

# Chesar 2 Installation manual

DISTRIBUTED version



chesar





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## Document History

Version	Comment
Version 4.0	04/06/2014 <ul style="list-style-type: none"><li>• Instructions for first time installation of Chesar 2.3</li><li>• Instructions for upgrade from Chesar 2.0 / 2.0.1 / 2.1 / 2.2 to Chesar 2.3</li><li>• Instructions how to configure Chesar to automatically upload a substance file from IUCLID.</li><li>•  Includes steps to avoid corrupting the database.</li></ul>
Version 3.0	06/03/2013 <ul style="list-style-type: none"><li>• Instructions for first time installation of Chesar 2.2</li><li>• Instructions for upgrade from Chesar 2.0 / 2.0.1 / 2.1 to Chesar 2.2</li><li>•  Includes steps to avoid corrupting the database.</li></ul>
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Version 2.0	24/10/2012 <ul style="list-style-type: none"><li>• Instructions for first time installation of Chesar 2.1</li><li>• Instructions for upgrade from Chesar 2.0 / 2.0.1 to Chesar 2.1</li></ul>
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Version 1.1	13/07/2012 <ul style="list-style-type: none"><li>• Recommendation to install Chesar 2 on dedicated Tomcat application server</li></ul>
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## 1. INTRODUCTION

Thank you for choosing to install the Chesar 2 application. This document will guide you through the steps required to install and configure Chesar 2.3 **distributed** version. It covers 2 cases:

- installing Chesar 2.3 when previously you had no Chesar 2 version installed
- installing Chesar 2.3 when previously you had an earlier version of Chesar 2 installed (e.g. 2.0 or 2.0.1 or 2.1 or 2.2). If this is the case, you must first make a backup of your current Chesar installation before starting the Chesar 2.3 installation.



**Backup:** If you have previously installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2), then before taking any further actions **please make a backup of the database from this earlier version** and store it somewhere safe. This backup will protect against accidental loss of data during the installation process.

After you have installed Chesar 2.3, the first time you deploy the application it will automatically migrate the previous database content, converting it in to a Chesar 2.3 compatible database. It is therefore very important that you make a backup of your original database before installing Chesar 2.3.



**Database.properties:** If you have previously installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2) and are now upgrading, then it is critical that you read the instructions concerning the database.properties file. In particular, the Chesar 2.3 database.properties file now has a **new** structure. You must not reuse your old database.properties file – doing so will lead to data corruption.

### 1.1 About this Installation Manual

The  sign in this document is used to draw your attention to critical information.

Although this manual contains examples based on Windows 7 operating system, Chesar 2 will run on a wider range of operating systems. Please adapt the instructions to those appropriate to your specific operating system. Many parameters given in this manual should be customised to your particular installation needs, for example file paths, names, usernames, and passwords.

Chesar 2 distributed runs in an environment consisting of a Java Virtual Machine, database, and application server. This installation guide does not explain the details of how to install these non-Chesar components.

### 1.2 Chesar 2 background

In year 2011 Chesar (version 1) was a plugin to IUCLID. The new Chesar application called "Chesar 2" is no longer a plugin of IUCLID. It is an independent application.

The first step when using Chesar 2 is to import a substance file (.i5z) from IUCLID 5.4 or later. The import of this file can be done manually by exporting the substance from the IUCLID application (e.g. save to C: drive), followed by importing it in to Chesar 2 (e.g. upload from C: drive). Alternatively, if you have IUCLID Webservices installed, Chesar will be able to automatically upload the file directly from IUCLID.

### 1.3 Types of installation of Chesar

The Chesar 2 application can be installed on a PC (standalone version), or on a server which can be accessed by multiple users that are connected to your organisation's computer network (distributed version). In both cases, you will use a web browser to access the Chesar application.

This installation manual concerns only the **distributed** version.

## 2 SYSTEM REQUIREMENTS / RECOMMENDATIONS

Before installing the Chesar 2 distributed software package you must first install Java, a database management server (e.g. Postgres), and an application server (Tomcat). The Chesar 2 package includes Oracle and Postgres drivers. For more information about the drivers that are packaged with Chesar, please visit the Chesar website: <http://chesar.echa.europa.eu/web/chesar/chesar-tool>

Chesar 2 distributed has been tested using the following:

- Browsers<sup>1</sup>:** Mozilla Firefox, Chrome, Internet Explorer 8 & 9.  
Chesar 2 does **not** work with Internet Explorer 7 or earlier.
- The browser must have the option 'java script enabled'.
- Operating System:** Microsoft, Linux.  
Chesar 2 does **not** support Mac OS.
- Java:** Version 1.6 and 1.7
- Web Container** (Servlet container):  
Apache Tomcat 7.  Please install Chesar 2 distributed version on a Tomcat Application Server instance dedicated to the running of Chesar 2. We recommend that you do not run IUCLID 5 or any other applications on the same Tomcat instance as Chesar 2.
- DBMS:** Oracle 11g, PostgreSQL 9

The following minimum system requirements are recommended:

- Disk space:** 750 Mb free space  
**RAM:** 4 GB  
**CPU:** Intel Core i5 - 2.4 GHz x 4 (or equivalent)

Please send us feedback via the ECHA online contact form (<https://echa.europa.eu/contact/helpdesk-contact-form>), in case you encounter problems when using Chesar 2.

## 3 SECURITY

The Chesar application contains a basic username / password feature aimed at reducing the risk of accidental modification of data. This functionality is not intended to protect against wilful or malicious attempts to gain access to or modify data. Chesar must be installed within a securely protected environment.

---

<sup>1</sup> With other browsers the Chesar 2 user interface might not get displayed as expected.

## 4 INSTALLING AND CONFIGURING CHESAR 2

### 4.1 Downloading the Chesar installation package

Download the **chesar-2.3.0.war** file from the Chesar website. You may rename the war file to a more convenient name, such as **chesar.war**

### 4.2 Create Tomcat Application Server Instance

If you do not already have one, create a Tomcat application server instance in an environment running Java 1.6 or Java 1.7. More details on how to do this can be found in the Appendix of this document, section 'Java Runtime Environment', and section 'Application Server - for Tomcat users'.

### 4.3 Setting up the Chesar 2.3 database

#### 4.3.1 If you have not previously installed an earlier version of Chesar 2 (e.g. 2.0 / 2.0.1 / 2.1 or 2.2), then read this section.

If you have not previously installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2), then prior to deploying Chesar 2.3 you must create an empty database in case of PostgreSQL or an empty schema in case of Oracle. Examples of how to create an empty database or schema can be found in the Appendix in sections 'Creating an empty database for PostgreSQL users' and 'Creating an empty schema for Oracle users'.

More detailed explanations on creating an empty database in PostgreSQL 9 and empty schema in Oracle 11g can be found on the respective websites:

<http://www.postgresql.org/docs/9.0/static/>

[http://www.oracle.com/pls/db111/portal.portal\\_db?selected=11](http://www.oracle.com/pls/db111/portal.portal_db?selected=11)

#### 4.3.2 If you have already installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2) and are now upgrading to Chesar 2.3, then read this section.

If you have already installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2) and are upgrading to Chesar 2.3, please be aware that the action of deploying Chesar 2.3 will automatically migrate the content of the database of your previous installation of Chesar 2 (2.0 or 2.0.1 or 2.1 or 2.2) in order to make it compatible with the Chesar version 2.3. If something goes wrong during the deployment of Chesar 2.3 there is a risk that the database undergoing migration will get corrupted. This is why it is important that you first make a backup of your previous Chesar 2 database, before starting the installation of Chesar 2.3.



**Backup your Chesar 2.0 or 2.0.1 or 2.1 or 2.2 database before starting the Chesar 2.3 installation.** For PostgreSQL users, the creation of a backup typically involves a command to create a backup file in an existing directory of your choice similar to `pg_dump.exe -i -h localhost -p 5432 -U postgres -F c -b -f "C:\BackUp\Chesar22.backup" chesar2`  
More details on how to make a database backup can be found on the PostgreSQL and Oracle websites.

## 4.4 Update the database connection properties file inside the Chesar war file



**DO NOT** re-use the old **database.properties** file from any previous Chesar installation you may have! If you are upgrading from a previous version of Chesar 2 (eg. 2.0 or 2.0.1 or 2.1 or 2.2), you **must not** re-use the old **database.properties** because the structure is different and will result in corruption of the database during the database migration process.

It is important that you update **database.properties** in the manner explained in the Appendix in section 5.5 'Modifying the database properties file'.

Before deploying the Chesar 2.3 war file, you must update the WEB-INF\classes\**database.properties** file inside the new Chesar 2.3 war such that it corresponds to your individual database configuration. You will need to enter your database connection credentials: DB user/password and your IP address. It is important that you update **database.properties** in the manner explained in the Appendix in section 5.5 'Modifying the database properties file'.

## 4.5 OPTIONAL step: Configuring Chesar so that it can automatically upload substance files from IUCLID



The following configuration is **OPTIONAL**.

Chesar 2.3 contains a new feature which automates the import of a substance file from IUCLID in to Chesar. Using this automatic import feature is 'optional'. If you wish to use it, you **must first** have **IUCLID web services** installed. Instructions on how to install IUCLID web services can be found here:

<http://iuclid.echa.europa.eu/index.php?fuseaction=home.downloadWebServices>

Next, after installing IUCLID web services, you can configure Chesar so that it knows how to access the IUCLID web services. The Chesar configuration file that you must modify is located inside the chesar 2.3 war archive.

- Open **chesar 2.3 war** archive file.
- Open and edit the file WEB-INF\classes\**iuclidws.properties**, setting the URL, username and password values to correspond to your **IUCLID web service** installation.

Finally, save and close the **iuclidws.properties** file. The system will ask you if you want to update the archive. Say 'Yes'.

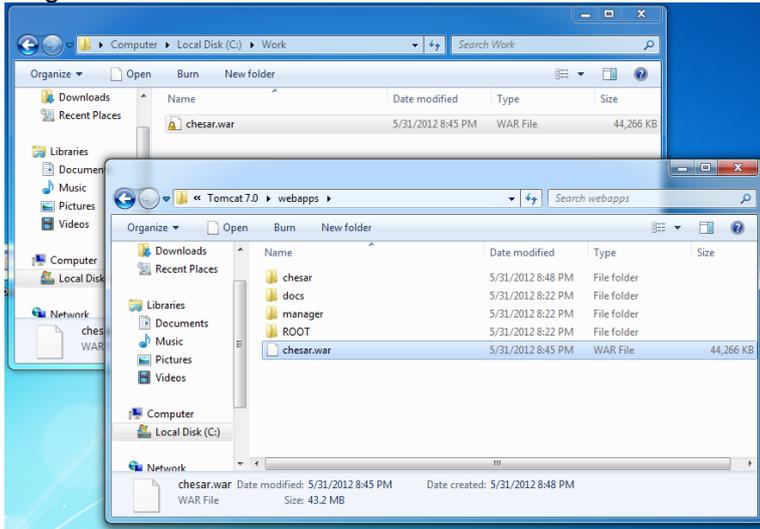
## 4.6 Deploy the chesar war file to the Tomcat application server



Before proceeding with the steps in this section it is essential that you have:

- a) made a backup of your previous Chesar database (in case you are performing an upgrade)
- b) updated the database connection properties in the way described in section 4.4.

1. If the Tomcat application server is running, we recommend that you stop it.
2. If you have the war file of a previous Chesar version located in this Tomcat folder, please move the old Chesar war file out from the Tomcat folder and store it somewhere else in a backup location.
3. Deploy the Chesar war file, for example by copying the file to C:\Program Files\Apache Software Foundation\Tomcat 7.0\webapps folder as shown in the diagram below.



4. **Restart** the Tomcat application server.



**Important:** Please note that each time the Chesar war file is deployed you **must** restart Tomcat application server. If you do not do this the EUSES component embedded inside Chesar may generate an error message.

## 4.7 Accessing the application server and running Chesar 2

1. All client browsers that will access Chesar must be opened, and the cache cleaned.  Please remember to inform the Chesar users to delete their cache and refresh their Chesar browser page.
2. The client browser will access the application via the URL:  
**http://Your\_Tomcat\_IP:Your\_Tomcat\_Port/chesar**



The default account is username: **admin** password: **admin**

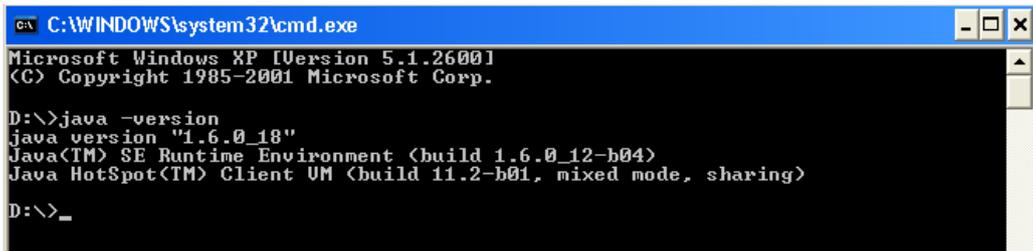
## 5 APPENDIX

### 5.1 Java Runtime Environment

1. Verify whether version 1.6 or 1.7 Java (JRE) is installed on the machine on which Chesar 2 server will be installed:

For **Windows**, open a command prompt (Start ⇒ Run ⇒ Open ⇒ type **cmd**). At the command prompt, enter the following: `java -version`

2. Check the version number:



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

D:\>java -version
java version "1.6.0_18"
Java(TM) SE Runtime Environment (build 1.6.0_12-b04)
Java HotSpot(TM) Client VM (build 11.2-b01, mixed mode, sharing)

D:\>_
```

3. If a message similar to the one shown in the screen shot above is not shown, or if the version of Java is **not** 1.6 or 1.7 then please download and install Java version 1.6 or 1.7. Once installed, please check from the command line (step 2) to see if it has now been installed correctly.

Java can be downloaded from the Oracle site at:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

### 5.2 Application Server - for Tomcat users

This section is only for those wishing to use Tomcat application server.

1. **Download:** From the Tomcat Apache website, please download “32-bit/64-bit Windows Service Installer”
2. **Install:** Install Tomcat 7.0 application server on your computer according to the instructions available on the Tomcat Apache website.
3. **Configure:** Accept the default settings and set-up a password for the manager application of Tomcat.



**Important:** Allocate the recommended memory to avoid OutOfMemory errors. In particular we recommend that you do not run IUCLID 5 or any other applications on the same Tomcat instance as Chesar.

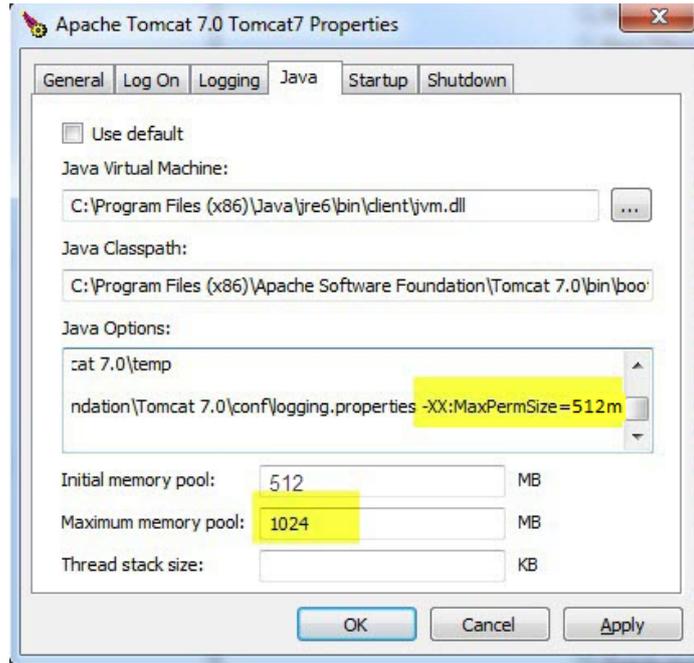
We recommend that you allocate the following amount of memory in the Tomcat Java settings.

Use `-XX:MaxPermSize=512m` in the Java options window.

The other minimum settings are:

- Initial memory pool 512M
- Maximum memory pool 1024m.

You may set that memory pool setting (Xms, Xmx) to a higher value depending on the available RAM on the machine.



### 5.3 Creating an empty database - for PostgreSQL users



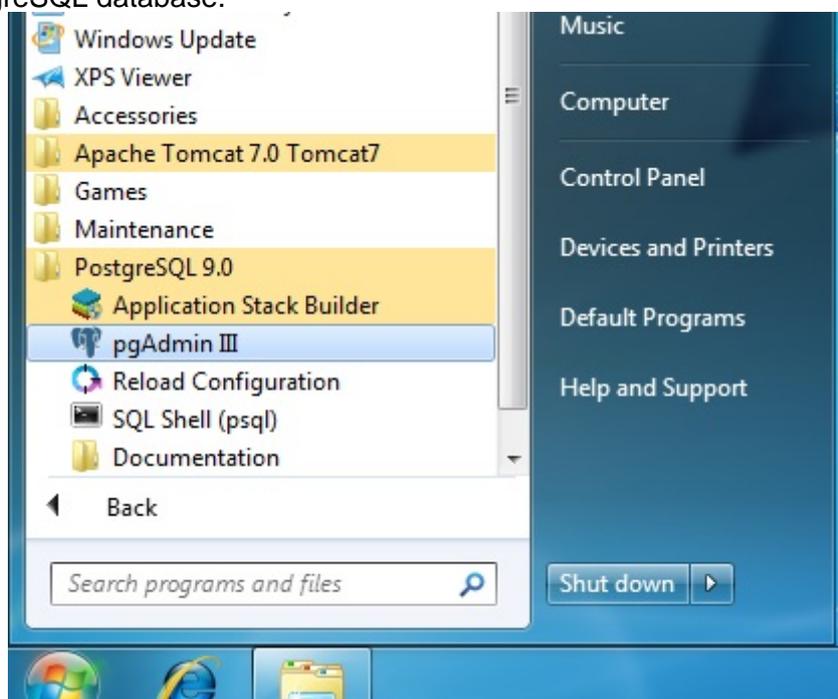
If you have previously installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2) with PostgreSQL then you **ALREADY** have a database. Do **NOT** follow the instructions in this section.

1. If you do not have PostgreSQL 9.0 or later already installed on the computer, we recommend that you download it from the site [www.postgresql.org/download](http://www.postgresql.org/download), and install it according to the instructions given on the Postgres website.

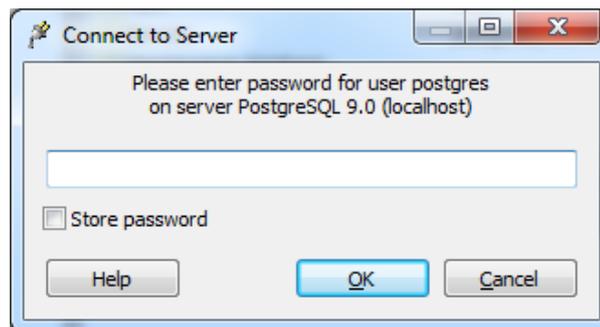
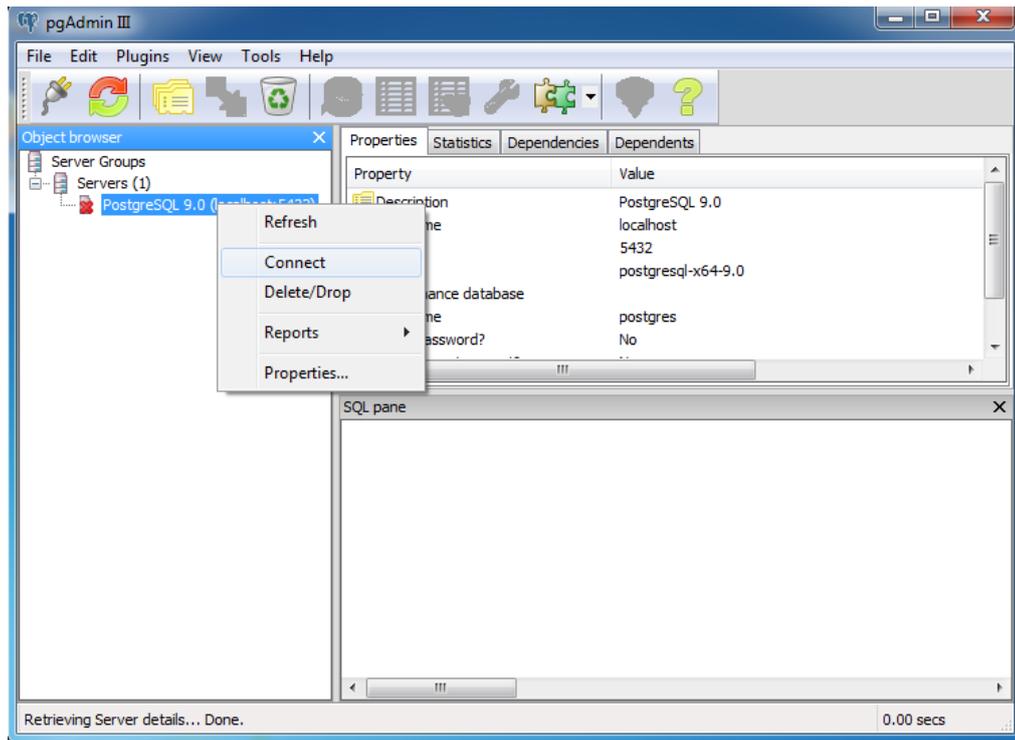


**Important:** Remember the username / password because it will be required later during the configuration of Chesar 2

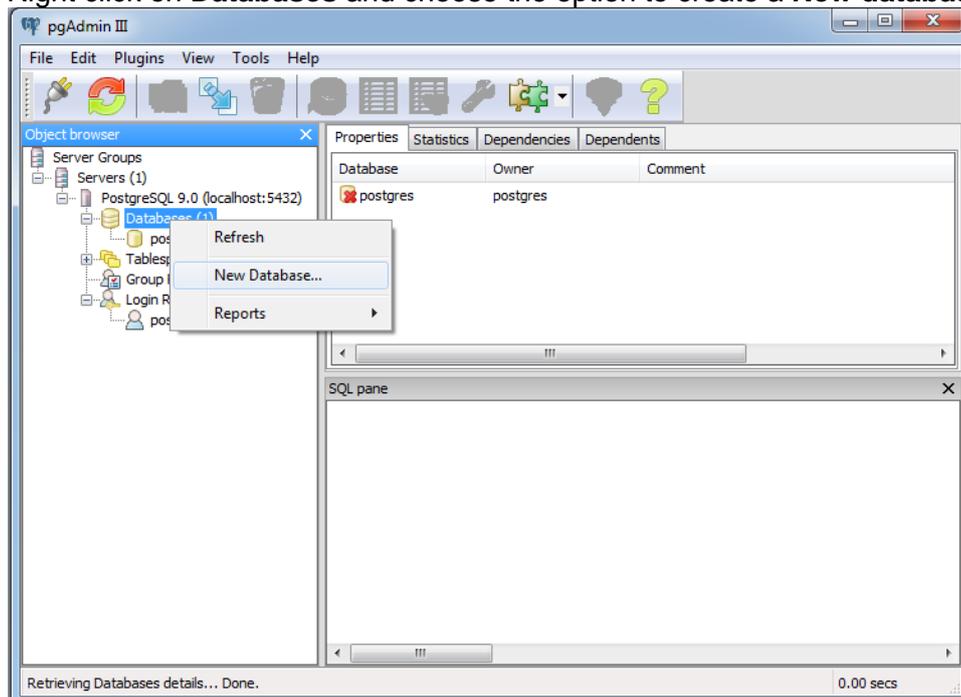
2. Use Start ⇒ All Programs ⇒ PostgreSQL ⇒ pgAdminIII to connect to the PostgreSQL database.



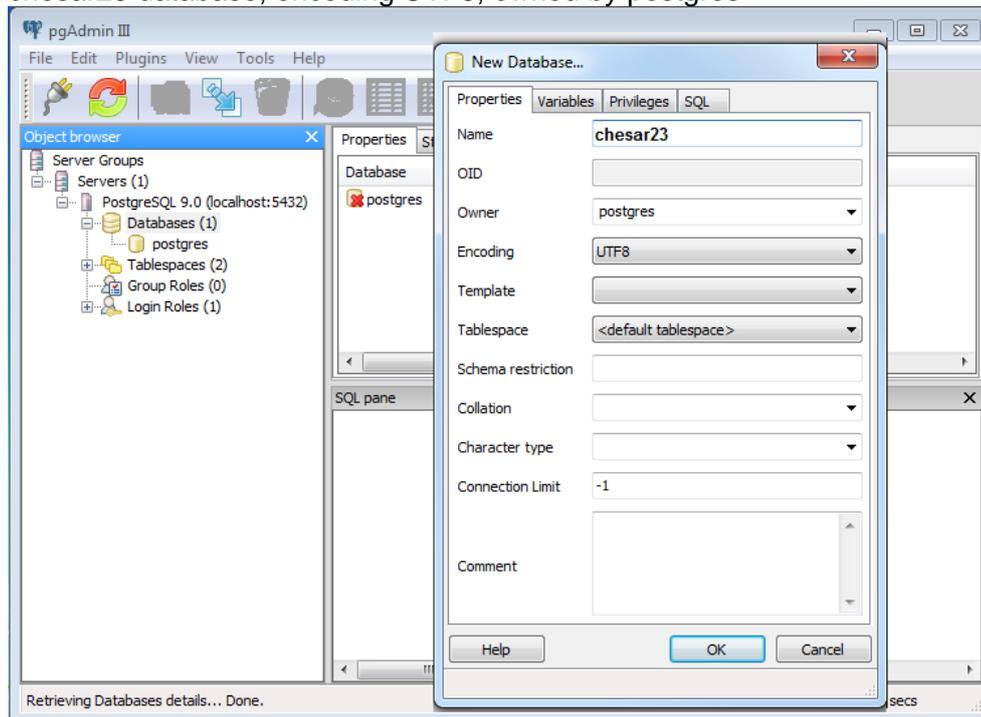
3. Right click on the database connection to connect using the superuser account and password, e.g. postgres / postgres. (The superuser password was set during the PostgreSQL installation.)



4. Right click on **Databases** and choose the option to create a **New database**



5. Create the UTF8 database that you are going to use with Chesar 2.3, e.g. chesar23 database, encoding UTF8, owned by postgres



6. Close the pgAdminIII tool.

## 5.4 Creating an empty schema - for Oracle users



If you have previously installed an earlier version of Chesar 2 (e.g. 2.0 or 2.0.1 or 2.1 or 2.2) with Oracle then you ALREADY have a database. Do **NOT** follow the instructions in this section.

This section is only for those intending to use Oracle database, and assumes that you are using Tomcat application server.

A database schema must be set up for Chesar. If necessary please ask for assistance from your ICT Services database administrator.

1. Chesar requires the UTF-8 default character set of the database. The following output is from an Oracle XE database on Windows and is for illustrative purpose only. Execute the following select command in order to check the character set of the current database.

```
SQL> conn / as sysdba

SQL> select property_value from database_properties
where property_name='NLS_CHARACTERSET' ;

PROPERTY_VALUE
-----
AL32UTF8
```

2. Create the chesar user and tablespace in the database.

```
SQL> create tablespace chesar23tblspace
      datafile
      'C:\oraclexe\app\oracle\oradata\XE\chesar23file.dbf'
      size 200M
      autoextend on
      next 50M
      maxsize 1000M;

Tablespace created.

SQL> grant create session to chesar23 identified by
"chesar23";
Grant succeeded.

SQL> grant create table to chesar23;
Grant succeeded.

SQL> grant create view to chesar23;
Grant succeeded.

SQL> grant create sequence to chesar23;
Grant succeeded.
```

```
SQL> alter user chesar23 quota unlimited on
chesar23tblspace;
User altered.
```

```
SQL> alter user chesar23 default tablespace
chesar23tblspace;
User altered.
```

```
SQL>disconnect
Disconnected from Oracle Database
SQL>connect
chesar/chesar_password@servername/databasename
Connected.
```

## 5.5 Modifying the Database Properties File - Postgres Users

This section is only for those intending to use PostgreSQL database.



In case you had a previous Chesar version installed, please note that you **CANNOT** reuse the **database.properties** file from your previous Chesar installation – doing this will lead to data corruption! Please follow the instructions below.



Depending on your operating system, you may need to rename the chesar 2.3 **war** file so that it ends in **“.zip”** to allow you to access and update the database property file inside the archive content. If you temporarily rename the file ending to **“.zip”**, please remember to rename it back to **“.war”** before you deploy the application!

1. You must update the database configuration file inside the chesar 2.3 war archive. To do this, first **open** and **edit** the file WEB-INF\classes\database.properties , changing the values to make them specific to your database settings.

Set <b>db.vendor</b>	to "postgresql"
Set <b>db.url</b>	to point to your Chesar 2.3 postgres database
Set <b>db.username</b>	to the username of your Chesar 2.3 postgres database
Set <b>db.password</b>	to the password of your Chesar 2.3 postgres database

```
#####
#
# Database vendor. Takes the following values
#   i) postgresql
#   ii) oracle
#
#####
db.vendor=postgresql

#####
#
# Database URL. See following examples
#
# for PostgreSQL
#   jdbc.postgresql://<host>:<port>/<schema>
#   e.g. jdbc:postgresql://localhost:5432/chesar2
#
# for Oracle
#   jdbc:oracle:thin:<user>/<password>@//<host>:<port>/<schema>
#   e.g. jdbc:oracle:thin:chesar2/chesar2@//10.1.5.226:1521/xe
#
#####
db.url=jdbc:postgresql://localhost:5432/chesar2

db.username=postgres
db.password=postgres
```

2. Now save and close the file. The system will ask you if you want to update the archive. Say 'Yes'.
3. Close and save the modified chesar 2.3 war archive file.

## 5.6 Modifying the Database Properties File - Oracle Users

This section is only for those intending to use Oracle database.



In case you had a previous Chesar version installed, please note that you **CANNOT** reuse the **database.properties** file from your previous Chesar installation – doing this will lead to data corruption! Please follow the instructions below.



Depending on your operating system, you may need to rename the chesar 2.3 **war** file so that it ends in **“.zip”** to allow you to access and update the database property file inside the archive content. If you temporarily rename the file ending to **“.zip”**, please remember to rename it back to **“.war”** before you deploy the application!

1. You must update the database configuration file inside the chesar 2.3 war archive. To do this, first **open** and **edit** the file WEB-INF\classes\database.properties, changing the values to make them specific to your database settings.

Set **db.vendor** to "oracle"  
 Set **db.url** to point to your Chesar 2.3 oracle database  
 Set **db.username** to the username of your Chesar 2.3 oracle database  
 Set **db.password** to the password of your Chesar 2.3 oracle database

```
#####
#
# Database vendor. Takes the following values
#   i) postgresql
#   ii) oracle
#
#####
db.vendor=oracle

#####
#
# Database URL. See following examples
#
# for PostgreSQL
#   jdbc.postgresql://<host>:<port>/<schema>
#   e.g. jdbc:postgresql://localhost:5432/chesar2
#
# for Oracle
#   jdbc:oracle:thin:<user>/<password>@//<host>:<port>/<schema>
#   e.g. jdbc:oracle:thin:chesar2/chesar2@//10.1.5.226:1521/xe
#
#####
db.url=jdbc:oracle:thin:chesar2/chesar2@//10.1.5.226:1521/xe

db.username=oracle
db.password=oracle
```

2. Now save and close the file. The system will ask you if you want to update the archive. Say 'Yes'.
3. Close and save the modified chesar 2.3 war archive file.

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