hosted in connection with a backup server, the checkbox is selected by default and values for Backup Host Name and Host Address are added.
2. **Stop:** Stop here if you do not know the Backup Server Host Name. It was displayed on the License Hosting Information page of the installation wizard (See Step 2 – Installing with the GUI installer.) The backup host name is included in

the resulting configuration file (server_XXX.slip, where XXX is the certificate number). This slip file can only be used with the supplied backup and master hosts. If you did not obtain the backup server host name while installing the ELC on the backup server, run the ELC host utility on the backup server to find the host name:

- On Windows, run `elise.bat host` from the <ELC>`/bin` directory.
- On Unix, run `elise.sh host` from the `<ELC>/bin` directory.
  NOTE: The `JAVA_HOME` environment variable needs to be set in order to run this utility. The installation wizard automatically sets this for you.

Warning: System utility 'hostname' should not be used, as it may return a different value than the ELC host utility.

Continue: Once you know the host name, enter it into the Host Name field.

3. Enter an IP address (e.g., `123.123.12.21`) or a fully qualified address (e.g., `hostname.hostdomain.com`) in the Host Address field. This address is used by clients to send licensing requests to the server.
4. Click the Next button to store the Backup Server hosting information and proceed to the Review hosting information page. Go to Step 7 – Reviewing hosting information. To make changes to the Master Hostname, click the Back button.

Step 7 - Reviewing hosting information

The Review Hosting Information Page details the hosting information setup in the master and backup hosting steps before you create the configuration files.

This Review Hosting Information Page also provides warnings as a guide to creating configuration files that are compatible on existing redundant/non-redundant ELC setups. Warnings do not prevent or stop the hosting process but are meant to encourage compatibility. All configuration files loaded on any ELC must be all redundant or all non-redundant configurations. All redundant configurations must point to the same Backup ELC. During the hosting process, warnings maybe displayed for the following cases:

- **Warning:** Creating a new redundant configuration for a Master License Server that has previously been hosted with a non-redundant server configuration.
- **Warning:** Creating a new non-redundant configuration for a Master License Server that has previously been hosted with a redundant server configuration.
- **Warning:** Creating a new redundant configuration in which the Backup License Server Host is different from the Backup License Server Host found in a previously hosted configuration.

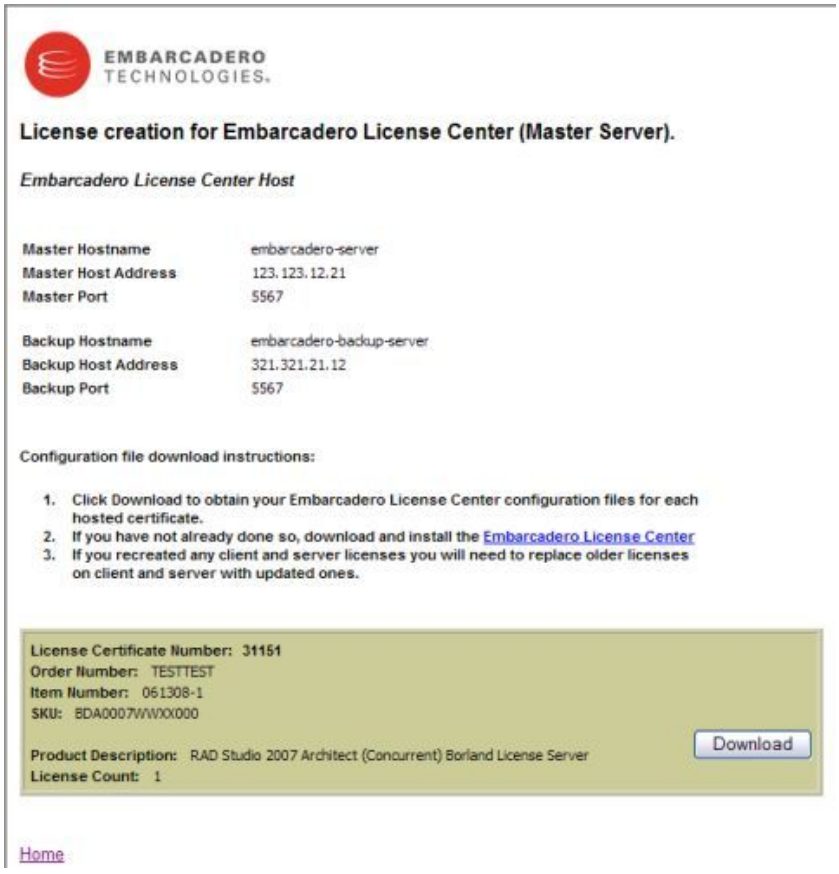
- **Warning:** Creating a new redundant configuration in which the Master License Server Host is different from the Master License Server Host found in a previously hosted configuration.

Click the Finish button to create the license files and move to the Download Configuration Files page. Click the Back button to make any changes to your ELC configuration.

Step 8 - Downloading configuration files

Use the Download Embarcadero License Center Configuration screen to review the information in the configuration file and then download it. A `readme.txt` file is also downloaded. The readme file may contain additional installation instructions.

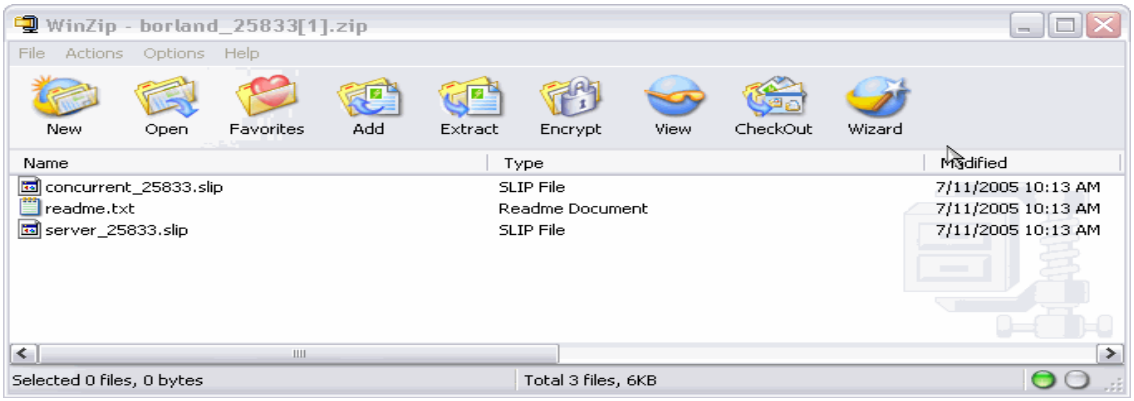
Download Embarcadero License Center configuration files



Once you reviewed the information, click the Download button to download the configuration files. If multiple license certificates are hosted, you see a listing of multiple downloadable configurations.

Once downloaded, open zip file and click Extract to extract the archive to a location of your choosing. The archive contains 2 configuration files (`*.slip`) files and a `readme.txt` file:

Contents of downloaded zip file



The `readme.txt` file. provides instructions on copying the configuration files (`*.slip` files) to the required directories:

- The `server_`*`nnnnn`*`.slip` file is the server configuration file.
- The `named_`*`nnnnn`*`.slip` or `concurrent_`*`nnnnn`*`.slip` file is the client configuration file.

The `readme.txt` file also contains the product identifier that is used when configuring the user list file.

To complete the configuration process:

1. Follow the instructions in the "Embarcadero License Center" section of the `readme.txt` file to copy server configuration files to the `<ELC>/conf` directory.
2. Follow the instructions in the "Client for Embarcadero License Center" section of the `readme.txt` file to copy client configuration files to the required directory.
3. Follow the instructions in the Configuring the Embarcadero License Center section of this document to configure the IP and user list text files. These files authorize users to access licenses. The identifier you must enter into the user list file is contained in the `readme.txt` file.

Configuring the Embarcadero License Center

This section explains the files to configure before you run the ELC:

- The IP list file limits IP addresses to ranges so that access to the licensing server can be blocked by location. For configuration instructions, see Configuring the IP list file.
- The user list file controls users and products they are licensed to use.

  For named user licenses, this file is required and must be configured. Number of users in the user list cannot exceed the number of purchased licenses.

  For concurrent user licenses, this file is not required. If the file is present, number of users in the user name list can be larger than the number of purchased concurrent licenses. The concurrent user name list file must be present to use the Checkout feature. This feature allows use of concurrent license in an offline mode. The Checkout feature is typically available from the product's main menu through Help | License Manager.

  See Configuring the user list file for named user licenses or Configuring the user list file for concurrent licenses.

Configuring the IP List File

The IP list file limits IP addresses to ranges; this allows access to the licensing server to be blocked by location. This file is called `iplist.txt` and is located in the `<ELC>\conf` directory. If no ranges are listed in the file, no users can access the licensing server. With the default setting, `*.*.*.*`, anyone using a computer at any location can access the licensing server. This file applies to both named user and concurrent (floating) licensing.

Examples of valid and invalid entries in the IP list file are shown below:

Valid entries in IP list file

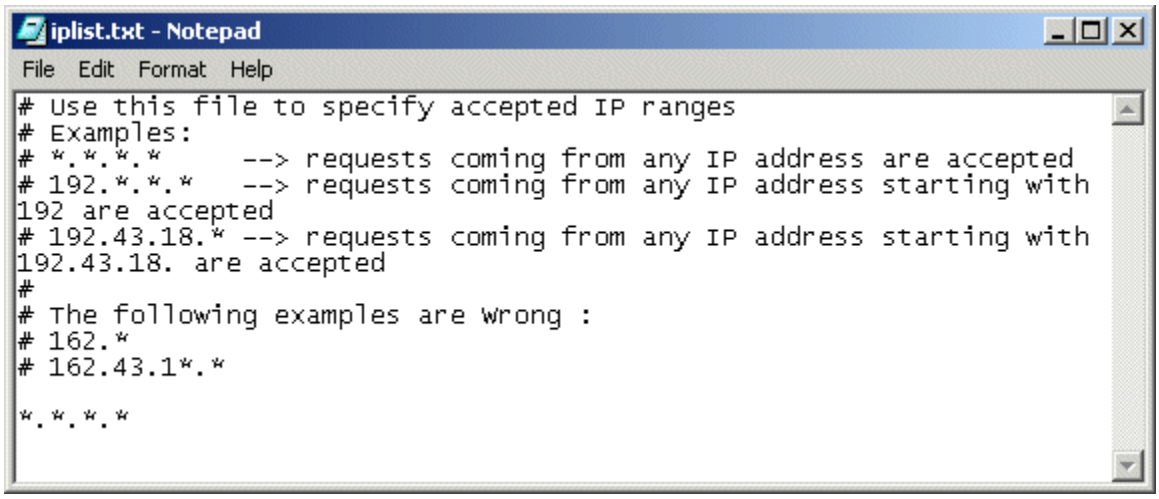
Valid Entry	Description
192.*.*.*	Accepts requests coming from any IP address starting with `192.`
192.43.18.*	Accepts requests coming from any IP address starting with `192.43.18.`

Invalid entries in IP list file

Invalid Entry	Description
162.*	Incorrect use of asterisks (asterisks are missing, entry should be `162.*.*.*`)
162.43.1*.*	Incorrect use of asterisks (can't use an asterisk to split entry, entry should be `162.43.*.*`)

The following figure shows an example of an IP list file, where requests from any IP address are accepted.

Example of IP list file with default settings



Configuring the User List File for Named User Licenses

The user list file controls users and which products they are licensed to use. For named user licenses, this file is called `userlist.txt` and is located in the `<ELC>\conf` directory. Issuers are guaranteed a product license as long as their name is in the user list file and they are connected to the server.

This file also controls the offline setting. Offline settings allow client product use without connection to the licensing server. A client switches to offline mode automatically when the connection to the licensing server is lost and back to online mode automatically when connection is regained. Offline mode has a fixed duration (maximum of 30 days), which is set in `userlist.txt`. Offline mode shields networked users from transient problems with the network or the licensing server. It is also useful for laptop users since they may frequently disconnect from the network.

The user list file is first checked for validity. If a user is on the user list, but the IP address used is not allowed, the license is denied. The following error message is displayed:

```
License server does not accept requests from this IP address.
```

The entries in the user list file must be in one of these formats:

- For suite products, such as RAD 2007 Suite, there is one identifier per suite, per user: `jsmith, *, 100_1_5, 30`
- For individual products, such as Delphi for PHP, the format is slightly different: `jsmith, *, 2701, 0, 30`

In both examples, the offline mode is set to `30` days. This setting allows the user to run the client product without being connected to the licensing server. If the user is not connected to the server, the user can use the product for a maximum of 30 days from the last successful connection.

Critical: The identifier you enter into your `userlist.txt` file is in the `readme.txt` file. You **MUST** read the `readme.txt` file to find the values to enter.

Configuring the User List File for Concurrent Licenses

The user list file controls users and which products they are licensed to use. For concurrent licenses, this file is called `userlist-concurrent.txt` and is located in the `<ELC> \conf` directory. If the user list file is not present, or has no entries, the concurrent license is non-restrictive. A non-restrictive concurrent license allows the first person who accesses the license to use it. However, this type of license cannot be checked out for offline use.

In addition to restricting user access, the user list file also controls the check-out (or borrow) period for the license use offline, which is-set as `days:hours` . The user is permitted to keep the license for up to the specified amount of time, even when not connected to the server. When the specified check-out time is over, the client product displays a warning and stops running. Users can manually check out (borrow) and check in (return) a concurrent license from the Help menu, as long as user list settings allow them to do so.

Product identifiers in the user list file are in the following formats:

For suite products, such as RAD 2007 Suite, there is one identifier per suite. In this example, the entry allows the user `jsmith` to run one copy of RAD 2007 that includes all RAD products:

```
jsmith, *, 100_1, 1:23
```

For individual products there is one product identifier and one sku identifier. For example, the following entry allows the user `jsmith` to run one copy of Delphi for PHP:

```
jsmith, *, 2701, 0, 1:23
```

In both examples, the check-out period is set to one day, 23 hours.

Critical: The identifier you enter into your `userlist-concurrent.txt` file is in the `readme.txt` file. You **MUST** consult the `readme.txt` to find the values to enter.

The following examples illustrate how you can configure ELC concurrent licenses using the wildcard functionality:

1. All users can checkout any product license for 7 days.
   ,,*,7

2. All users can checkout product X licenses for 7 days
   ,,X, 7

3. All users can checkout any product license for 7 days, but User A can checkout any product license for 30 days.
   ,,*,7
   userA,*,*,30

4. All users can checkout any product license for 7 days, but User A can checkout product X license for 30 days.
   ,,*,7
   userA,*,X,30

5. All users can checkout product X license for 7 days, but User A can checkout product X license for 30 days.
   ,,X, 7
   userA, *, X, 30

6. No checkout capability whatsoever (no entries in the userlist file).

7. User A can checkout any product license for 30 days, but nobody else can checkout any product license. However EVERYONE can use any product license online. This is equivalent to entry *,*,*,0.
   userA,*,*,30

8. User A can checkout product X license for 30 days, but nobody else can checkout. However EVERYONE can use product X online. This is equivalent to entry *,*,X,0.
   userA, *, X, 30

9. User A can checkout product X license for 30 days, but cannot checkout product Y license, he can use Y only online. User B can checkout product Y license for 30 days, but cannot checkout product X license, he can use X only online.

userA, *, X, 30
userB, *, Y, 30

10. User A can checkout all products for 30 days, but User B can only checkout Y for 30 days.

userA, *, *, 30
userB, *, Y, 30

11. Deny all users to any product except User A who can use any product only online

,,*,-1
userA,*,*,0

12. Deny all users to any product except User A who can use product X only online

,,*,-1
userA,*,X,0

13. Deny all users to use product X except User A who can use it only online

,,X, -1
userA, *, X, 0

14. User A can checkout product X license for 7 days, and any other product license for 30 days.

userA,*,*,30
userA,*,X,7

15. All users can checkout product X license for 7 days, but User A can checkout product X for 30 days. (specific user setting won't be overwritten by any user setting)

userA,*,X,30
,,X,7

16. All users can checkout any product license for 7 days, but User A can checkout product X license for 30 days.

userA,*,X,30
,,*,7

17. All users can checkout any product license for 7 days, but User A can checkout any product license for 30 days.

NOTE: The last setting overwrites previous setting for the same user.

userA,*,*,30

,,*,7

i. User A can checkout product X license for 7 days.
userA,*,X,30
userA,*,X,7

ii. User A can checkout any product license for 7 days.
userA,*,*,30
userA,*,*,7

iii. User A can checkout any product license for 7 days.
userA,*,Y,30
userA,*,*,7

Setting Up the User List File with the LDAP Import Utility

To help reduce the amount of work involved in setting up concurrent or named user licenses for large sites, the ELC can import a list of users from an LDAP server using the LDAP Import Utility. Both OpenLDAP and Windows Active Directory servers can be queried using this feature. If you have any questions on what values to use with command-line arguments, please check with your LDAP server administrator.

To run the LDAP import, use the following command when the ELC is running:

```
elise cmd ldapimport -identifier -server <ldap server hostname> -type
<FLOATING|NAMED>
  [-port <ldap server port>][-user <user DN>] [-pass <user password>]
  [-base <base DN for search>][-filter <filter for search>]
  [-mode <overwrite|append>] [-maxborrow <borrowtime>]
```

The following tables list the required and optional arguments for the LDAP Import utility.

Required arguments for LDAP Import utility

Argument	Description
`-identifier`	The product identifier. This is located in your `readme.txt` file.
`-server <ldap server hostname>`	The hostname of the LDAP server from which users are imported. This can be either an OpenLDAP or Microsoft Active Directory LDAP server.
`-type <FLOATING|NAMED>`	The type of license to enable for the imported users. Users are added to the user list for a particular license type and product identifier.

Optional arguments for LDAP Import utility

Argument	Description
`-port <ldap server port>`	The port of the LDAP server from which users are imported. The standard LDAP port of 389 is used if no port is specified. To search the entire domain tree of an active directory server, use port 3268.
`-user <user DN>`	The User DN for the LDAP user which are running the search. Some servers may allow anonymous searches. An anonymous search is attempted if the `-user` argument is not used.
`-pass <user password>`	The password for the User DN provided in the `-user` argument.
`-base <base DN for searching>`	The base DN used for the search. A default base for the particular server type detected is used if this is not set.
`-filter <search filter>`	The filter used in the search. A default filter for the particular server type detected is used if this is not set. An LDAP search filter looks something like: `(&(cn=*)(uid=*))`
`-mode <overwrite|append>`	The mode for importing users into the user list. The `overwrite` argument replaces users in the file, overwriting the existing settings for the users imported. The `append` argument appends users to the end of the file. This is the default setting.
`-maxborrow <borrow time>`	The maximum borrow time for the imported users. Time is specified using the format `days:hours`. Days are optional and hours are converted to days if greater than 1 day. This defaults to 0.

After successfully executing the LDAP import command, examine the `userlist.txt` or `userlist-concurrent.txt` file and verify that the entries have the expected values. Once you are satisfied with the user list, you will need to restart the ELC to activate these users. If you are serving licenses for other products, you need to run the import per product, or edit the users in the text file.

Configuring the Mail Notification for Expiring Licenses

Mail notification notifies a fixed list of email addresses 7 days prior to the expiration of a license, as well as when a particular license expires. To activate mail notification, configure the properties stored in the main configuration file `elise.properties` located in the `<ELC> \conf` directory.

By default, mail notification is disabled: `mailEnabled = false`.

Required properties for mail notification (when enabled)

Property	Value Type	Description
`mailEnabled`	Boolean	Enable mail notification support in ELC.
`mailHost`	String	Set the SMTP mail relay server name.
`mailFrom`	String	E-mail address for the administrator of this ELC
`mailTo`	String	Comma separated list of email addresses needing to be notified by mail.

Optional properties for mail notification

Property	Value Type	Description
`mailPort`	Int	Set the SMTP mail relay server port (default is 25).
`mailSSL`	Boolean	Enable SSL for communication with the SMTP mail relay server (default is false).
`mailUsername`	String	Username for SMTP mail relay server authentication.
`mailPassword`	String	Password for SMTP mail relay server authentication.

NOTE: For those using SSL-enabled mail servers, the following link details an issue that occurs when using javamail with JDK 1.4.2_02 and below. See the following for more information: http://forum.java.sun.com/thread.jspa?threadID=345770&tstart=135

Use `info.log` in the `<ELC> \logs` directory to track down problems with the mail notification feature. Errors with the host or authentication are logged in that file as well as successful notifications.

Redundancy: Backup Embarcadero License Center

Optionally, ELC may be setup to run with one backup ELC running on a separate machine. Specific configuration/license files, obtained from Embarcadero, have been hosted and locked to both master and backup host machines are required to setup a master/backup license server system.

If a backup ELC loses communication with its master ELC, the backup server would begin to dispense licenses. The backup server stops dispensing licenses once the master ELC is restored, or if communication remains unavailable longer than Embarcadero's specified duration (72 hours) - this is called the "backup grace period."

The purpose for a "backup grace period" is to allow products to access their licenses while administrators restore the master server. The backup server is not intended for long term use. If the master server goes offline and the backup grace period expires, the backup stops dispensing licenses and products do not have access to those licenses.

To set up a master/backup redundancy system:

1. Obtain specific configuration/license files from Embarcadero. The files are needed for both master server and networked enabled Embarcadero products.

2. Configure the master server like a non-redundant ELC using the files obtained in Step 1. Before starting the master server, install ELC on the backup host machine and designate it as a backup.

3. To designate a ELC as a backup server, locate the `elise.properties` configuration file on the backup machine in the <ELC> `\conf` directory and configure properties described below. By default, a ELC is not configured as a backup server.

Backup Server properties

Property	Value Type	Description
`isBackupServer`	boolean	Designates the ELC install as a backup server.
`masterHost`	string	Set the master ELC host name or IP address.
`masterPort`	string	Set the master ELC port number (default is 5567).

4. Start the master ELC. The master server will wait for the backup ELC to start and communicate. The master server will timeout after 5 minutes if the backup fails to communicate. The backup server must be started manually.

5. Start the backup ELC within 5 minutes of starting the master ELC. The backup server will download necessary files from the master server, and both servers will eventually finish hand-shaking and become active.

6. Review `info.log` located in the <ELC> `\logs` directory on both master and backup servers for confirmation of successful startups.

NOTES:

- Running startup and shutdown commands on the master server does not startup and shutdown the backup server. You need to issue startup and shutdown commands separately on the backup server.
- By setting up email notification, attempts are taken by the master and backup servers to email warnings of master and backup server's outages.
- The backup server does not offer reporting and does not allow concurrent or named offline usage.
- A combination of redundant and non-redundant configuration files on the master server is not allowed.

Administering the Embarcadero License Center

This section outlines the following ELC administrative tasks:

Starting the Embarcadero License Center

This section explains how to set up the ELC to start as a service or start and stop it from the command line.

Setting up, starting, and stopping the Embarcadero License Center as a service

To set up the ELC as a service,

- On the Windows platform: Activate the “Set Up the Embarcadero License Center As Windows Service” option on the ELC installation wizard.
- On the Unix platform: Run the installation wizard as `root`. In addition to this, be sure to add a user named `elise` before installing.

To manually install and start the ELC as a service, use the following command:

Windows platform:

```
elise installService
```

Unix/Linux platform:

When starting the ELC on Solaris, be sure to set your active shell to `bash`, `tcsh`, `csh`, or `ksh`. To do this, at the command line run either `bash`, `tcsh`, `csh`, or `ksh`.

```
go to <ELC>/etc/init.d and type >elise start
```

To manually uninstall the service, use the following command:

Windows platform:

```
elise uninstallService
```

Unix/Linux platform:

```
go to <ELC>/etc/init.d and type >elise stop
```

Starting and stopping the Embarcadero License Center from the command line

For Windows, to start and stop the ELC from the command line:

1. Open a command window. At the prompt, go to `<ELC>\bin`.
2. Start the ELC by executing the command: `elise start`
3. Stop the ELC by executing the command: `elise stop`

For Unix, to start and stop the ELC from the command line:

1. Open a command window. At the prompt, go to `<ELC>/bin`.
2. Start the ELC by executing the command: `elise.sh start`
3. Stop the ELC by executing the command: `elise.sh stop`

Accessing the Embarcadero License Center Web Administration Page

The Web Administration page allows users to administer the ELC from a web browser. The Web Administration page installs when you install the ELC. Make sure to check select one of the following during installation:

- Typical install set
- Choose the Web Administration the feature from the Custom install set

The following browsers support the ELC Web Admin:

- Internet Explorer 6.0 - 7.0
- Firefox 1.5 - 3.0
- Safari 2.0-3.1

Check that your browser has JavaScript enabled and that it accepts cookies from your server page.

Once installed, use hosted license to start the ELC server. This automatically starts up the Web Admin server. To access the application, launch a web browser on your computer, and enter the server's machine name, e.g., http://machine-name:5580.

The `webAdminBindAddress` property in elise.properties file specifies what IP address the Web Admin server uses. The default is `0.0.0.0.` If there is more than one hostname and/or IP on the machine where the ELC is installed, the default value ensures the Web Admin is reachable on all of them. If no value is defined the address is taken from server slip(s).

The default for the Web Admin server is 5580. It can be changed by modifying the elise.properties file. Change the line `webAdminHttpPort = 5580` to `webAdminHttpPort = [your port]`. After modifying the port, you can access the Web Admin by clicking http://machine-name:[your port]. If you set the port to 80, you do not need a port number in the url.

Two default users are defined for the web admin:

- Username: ***admin***
  Password: ***admin***
- Username: ***viewer***
  Password: ***viewer***

To login for the first time, use the default username ***admin*** and default password ***admin.***

When logging in as ***admin***, you can do all the following actions. When logging in as ***viewer***, you can only view status and are not allowed to edit/add/delete:

- View current hosted licenses
- View connected users
- View/Add /Edit concurrent users that are allowed to checkout licenses
- View/Add /Edit valid named users
- View/Add/Edit valid IP list
- View/Add /Edit configuration properties
- View server logs
- View/Reload server status
- Change the default password

Note: The Web Admin server can be disabled by modifying the `webAdminEnable` in the elise.properties file to read `False`.

Using the Embarcadero License Center Commands

Use the following commands to perform administration tasks for the server:

- To list all active licenses: enter `cmd status` from the `<ELC> \bin` directory.
- To remove a specific license and return it to the available license pool, enter `cmd revoke` from the `<ELC> \bin` directory. This command takes the following arguments:

  Arguments for revoke command

Argument	Description
`-identifier`	The product identifier, located by running the elise status command (run `cmd status` from the <ELC> `\bin` directory). Product identifiers are located in "()" (for example: Networked Suite 1.0 (100_1_1) or product id (`-id`) code and sku id (`-sku`) code. These values are located in your `readme.txt` file.)
`-user <username>`	The name of the user.
`-host <hostname>`	The name of the computer that the license is checked out to

- To reload configuration files: enter `cmd reload` from the `<ELC>\bin` directory.

  Note: The following configurations are reloadable:

  - `server_*.slip` - server configuration file
  - `iplist.txt` - the IP list file
  - `userlist.txt` - the user list file for named user licenses
  - `userlist-concurrent.txt` - the user list file for concurrent licenses

  The main configuration file, `elise.properties`, is not reloadable. The ELC has to be stopped and started again if `elise.properties` needs to be reloaded. See Starting and stopping the Embarcadero License Center from the command line to stop/start the ELC.

Additional information, including history, is available from the `<ELC> \logs\info.log` file.

Setting Up a Client for Named User Licensing

Named user licensing is licensing by specific user name, identified by login name and optional last name. Only a specified number of users, with the specified names, can use

the specified product at the same time. A named user can log onto any computer at any location to use the product they are licensed for. User names are controlled by the ELC administrator in the <ELC> \conf\userlist.txt file. See Configuring the user list file for named user licenses for instructions on editing this file.

1. Install an Embarcadero client product that is enabled for the ELC named licensing, if one is not already installed.
2. Follow the instructions provided in the readme.txt file downloaded with the configuration files. (See Step 8 - Downloading the configuration files in the Installation section of this document for more information.) These instructions detail where to copy the configuration files locally. An example of a configuration file name is named_XXX.slip, where XXX is the certificate number.
3. Start the Embarcadero client product. The Embarcadero client product is now sending named user license requests to the ELC. Licensing information is available from Help | License Manager.

Setting Up a Client for Concurrent (Floating) Licensing

Concurrent, or floating, licensing allows a specified number of users to run a specified Embarcadero product at the same time. That number, and only that number, can use the product at once. Users can be restricted by the ELC administrator in the <ELC>\bin\conf\userlist-concurrent.txt file. See Configuring the user list file for concurrent licenses for instructions on editing this file.

If users try to start a client product, and find that no concurrent license is available, they receive an error message. That user cannot start the product until another concurrent user stops using the product. A concurrent license is available for a new user as soon as the previous user exits the product.

Typically the client product sends a request to the licensing server every minute to renew and keep the license. If the licensing server does not receive a ping from the client product, the license is released.

To set up a client product for concurrent licensing:

1. Install an Embarcadero client product that is enabled for the ELC concurrent licensing, if one is not already installed.
2. Follow the instructions provided in the readme.txt file downloaded with the configuration files. (See Step 8 - Downloading the configuration files in the Installation section of the document for more information.) These instructions detail where to copy the configuration file locally. An example of a configuration file name is concurrent_XXX.slip, where XXX is the certificate number.
3. Start the Embarcadero client product. The Embarcadero client product is now sending concurrent (floating) license requests to the ELC. Licensing information is available from Tools | License Manager.

NOTE: A user of an Embarcadero product can manually check out a license from the product UI, as long as the user name is in `userlist-concurrent.txt`, with a nonzero check out time. To check out a license, select Help | License Manager from the product's main menu, select a product or suite, and enter duration in hours.

Interpreting the Log Files

The ELC generates two logs in the `logs` directory of the ELC installation. These files are called `info.log` and `error.log`.

The `info.log` file stores informational messages from the server, including start and stop information, what type of licenses are accessing the licensing server, who the users are, the product and the offline usage, as well as the range of IP addresses allowed access to the licensing server. The messages also tell you when the licensing server is being accessed.

Messages in info.log

Message	Description
Accepting requests from IP address or range: 43.133.*.*	The server is accepting requests from the listed IP addresses, based on the entries in the `iplist.txt` file.
License key for Embarcadero Product expires in XX days	You may have a license that has an expiration date associated with it. This message informs you that your license will expire in XX days.
License Pool Loaded: 100_1_1 "JBuilder X" (5 floating, 0 named)	The server has loaded the license for the given product identifier. In this case, there are 5 concurrent, or floating licenses, and 0 named licenses.
Listening on port: XXXX	The server is listening on port XXXX. The default port is 5567.
Named User List: user@host: product identifier: max time: time left:	The named user is running the specified Embarcadero product from the named host. The offline usage is set to the specified number of days. The user has the specified amount of time left for offline usage.
Checkout success	The user received, or checked out, the requested license.
Close	The user has closed the product and the requested license is no longer in use.
Release	The server has released the license.
Expired product license: license	The license has expired.

The `error.log` file stores error messages from the server. For more information, see, Troubleshooting the server.

Troubleshooting the Server

The following error messages can be generated by the server:

Server error messages

Message	Description
Cannot listen on port XXXX. Is the license server already running?	The ELC uses XXXX (5567 is the default port) to receive messages from and send messages to clients. First, verify that the ELC is not already running. Then, verify that another application is not using this port. If another application has to use this port, you can call Embarcadero for information on changing the port.
Configuration file does not match the server	The server configuration file does not match the computer that is hosting the server.
Initialization failed, program aborted	The ELC cannot start because of an internal error. Call Embarcadero for support.
License storage `<ELC>\conf\elise.lic` is corrupted, licensing data cannot be recovered. Please contact Embarcadero.(7104)	The licensing storage in the `<ELC>\conf` directory is corrupted or has been moved from another machine. Call Embarcadero for further assistance.

Troubleshooting the Client

When running the client, errors can occur either at startup or at runtime.

Client startup error messages

Message	Description
Invalid license file	The client configuration file is invalid, please contact Embarcadero.
License server does not have license for this product	The server configuration file for the Embarcadero product does not contain any licenses for the client product or it has not been loaded.
Maximum number of users already reached	All licenses are in use; no licenses are available. Try again when another client product exits.

Message	Description
Cannot connect to license server	The ELC is down.
License has expired	The server configuration file has expired.
Invalid request to license server	One or more request parameters are invalid or not recognized by the server.
Invalid response from license server	The client is using an old or wrong configuration file.
License server does not accept requests from this IP address	The client IP address is not in the `iplist.txt` file.
User name does not have permission	The user does not have permission to use the specified product.
Could not find the ELC hostname	The server is not visible from client's IP address.
Internal Error	The server is malfunctioning. Try to restart the server. Contact Embarcadero.
Unknown Error	The error is not on the list of known errors. Contact Embarcadero.
License server does not support request	There is a client/server mismatch.
License server does not support protocol	There is a client/server mismatch.

NOTE: If the server or licensing files aren't available for some reason, the client using concurrent licensing will not start unless the check out (borrow) period is specified.

Client runtime errors

The Embarcadero client product can also encounter licensing errors when running. The most frequently encountered error occurs when the server stops running while a client program is running. How that error is handled depends on the client and licensing type.

In case of concurrent licensing:

- An error message is displayed in the status bar in the lower left corner of the IDE or in the message box. Some products run until closed, others display error message with the remaining time.
- The client product does not start again until the licensing server is running.

In the case of named user licensing, if the offline period is set to something other than zero, the client product will start when the licensing server is not available. The client products will run for the period of time set in the offline setting in the `userlist.txt` file on the server.

Generating Usage Report Logs

The Reporting Logs feature for ELC version 4 is provided to customers to log and export license usage data from ELC. Tracked usage data consists of the following:

- User/Permission Data
- Product Data
- Licenses (duration of use, initial start times, finish times, license types)

This data can be exported from ELC to three different formats:

- JDataStore (JDS) database file
- XML with corresponding xml schema documents (XSD) file
- Comma-separated value (CSV) file with corresponding schema files

The following describes the steps necessary to complete the following tasks:

- Enable and disable ELC reporting logs
- Generate the exported logs
- Troubleshoot problems with the export
- Additional information regarding how these logs might be used has also been provided

Enabling ELC Reporting Logs

Steps to enable ELC Reporting Log include the following:

1. Edit the `elise.properties` file in the `<ELC>/conf` directory.
2. Set the property `reportLogsEnabled` to `true` (by default this property is set to `true`).

Note: To disable report logging, set the above mentioned property to false.

Exporting ELC Reporting Logs

Exporting ELC Reporting Logs makes use of the ELC command-line interface.

Running the exportLogs command with options

The `exportLogs` command is in the following form:

```
elise cmd exportLogs ( -dir <directory> ) ( -csv | -xml | -db ) ( -
purge )
```

The `exportLogs` command provides users with the following options:

- **-csv** -- generates a set of comma-separated value list files and schema files containing data representative of every table in the database. Files exported using the **-csv** option are as follows:
  - `lm_denial_entry.csv`
  - `lm_denial_entry.schema`
  - `lm_entry_instance.csv`
  - `lm_entry_instance.schema`
  - `lm_ip_block.csv`
  - `lm_ip_block.schema`
  - `lm_license.csv`
  - `lm_license.schema`
  - `lm_license_pool.csv`
  - `lm_license_pool.schema`
  - `lm_permission.csv`
  - `lm_permission.schema`
  - `lm_pool_entry.csv`
  - `lm_pool_entry.schema`
  - `lm_pool_type_lu.csv`
  - `lm_pool_type_lu.schema`
  - `lm_product.csv`
  - `lm_product.schema`
  - `lm_timestamp.csv`
  - `lm_timestamp.schema`
  - `lm_user.csv`
  - `lm_user.schema`

- **-xml**-- generates an xml file of the database along with an xsd file. Files exported using the **-xml** option:
  - `export.xml`
  - `lm_reporting.xsd`
  - `lm_reporting_access.xsd` – additional xsd file with Microsoft-specific attributes for importing data into Microsoft Access

- **-db**-- generates a set of JDataStore database files that can be opened using the JDataStore Explorer. Files exported with the **-db** option include the following:
  - `LM_REPORTING.jds`
  - `LM_REPORTING_LOGA_0000000000`
  - `LM_REPORTING_STATUS_0000000000`
  - `LM_REPORTING_LOGA_ANCHOR`

- **-purge** -- enables users to remove/clear all records from the database with the exception of license records that are still actively in use. As a safety mechanism, using the **-purge** option without any other logging options, as shown below,

forces a report logging export using all formats (csv, xml, db) before any data is purged.

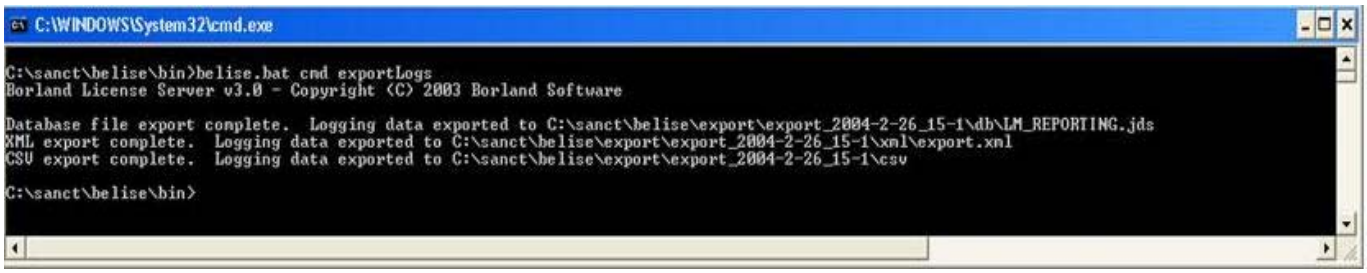
```
>elise cmd exportLogs –purge
```

The following data shows the growth of the reporting database with respect to the total number of records in the database after 6 man months for various usage rates:

Use rate (Users / man day)	Total records added after 6 man months	Database size after 6 man months (KB)	Database Transaction log size after 6 man months (KB)
10	2650	2067	6952
25	6625	4849	14504
50	13250	9487	27092
100	26500	18762	52267
500	132500	92962	253667

- **-dir** -- used to specify an output directory for exporting logging data to. If no export directory is specified, logging data will be written to `$ELC_HOME$/export` directory.

Users should see similar output to the following, after a successful export is completed:



Running the exportLogs command without options

Running the `exportLogs` command with no options exports reporting data to all formats as shown below:

```
> elise cmd exportLogs
```

Running the exportRemoteLogs command to export logs from a remote database

The exportRemoteLogs command is used to export older version ELC or BLS databases to an ELC version 4.12 reporting log. This newer format reporting log can be imported into ReportingEngine 2.1 at any time for reporting purposes. The following parameters can be specified when using the remoteExport command:

```
> elise cmd exportRemoteLogs -from <OLD_ELC_BLS_HOME>
  [-to <export_dir>]
```

`-from` - This is a required parameter which should point to the older ELC or BLS server's home directory.

`-to` - An optional parameter which specifies the directory where the exported ELC v4.12 reporting log should be exported to. If no -to parameter is specified then a directory named "remote-export" is created under ELC_HOME and export logs are stored there.

Example:

```
elise cmd exportRemoteLogs -from C:\Embarcadero\LicenseCenter4.03
```

ELC Reporting Logs Timeout Functionality

The ELC Reporting Logs export feature has been built with internal timeout functionality to prevent export from occurring during periods of high load. This is designed to prevent interruption to the mission-critical purpose of ELC, which is serving licenses to Embarcadero Concurrent and Networked Named User customers.

Troubleshooting Reporting Logs

In order to troubleshoot the ELC Reporting Logs functionality, please add the following to the `elise.properties` file and restart ELC:

```
debugReportLogs = true
```

If errors appear in the `db.log` file (located in the `$ELC_HOME\logs` directory), please send the following to Embarcadero Customer Support:

- `db.log` file
- JDK version you are using
- OS you are running ELC on
- A description of the error(s) you are seeing

Using ELC Reporting Log Data

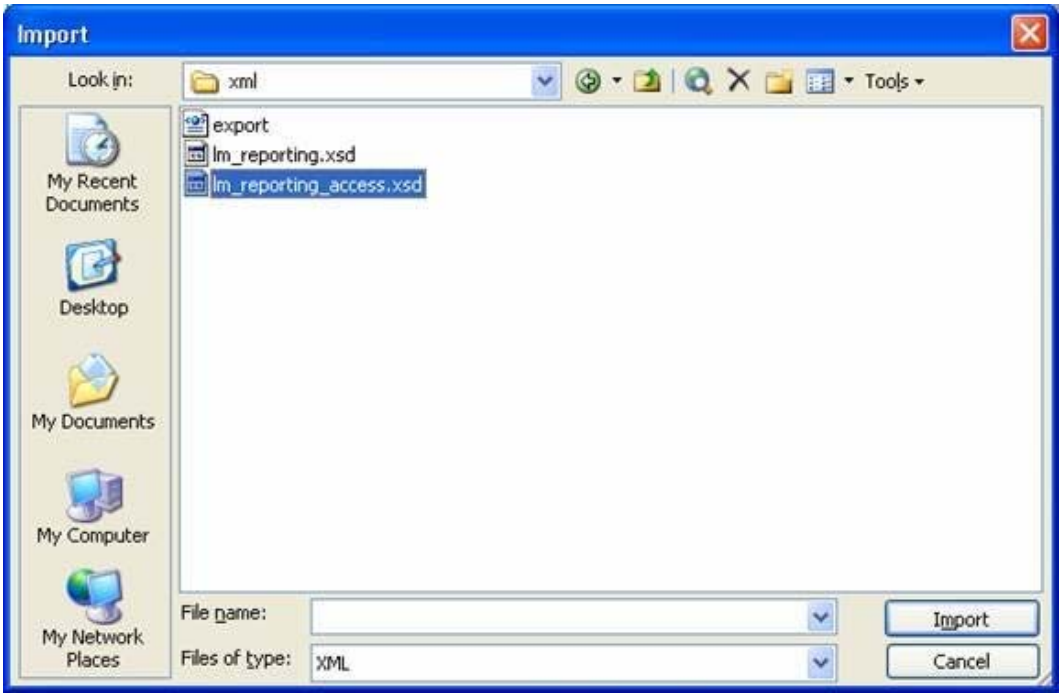
Log data can be imported into multiple tools:

- Importing into Microsoft Access using XML
- Importing into Microsoft Excel and Access using CSV format
- Importing into Embarcadero Reporting Engine using JDS format (see "Embarcadero Reporting Engine User Guide".

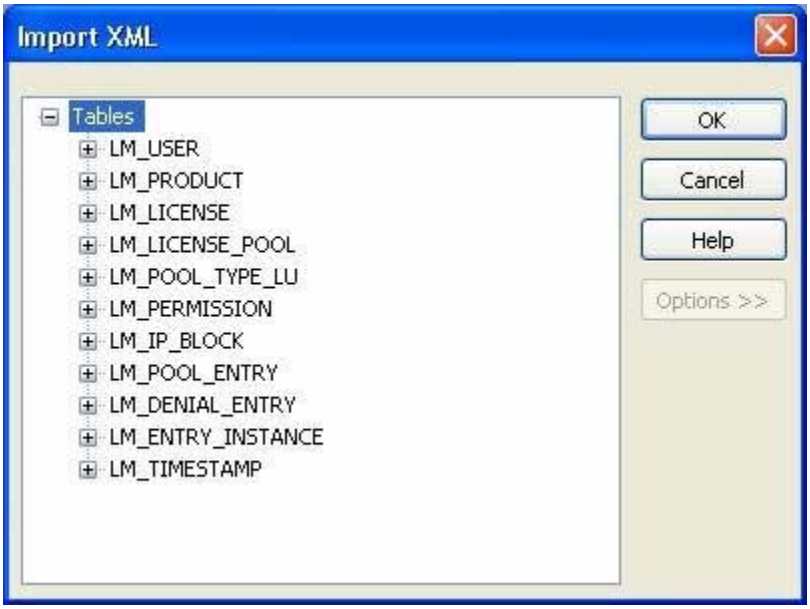
Importing into Microsoft Access using XML

Importing log data into Microsoft Access is available for Microsoft Office Access 2002 and above.

1. Start Microsoft Access and create a new database.
2. Import the ELC `export.xml` and `lm_reporting_access.xsd` files located in the directory which you specified when running the `exportLogs` command. If no directory was specified, the exported data can be found in the `<ELC>/export/export_<timestamp>/xml` directory.
    a. In Access, choose File|Get External Data|Import.
    b. In the Import dialog box, choose XML (`*.xml`, `*.xsd`) as the file type.
    c. Select the `lm_reporting_access.xsd` file to import. This file contains information regarding the database schema.
    d. Click the Import button.



e. Click OK when the Import XML dialog box appears.



f. The database schema has now been imported.
g. In Access, choose File|Get External Data|Import (to import the actual data).
h. Select XML from the Files of Type drop-down list.
i. Select `export.xml` as the file to import.
j. When the Import XML dialog box appears, select Options >> and click the Append Data to Existing Table(s) radio button.

k. Click OK and the data from `export.xml` is imported into the existing database tables.

Importing into Microsoft Excel and Access using CSV

1. Run the ELC `exportLogs` command with the **–csv** option.
2. From the `<ELC>\bin` directory run the csvConvert script. This script imports all of the exported csv files into a single Excel workbook:

   ```
   > csvConvert <csv_export_directory>
   ```

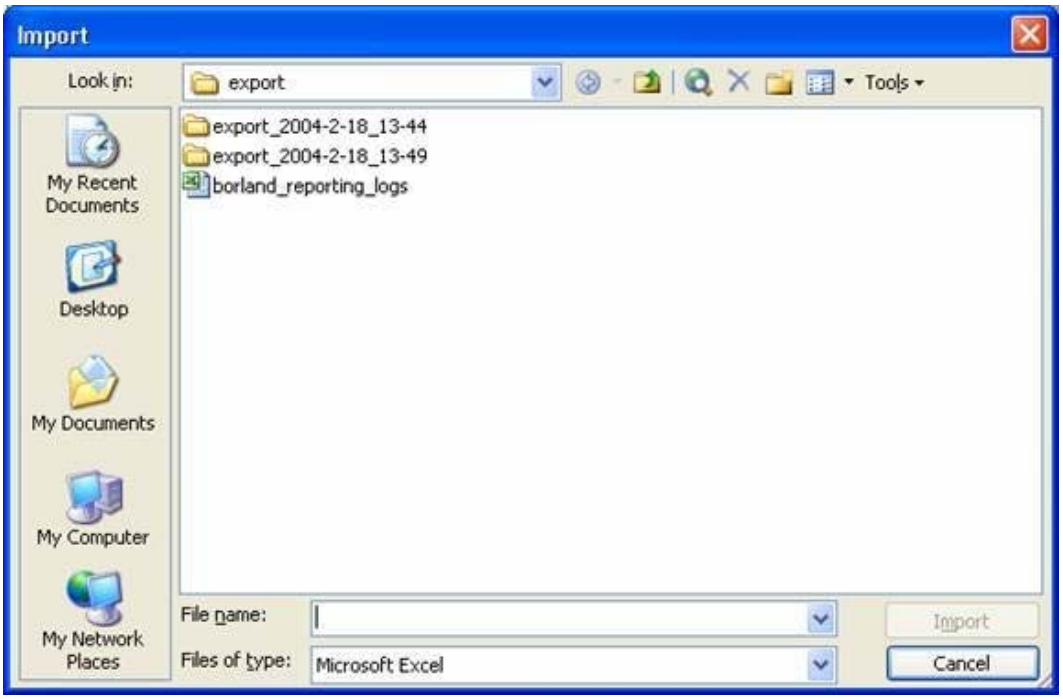
   Output should be similar to the following:

   ```
   Embarcadero ExportLogs Conversion Utility v1.0
   Importing files into workbook.............
   Successfully created C:\export\export_2004-2-23_6-
   29\csv\embarcadero_reporting_logs.xls.
   ```

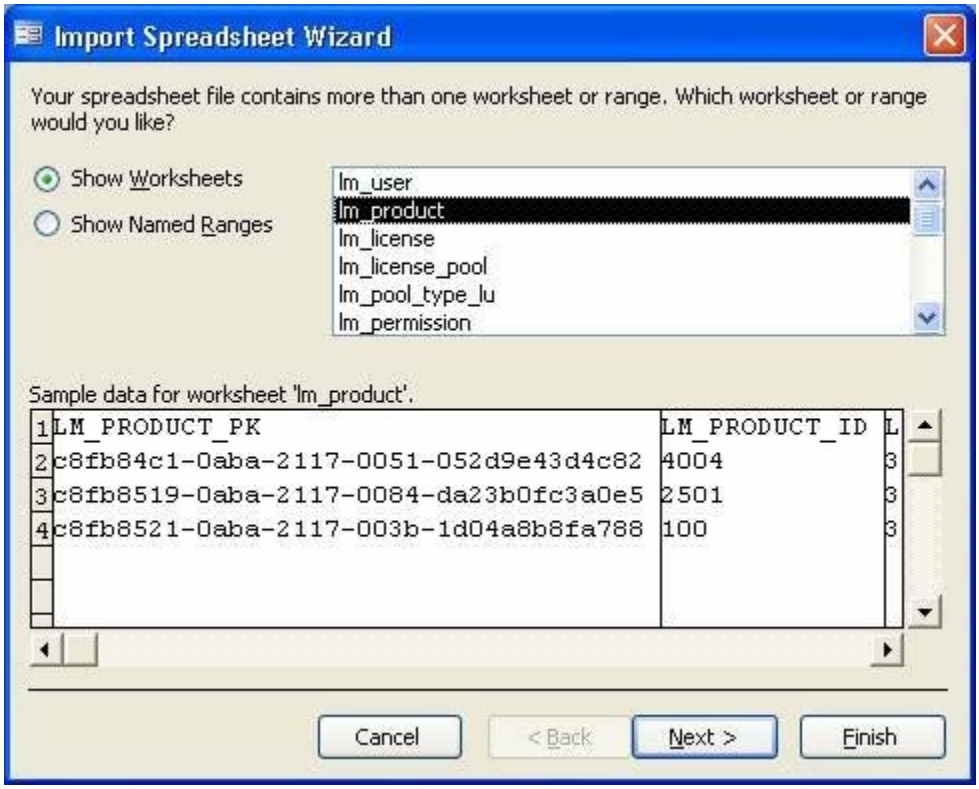
3. Once the `Embarcadero_reporting_logs.xsl` file has been created, open the file in Microsoft Excel. Notice that each `.csv` file has now been imported into a separate Excel worksheet.

To query the data and create reports, you need to import those worksheets into Microsoft Access.

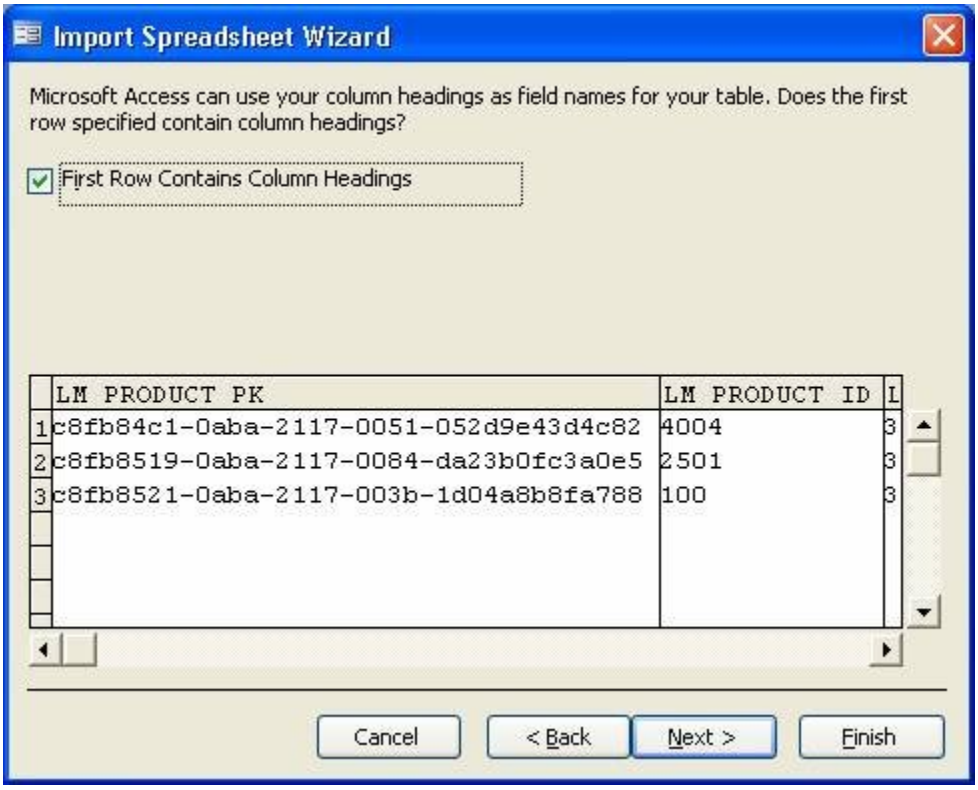
1. Start Access and create a new database.
2. Import the ELC `Embarcadero_reporting_logs.xsl` file. This file is located in the directory you specified when running the `csvConvert` utility command.
    a. In Access, choose File|Get External Data|Import.
    b. In the Import dialog box, choose Microsoft Excel as the file type.
    c. Click the Import button.



3. This opens the Import Spreadsheet wizard. The wizard enables you to import any number of the worksheets from the Embarcadero_reporting_logs Excel workbook.



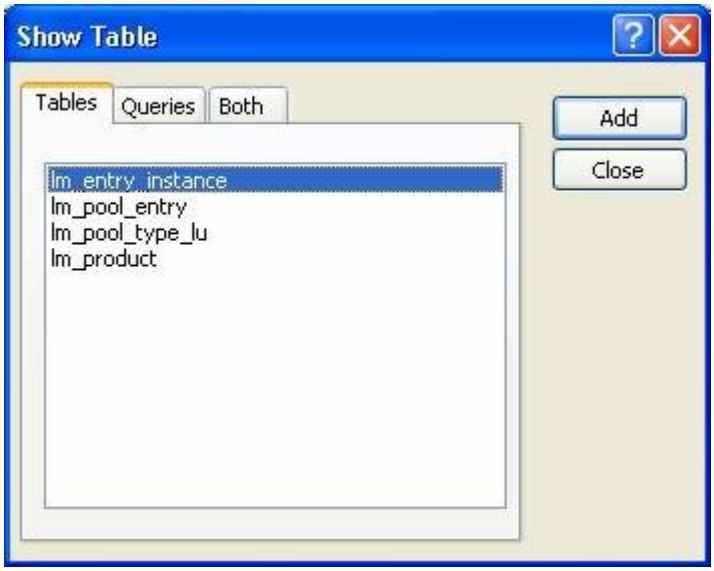
a. Choose a worksheet to import to. See Sample Queries. You only need to import tables named lm_product, lm_pool_type_lu, lm_pool_entry, and lm_entry_instance:



b. Click the First Row Contains Column Headings check box.
c. Click Finish. The worksheet has now been imported into an Access Table of the same name.

Creating queries in Microsoft Access

1. In the Database window, click the Queries link.
2. Double-click Create Query in Design View to create a new query.



3. Select all of the available tables (the example shows four tables imported from the original worksheet) .
4. Click Add.
5. Right-click the Design Pane in the Query Designer and select SQL View.
6. Copy and paste the following into the SQL View of the Query Designer window.

```
SELECT
LM_POOL_ENTRY.LM_REQ_USERNAME,
LM_POOL_ENTRY.LM_HOST_NAME,
LM_PRODUCT.LM_PRODUCT_NAME,
LM_PRODUCT.LM_SKU_NAME,
LM_POOL_TYPE_LU.LM_POOL_TYPE_DESC,
LM_ENTRY_INSTANCE.LM_START_TIME,
LM_ENTRY_INSTANCE.LM_FINISH_TIME
FROM
LM_POOL_ENTRY,
LM_ENTRY_INSTANCE,
LM_PRODUCT,
LM_POOL_TYPE_LU
WHERE
(((LM_ENTRY_INSTANCE.LM_START_TIME)<[Enter a starting date (ie
2/20/2004) ])
AND
((LM_POOL_ENTRY.LM_REQUESTED_TYPE)=1)
AND
((LM_POOL_ENTRY.LM_POOL_ENTRY_ID)=[LM_ENTRY_INSTANCE].[LM_POOL_ENTR
Y_ID])
AND
((LM_PRODUCT.LM_PRODUCT_ID)=[LM_POOL_ENTRY].[LM_PRODUCT_ID])
AND
((LM_PRODUCT.LM_SKU)=[LM_POOL_ENTRY].[LM_SKU_ID])
AND
((LM_POOL_TYPE_LU.LM_POOL_TYPE)=[LM_POOL_ENTRY].[LM_REQUESTED_TYPE]
));
```

7. Save this query with the name concurrent_usage.
8. In the Database window, right-click the newly created concurrent_usage query and click Export. You can now export this query to Excel format by selecting Excel in the Files of Type drop-down list to create charts, reports, and pivot tables.

You can also quickly create reports for the concurrent_usage query (or any queries you create) using the Access Report Designer or Report Wizard.

Sample queries of interest

1. **Query**

```
SELECT
LM_POOL_ENTRY.LM_REQ_USERNAME,
LM_POOL_ENTRY.LM_HOST_NAME,
LM_PRODUCT.LM_PRODUCT_NAME,
LM_PRODUCT.LM_SKU_NAME,
LM_POOL_TYPE_LU.LM_POOL_TYPE_DESC,
LM_ENTRY_INSTANCE.LM_START_TIME,
LM_ENTRY_INSTANCE.LM_FINISH_TIME
FROM
LM_POOL_ENTRY,
LM_ENTRY_INSTANCE,
LM_PRODUCT,
LM_POOL_TYPE_LU
WHERE
(((LM_ENTRY_INSTANCE.LM_START_TIME)<[Enter a starting date (ie
2/20/2004) ])
AND
((LM_POOL_ENTRY.LM_REQUESTED_TYPE)=1)
AND
((LM_POOL_ENTRY.LM_POOL_ENTRY_ID)=[LM_ENTRY_INSTANCE].[LM_POOL_ENTR
Y_ID])
AND
((LM_PRODUCT.LM_PRODUCT_ID)=[LM_POOL_ENTRY].[LM_PRODUCT_ID])
AND
((LM_PRODUCT.LM_SKU)=[LM_POOL_ENTRY].[LM_SKU_ID])
AND
((LM_POOL_TYPE_LU.LM_POOL_TYPE)=[LM_POOL_ENTRY].[LM_REQUESTED_TYPE]
));
```

Description - This query usable in Microsoft Access enables a user to select all licensees using concurrent licenses [1] that began using any product before 2-20-2004 (insert your own date). It includes the licensees' username, hostname, product they were using, license_type, their starting time, and completion time (when the license was released).

[1] `LM_REQUESTED_TYPE = 1` denotes concurrent and `LM_REQUESTED_TYPE=2` denotes network named user

2. **Query** [2]

```
SELECT
LM_REQ_USERNAME,
LM_PRODUCT.LM_PRODUCT_NAME,
LM_PRODUCT.LM_SKU_NAME,
LM_ENTRY_INSTANCE.LM_START_TIME
FROM
LM_POOL_ENTRY,
LM_ENTRY_INSTANCE,
LM_PRODUCT
WHERE
LM_REQUESTED_TYPE=2
AND
LM_DONE IS NULL
AND
LM_PRODUCT.LM_PRODUCT_ID=LM_POOL_ENTRY.LM_PRODUCT_ID
AND
((LM_PRODUCT.LM_SKU)=[LM_POOL_ENTRY].[LM_SKU_ID])
AND
LM_POOL_ENTRY.LM_POOL_ENTRY_ID=LM_ENTRY_INSTANCE.LM_POOL_ENTRY_ID
```

Description
This query selects all named users that currently have licenses in use.

3. **Query** [3]

```
SELECT
LM_REQ_USERNAME,
LM_PRODUCT.LM_PRODUCT_NAME,
LM_PRODUCT.LM_SKU_NAME,
LM_ENTRY_INSTANCE.LM_START_TIME
FROM
LM_POOL_ENTRY,
LM_ENTRY_INSTANCE,
LM_PRODUCT
WHERE
LM_REQUESTED_TYPE=1
AND
LM_DONE IS NULL
AND
LM_PRODUCT.LM_PRODUCT_ID=LM_POOL_ENTRY.LM_PRODUCT_ID
```

---

[2] Due to an issue with MS Access xml import, null integer values fail to import properly. Workaround: Change the following expression **`LM_DONE IS NULL`** to **`LM_DONE = ""`** in the query above when using the `Access XML Import`.

[3] Due to an issue with MS Access xml import, null integer values fail to import properly. Workaround: Change the following expression **`LM_DONE IS NULL`** to **`LM_DONE = ""`** in the query above when using the `Access XML Import`.

```
AND
((LM_PRODUCT.LM_SKU)=[LM_POOL_ENTRY].[LM_SKU_ID])
AND
LM_POOL_ENTRY.LM_POOL_ENTRY_ID=LM_ENTRY_INSTANCE.LM_POOL_ENTRY_ID
```

Description

This query selects all concurrent users that currently have licenses in use.

4. **Query**

```
SELECT
LM_POOL_ENTRY.LM_REQ_USERNAME,
LM_POOL_ENTRY.LM_HOST_NAME,
LM_PRODUCT.LM_PRODUCT_NAME,
LM_PRODUCT.LM_SKU_NAME,
LM_ENTRY_INSTANCE.LM_START_TIME,
LM_ENTRY_INSTANCE.LM_FINISH_TIME,
(DateDiff("n",[LM_START_TIME],[LM_FINISH_TIME]) / 60 ) AS "TIMEUSED
IN HOURS"
FROM
LM_POOL_ENTRY,
LM_ENTRY_INSTANCE,
LM_PRODUCT
WHERE
LM_ENTRY_INSTANCE.LM_START_TIME>[Enter a start date (ie 2/20/2004)
]
AND
LM_ENTRY_INSTANCE.LM_FINISH_TIME<[Enter a finish date (ie
2/20/2004) ]
AND
LM_PRODUCT.LM_PRODUCT_ID=LM_POOL_ENTRY.LM_PRODUCT_ID
AND
((LM_PRODUCT.LM_SKU)=[LM_POOL_ENTRY].[LM_SKU_ID])
AND
LM_POOL_ENTRY.LM_POOL_ENTRY_ID=LM_ENTRY_INSTANCE.LM_POOL_ENTRY_ID
```

Description

This query concatenates users and products with a summary of the start times, finish times, and time used in hours (the DateDiff expression is usable only with Access).

5. **Query**

```
SELECT
LM_POOL_ENTRY.LM_REQ_USERNAME,
LM_POOL_ENTRY.LM_HOST_NAME,
LM_PRODUCT.LM_PRODUCT_NAME,
LM_PRODUCT.LM_SKU_NAME,
LM_ENTRY_INSTANCE.LM_START_TIME,
LM_ENTRY_INSTANCE.LM_FINISH_TIME,
HoursAndMinutes([LM_FINISH_TIME]-[LM_START_TIME]) AS ["TIMEUSED IN
HOURS:MINUTES"]
FROM
```

```
LM_POOL_ENTRY,
LM_ENTRY_INSTANCE,
LM_PRODUCT
WHERE
LM_ENTRY_INSTANCE.LM_START_TIME>[ENTER A START DATE (ie 2/20/2004)
]
AND
LM_ENTRY_INSTANCE.LM_FINISH_TIME<[ENTER A FINISH DATE (ie
2/20/2004) ]
AND
LM_PRODUCT.LM_PRODUCT_ID=[LM_POOL_ENTRY].[LM_PRODUCT_ID]
AND
((LM_PRODUCT.LM_SKU)=[LM_POOL_ENTRY].[LM_SKU_ID])
AND
LM_POOL_ENTRY.LM_POOL_ENTRY_ID=[LM_ENTRY_INSTANCE].[LM_POOL_ENTRY_I
D];
```

Description
This query is identical to the one above with the exception that it uses a function HoursAndMinutes which can be created by following instructions found at the following website:

http://office.microsoft.com/assistance/preview.aspx?AssetID=HA011102181033&CTT=1&Origin=EC010227041033&QueryID=YIx4rFgBb0

After creating the HoursAndMinutes Function mentioned in the article, you can specify the time difference formatted as "Hours:Minutes" between the start time and finish time.

Database Table Descriptions

The following table gives the name of each table in the database along with a general description of the data it contains:

Table name	Description
lm_denial_entry	Denials refer to attempts to access licenses when all available licenses are currently in use.
lm_entry_instance	Tracks timestamp information regarding when license usage begins and ends.
lm_license	Contains information regarding currently available licenses
lm_license_pool	Contains information regarding floating and named license pools.
lm_permission	Contains named and floating user permissions.
lm_pool_entry	Tracks usage data such as user, host, and product which can be linked to timestamp data.
lm_pool_type_lu	Contains descriptions of license pool types.
lm_product	Contains product information related to available licenses.

Table name	Description
lm_timestamp	Contains current timestamp.
lm_user	Contains user information, only pertains to users entered into `userlist.txt` and `userlist-concurrent.txt`.

Deployment Licensing

This section describes Deployment licensing with the ELC. Deployment licensing is a variation of Concurrent licensing. Note the following details of Deployment licensing:

- When an Embarcadero product is launched for the first time, it connects to the License server and requests a deployment license. If the License server returns the license, the product stores it locally and runs without contacting the License server again. Otherwise, the product displays an appropriate error message and does not start.
- On any subsequent launch following successful licensing, the product uses the locally stored license.
- Once a Deployment license is issued, running the "revoke" command on the License Server does not revoke the license.
- Deployment licenses can be returned to the license pool on the License Server by the Embarcadero product using the license. Please see product documentation for information on returning an issued Deployment license. Returning a Deployment license requires the License server that issued the license to be running and accessible.
- Deployment licenses do not require any user list settings on the License server.
- A product using a Deployment license does not maintain a permanent connection (heartbeat) with the License server.
- Deployment licensing is not available for all Embarcadero products.

Questions and Answers

Q. Can concurrent licenses be shared around the world?
A: The license terms state that use is restricted to a single territory, either Americas, Asia Pacific, or Europe, Middle East, and Africa.

Q. Can networked licenses be transferred?
A: Concurrent licenses by definition can be shared by multiple users. Networked named user licenses may be transferred between users in certain situations, such as when one developer leaves the company and is replaced by another developer, or when a contractor finishes a project and the license needs to be transferred to another contractor. Named user licenses may not be transferred regularly between users to essentially make them serve as concurrent user licenses.

Q. Can I move the licensing server to a different machine?
A: No, not without contacting Embarcadero Customer Support.

Q. What if I want to use a product on several workstations?
A: With named user licenses, licenses are counted by username only. With networked concurrent licenses, licenses are counted by login name plus host name.

Q. Can users use an Embarcadero client product at home?
A: If the license server is visible, for example, through the VPN, users may connect for networked licensing. If there is a firewall, you will have to open up certain ports for access. Otherwise, if the server is not accessible, use the offline mode setting set in the `userlist.txt` file.

Q. What load will networked licensing put on the corporate network?
A: With the ELC, network traffic is very low and should not result in significant performance degradation in the corporate network. The client sends approx. 20-30 bytes and the server replies with approx. 10 bytes.

Q. How often does the product communicate with the license server? Can I control this?
A: Typically the server is set to communicate with the product every one minute. This is known as the heartbeat. This heartbeat is set by Embarcadero and cannot be controlled by the customer.

Q. Can ELC handle multiple configuration files?
A: Yes, the server is designed to handle multiple configuration files, including configuration files for multiple products, product versions and numbers of licenses. The server has to load new configuration file or files via either reload command or restart.

Q. How can I setup my user list so that one user can use two or more products?
A: Each entry in the user list defines one product (or suite) license per user. One user can

have multiple entries in the user list. Check the section Configuring the Embarcadero License Center for details.