

ECCAIRS REPORTING SYSTEM SOFTWARE INSTALLATION MANUAL



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1 USING THIS GUIDE

DOCUMENT CONVENTIONS

This document assumes familiarity with basic functions like click, right-click and double-click, and acquaintance with the basics of the operating system you're using. It also assumes a certain degree of expertise using ECCAIRS elements and buttons like **OK** or **Cancel**.

In addition, the following conventions are used:

- **Bold** for text that appear on-screen and subheadings.
- *Italics* for publication titles and new terms.
- `Mono spaced` for file and path names.
- ***Bold Italic*** or underlined for emphasis.
- Keyboard keys in square brackets, with a plus sign separating keys that you press simultaneously.

For example:

press [Ctrl] + [Alt] + [Del] to restart your computer.

- Arrows ("→") to separate ordered directions.

For example:

Click the **Start** button → **Programs** folder → **ECCAIRS 4** folder
is the same as:

1. Click the **Start** button.
2. Click the **Programs** folder.
3. Click the **ECCAIRS 4** folder

In addition, some of the screen representations have been edited and a small coloured frame has been painted around the control (the name that screen items have in the user interface) that is referenced in the near surrounding text. The control has been magnified, as in the example below, to increase reading.



Figure 1 - Evidence painted around a control

2 SOFTWARE INSTALLATION

INTRODUCTION

The purpose of this manual is to describe a typical installation of all components of the ECCAIRS 4 Reporting System, as well as set-up and configuration of database components for the storage of aircraft incident data in a standardised and structured manner.

The installation of the software package is described in chapters. Each chapter will take care of a specific part and/or application. Depending on the configuration chosen, some of the chapters can be skipped. A roadmap at the end of each chapter, in a paragraph entitled «*What's next*», indicates what will be the next step and thus the next chapter.

The ECCAIRS package allows to select between a 'Client', workstation based, installation, which means that the workstation on which the software is installed is used exclusively for accessing data on a remote server, or a 'Server' installation. This last type of installation foresees use of a relational database management system (aka RDBMS) and set-up of user accounts and user profiles for secure data access.

The 'Server' version contains all the software of the 'Client' version, with the addition of administrative tools and configuration files needed for creating ECCAIRS repositories. The two different types come within a single installation package; during installation, a choice can be made if the workstation or the server version of ECCAIRS should be installed.

MSDE FOR ECCAIRS 4

In addition to the ECCAIRS package there is an optional installation procedure for 'MSDE for ECCAIRS 4', which installs a database engine to be used with ECCAIRS 4 on a standalone desktop computer. This manual also assumes that MSDE has not been installed yet.

Desktop computers, to the contrary of server systems that require top-level and expensive components, are normally equipped with standard, off-the-shelf, hardware that allows for running most of today's office automation and Internet software.

MSDE – acronym for Microsoft SQL Server Desktop Engine – is a database management system that allows user to run a robust but lightweight database

system on such computer. Although it is in some event possible, MSDE should not be used as a database server in a workgroup or networked environment.

For this purpose, other excellent products are available. ECCAIRS suggests and supports Microsoft SQL Server™ (releases 7.0 and 2000 or above) or Oracle Corporations' Oracle® (release 8i or above). Other database systems, either commercial or open source are not supported.

The version of MSDE shipped with ECCAIRS – MSDE 2000 – requires approximately **60 Mbytes of additional hard disk space**, which must be accounted for when installing the whole package.

ROADMAP

The manual is divided in chapters. Each chapter fully describes all steps necessary for obtaining a complete and working environment for the specific topic. Based on the type of installation, some chapters must be walked through, while others do not. Reading the skipped paragraphs can help understand the possibilities and capabilities of ECCAIRS 4.

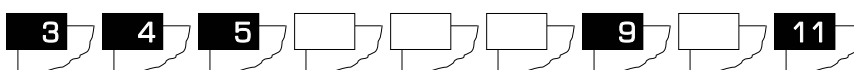
New installation

The following diagrams will show the chapter order according to the layout required. This assumes that ECCAIRS software is not installed on the workstation or on the server.

- Client only to remote existing ECCAIRS 4 Repository



- Stand-alone with MSDE for ECCAIRS 4



- Stand-alone with remote access to SQL Server



- Stand-alone with remote access to Oracle



- Stand-alone with ECCAIRS 4 (.E4F) data files



Existing installation

This option assumes that ECCAIRS software is installed and that the ECCAIRS client must be connected to a new repository.

- Existing Client to remote existing ECCAIRS 4 Repository



3 PREREQUISITES

Installing ECCAIRS software on a computer puts a specific load on hardware and software characteristics. Based on the selection of the installation mode ('Client' or 'Server'), requirements change.

Please note that a user that is either the computer administrator or that has administrator rights on the computer must perform the installation. Failure to do so can result in an incomplete installation with unpredictable results on the whole computer system.

The software installer ("InstallShield") may create temporary copies of the installation package on the hard disk, about the same size of the installation package. Consider this when computing disk space.

WORKSTATION

The installation of a workstation with access to a networked repository requires the following minimal configuration

Hardware

- **Intel Pentium III family processor.** Pentium IV or higher is recommended.
- **128 Mbytes RAM.** 256 Mbytes or more strongly recommended.
- **75 Mbytes hard disk space** for the installation of ECCAIRS software.
- **Network interface to LAN.**

Software

- **Windows NT Workstation 4.0** including Service Pack 6a or higher, **or Windows 2000 Professional** including Service Pack 2 or higher, **or Windows XP Professional** including Service Pack 1 or higher.
- **Internet Explorer 6.0** or higher.

REPOSITORY SERVER

The installation of ECCAIRS as a Repository Server requires the following minimal configuration. If the installation is performed on a database server, additional characteristics (CPU, disk, memory) may be required by the database management system. In the case, please refer to the proper documentation.

Hardware

- **Intel Pentium III family processor.** Pentium IV or higher is recommended. For large multi-user environments, multiple processor servers should be considered.
- **256 Mbytes RAM.** 512 Mbytes or more recommended.
- **75 Mbytes hard disk space** for the installation of ECCAIRS software
- **100 Mbytes hard disk space** for the database (approx 2000 occurrences). As an average, for each additional occurrence another 50Kbytes of extra disk-space is required.
- **60 Mbytes of hard disk space** in case of installation of MSDE. For other database management systems please refer to the proper system specifications.
- **Back-up facilities**
- **Network interface to LAN**

Software

- **Windows NT Server 4.0** including Service Pack 6a or higher, **or**
Windows 2000 Server including Service Pack 2 or higher, **or**
Windows 2003 Server or higher.
- **Internet Explorer 6.0** or higher.
- **Proper Database Client.** An MSDE or SQL Server client is installed by the ECCAIRS installation package. The Repository Server must have proper Oracle Client software installed if the destination database is Oracle.

PREPARATION

Before starting the installation procedure, check that any previous installation of ECCAIRS 4 has been removed/uninstalled. This includes beta releases and release candidate versions.

The ECCAIRS 4 installations leave a large MSI file (approx. 60 Mbytes) in a specific folder called 'Eccairs 4 Installations' (depending on the release of Windows this is under 'C:\WINDOWS' or 'C:\WINNT').

After uninstalling the previous environment **and before installing** a new version, any 'ECCAIRS 4.MSI' file found in this folder or its subfolders can be deleted in order to save disk space.

THINGS TO REMEMBER

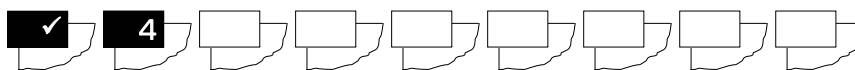
The installation procedure may require a reboot of the workstation or of the server. It is therefore strongly suggested that you save your work and close all running applications before starting the installation procedure.

If the reboot must be operated on the server, be sure to notify all connected users of the upcoming event.

WHAT'S NEXT

The following diagrams will show the chapter order according to the layout required.

- Installing ECCAIRS 4



4 INSTALLING ECCAIRS 4

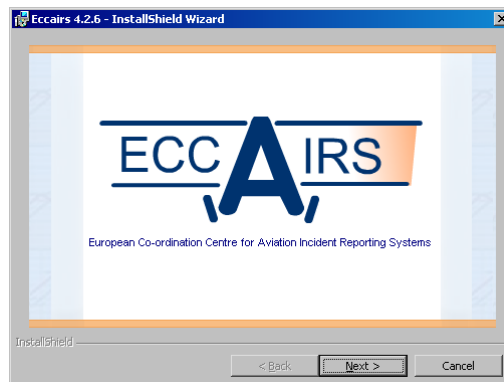
The ECCAIRS 4 software contains all components of the ECCAIRS 4 Reporting System. These components include a data entry and retrieval application called Browser, an application for creating all types of charts called Grapher, and a set of tools for database management, optionally installed according to the installation chosen.

INSTALLATION

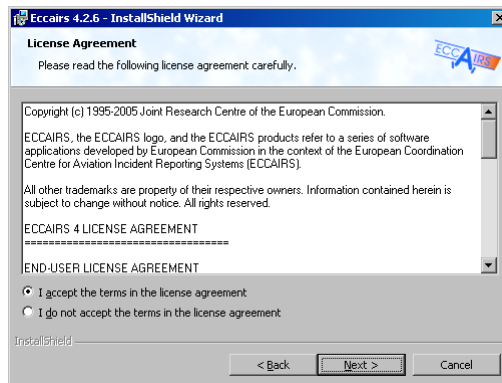
All ECCAIRS 4 software is installed from a single installation package provided on the distribution media. This package contains the software for an ECCAIRS client as well as an ECCAIRS server.

To install ECCAIRS 4 Client or Server on a workstation do the following:

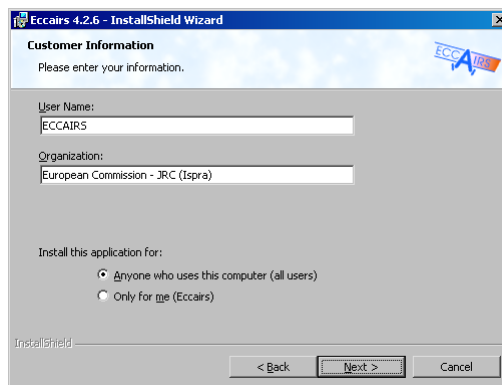
1. Login on the target system as an administrator or as a user with administrator rights.
2. Locate the appropriate folder on the distribution media.
3. From this folder run the set-up program called `EccairsxxxSetup.exe`, where ~~xxx~~ indicates the release version. At a certain moment, you will see an opening screen with the ECCAIRS logo.



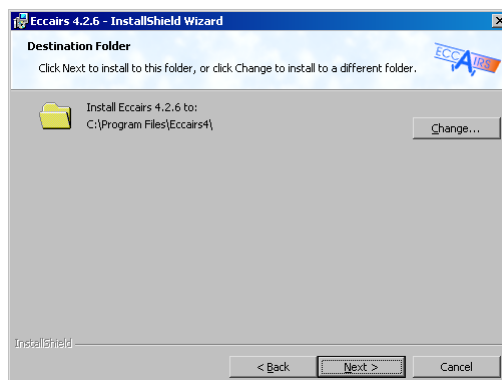
4. Press **Next >** to continue. A copyright screen will be presented. Press **Next >** to continue to the license agreement form.



5. Accept the license agreement and press **Next >** to continue.



6. Compile the fields for your User Name and Organisation and install so that **Anyone who uses this computer (all users)** will be able to run ECCAIRS. Press **Next >** to continue the set-up.
7. Now you must provide the installation folder for your application.

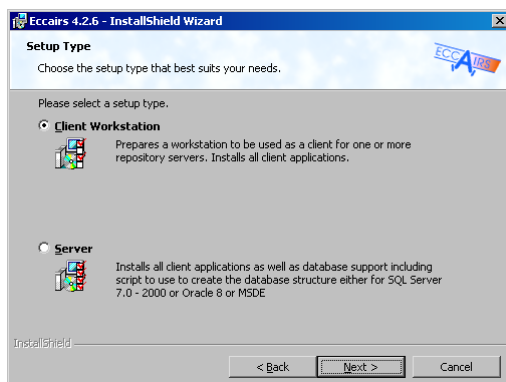


8. If possible, keep the default installation folder proposed. References to this same folder will be made further in this manual. If you decide to change this, write the installation directory in the space below. Click **Next >** to continue.

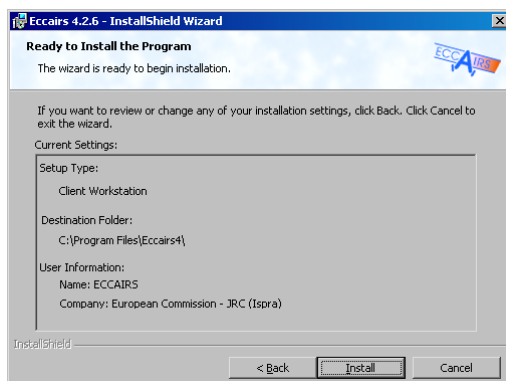
✎ Install dir _____

Write the name of
the installation folder
here for later use!

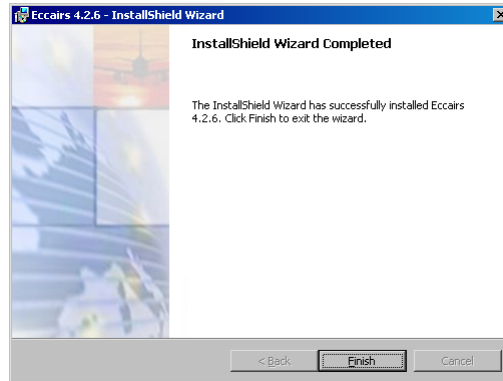
9. On the next dialogue, you must choose between two types of installation, the **Client Workstation** installation or the **Server** installation. If you need to install a Repository Server accessible over a network, or if you plan to install MSDE on the same computer, then choose **Server**; otherwise, choose **Client Workstation** (as in the figure below).



10. Click **Next >** to continue. Now you will see a dialogue indicating that the installation process can start. Press **Install** to start the installation (or **Back** if you want to change some of the installation options).



11. During the installation, a progress bar informs about the status of the installation process. After some time, a message will prompt that the installation has completed. Press **Finish** to close the installation program.



UPDATING ECCAIRS WITH HOT FIXES

All software of so-called "commercial quality" – and unfortunately ECCAIRS makes no exception – suffer from bugs and/or glitches that are discovered once released, no matter how intensive and accurate the testing has been performed. It is therefore necessary to update the installed system with new releases so that users – and administrators – can benefit from the fixes.

Releases of ECCAIRS are normally planned over a long time frame, a period of time that might cause trouble if the software error is impeding users from utilising the system. To overcome this issue, software *updates* are made available with a much higher frequency. In the ECCAIRS system, these updates are called **Hot Fixes**.

Hot fixes can be downloaded from the Support Area of the ECCAIRS Internet Web site (<http://eccairs-www.jrc.it>). They are normally provided as a single, self-extracting compressed format, containing the hot fix and some additional files.



Please note that the hot fix package may contain very important information and/or instructions. It is therefore strongly advised to read the enclosed documentation carefully before proceeding.

To install ECCAIRS 4 Hot Fix on a workstation do the following:

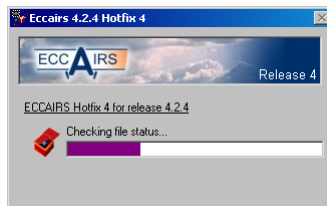
1. Login on the target system as an administrator or as a user with administrator rights.
2. Download the most recent hot fix package from the ECCAIRS web site and decompress it to a temporary folder (images in this paragraph are only used for screen support and do not necessarily represent the latest hot fix).

- From this folder, run the set-up program called `EccairsxxxHotfixy.exe`, where ~~xxx~~ indicates the ECCAIRS release version, and ~~y~~ the progressive hot fix number. It is important to run the hot fix against the proper ECCAIRS installation, otherwise the hot fix may fail to install or install incorrectly making the whole ECCAIRS system unstable.

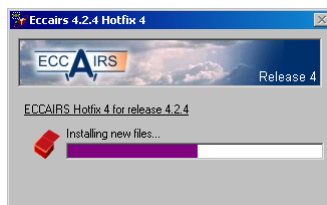


Hot fixes are generally cumulative. This means that the most recent hot fix contains the updates included in all preceding hot fixes as well. It is therefore possible to skip a certain hot fix if a newer one is available.

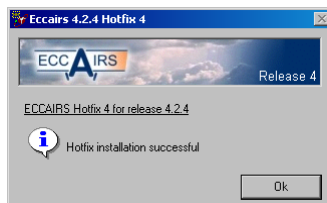
- Click **Install** to start the installation of the hot fix. The hot fix will first verify the existing installation...



...and if everything is found consistent, proceed with the installation of the updated components and programs.



- Click **Ok** to quit the installation of the hot fix.

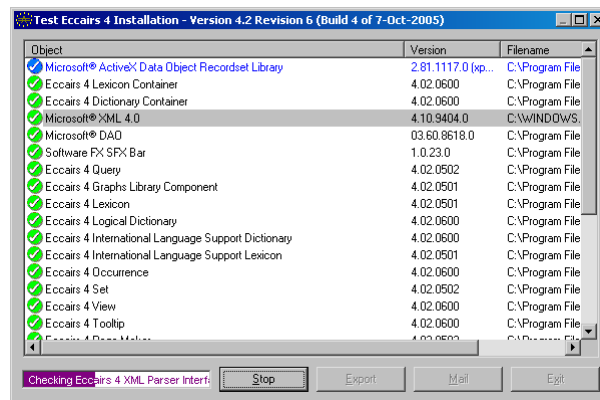


INSTALLATION TEST

The ECCAIRS 4 software installation package contains most of the components it needs to work. The remaining ones are offered directly by the target system, because they are part of the operating system.

Sometimes, and for the most different reasons, these components are not lined-up and can cause the application to fail, apparently without reason. As every component is from factory labelled with a version number, a tester application can compare this with a reference system on which ECCAIRS runs without problems.

1. Click on **Start → Programs → Eccairs 4 → Tools → Test Eccairs 4 Installation**. The tester application will automatically start scanning the installed components (actual screen layout may vary).



The tester will colour components that are older than expected in **RED** and those newer in **BLUE** (generally, it is believed to be OK). Red lines could indicate a potential problem: in the case, ECCAIRS support should be contacted.

The tester has a function that allows activating the preferred e-mail program for sending the result list as an attachment called 'E4TestExport-File.txt' via electronic mail. This list can also be exported for later reference.

The current ECCAIRS release is displayed in the title of the dialogue box.

2. Click **Exit** to quit the application.

WHAT'S NEXT

The following diagrams will show the chapter order according to the layout required.

As ECCAIRS Client

If the installation has been performed as a 'Client', then as a next step it must be connected to a remote existing ECCAIRS 4 Repository.

- Client only to remote existing ECCAIRS 4 Repository



As ECCAIRS Server

For the 'Server' installation, more options are available. If you plan to use a RDBMS on this same computer or on another networked computer, then proceed according to the layout required.

- Setting up an ECCAIRS 4 database using MSDE



- Setting up an ECCAIRS 4 database using SQL Server



- Setting up an ECCAIRS 4 database using Oracle



- Setting up a system without a database server



5 PREPARING AN ECCAIRS DATABASE ON MSDE

The Microsoft MSDE is an optional set of software that allows installing a Microsoft SQL Server 2000 compatible database environment on a standalone workstation for a single user, single workstation ECCAIRS repository.

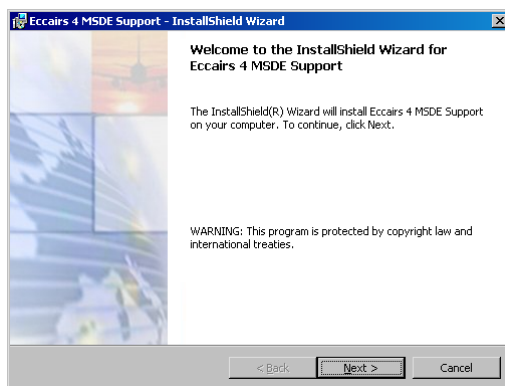
Though it is to a certain extent possible to share an MSDE based repository over a network (for instance in a small workgroup), this usage is discouraged because of the limited capacity of the MSDE package as a multi-user database. Normally such system requires increased performances, security and availability. For these multi-user, networked environments, a full database package like SQL Server or Oracle should definitively be considered.

Before installing the ECCAIRS 4 MSDE package, ECCAIRS 4 should have been installed as a 'Server' version (see chapter 4, in the paragraph entitled **INSTALLATION** at point 9 on page 21).

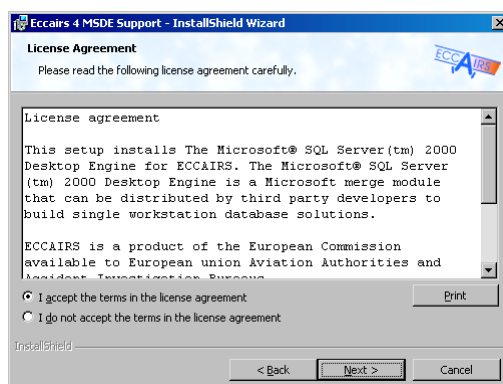
INSTALLATION

The ECCAIRS MSDE software is installed from a single installation package provided on the distribution media. To install ECCAIRS MSDE do the following:

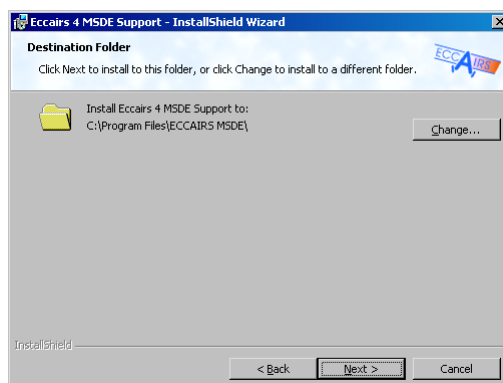
1. Login on the target system as an administrator or as a user with administrator rights.
2. Locate the appropriate folder on the distribution media. Run the set-up program 'Eccairs4MSDESupport.exe' that can be found in this folder. At a certain moment, you will see an opening screen with the ECCAIRS logo.



3. Press **Next >** to continue. A copyright screen will be presented. Press **Next >** to continue to the license agreement form.



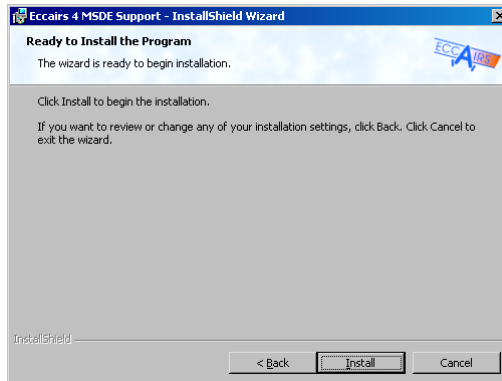
4. Accept the license agreement and press **Next >** to continue.
5. Now you must provide the installation folder for your application. If possible, keep the default installation folder proposed, or change it to the folder entered in chapter 4, in the paragraph entitled **INSTALLATION** at point 8 on page 21. If you decide to change this, write the installation directory in the space below the next figure.



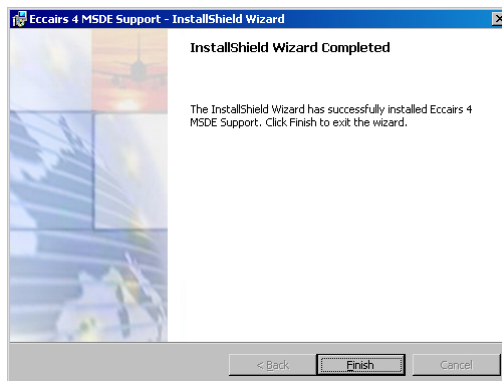
✎ Install dir _____

Write the name of the installation folder here for later use!

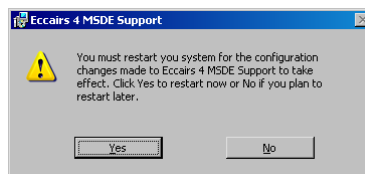
6. Click **Next >** to continue. Now you will see a dialogue indicating that the installation process can start. Press **Install** to start the installation (or **Back** if you want to change some of the installation options).



7. During the installation, a progress bar informs you on the status of the installation process. When the installation process has completed successfully you will be informed and you must press **Finish** to close the installation program.



8. The Set-up procedure will eventually inform you that your workstation must be restarted. Select **Yes** if you want to perform immediately. Be sure to close all other applications first.

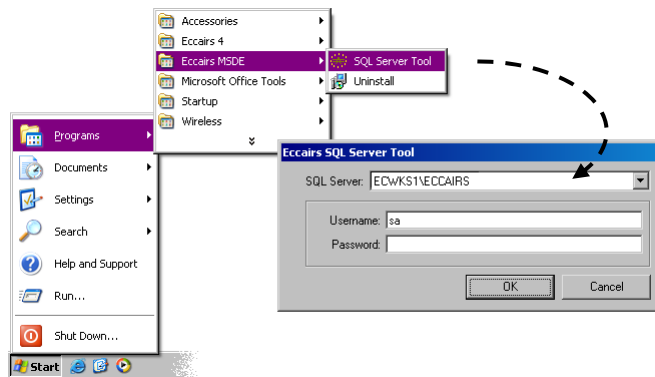


*If you plan to restart later, thus selecting **No**, remember that you will only be able to continue with this manual until a restart has been performed. During the start-up, in fact, ECCAIRS MSDE will complete the installation automatically and activate a usable instance of the database engine.*

CONFIGURATION


Now that ECCAIRS MSDE has been installed, it needs to be properly configured before it can be used for data-storage. Perform the following steps:

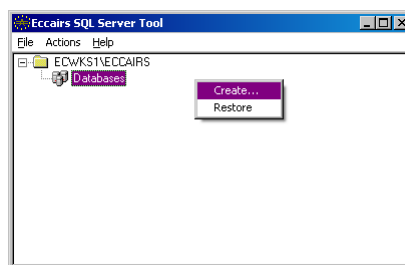
9. Login on the target system with the same account used in the previous steps. Start the SQL Server Tool installed by ECCAIRS MSDE. This program can be found under **Start → Programs → Eccairs MSDE → SQL Server Tool**.
10. When this application is run, a dialogue box comes up with the name of the MSDE instance installed (<computer name>\ECCAIRS), and a username and password for the administrator of this database.



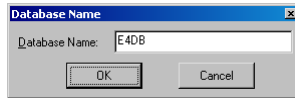
Instance name _____

Write the name of the MSDE instance here for later use!

11. Make sure this instance is selected, leave the **Username** 'sa' and enter the **Password** (the default value is 'ECCAIRS' in upper case). Click on **OK** to login into the SQL Server Tool.
12. Click on the  icon in front of the MSDE instance name so to expand the tree view. Highlight the **Databases** element in the tree and right-click. Select **Create...** for creating a new database.



13. A database must have a unique name, and the database manager will ask to supply one. Enter a valid name, for instance 'E4DB'. References to this same name will be made further in this manual. If you decide to change this, write the database name in the space below.

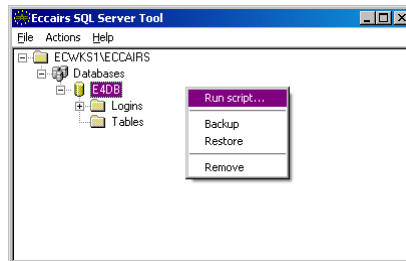


✎ DB name _____

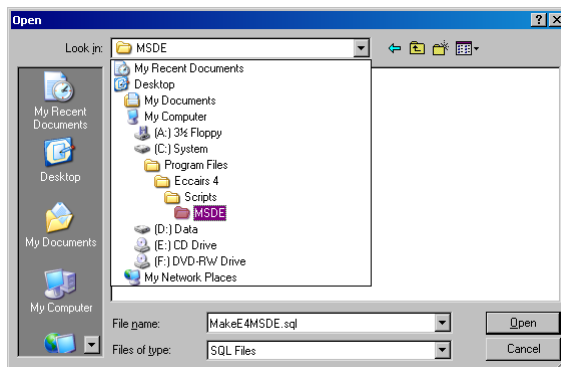
Write the name of
the database here
for later use!

Click on **OK**. The database will now be created, a process that might take several minutes. At the end, you will see a dialogue with the confirmation.

14. Once finished, the tree of the MSDE instance will show you the database created (here 'E4DB') together with two nodes for the **Logins** and the **Tables** of the database. The next step consists in creating the tables for ECCAIRS 4, by right clicking on the database name and selecting **Run Script...**

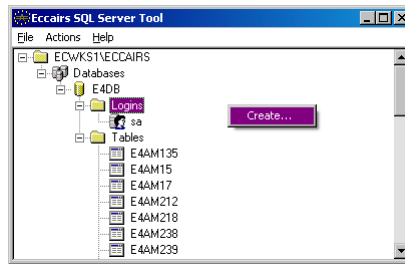


15. The script to run is called 'MakeE4MSDE.sql' and can be found under the 'Scripts\MSDE' subfolder of the main installation folder of ECCAIRS 4 (chapter 4, in the paragraph entitled **INSTALLATION** at point 8 on page 21)

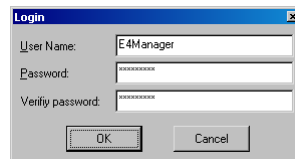


Select this file and wait until the script execution has completed successfully. The **Tables** tree – if expanded – will show all tables created.

16. A new *Login* needs to be created so that the ECCAIRS 4 can access and use the database. It would be possible to use the existing 'sa' user. However, this account is designed for administrative purposes only; it should therefore not be used for regular database access.



17. Highlight the **Logins** node, right-click and select **Create...** On the dialogue box that appears, enter a **User name** for this Login account and post a **Password**. Type the chosen password again in the **Verify password** field.



It is not important which name and password are given, but these values should definitively be kept since they will be needed later on.

✎ User Name _____

Password _____ (case sensitive)

Write the name and the password here for later use!

18. The new login is displayed in the **Logins** tree. If the password needs to be changed, then right-click on the account's name and act accordingly.

WHAT'S NEXT

At this point, the database has been created on the local machine and is now ready to accept data, but ECCAIRS 4 cannot store data unless a valid Repository is made up.

In this configuration, i.e. with an ECCAIRS 'Server' system and a database server (here MSDE), the user accesses the data via an ECCAIRS 4 Repository locally, without using a local area network (LAN).

The Repository is thus the centre of the local ECCAIRS 4 network: all users must use it for being able to input, retrieve and display occurrence data. The role of the Repository is managing occurrence data by means of security, data display rules and data access configuration.

More information about repositories can be found in the ECCAIRS technical manuals.

As stand-alone system

If the ECCAIRS system will be used as a stand-alone system, then no additional system configuration is necessary, except for those deriving from the instructions set forth in the chapters dedicated to the ECCAIRS Repository configuration.

- Setting up an ECCAIRS 4 Repository



As ECCAIRS Server

If this ECCAIRS system **will be used** by other workstations also (with all the limitations set forth in the introduction of this chapter), then DCOM must be configured. DCOM allows an ECCAIRS 'Server' to receive calls and communicate over a LAN with an ECCAIRS 'Client' system.

- DCOM for remote access from other clients to the Repository Server



6 PREPARING AN ECCAIRS DATABASE ON SQL SERVER

This chapter contains specific instructions for setting up an ECCAIRS database running on Microsoft SQL Server release 7 or Microsoft SQL Server 2000. It is assumed that either release of SQL Server has been installed prior to following the instructions. The images shown in this chapter are taken from an installation performed on a server running SQL Server 2000. Images for SQL Server 7 might be slightly different.

Although the steps for successfully preparing an ECCAIRS database on SQL Server are of moderate difficulty, managing and configuring a SQL Server instance should remain a task for a skilled database administrator.

PREPARATION

Before installing and configuring an ECCAIRS database on SQL Server, ECCAIRS 4 should have been installed as a 'Server' version (see chapter 4, in the paragraph entitled **INSTALLATION** at point 9 on page 21).

The default folders proposed by SQL Server can be used, but the recommendation is to create the following folder structure on the logical disk that will contain the ECCAIRS database:

- C:\ECCAIRS4 (root directory)
- C:\ECCAIRS4\DATA (the place where the database data-files will be located)
- C:\ECCAIRS4\LOG (the place where the database transaction log file will be located).

Note that if you create the 'DATA' and the 'LOG' folder in a different drive and/or subfolder on your system, then you should substitute the relevant part of the locations used in the rest of this manual with your chosen location.

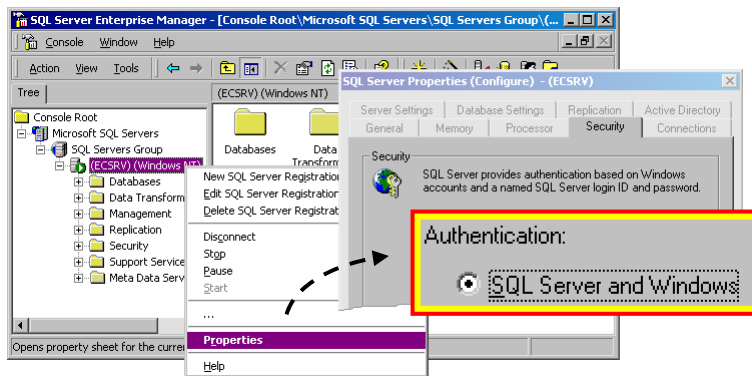


For your data safety, the database should be backed up regularly with backup software of good quality. Consider also exporting data to E4F files, and backing up the latter.

INSTALLATION

Installation of SQL Server is not described in this manual. The installation as described in the Microsoft documentation can be followed. It is however mandatory to allow connections via SQL Server authentication in addition to the

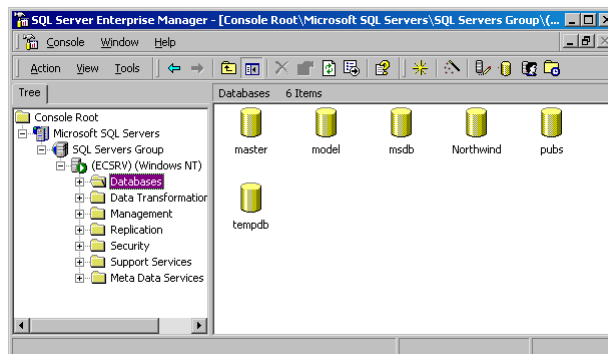
Windows authentication. This setting is available under the **Security** tab, found on the **Properties** dialogue of the SQL Server instance.



CONFIGURATION

A SQL Server database needs to be created and configured before ECCAIRS 4 can use it for data-storage. The server will need to know where to save data and who is granted access to it. Perform the following steps:

1. Start SQL Server Enterprise Manager.
2. Expand all nodes of the tree in the left pane of the SQL Enterprise Manager and select the **Databases** node of the server on which you installed SQL Server – in the example 'ECSRV'.



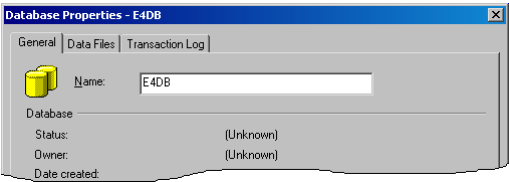
✎ Server name _____

Write the name of the Server here for later use!

3. Create a new database by selecting **Action → New Database...** or by right clicking on the **Databases** folder under the server's name. This brings up the

dialogue box where you can set all properties for the new database and its transaction log.

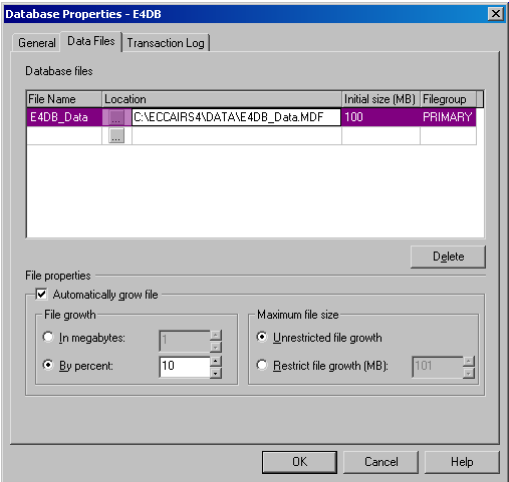
4. Within the **Database Properties** window click on the **General** tab. Enter a valid name in the **Name** field, for instance 'E4DB'. References to this same name will be made further in this manual. If you decide to change this, write the database name in the space below.



✂ DB name _____

Write the name of
the database here
for later use!

5. Click on the **Data Files** tab. The **File Name** of the database files will default to the name given above and the suffix '_Data' – for instance 'E4DB_Data'. Set the location of your database file to the folder indicated in paragraph entitled **PREPARATION** on page 35.

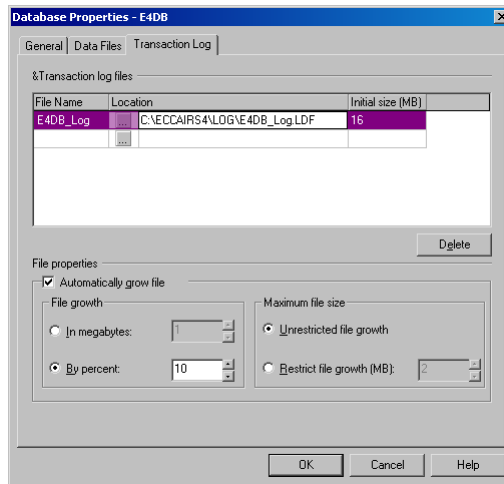


✂ File Name _____

Location _____

Set the size of the database file to meet your requirements. Each occurrence occupies an average of 50 Kb. In the above example, 100 Mb storage space is allocated, sufficient for storing approximately 2.000 occurrences. The settings for **File growth** and **Maximum file size** must be established according to the proper database policy.

6. Click on the **Transaction Log** tab. The **File Name** of the database files will default to the name given above and the suffix '**_Log**' – for instance '**E4DB_Log**'. Set the location of your transaction log file to the folder indicated in paragraph entitled **PREPARATION** on page 35.

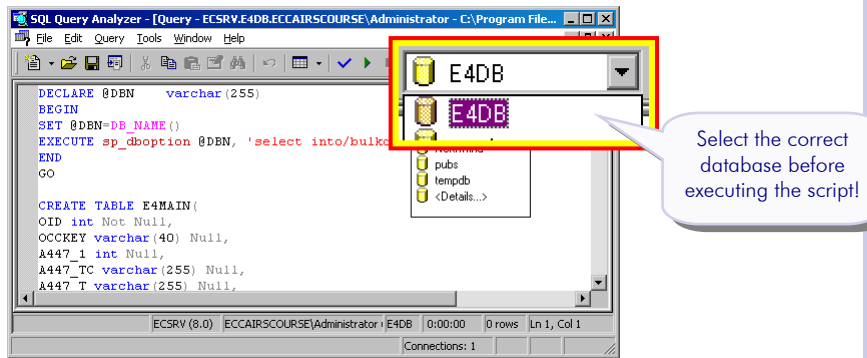


🗑️ File Name _____

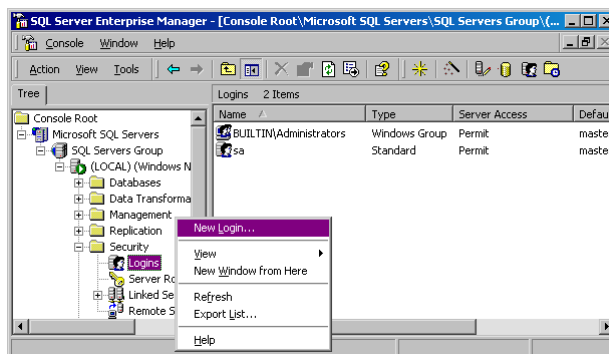
Location _____

Set the size of the transaction log file to meet your requirements. In the above example, 16 Mb is allocated. The settings for **File growth** and **Maximum file size** must be established according to the proper database policy. Click on **OK** to confirm.

7. The next step consists in creating the tables for ECCAIRS 4. Start the SQL Server Query Analyzer from the **Tools** menu of SQL Server Enterprise Manager. Select the ECCAIRS database just created (point 4, on page 37) as the current database.

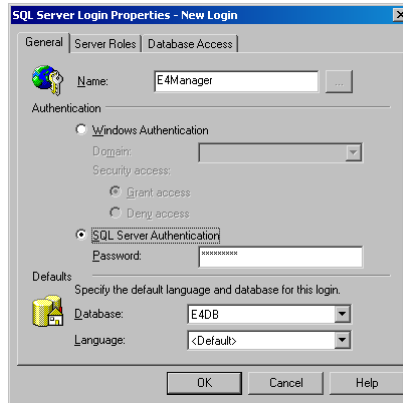


8. With **File** → **Open**, load the proper SQL script into the Analyzer. The script to run depends on the version of SQL Server installed, and is 'MakeE4Sql2000.sql' for SQL Server 2000 or 'MakeE4Sql17.sql' if using SQL Server 7. Both scripts are stored in the 'Scripts\SQL Server' subfolder of the main installation folder of ECCAIRS 4 (chapter 4, in the paragraph entitled **INSTALLATION** at point 8 on page 21).
9. Execute the script by selecting **Query** → **Execute** or by clicking the green play button ► on the tool bar. Running the script may take several minutes. It will create all the necessary items (tables, keys, etc.) for ECCAIRS. The Results window on the bottom part of this dialogue can be browsed to see if error messages have been generated during the execution of the script.
10. Finally close SQL Server Query Analyzer and return to Enterprise Manager.
11. The ECCAIRS database has to be associated with a User account. Create the new login by right clicking on the **Logins** item under the **Security** folder of the SQL Server server.



12. On the **General** tab enter a valid in the **Name** field, select **SQL Server authentication** and enter a Password. It is not important which name and password are given, but these values should definitively be kept since they

will be needed later on. Select your generated ECCAIRS database (point 4, on page 37) as **Database** in the **Defaults** section at the bottom and as **Language** select '<Default>'.

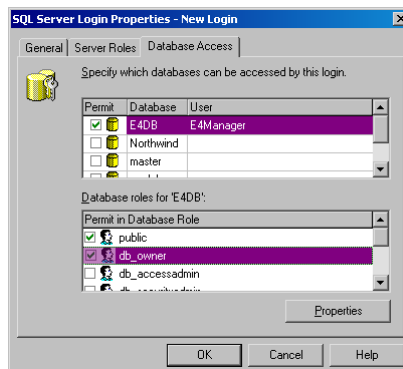


✎ User Name _____

Password _____ (case sensitive)

Write the name and the password here for later use!

13. On the **Database Access** tab check the ECCAIRS database (see above) in the upper list and check 'db_owner' in addition to 'public' in the lower list. This gives the new user enough rights in the ECCAIRS database.



14. Press **OK** and confirm the password when asked for. SQL Server will add the user within the database.
15. Close SQL Server Enterprise Manager.

WHAT'S NEXT

At this point, the database has been created on the local machine and is now ready to accept data. In this common configuration, i.e. with an ECCAIRS 'Server' system and a database server – here: SQL Server, other users access the data via an ECCAIRS 4 Repository over a local area network (LAN).

The Repository is thus the centre of the local ECCAIRS 4 network: all users must use it for being able to input, retrieve and display occurrence data. The role of the Repository is managing occurrence data by means of security, data display rules and data access configuration.

More information about repositories can be found in the ECCAIRS technical manuals.

As ECCAIRS Server

If the ECCAIRS system **will be accessed** by other workstations, then DCOM must be configured. DCOM allows an ECCAIRS 'Server' to receive calls and communicate over a LAN with an ECCAIRS 'Client' system.

- DCOM for remote access from other clients to the Repository Server



As stand-alone system

If the ECCAIRS system **will not be accessed** by other workstations and will thus be used as a stand-alone system, then no additional system configuration is necessary, except for those deriving from the instructions set forth in the chapters dedicated to the ECCAIRS Repository configuration.

- Setting up an ECCAIRS 4 Repository for occurrence data access



7 PREPARING AN ECCAIRS DATABASE ON ORACLE

This chapter contains specific instructions for setting up an ECCAIRS database running on Oracle 8i. The images shown in this chapter are taken from an installation performed on a server running Oracle Enterprise Edition 8.1.7. Images as well as procedures and forms might differ for other versions of Oracle, but the tasks to be performed are the same.

Although the steps for successfully preparing an ECCAIRS database on Oracle Server are of moderate difficulty, managing and configuring an Oracle instance should remain a task for a skilled database administrator.

PREPARATION

Before installing and configuring an ECCAIRS database on Oracle Server, ECCAIRS 4 should have been installed as a 'Server' version (see chapter 4, in the paragraph entitled **INSTALLATION** at point 9 on page 21).

The default folders proposed by Oracle Server can be used, but the recommendation is to create the following folder structure on the logical disk that will contain the ECCAIRS database:

- C:\ECCAIRS4 (root directory)
- C:\ECCAIRS4\DATA (the place where the database data-files will be located)

Note that if you create the 'DATA' folder in a different drive and/or subfolder on your system, then you should substitute the relevant part of the location used in the rest of this manual with your chosen location.



For your data safety, the database should be backed up regularly with backup software of good quality. Consider also exporting data to E4F files, and backing up the latter.

INSTALLATION

Installation of Oracle is not described in this manual. The installation as described in the Oracle documentation can be followed.

It is worth mentioning that when using the ECCAIRS system with an Oracle database in a LAN environment, only the ECCAIRS Repository Server must have Oracle Client software installed, because this is the only workstation connecting to the Oracle instance.

Concurrently, it might be necessary to modify the **Oracle's Authentication Adapter** to force use of standard User ID and Password authentication, by acting within the configuration file called 'SQLNET.ORA' of the Repository Server only:

```
# SQLNET.ORA Network Configuration File (sample)
...
SQLNET.AUTHENTICATION_SERVICES= (NONE)
...
```

Set the Oracle authentication to '(NONE)'

CONFIGURATION

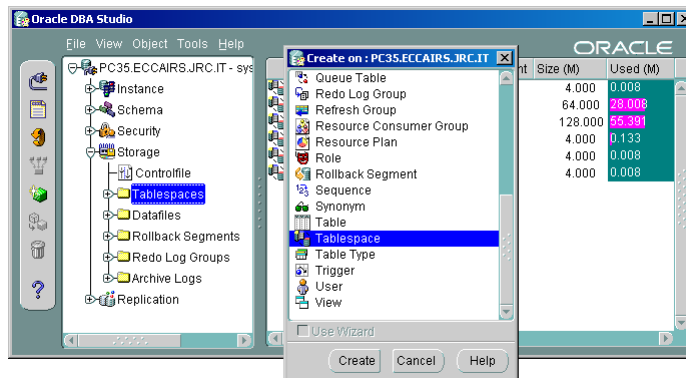
An Oracle database needs to be created and configured before ECCAIRS 4 can use it for data-storage. The server will need to know where to save data and who is granted access to it. Perform the following steps:


1. Start **Oracle DBA Studio** and connect to the server instance. Log in using an account having privileges that include being able to create users and tablespaces. References to this same server instance name will be made further in this manual, so it is best to write this name in the space below.

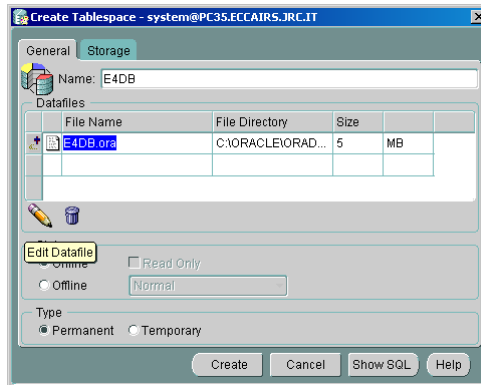
✎ Oracle ID _____

Write the name of the Oracle instance here for later use!

2. Expand the **Storage** node of the tree in the left pane and select the **Tablespaces** node.



3. Create a new tablespace by selecting **Object → Create...** or by clicking on the green box-shaped icon  in the left tool bar. From the available objects, highlight **Tablespace** and finally click on **Create**.
4. A tablespace must have a unique name, and the database manager will ask to supply one. In the dialogue box, enter a valid name of the tablespace, for example 'E4DB'.



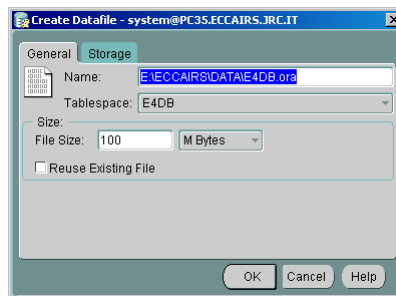
References to this same name will be made further in this manual. If you decide to change this, write the tablespace name in the space below.

✎ DB name _____

Write the name of the tablespace here for later use!

DBA Studio will automatically use the name for defining the **File Name** and use a default **File Directory**. Click on the filename *in* the Datafiles grid. Now use the pencil-shaped icon underneath to edit the Datafile properties.

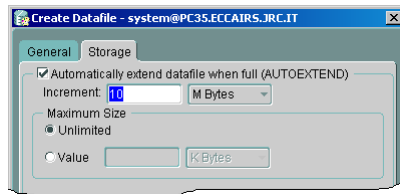
- On the dialogue box's **General** tab, edit the full path of the datafile to reflect the folder indicated in paragraph entitled **PREPARATION** on page 35.



✎ Full Name _____

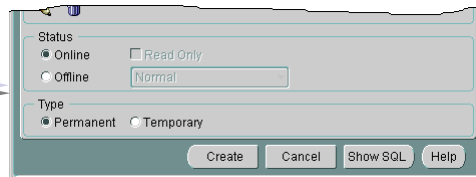
Set the size of the database file to meet your requirements. Each occurrence occupies an average of 50 Kb. In the above example, 100 Mb storage space is allocated, sufficient for storing approximately 2.000 occurrences.

- On the **Storage** tab, the 'Automatically extend datafile when full (AUTOEXTEND)' must be established according to the proper database policy. With Auto Extend enabled, the datafile will automatically grow in size when this is required.

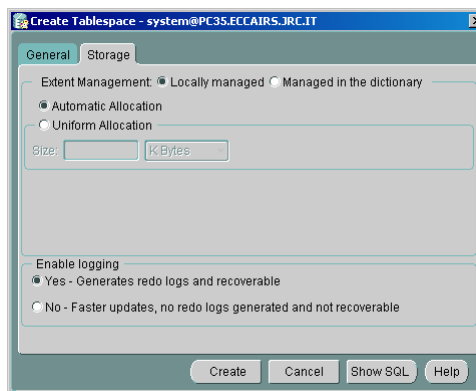


- Click on the **OK** button and you will be brought back to the **Create Tablespace** dialogue with the new preferences for the data files set. Be sure to set the **Status** to 'Online' and the **Type** to 'Permanent'.

'Online' status and
'Permanent' type are
set here.



- Click on the **Storage** tab. The settings in this tab define how the tablespace is managed by the Oracle server. Change upon need and according to the database policy in force.



- By clicking on the **Create** button, the system will create the tablespace and allocate disk space for the data files. This may take a short while. Click **OK** to close the confirmation message.

Although the next step is not mandatory (i.e. creating a temporary tablespace, the predefined TEMP could be used instead), this manual pursues the objective to creating a data environment that is used exclusively by ECCAIRS 4.

10. Repeat all of the above steps for creating a **temporary** tablespace, named for instance 'E4TEMP'. Set the size of this temporary tablespace to a reasonable value (e.g. 25 Mbytes, with auto extend turned on). Be sure to set the **Type** to 'Temporary' before clicking on the **Create** button.

'Online' status and 'Temporary' type are set here.

11. The ECCAIRS and temporary tablespace have to be associated with a User account. Expand the **Security** node of the tree in the left pane and select the **Users** node. Create a new user account by selecting **Object** → **Create...** or by clicking on the green box-shaped icon in the left tool bar. From the available objects, highlight **User** and finally click on **Create**.
12. On the **General** tab enter a valid name in the **Name** field, for example 'ECCAIRS4', select **Password** authentication and enter a password. It is not important which name and password are given, but these values should definitively be kept since they will be needed later on. Assign the generated tablespaces (point 4 on page 44 and point 10 above) in the **Tablespaces** section at the bottom.

User Name _____

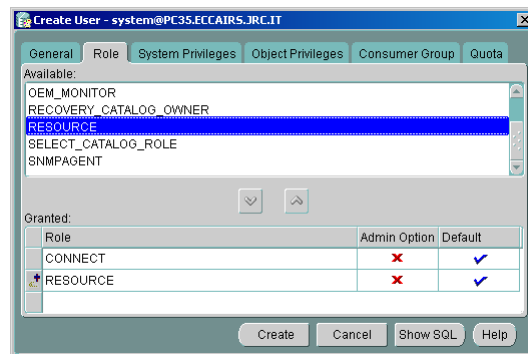
Password _____ (case sensitive)

Write the name and the password here for later use!

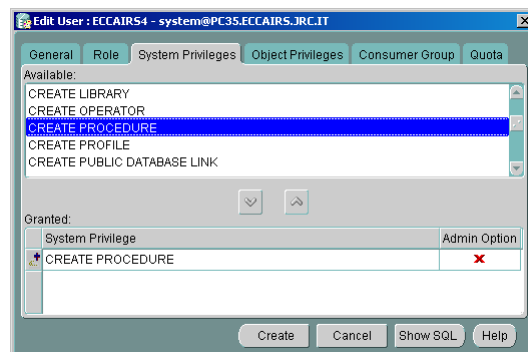
The database initialisation script, which will be executed in one of the next steps, contains instructions for creating tables, constraints, index but also functions. In order to be able to create these functions, the user account must have sufficient privileges. Privileges are assigned individually or by using a **role**.

The default role given by Oracle for new user accounts is 'CONNECT'. With this role, all of the above instructions except creating functions are permitted. It is therefore mandatory to add this privilege to the account. The next point will show two methods for doing this.

13. **Method 1** – Click on the **Role** tab and grant this user, in addition to the CONNECT role which is normally given by default, also the RESOURCE role. This role grants additional privileges that have to be verified individually.

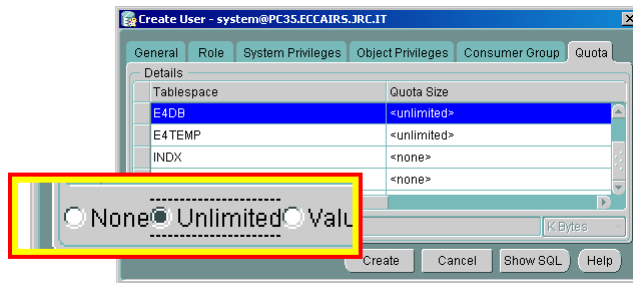


- Method 2** – Click on the **System Privileges** tab and grant this user the CREATE PROCEDURE privileges. This method is more restrictive.



14. With Method 1 (above), there is no need for additional settings, because the role includes the privilege to allocate unlimited space, the so-called 'quota'.

Method 2 requires that the quota must be set manually. Click on the **Quota** tab, and set it, for the two tablespaces assigned in point 12, to '<unlimited>' using the relative option on the bottom of the dialogue.




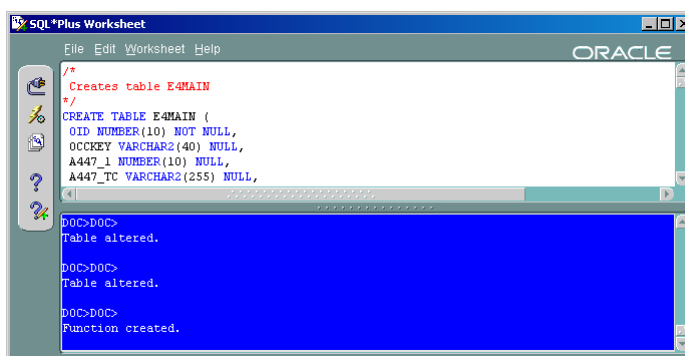
15. When done, click on the **Create** button for instructing Oracle to create the user. Click on the confirmation message box. Eventually expand the **Security** and the **Users** node to verify that the user has indeed been created with the correct settings.

Now that the ECCAIRS database has been created and the user account is available, it needs to be populated with the necessary system files.

16. Close DBA Studio and start Oracle's SQL*Plus Worksheet. Connect directly to the database using the credentials set forth in point 12, and connect to the Oracle service in which the database is available (see also point 1).
17. Load the data structure creation script. Using **File → Open** (Ctrl-O), load the proper SQL script into the Worksheet. The script to run is called 'MakeE4Oracle8.sql' and is stored in the 'Scripts\Oracle' subfolder of the main installation folder of ECCAIRS 4 (chapter 4, in the paragraph entitled **INSTALLATION** at point 8 on page 21).

This script is intended for use on Oracle 8i, but newer releases should be able to execute it without modification.

18. Execute the script by selecting **Query → Execute** (F5) or clicking the lightning bolt-shaped button  on the tool bar. Running the script might take several minutes. The script will create all the necessary items (tables, keys, stored procedures, etc.) needed by the ECCAIRS system.



In the bottom part of this dialogue, the Results window, the log of the initialisation script can be looked through to see if during the execution error messages have been generated that require intervention.

After successful completion, Oracle SQL*Plus Worksheet can be closed.

WHAT'S NEXT

At this point, the database has been created on the local machine and is now ready to accept data. In this common configuration, i.e. with an ECCAIRS 'Server' system and a database server – here: Oracle Server, other users access the data via an ECCAIRS 4 Repository over a local area network (LAN).

The Repository is thus the centre of the local ECCAIRS 4 network: all users must use it for being able to input, retrieve and display occurrence data. The role of the Repository is managing occurrence data by means of security, data display rules and data access configuration.

More information about repositories can be found in the ECCAIRS technical manuals.

As ECCAIRS Server

If the ECCAIRS system **will be accessed** by other workstations, then DCOM must be configured. DCOM allows an ECCAIRS 'Server' to receive calls and communicate over a LAN with an ECCAIRS 'Client' system.

- DCOM for remote access from other clients to the Repository Server



As stand-alone system

If the ECCAIRS system **will not be accessed** by other workstations and will thus be used as a stand-alone system, then no additional system configuration is necessary, except for those deriving from the instructions set forth in the chapters dedicated to the ECCAIRS Repository configuration.

- Setting up an ECCAIRS 4 Repository for occurrence data access



8 CONFIGURING DCOM

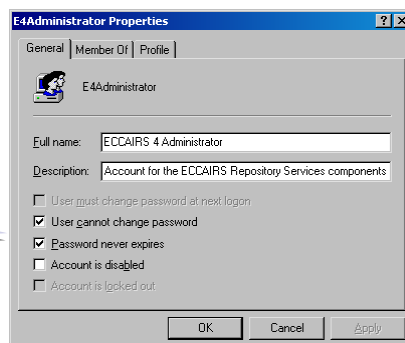
DCOM (Distributed Component Object Model) is Microsoft's component software architecture for use of software objects in networks. DCOM allows such objects to be run remotely over the network, so components of software applications residing on different machines can talk to each other.

With DCOM, the modules of the ECCAIRS 'Client' and the ECCAIRS 'Server' communicate over a LAN and exchange data and information. If DCOM is not configured correctly, the workstation cannot establish a connection to the server and to the repository.

Note: DCOM needs to be configured only on the ECCAIRS 'Server' and only if used in junction with other ECCAIRS 'Client' workstations connecting to it from within a LAN environment.

PREPARATION

On the Repository Server, a **local user** (or domain user in the exceptional case your system is also a primary domain controller) called 'E4Administrator' must have been created prior to configuring DCOM.



User Name *E4Administrator* ____ (fixed)

Password _____ (case sensitive)

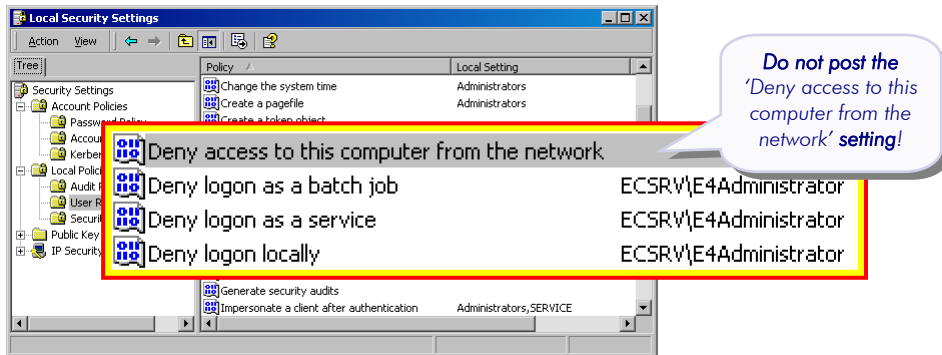
Write the password here for later use!

The given password will be needed every time users want to make the first connection to this repository server system (see Chapter 11 – SETTING UP A LINK

TO A REPOSITORY). This password must not expire and it must not be changeable by the user (see above).

Locking down the 'E4Administrator' user

For enhanced security, the access rights for the 'E4Administrator' user can be modified to reduce the risk of unauthorised access. This achieved by editing the **Local Security Policy** settings. Restrictions can be put under the **User Rights** section that can deny access and logon. Such settings are not mandatory.



The settings above represent a sample. However, when using this feature, the only setting that should not be posted is to **Deny access to this computer from the network** for the 'E4Administrator' user. Otherwise, the ECCAIRS system is unable to accept connections from remote 'Client' workstations.

CONFIGURATION

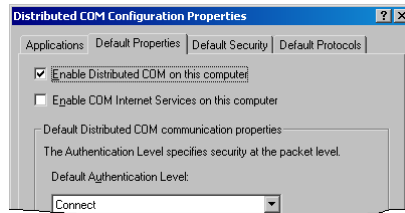
The DCOM configuration on Windows 2000 differs slightly from the one on Windows XP or Windows 2003 Server. The necessary instructions will address these operating systems separately. Instructions for Windows XP or Windows 2003 Server are given on page 57.

Windows 2000

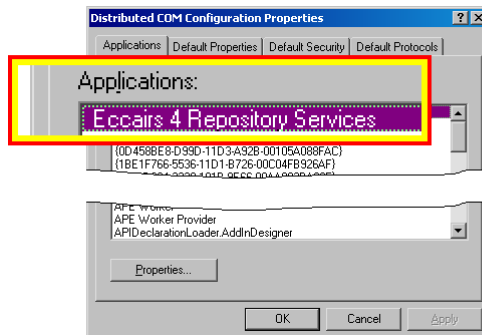
To configure DCOM on Windows 2000 do the following:

1. Login on the target repository server system as administrator or as a user with administrator rights.
2. Click on **Start → Run....** Type 'dcomcnfg' as name of the program and press **OK**.
3. Click on the **Default Properties** tab and turn **Enable Distributed COM on this computer** on by clicking the relative checkbox. Do not make other

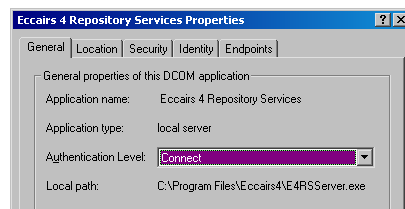
modifications on this tab. Do also not modify data on the **Default Security** and **Default Protocols** tabs.



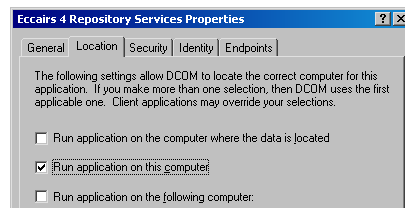
- Next, click on the **Applications** tab. The 'Eccairs 4 Repository Services' application entry should be in the list. If it is not, then it is most probable that the ECCAIRS installation has been performed by a user with insufficient privileges, i.e. not an administrator or equivalent.



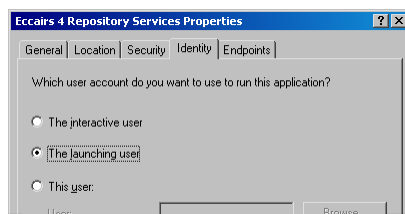
- Highlight it and click on the **Properties...** button. Click on the **General** tab and set the **Authentication Level** to 'Connect'.



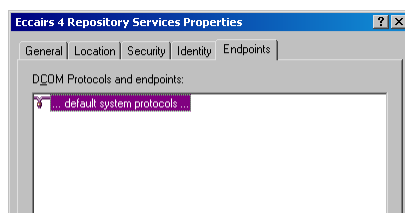
Click on the **Location** tab and turn 'Run application on this computer' on by checking the relative checkbox. The other checkboxes should be turned off.



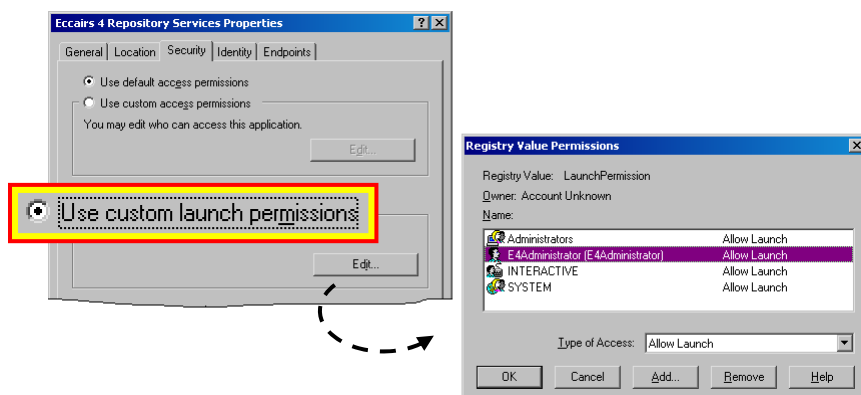
Click on the **Identity** tab and select '**The launching user**'.



Click on the **Endpoints** tab to verify that the '**...default system protocols...**' are available.



- Click on the **Security** tab and select '**Use custom launch permissions**'. Click on the **Edit...** button relative to this section. Add the local '**E4Administrator**' (see **PREPARATION** on page 53) user with '**Allow Launch**' privileges granted. Click on **OK** for accepting this setting.

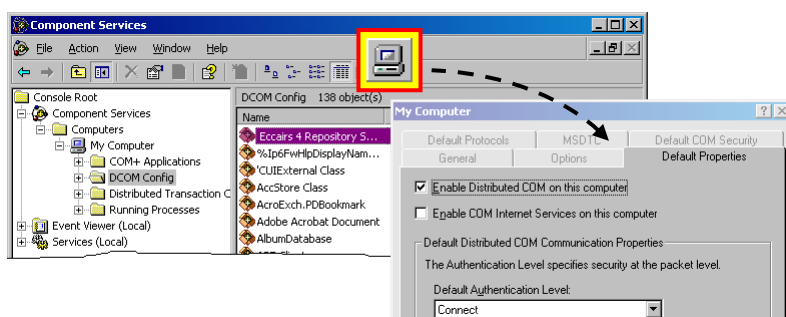


- Do not change the settings for '**Access permissions**' and '**Configuration permissions**'. Press **OK** to accept the settings for the ECCAIRS 4 Repository Services application, returning to the main dialogue.
- Press **Apply** and then **OK** in order to complete the DCOM configuration and close the dialogue.

Windows XP or Windows 2003 Server

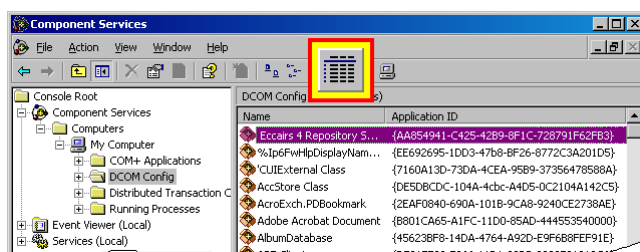
To configure DCOM on Windows XP or Windows 2003 Server do the following:

1. Login on the target repository server system as administrator or as a user with administrator rights.
2. Click on **Start → Run....** Type 'dcomcnfg' as name of the program and press **OK**. Open the tree via this path: **Component Services → Computers → My Computer → DCOM Config**.
3. Click on the button highlighted in the following figure in order to set the computer's properties. Click on the **Default Properties** tab and turn **Enable Distributed COM on this computer** on by clicking the relative checkbox.



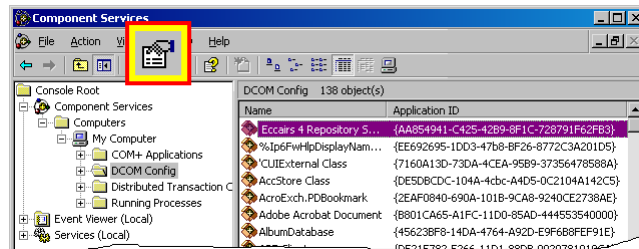
Do not make other modifications on this tab or on any of the other tabs. Click on **Apply** and then on **OK** to close.

4. Next click on the button highlighted in the next figure in order to sort the DCOM objects displayed as a detailed list.

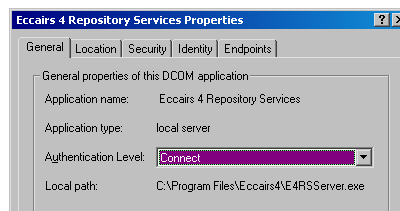


The 'Eccairs 4 Repository Services' application entry should be on top in the list. If it is not, then it is most probable that the ECCAIRS installation has been performed by a user with insufficient privileges, i.e. not an administrator or equivalent.

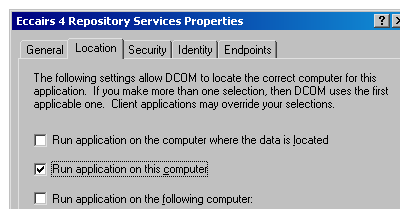
- Highlight the 'Eccairs 4 Repository Services' entry. Press the button highlighted in the next figure. Alternatively, right-click on the entry and from the popup menu, select **Properties**.



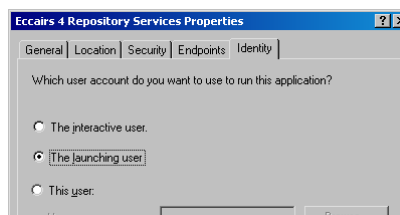
- Click on the **General** tab and set the **Authentication Level** to 'Connect'.



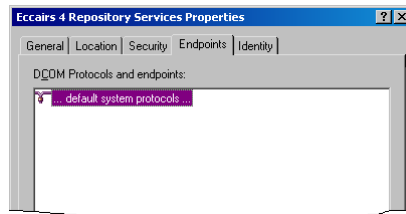
Click on the **Location** tab and turn 'Run application on this computer' on by checking the relative checkbox. The other checkboxes should be turned off.



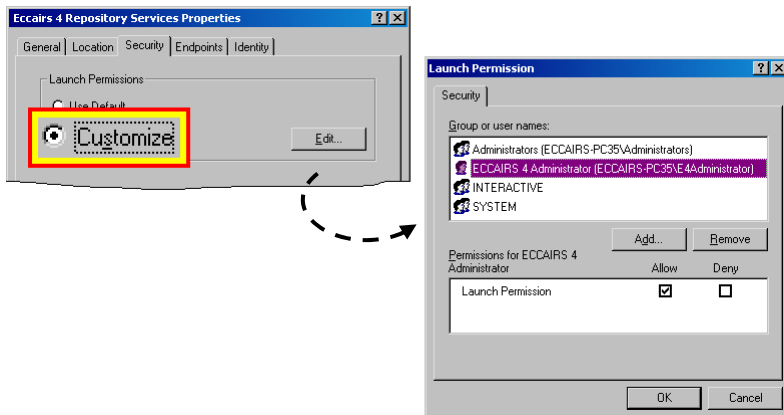
Click on the **Identity** tab and select 'The launching user'.



Click on the **Endpoints** tab to verify that the '...default system protocols...' are available.



- Click on the **Security** tab and select, within the 'Launch Permissions', the 'Customize' option. Click on the **Edit...** button relative to this section. Add the local 'E4Administrator' (see **PREPARATION** on page 53) user with 'Allow Launch permission' privileges granted. Click on **OK** for accepting this setting.



- Do not change the settings for 'Access permissions' and 'Configuration permissions'. Press **OK** to accept the settings for the ECCAIRS 4 Repository Services application, returning to the main dialogue.
- Press **Apply** and then **OK** in order to complete the DCOM configuration and close the dialogue. Close the Component Services application.

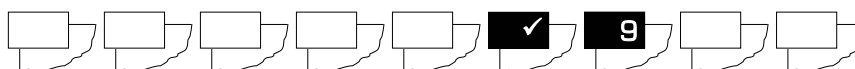
WHAT'S NEXT

At this point, the ECCAIRS 4 Repository Server system is ready to store data in the database and accept connections from other workstations over a local area network (LAN). The users will need a Repository made available by the Repository Server to which they can connect.

Using a Database

In the common ECCAIRS 4 configuration, the next step consists in setting up a repository that allows users to interact with data stored in a database server.

- Setting up an ECCAIRS 4 Repository for Database access



Using ECCAIRS 4 Files (E4F) only

In the particular case that the Repository Server must manage, in a controlled manner, the storage of occurrence data into ECCAIRS 4 files (.E4F) without running a database server, then a repository known as 'File Access Repository' must be made up separately.

- Setting up an ECCAIRS 4 Repository for File access





9

CONFIGURING A DATABASE ACCESS REPOSITORY

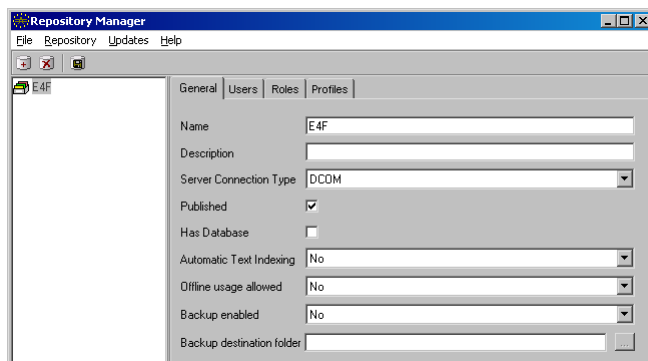
The Repository is the centre of the local ECCAIRS 4 network: all users must use it for being able to input, retrieve and display occurrence data. The role of the Repository is managing occurrence data by means of security, data display rules and data access configuration.

The Repository is usually defined on the same system that runs the database. In the case of an MSDE based repository this is the workstation itself, otherwise it is the database server. Other configurations are possible and are described in the ECCAIRS 4 technical manuals.

CONFIGURATION


The steps required to activate the repository for database access are:

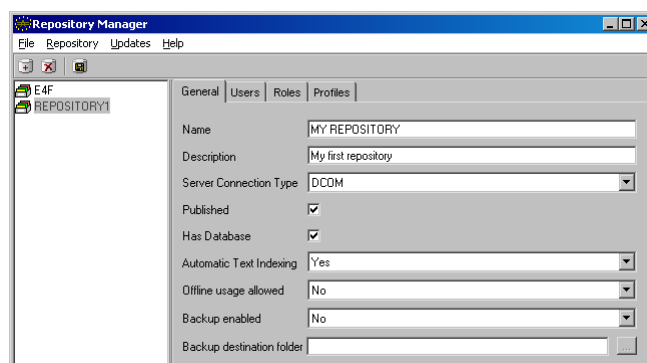
1. Login on the system where the ECCAIRS 'Server' has been installed (see chapter 4). Click on **Start → Programs → Eccairs 4 → Administration → Repository Manager**.



The main screen of the Repository Manager is split in two parts: at the left, there is a list of available repositories and at the right, there is a tab strip with the details of the highlighted repository.

A predefined repository called 'E4F' is available. This repository is used in situations where no database is needed (see chapter 10). Do not change or remove this repository unless there is a need to do so.

2. Add a repository by selecting **Repository → Add** or by clicking on the icon on the toolbar showing a drum with the plus sign . The Repository Manager will add it to the list and highlight it for immediate edit.



3. Enter a unique (and meaningful) name in the **Name** field. The same name is exposed by the Repository Server to the ECCAIRS 'Client' systems when they want to establish a repository link to this server (see also chapter 11, entitled **SETTING UP A LINK TO A REPOSITORY**). Put an optional description for this repository in the **Description** field.
4. Select for the field **Server Connection Type** the value 'DCOM'. Mark the **Published** field so that this repository becomes available for the connecting users. By turning this option off, the repository is put off-line so that it is possible to perform set-up or maintenance while avoiding that users continue to use it.
5. Mark the **Has Database** field, indicating that the repository is connected to a database server for storage of occurrence records. By turning this option off, the repository is used for ECCAIRS 4 File (.E4F) data access only.
6. Set the **Automatic Text Indexing** field to 'Yes', so that all words in the narratives are automatically and individually indexed. In this manner, it becomes possible to search for specific words contained in the narratives (such as the word «bottle»). Depending on the size and complexity of the narratives, this option can negatively impact on the system's performances. If this function is not required, then select 'No'.
7. Set the **Offline Usage Allowed** to 'No'.
8. Set the **Backup enabled** to 'No'.



Please note that this option only turns off a feature of the ECCAIRS Server that makes hard copies (backups) to disk of every occurrence record that is inserted, modified or deleted from the database. The chosen setting

does not block or otherwise impede, in any manner, the regular backup of the database with dedicated backup tools. Setting this option to 'Yes' requires special configuration that goes beyond the scope of this manual.

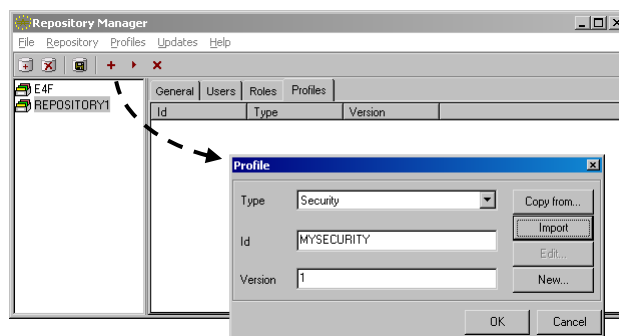
Setting up Profiles

A profile is a set of characteristics or limits for a determined operational area in the ECCAIRS system. Different types of profiles exist, individually taking care of managing specific tasks in the targeted area. Without profiles, it is not possible to use the ECCAIRS system. Profiles can be combined into roles. This makes it possible to configure users by assigning roles instead of individual profiles.

A repository that can serve the needs of the connecting user must contain, apart from an account ID and related password, a certain number of mandatory profiles, being one **security** profile, one **data source** profile, one **browser application** profile and at least one **view** profile.

The normal configuration set-up order is, based on the previous two paragraphs, to establish the **Profiles** first, then to manage the **Roles** and finally to build the **User** account IDs. The order in which the different profile types are created is not important.

1. Click on the **Profiles** tab and select **Profiles → Add** or click on the icon with the **+** sign in the toolbar to add profiles to your repository.

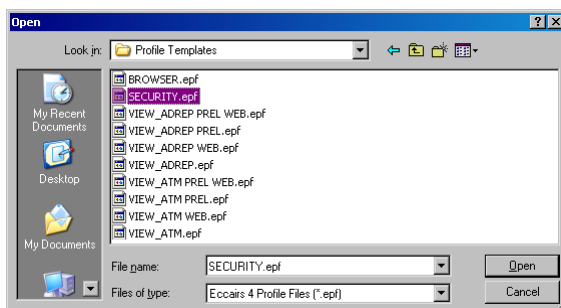


Every profile has a **Type**, Identification tag (**Id**) and **Version** number, so that it can be identified later. The four buttons on the right side of the dialogue are for copying from an existing profile, importing an external profile, editing of the current, and for defining a new profile from scratch.

Select **Security** from the type list, input 'MYSECURITY' as Id and '1' as Version.

2. Click on the **Import** button. A dialogue box appears that allows selecting an existing profile as a template for building this new profile. Within the

ECCAIRS installation package, some general-purpose profile templates are made available for every mandatory profile except for the Data Source profile (the reason for this is explained later, at point 4 on page 67).

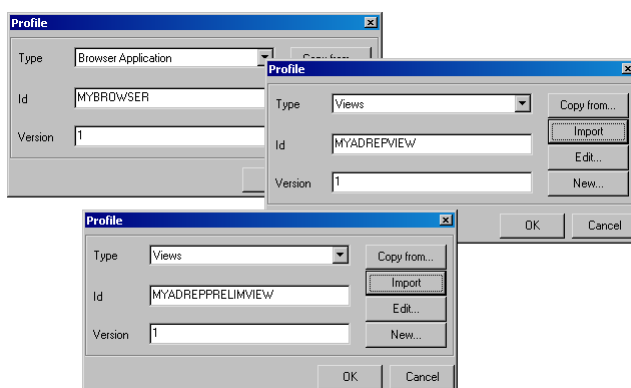


Profile templates are stored in the 'Tools\Administration\Profile Templates' subfolder of the main installation folder of ECCAIRS 4 (chapter 4, in the paragraph entitled **INSTALLATION** at point 8 on page 21). Profiles from other repositories can be used as a template as well.

From the list of profiles, highlight the one named 'SECURITY.epf', which is the pre-set security profile for the ECCAIRS repository. For the moment, this security profile is used "as is"; if desired, it can be modified later.

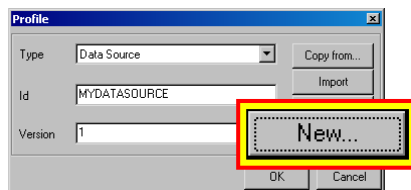
Click on **Open**, and on the **Profile** dialogue box click on the **OK** button.

3. In the same way, a **Browser Application** profile (importing the settings from the 'BROWSER.epf' file) and two **View** profiles must be created, being the ADREP full view (importing 'VIEW_ADREP.epf') and the ADREP preliminary view ('VIEW_ADREP_PREL.epf').



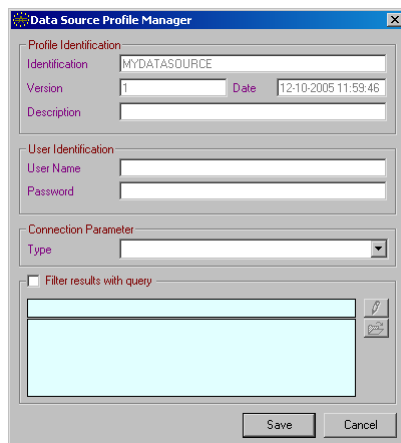
If desired, view profiles based on the ATM full and ATM preliminary views can be created.

- The last profile that needs to be created is a **Data Source** profile. Select **Profiles → Add** or click on the icon with the **+** sign in the toolbar, and select this type from the **Type** option list. Give the profile the **Id** 'MYDATASOURCE' and enter '1' for the **Version**.



Because of the fact that the connection to a database must be set using the parameters of the existing database server, it is not possible to create this profile by loading data from a template: it is necessary to create a new one.

Click on **New....** This will bring up the **Data Source Profile Manager**.



- The amount of data that must be supplied to this profile (connection parameters, user identification, etc.) varies according to the kind of database server installed. Information set back in this manual must be used to configure and test the connection.

Within the **Connection Parameter** section, a button called **Custom** is available. This button allows modifying the pre-set connection configuration for the selected type. In normal situations, these pre-set settings will allow connecting to database servers without problems, but in case of special networking implementations (firewalls, proxies, etc.) it might very well be necessary to make modifications (see paragraph **CUSTOMISING THE CONNECTION STRING** on page 74).

When using *MSDE* (chapter 5) – select connection type ‘MSDE’, enter the user name and password (page 32, point 17), the database name (page 31, point 13) and the full identifier of the server (page 30, point 10).

The screenshot shows the 'Data Source Profile Manager' dialog box. It has three main sections: 'Profile Identification', 'User Identification', and 'Connection Parameter'. In the 'Profile Identification' section, 'Identification' is 'MYDATASOURCE', 'Version' is '1', 'Date' is '12-10-2005 11:59:46', and 'Description' is 'My Data Source Profile'. In the 'User Identification' section, 'User Name' is 'E4Administrator' and 'Password' is masked with asterisks. In the 'Connection Parameter' section, 'Type' is set to 'MSDE' (selected in a dropdown), 'Database Name' is 'E4DB', and 'Server Machine' is 'ECWKS1\ECCAIRS'. There are 'Custom' and 'Test...' buttons next to the 'Type' dropdown and 'Server Machine' field respectively. A checkbox at the bottom is labeled 'Filter results with query'.

When using *SQL Server* (chapter 6) – select ‘SQLSERVER2000’ or ‘SQLSERVER7’, enter user name and password (page 39, point 12), the database name (page 37, point 4) and server name (page 36, point 2).

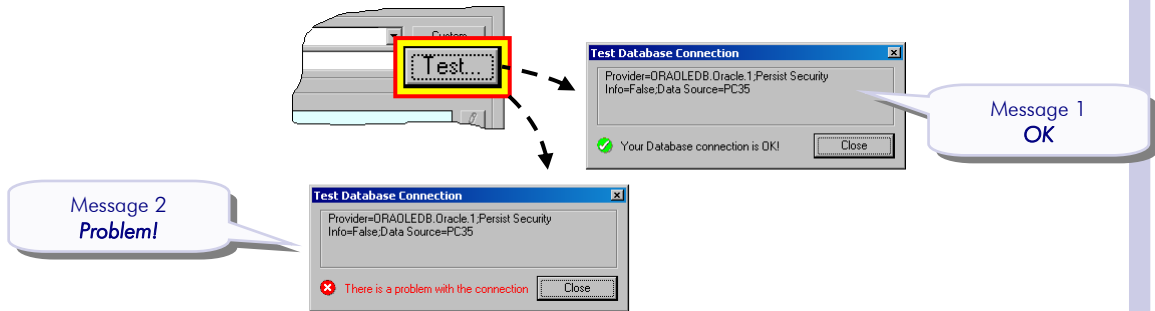
The screenshot shows the 'Data Source Profile Manager' dialog box with the 'Type' dropdown set to 'SQLSERVER2000'. The 'Database Name' is 'E4DB' and the 'Server Machine' is 'ECSRV'. The 'User Name' is 'E4Administrator' and the 'Password' is masked. The 'Test...' button is visible next to the 'Server Machine' field.

Oracle (chapter 1) – select ‘ORACLE ORACLE’, enter user name and password (page 47, point 12) and provide the data source name (page 44, point 1).

The screenshot shows the 'Data Source Profile Manager' dialog box with the 'Type' dropdown set to 'ORACLE ORACLE'. The 'Data source' field is 'PC35'. The 'User Name' is 'E4Administrator' and the 'Password' is masked. The 'Test...' button is visible next to the 'Data source' field.

Once all information is entered, a **Test...** button comes available, which tests the connection to the database.

6. Click on the **Test...** button. The Repository Manager will try to connect with the supplied parameters to the database server and instance. The applied connection string is displayed in the top of each message box.



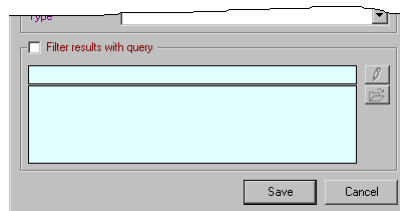
When all connection parameters entered are correct and the test succeeds, then the program will issue the first message box; if not, then the second message box is displayed.

Should there be a problem with the connection, then try to retype the data entered in the previous point. It might have been incorrectly copied (mind the case-sensitive passwords).

If the test still fails, then contact a system administrator, as it could be necessary to customise the connection string (see the paragraph entitled **CUSTOMISING THE CONNECTION STRING** on page 74).

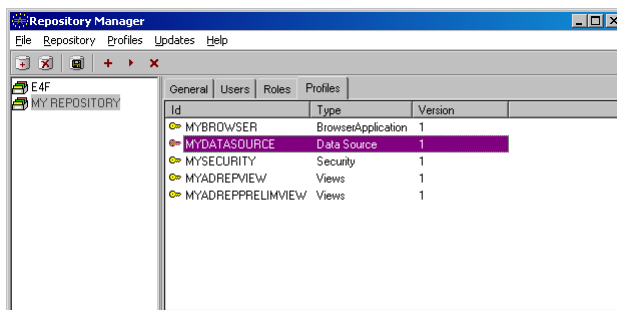
Click **Close** to close the message box.

7. The bottom part of the **Data Source Profile Manager** contains a section entitled **Filter results with query**. The fields in this section can be activated by putting a checkmark in front of the section's name. If properly configured, this section allows for setting a filter that influences the occurrences retrieved from the database.



For the moment, leave the option unchecked.

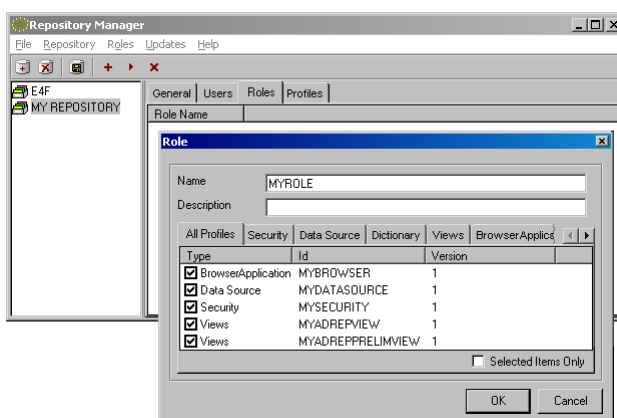
8. Return to the **Add profile** dialogue by clicking **Save** and pressing **OK** to accept the configuration for data source profile.
9. Before continuing, it is suggested to save the current settings for this repository by using **Repository → Save** or by clicking on the icon on the toolbar showing a drum with a diskette.



Setting up Roles

Since all required profiles have been generated – the Dictionary profile is not mandatory – a **Role** will be set up with these profiles assigned, so that they can be rapidly assigned to users by the means of this same role.

1. On the main window of the Repository Manager, select the desired repository, click on the **Roles** tab and select **Roles → Add** or click on the icon with the **+** sign in the toolbar to add a role.
2. On the dialogue box that appears, give the role a name and a description (optional). Click on the **All Profiles** tab and put a checkmark in front of all profiles in the list, by clicking on the check box itself.



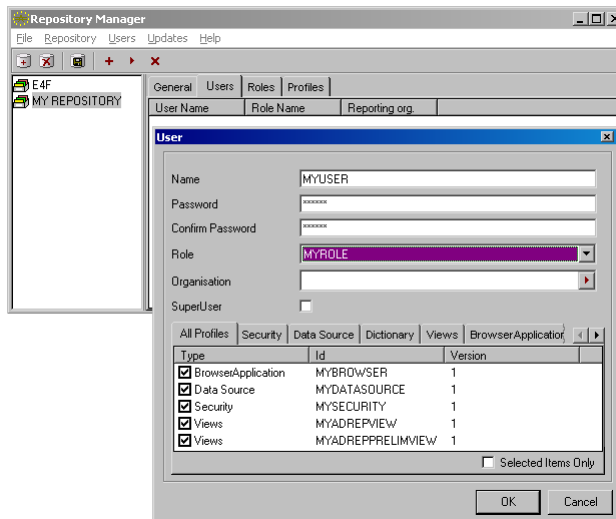
The other tabs (**Security**, **Data Source**, etc.) can be used to select the desired profile of that specific type individually. From a functional point of view,

there is no difference between selecting a profile using the specific tab or the **All Profiles** tab.

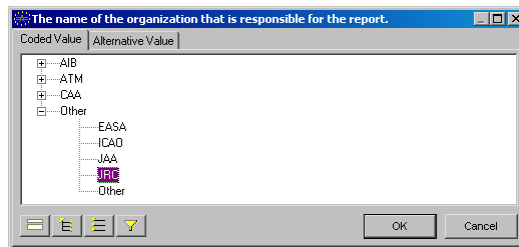
3. Click on the **OK** button to return to the Repository Manager's main window, where the new role will be displayed.

Setting up Users

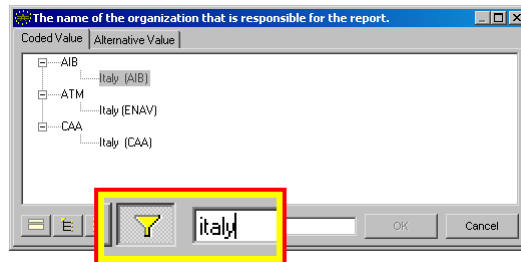
1. On the main window of the Repository Manager, select the desired repository, click on the **Users** tab and select **Users** → **Add** or click on the icon with the **+** sign in the toolbar to add a user.
2. On the dialogue box, type a username and a password that must be confirmed. Assign the role created in the previous paragraph to the user (which also assigns the profiles automatically and unyieldingly).




3. Next, assign an **Organisation** to the user. Click on the button with the red triangle ► at the right side of the input field. An extended option list will come up from which the name of the organisation can be selected.



It is also possible to search for the organisation – especially when the available options are numerous – by using the filter and typing [the beginning characters of] the organisation's name or nation. In this way, the application will display a reduced set of options from where the desired organisation can be selected.



4. Finally save the current settings for this repository by using **Repository** → **Save** or by clicking on the icon on the toolbar showing a drum with a diskette .

The repository can be populated with an unlimited amount of users, but at least one is mandatory. It is also a good idea to assign the **Super User** attribute to at least one user (for instance the administrator of the ECCAIRS system), which means this user will have additional and special privileges, such as releasing occurrences locked by other users.

When all profiles, roles and/or users have been added, close the Repository Manager and allow it to save the modifications. Modifications can be made at every time in the future simply by running the Repository Manager again and performing the steps described in this chapter.

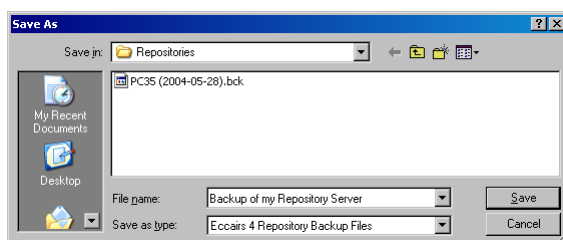
SAVING THE REPOSITORY CONFIGURATION

In order to safeguard the repository configuration for unintended modification or, worse, failures of the system on which the Repository Server is installed, it is possible to make a backup of the repository configurations.

Using this feature it is also possible to quickly initialise another ECCAIRS 'Server', for instance when you want to upgrade your system to new and more powerful hardware. By backing up the repository of one server and restoring it to a new one, this job is rapidly accomplished.

Backing Up

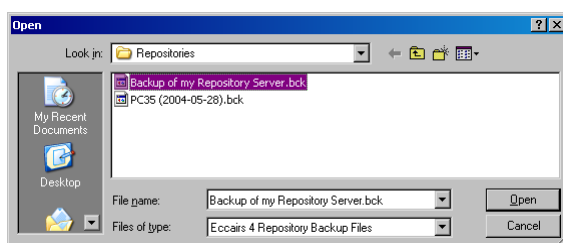
1. Open the **File** menu and select **Create backup**.



Decide the destination folder as well as the name of the backup file. This file contains the entire contents of the Repository Server, thus it is not possible to selectively backup a specific repository. Click **Save**.

Restoring

1. Open the **File** menu and select **Restore Backup**.



Pick the desired 'Eccairs 4 Repository Backup File' and click **Open**. This file contains the entire contents of the Repository Server, thus it is not possible to selectively restore a specific repository. Click **Save**.

CUSTOMISING THE CONNECTION STRING



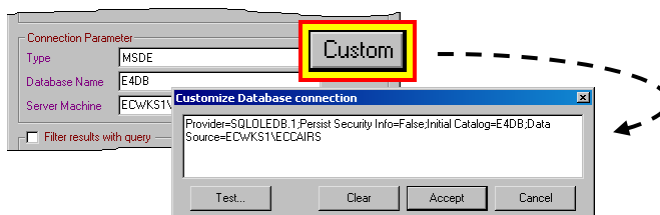
The next instructions should be performed by a system administrator or by a database administrator only.

As written earlier, the configuration contained in the pre-set connection allows in normal situations for connecting the Repository Server with the database without problem. Customising the connection string is therefore not necessary.

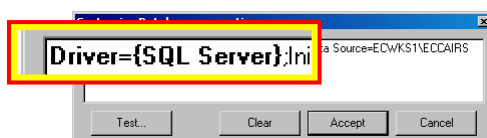
Sometimes, though, this predefined setting does not allow establishing a connection because it might not contain those instructions that permit to work with special networking implementations (firewalls, proxies), security or database settings. This is the case when special database network libraries are in use.

In order to modify the connection settings, do the following:

1. Login on the system where the ECCAIRS 'Server' has been installed (see chapter 4). Click on **Start → Programs → Eccairs 4 → Administration → Repository Manager**.
2. Click on the **Profiles** tab, highlight the data source profile and select **Profiles → Edit** or click on the icon with the ► sign in the toolbar to edit this profile. On the dialogue box, click on the **Edit...** button for editing the parameters of the profile, and finally click on the **Custom** button.

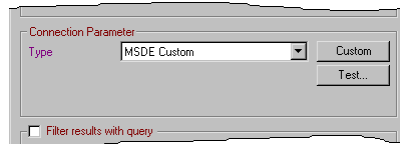


The dialogue box coming up contains a text field with the current connection string and a series of buttons. The connection string is written using the syntax for Connection object of the Microsoft ActiveX Data Objects (ADO). Refer to the ADO documentation for additional information. The next figure shows a sample modification (in bold).



Within the connection string, all the connection parameters except the User ID (UID) and password may be written, because they are utilised during opening of the connection as separate and stand-alone parameters.

3. By clicking on the **Accept** button, the new configuration will substitute the default connection string. The **Data Source Profile Manager** will modify its dialogue accordingly and display a modified connection **Type** posting the name of the original type and the 'Custom' suffix.



The **Test...** button is available for testing the custom connection parameters on the fly. Click on **Save** to store the customised settings.

Removing the customisation

If the custom connection string needs to be removed, because of the fact that the circumstances that had originally required a modification have been revoked, then perform steps 1 and 2 of the previous section and click on the **Clear** button instead.

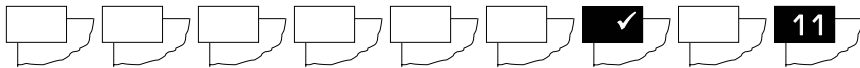
WHAT'S NEXT

At this point, the ECCAIRS 4 Repository Server system is ready to store data in the database and accept connections from other workstations over a local area network (LAN). The users will need a Repository made available by the Repository Server to which they can connect.

Using a Database only

In the common ECCAIRS 4 configuration, the next step consists in setting up a link to the repository from one of the tools available on an ECCAIRS client (Browser, Grapher, etc.).

- Setting up a link to a ECCAIRS 4 Repository from an ECCAIRS client



Using ECCAIRS 4 Files (E4F) also

In the particular case that the Repository Server must manage, in a controlled manner, the storage of occurrence data into ECCAIRS 4 files (.E4F) **while also running a database server**, then a repository known as 'File Access Repository' must be made up separately.

- Setting up an ECCAIRS 4 File Access Repository



10 CONFIGURING A FILE ACCESS REPOSITORY

The ECCAIRS 4 Browser has been designed to allow data access to files instead of to a database. This type of access is perfectly suited for those situations where the overhead and the resources required by a database management system are either not desired or not available.

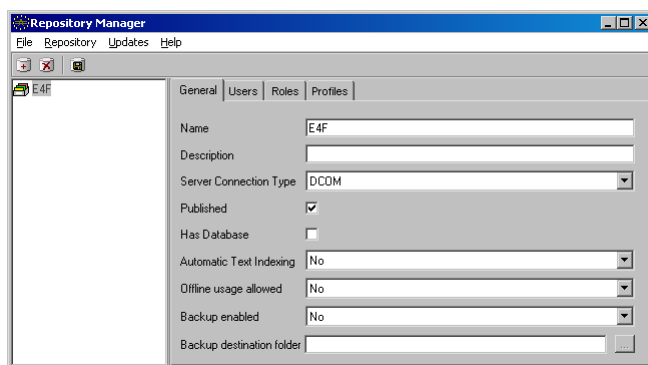
A special, pre-configured, repository is made available after installation of the reporting system, which can be used for this purpose. This repository is edited with the same tool called 'Repository Manager'.

The data created with this repository is 100% compatible with data stored in database based repositories, and can be easily imported in any supported database at a future moment. It is also possible to export database data to files and distribute them to workstations that use only this kind of repository.

CONFIGURATION

The steps required to activate the repository without a database are:

1. Login on the system where the ECCAIRS 'Server' has been installed (see chapter 4). Click on **Start → Programs → Eccairs 4 → Administration → Repository Manager**.



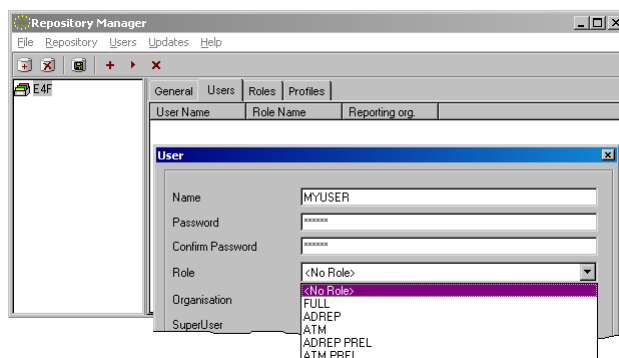
The main screen of the Repository Manager is split in two parts: at the left, there is a list of available repositories and at the right, there is a tab strip with the details of the highlighted repository.

A predefined repository called 'E4F' is available, which will be used in this chapter. If desired, a new repository can be made up instead.

2. On the **General** tab, select for the field **Server Connection Type** the value 'DCOM'. Mark the **Published** field so that this repository becomes available for the connecting users. By turning this option off, the repository is put off-line so that it is possible to perform set-up or maintenance while avoiding that users continue to use it.
3. Leave the **Has Database** field unchecked. This indicates that the repository is not connected to a database server and that it is used for ECCAIRS 4 File (.E4F) data access only. This will also tell the Repository Server to ignore the setting for the **Automatic Text Indexing** field: automatic text indexing works only on repositories having a database.
4. Set the **Offline Usage Allowed** to 'Yes' if it must be made possible for the mobile users that normally connect to this repository at work, to be able to continue managing occurrences in .E4F files when they are off-site. If setting it to 'No', then they must always connect and login into the Repository Server to get properly authenticated.

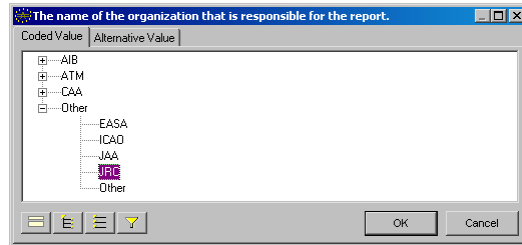
Setting up Users

1. On the main window of the Repository Manager, select the desired repository, click on the **Users** tab and select **Users** → **Add** or click on the icon with the **+** sign in the toolbar to add a user.
2. On the dialogue box, type a username and a password that must be confirmed. Assign one of the pre-defined roles of this repository to the user (which also assigns the pre-defined profiles automatically and unyieldingly).

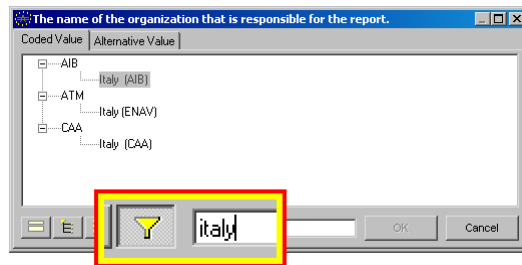



There is a choice of four roles from which to choose, each related to the view made available to the user (ADREP, ATM, ADREP SHORT and ATM SHORT). In addition, there is the FULL role that will allow the user to use any of the four views available in the repository.

3. Next, assign an **Organisation** to the user. Click on the button with the red triangle at the right side of the input field. An extended option list will come up from which the name of the organisation can be selected.



It is also possible to search for the organisation – especially when the available options are numerous – by using the filter and typing (the beginning characters of) the organisation's name or nation. In this way, the application will display a reduced set of options from where the desired organisation can be selected.



4. Finally save the current settings for this repository by using **Repository → Save** or by clicking on the icon on the toolbar showing a drum with a diskette .

The repository can be populated with an unlimited amount of users, but at least one is mandatory. It is also a good idea to assign the **Super User** attribute to at least one user (for instance the administrator of the ECCAIRS system), which means this user will have additional and special privileges, such as releasing occurrences locked by other users.

When all profiles, roles and/or users have been added, close the Repository Manager and allow it to save the modifications. Modifications can be made at every time in the future simply by running the Repository Manager again and performing the steps described in this chapter.

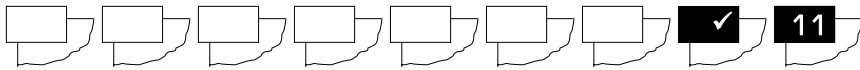
WHAT'S NEXT

At this point, the ECCAIRS 4 Repository Server system is ready to store data in the data files and accept connections from other workstations over a local area network (LAN). The users will need the Repository made available by the Repository Server to which they can connect.

As ECCAIRS Client

In the common ECCAIRS 4 configuration, the next step consists in setting up a link to the repository from one of the tools available on an ECCAIRS client (Browser, Grapher, etc.).

- Setting up a link to a ECCAIRS 4 Repository from an ECCAIRS client



11 SETTING UP A LINK TO A REPOSITORY

When a Repository Server has been set up and the system configuration has been performed correctly, all the repositories tagged as 'published' contained in the Repository Server can be accessed from any workstation, including from the Repository Server itself.

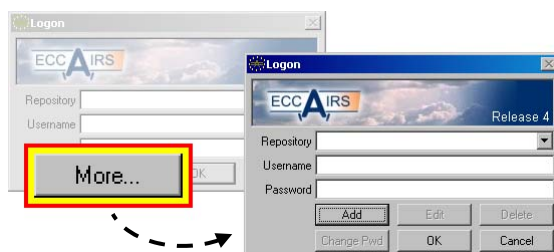
All 'Client' applications, such as the Browser, the Grapher, etc. which are contained in both versions of the ECCAIRS 4 software, use a login mechanism that is based on a logical link between the workstation and the Repository Server. The link contains information about the repository name and the computer system on which it is available.

Within this chapter, the Browser will be used to set up a link, but in practice, these instructions can be applied in any of the ECCAIRS applications.

CONFIGURATION

The steps required to set up a link to a repository are:

1. Start the ECCAIRS Browser application from **Start → Programs → Eccairs 4 → Browser**. If it is the first time that the Browser is started, no repositories are available yet in the **Repository** names list on the Logon dialogue. Otherwise, the last repository used will be displayed.

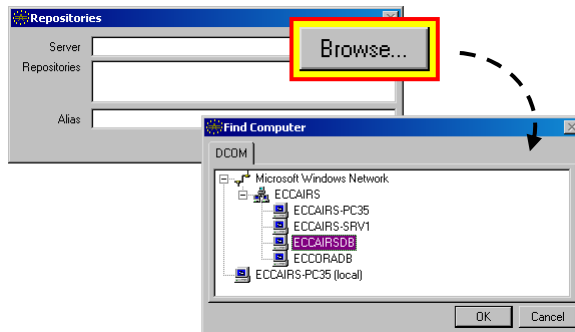


To add a repository reference, click on the **More...** button. Additional buttons come available. These buttons can be used to add, edit or delete repository references and are normally hidden to the user.

2. Click on the **Add...** button. At the top of the **Repositories** dialogue box there is a field for entering the name of a Repository Server. If the name is known, then it can be typed directly using the '<domain>\<server>' notation, otherwise ask the ECCAIRS administrator for the complete reference.

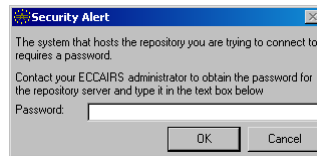
You can also use the **Browse...** button to select a Repository Server from the computers available in your networking environment, like in the above

figure. Your workstation will be displayed at the bottom of the list with the '(local)' suffix, here 'ECCAIRS-PC35 (local)'.



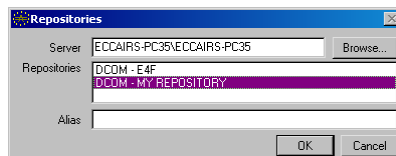
If the Repository server is located in a Microsoft Windows Network domain other than the ones listed above, then it becomes necessary to use the IP address of the server and to type this address twice in the **Server** field, such as for instance '192.168.1.10\192.168.1.10'.

3. Once a valid Repository Server is selected, the Browser will ask a security password and test the connection.

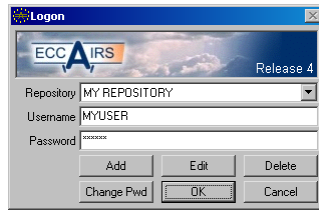


If you connect locally, enter "local" (without quotes). Otherwise, the password is the one given to the Windows user created for DCOM on the Repository Server (see chapter 8, in the paragraph entitled **PREPARATION** on page 53). This password should not be divulged in an uncontrolled manner to any user, but only to those entitled for setting up links.

4. If the password is correct, then the available Repositories will be presented. Select the desired repository from the list, for example 'MY REPOSITORY', created earlier in this manual. Click **OK** to confirm.



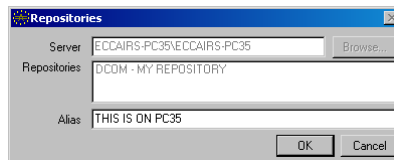
5. Back on the Logon dialogue box, you must select the new Repository reference from the list. Input the username and password that have been configured for this repository (see also on pages 71 and 80).



6. Click on **OK** for finally connecting to the ECCAIRS repository and starting up the Browser application.

Using Aliases for the repository link

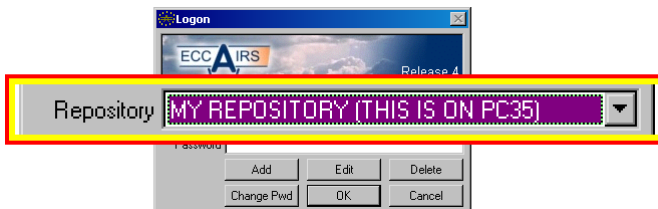
The name of the repository is inherited from the Repository Server (Chapter 9, point 3 on page 64). To give more meaning to the name, an 'Alias' can be used to personalise the name of the repository.



The use of an alias becomes mandatory if you are referencing a repository on a server, but you already have a reference to a repository with the same name but hosted on another server.

For instance, you have a repository called 'REP1' on a server called 'SRV1', and you are connecting to a server called 'SRV2' where a repository called 'REP1' is also available.

Since ECCAIRS uses the repository's name for associating the target server, 'REP1' will not be sufficient for uniquely identifying the correct server.



The repository alias bypasses this limitation, because it allows defining a free format unique identifier for the repository. In the example, a valid alias could be 'REP1 on SRV2'. 'REP1' would continue to reference the 'SRV1' server.

12 CONFIGURATION DATA SUMMARY

Tip: make a copy of this page and store it in a secure place.

Operating System - DCOM

User Name *E4Administrator*_____ (fixed)

Password _____ (case sensitive)

Database Server Information

Server type ☐ Microsoft SQL Server ☐ Microsoft MSDE ☐ Oracle

Server/Instance _____

Database _____

User Name _____

Password _____ (case sensitive)

Repository Server Information

Server name _____

IP address _____

Repository _____

User Name _____

Password _____ (case sensitive)

User Name _____

Password _____ (case sensitive)

User Name _____

Password _____ (case sensitive)

Repository _____

User Name _____

Password _____ (case sensitive)

User Name _____

Password _____ (case sensitive)