

## **Introduction**

This document describes the installation of GMS 5 and the optional migration of data from older formats.

**Hint:** If you are migrating from a previous version of GMS 5 to GMS 5.5, please see the document “GMS 5 Update Installation” - it is a very simple upgrade process and does not require reading this document.

Hint: Any text you see formatted like this in blue is geeky and can probably be ignored if you don't understand it.

GMS 5 features a complete re-design of the database storage engine used in GMS. This update gives you a much wider range of databases which you can use, all of which are more reliable than Paradox. If this is your first installation of GMS you'll want to go straight into one of the new databases, otherwise GMS can convert your older data into one of the new formats. For users who need to coexist with older copies of GMS while accessing the same data, new installations can still use Paradox-based data.

In GMS 4 and earlier, all data was accessed using the BDE (Borland Database Engine), which had to be installed on every machine. GMS 5, on the other hand, natively supports direct connections to NexusDB, SQL Server 2000 and Oracle 8i+ with no added DLLs and MySQL 4.1 or higher using the included libmysql.dll. (Older, Paradox-based data may still be used by installing the BDE.)

Any copy of GMS can be configured to connect to one or more databases. Unless a default database is set up, GMS will ask each user at startup for a database to use. Normally each user will have only one GMS database and you won't want them to be prompted, since keeping multiple databases straight in their heads usually leads to problems.

## **Glossary**

BDE	Borland Database Engine. This is the tool that older versions of GMS used to access all data. GMS 5 only needs the BDE in order to work with data still in GMS 4's format.
Paradox	A database tool now owned by Corel®; also a database table format used by the oldest versions of GMS.

## **System Requirements**

GMS 5 requires Windows 98, ME, NT 4, 2000 or XP on each workstation which runs it. Each machine must have at least 64MB of memory and a monitor set to 800x600 or higher – you can no longer use a VGA (640x480) monitor with GMS.

These are the *minimum* requirements. We highly recommend that all workstations run Windows NT 4, 2000 or XP, since Windows 98 and ME are not very stable and are prone to crashes. In addition, 128MB of memory and a 1024x768 display are preferred. More memory will make your experience faster, and a higher-resolution display lets you show more information on the screen at once, especially useful on some of GMS' more complex screens.

**Database selection**

Your choice of database to store your information in depends on your specific circumstances. For example, a standalone installation where only one user at a time will access your data should be NexusDB standalone, which requires no fancy installation or maintenance. A major office with many users and a staffed IT department would more likely choose SQL Server or NexusDB server, or MySQL or Oracle if they have another application which uses it.

The good news is that once you've installed GMS and gotten it operational on one machine on your network, installing other machines to connect to the same data is just a matter of pointing to the same executable (except for Paradox installations, which must be performed on each individual machine; see *Additional workstation installation* under *Installation* below).

If you have any questions related to selecting a database before you install, call or e-mail tech support for assistance.

<b>Database</b>	<b>Pros</b>	<b>Cons</b>
NexusDB standalone	Simple, fast, reliable, free	Only one user at a time (not even multiple copies of GMS on the same machine can access the data at one time)
NexusDB server (1.07 or higher)	Fast, reliable, free Supports any number of simultaneous users on the network and across the Internet Supports snapshot backups	More complicated to set up; server must be running for any users to access data
MySQL (4.1 or higher)	Reliable, free Supports any number of simultaneous users on the network and across the Internet	Complicated setup GMS support is currently experimental Slower than NexusDB, Oracle and SQL Server
SQL Server (2000 or higher)	Fast, reliable Supports any number of simultaneous users on the network and across the Internet	Complicated setup and maintenance Requires dedicated server
Oracle (8i or higher)	Fast, reliable Supports any number of simultaneous users on the network and across the Internet Supports snapshot backups	Expensive software Very complicated setup and maintenance Requires dedicated server
Paradox/BDE	Supports simultaneous use with GMS 4 users No data migration required	Not very reliable: tables easily damaged by computer or software crashes on any machine Scales badly when multiple users working at once

**Installation**

GMS 5 also comes with a brand-new installer, which makes basic installations easy.

(If you intend to convert your existing Paradox-based data to one of the newer databases, during the installation process you should choose “I'll run GMS' configuration tools manually later” when prompted for database information during GMS' installation.)

**Setting up your database**

This section is only applicable to users who will be establishing a new NexusDB, MySQL, SQL Server or Oracle database. If your database already exists, or if you'll be creating a new NexusDB standalone or Paradox database, skip on to the next section.

Each database server has its own detailed and setup installation procedure. See the appropriate section near the end of this document for the specific database to install and configure

“Installing and configuring NexusDB Server”

“MySQL notes”

“SQL Server notes”

“Oracle notes”

**Installation Wizard**

When using NexusDB standalone or Paradox data, GMS has two folders: one in which GMS itself is installed, and one that holds its data. These can both be set to the same folder, which is the usual practice. (If you're using NexusDB Server, MySQL, SQL Server or Oracle, there is no data folder, since the data is stored by the database server.)

**Step 1: Run the Installation Wizard**

Run the program GMS5-install.exe. Click on the [Next] button then select your destination folder. This is the folder in which the GMS application will be installed (GMS5.exe, GMS5.ini, GMSConvert.exe, GMS5EnterpriseManager.exe). If GMS is already installed on your machine, you can install GMS 5 into the same folder if you want.

Click on [Next], *do not un-check “Program Files”*, then click on [Next] again. Enter your name, the company name, and your GMS registration code. Note that the company name and registration code must exactly match the registration information provided to you. (The GMS installer can't check the validity of the data here, but GMS will validate it later and if it's not correct, will require that it be corrected before GMS will run.)

Click on [Next] to get the “Select Database” screen, like Illustration 1, Installation type.

Choose how you will establish your database: not at all (you'll use GMS' tools to connect to the database later), connect to an existing database, or make a new database. The first item is self-explanatory,

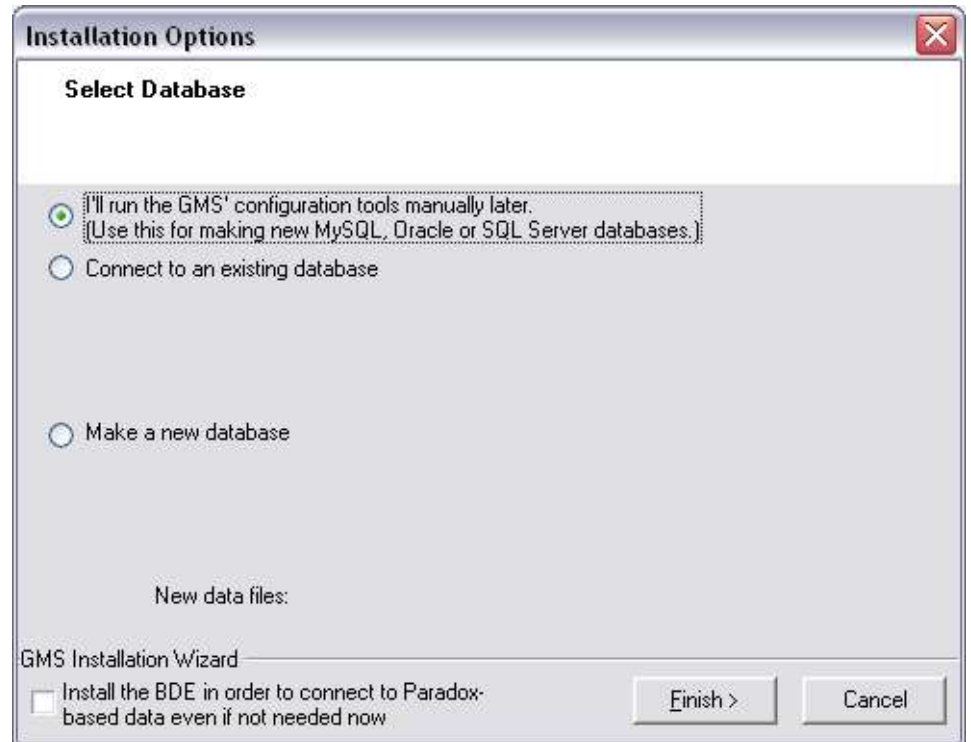


Illustration 1, Installation type

*Connect to an existing database:*

Use this whenever the database you want to connect to already exists and is available. After selecting this option, click on the [Run Connection Wizard] button.

Note: users upgrading from GMS 4 will have Paradox data and should choose that type of database unless first running GMS Convert to make it into another database type.

### New Connection Wizard

After starting the New Connection Wizard, click on [Next] to get to the “Basics” page. Here, select the type of database you'll connect to and enter a name for this new connection. By default, the new connection's name will be “GMS Data”, although you can call it anything you want. (If this database name already exists in the GMS5.ini file when the installer finishes, the installer may call it something else.)

Click on [Next]. Here you will find the options specific to the type of database you selected in the previous step.

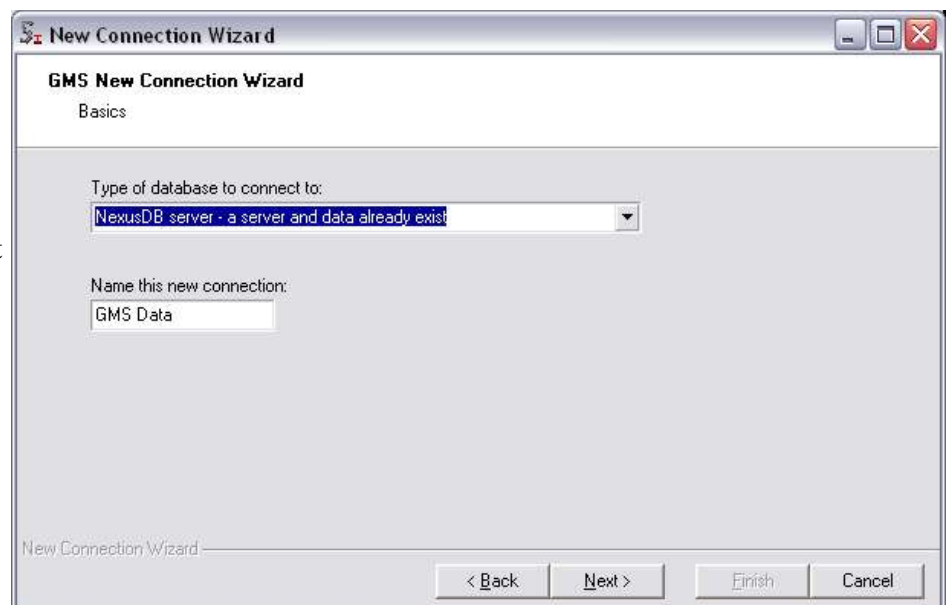


Illustration 2, Select database type

**NexusDB local data**

Data folder	The folder in which your data is or will be stored.
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**NexusDB Server**

Server address	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Server name	The internal name of the server; usually set as "NexusDB" (no quotes)
Database	The alias within the server that points to your data.
Server requires you to log in...	If the server requires a user id and password, check this box and then enter the server login id and password below. You can leave the login id and/or password blank; GMS will prompt you for both any time you connect to the server, but values entered here will come up as pre-entered on the login form.

**SQL Server**

Server address	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Database	The name of the database within SQL Server that holds your data. This will have been set by your database administrator.
Use Windows NT authentication to server	If checked, GMS will use your Windows NT login to log into SQL Server and won't prompt you for a user id and password. Don't try to use this when running Windows 98/ME.

**Oracle 8i**

Use Oracle's OCI drivers	GMS can use its own direct drivers to connect to Oracle, which bypasses the need for installing Oracle's proprietary client. If this option is checked, GMS will use and require Oracle's drivers. (Unless you are having problems, leave this unchecked.)
Oracle Server (Use Oracle's OCI drivers is unchecked)	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Oracle Server (Use Oracle's OCI drivers is checked)	Enter the server name known to Oracle in your local Oracle configuration.
User that owns data tables	If the user id that you log in to Oracle with is not the user that owns the GMS tables, enter the name of the user that owns the tables here. GMS will create Oracle synonyms when it starts so that the logged-in user can reference the tables as if it owns them. Leave this blank if the logged-in user is the user that owns the tables.
Oracle instance	Optional – if entered, this should be the name of the specific instance of Oracle to connect to on a machine with multiple instances running.
Oracle port	Optional – if entered, this should be the TCP port on which Oracle is listening for connections. Normally you'd leave this blank.

**MySQL 4.1**

Server address	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Database	The name of the database within MySQL that holds your data. This will have been set by your database administrator.

**Paradox**

Data folder	The folder on this machine or another which holds the Paradox data you want to connect to. Note that all users connected to this data should refer to this folder by the same name. You should not have one machine connecting to the data as "c:\gms" and another as "r:\gms" - this will confuse the BDE and may lead to lock conflicts and damaged tables.
BDE Locking folder	The BDE uses a special locking folder in order to coordinate locks among multiple machines. Normally this folder will be the same as the data folder set above.

After entering the appropriate fields, click on [Next]. GMS will show you what you've selected; if it's correct, click on [Finish].

GMS will now attempt to connect to that database and verify that the tables it needs exist. If there are any problems, GMS will show them and give you the option to [Save Anyway]. (You should probably go [< Back] and correct any problems, first, then hit [Finish] again.) If there are no problems or you click on [Save Anyway], GMS will return you to the "Select Database" form.

*Make a new database:*

Use this to make a brand-new NexusDB local, NexusDB Server or Paradox database.

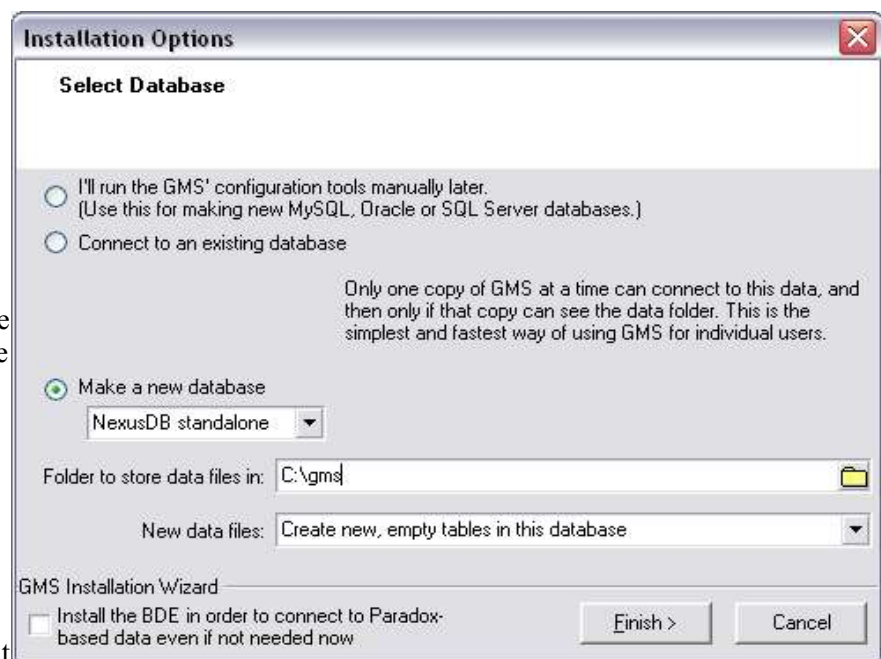
Select the type of database you want to create (NexusDB standalone, NexusDB Server or Paradox), then choose the folder in which you'll store the data. Usually this will be the same folder you install GMS itself into. Finally, choose whether or not you want to create new, empty tables or leave the folder empty. Leave it empty if you're planning on running GMS Convert later to import older data.

Optional: If you know that you'll want

to read Paradox-based data later or be importing from Paradox-based data, check "Install the BDE..." box to force the GMS 5 installation wizard to install the BDE. (By default, if you don't check this box, the wizard won't install it unless you're connecting to or creating a new Paradox database.)

After setting your options, click on [Finish>]. The installation wizard will now install the appropriate files, create your tables (if appropriate), and make your shortcuts.

If you chose to create a new NexusDB database, the installation wizard will:



- Install nxServer.exe in the same folder as your data
- Create an entry in your GMS5.ini file which tells GMS how to connect to that server
- Create the appropriate blank data files, if requested

What the installer cannot do is configure the NexusDB server itself. See the text later in this document under “Installing and configuring NexusDB Server” for information about starting and configuring the NexusDB server and setting up a data alias within it.

#### Additional workstation installation

If you are working standalone or with Paradox-based data, you can ignore this section.

After the first workstation is installed, additional workstations on the same network can be set up without running the installation process on each machine.

Assuming that GMS and its data were installed to a folder accessible on the network, simply create shortcuts on the other workstations which point to the existing copy of GMS5.exe. GMS will use the GMS5.ini file in the folder with its executable, and therefore will inherit all of the configuration and registration information previously entered. This also makes upgrades easy: simply ensure that no one is in GMS, then replace the common GMS5.exe file.

If individual workstations have their own copies of the GMS5.exe file, you have two options:

1. Run the installation process on each machine (selecting “I’ll run GMS’ configuration tools manually later” when prompted for database information). After installation is complete, copy the GMS5.ini file from the first machine into the installation folder of each workstation. This will copy the database setup information.
2. Copy the entire GMS installation folder from one workstation to another, then manually create the appropriate shortcuts.

### **Migration of GMS 3 & 4 data**

If this is your first installation of GMS, and you're planning on installing new, blank data without converting any old Paradox-based data, you can safely skip this section.

While GMS 5 can connect to and work with your existing Paradox-based data, we recommend for performance, scalability and reliability reasons that you migrate (convert) your older data into NexusDB, SQL Server 2000, Oracle 8i+ or MySQL. GMS 5 ships with *GMSConvert.exe*, which can be used to transform GMS data from any supported database to any other supported database.

#### Pre-conversion checklist

- ✓ My data has been backed-up today
- ✓ No other users are in GMS
- ✓ My target database is set up (NexusDB server, MySQL, Oracle and SQL Server only)

To migrate your data from one database to another, you'll use GMS Convert (*GMSConvert.exe*), which is included in the basic GMS installation. After launching GMS Convert, you'll see a screen like this.

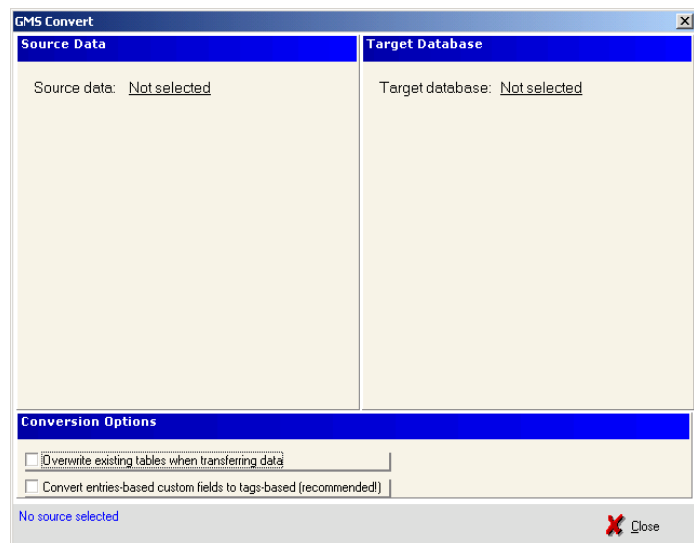


Illustration 3, GMS Convert

#### Step 1: Select your source

Click on the text to the right of “Source data”; you'll get a dialog that looks like Illustration 4, Database selector. Look on the list under “Connect to which database”: is there an entry for your source data? You can scroll through the list and as you select each one, GMS will show below it a description of what that database points to. If you find it, just click on [Connect] to continue.

If the source database is not in the list, click on the [Setup databases] button in the upper right corner. Here, we'll define a database entry which points to your data so that GMS Convert can access it and bring it in. Please see the section labeled “Database Setup” in this document to learn how to define this database entry. Once it's made, come back to this screen, select that database, then click on [Connect].

After you've clicked on [Connect], GMS will show you a list of the tables which exist in your source data. The required tables are *address*, *certifs*, *entries*, *events*, *groups*, and *people*. You may see the tables *comments*, *schedule*, *tags*, and/or *zips*.



Illustration 4, Database selector

(Don't be alarmed if you do not see the *sched* table, even if it exists: GMS 5's scheduling tools are totally different from GMS 4, and scheduling cannot be converted. After you have GMS running on the new database, go into System Setup and enable scheduling, this will create the new *schedule* table.)

### Step 2: Select your target

Click on the text to the right of "Target database" and you'll get a dialog like Illustration 4, Database selector. Check to see if your target database is in the list of databases. If you don't find it, click on [Setup databases] and follow the instructions in the section labeled "Database Setup" to create the database entry.

Hint: for Paradox to NexusDB conversions, you can have both the Paradox and NexusDB databases in the same folder. This will usually make your backup and configuration easier than making a separate folder for the new data.

Once your target database entry is chosen (and possibly made), come back to this screen, select that database, then click on [Connect].

### Step 3: Choose your tables and options

The list of existing tables the right side should normally be empty, meaning that there is no data in the new database yet. If there are tables in here, by default GMS will not overwrite them. This can cause some very interesting problems if you convert some tables and not others; in general you will convert all of your data or none.

Under most circumstances, you will select all of the source tables for copying by checking the boxes next to their names, and you won't check the "Overwrite existing tables when transferring data" unless you (a) intend to erase some or all of the data in your new database and (b) really know what you're doing. You should check the "Convert entries-based custom fields to tags-based", even if you don't know what this means.

### Step 4: Convert


Once your source and target databases are chosen and you've selected the tables to be converted, click on the [Transfer] button. Note that this process may take a while, depending on how much data you have, how fast your machine is, and how what kind of database you're converting into.

After the conversion process is done, GMS will send a report to your screen, detailing what it did and what errors it encountered. *Please print this report!* If you have problems later, what GMS did during the conversion will help us in diagnosing any issues.

### Step 5: Start GMS and test your data

Close the report on your screen then click on [Close] to exit GMS Convert, then start GMS 5. If you are prompted for a database, select the new data, then on [Connect]. If all is well, you will start in GMS with your new data, You can verify that you're using the new database by clicking on Help, then About. When the graphics screen comes up, click on the trophy icon in the lower-right corner. You'll get some text like Illustration 5, which will describe the database you're using.

Close the "About" screen by clicking on the red "X".



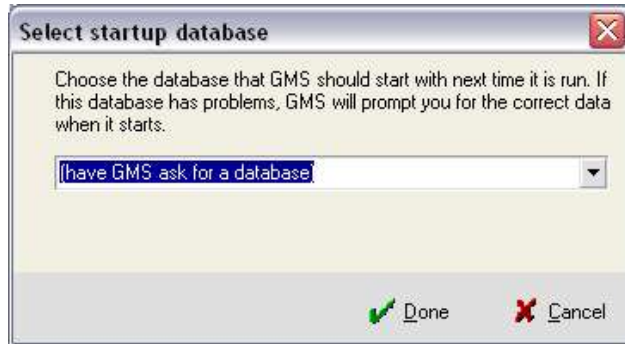
Using back-end NexusDB  
Using NexusDB server at address "127.0.0.1"  
NexusDB database "temp2"

Illustration 5

Now use GMS 5 for a while, verifying that all of your information is really intact. With the exception of scheduling, all GMS 4 data should come across.

**Step 6: Select a default database, delete your old data**

Once you're verified that your new data is working correctly, you'll probably want to set GMS to automatically start with this database every time, instead of being prompted. Click on "File", then "Select database to start with next time". Choose the database which is pointing to your data, then click on [Done]. Next time GMS starts up, it will come right up in this database unless there is a problem.



Finally, to keep users from accidentally using the old database, you should move, delete or rename the old data. If you're using a file-based system like NexusDB or Paradox, simply move the old files into a new folder, or, after verifying that you truly have a good, recent backup, delete them. For Oracle, MySQL or SQL Server databases, either rename or delete the database or its files using the appropriate tools provided by the database manufacturer.

**Database Setup**

This section will walk you through the process of specifying a database connection manually. You'll need to do this when running GMS Convert or when establishing a new database connection for an already-installed copy of GMS.

From the “Select GMS Data Source” screen, click on the [Setup databases] button to get a screen like Illustration 6, Database setup.

To edit an existing database, select it from the list of databases and its options will show below. To make a new one, click on the green plus sign to the right of the database list and select the type of database you want to connect to.

Under “Edit database name:”, enter a database name which will make sense to you later. You can call this anything at all, as long as it doesn't conflict with any other database names.

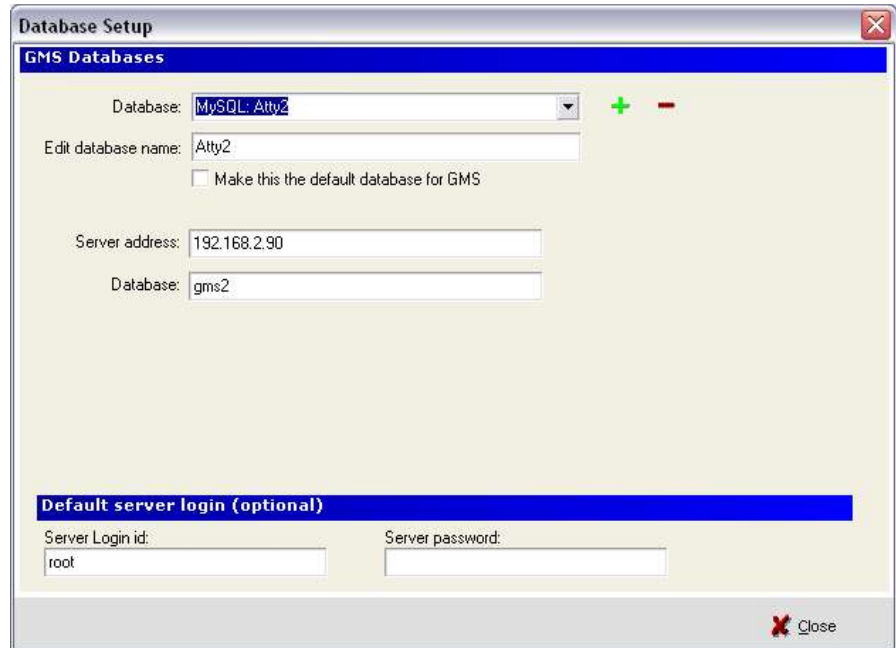


Illustration 6, Database setup

Each type of database has its own options; the detailed list of options and their meanings are listed below:

**NexusDB**

Select “Connect to a NexusDB server” or “Use local data files exclusively”. For local data files,

Data folder	The folder in which your data is or will be stored.
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**NexusDB Server**

Server address	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Server name	The internal name of the server; usually set as “NexusDB” (no quotes)
Database	The alias within the server that points to your data.
Server requires you to log in...	If the server requires a user id and password, check this box and then enter the server login id and password below. You can leave the login id and/or password blank; GMS will prompt you for both any time you connect to the server, but values entered here will come up as pre-entered on the login form.

**SQL Server**

Server address	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Database	The name of the database within SQL Server that holds your data. This will have been set by your database administrator.

Use Windows NT authentication to server	If checked, GMS will use your Windows NT login to log into SQL Server and won't prompt you for a user id and password. Don't try to use this when running Windows 98/ME.
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**Oracle 8i**

Use Oracle's OCI drivers	GMS can use its own direct drivers to connect to Oracle, which bypasses the need for installing Oracle's proprietary client. If this option is checked, GMS will use and require Oracle's drivers. (Unless you are having problems, leave this unchecked.)
Oracle Server (Use Oracle's OCI drivers is unchecked)	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Oracle Server (Use Oracle's OCI drivers is checked)	Enter the server name known to Oracle in your local Oracle configuration.
User that owns data tables	If the user id that you log in to Oracle with is not the user that owns the GMS tables, enter the name of the user that owns the tables here. GMS will create Oracle synonyms when it starts so that the logged-in user can reference the tables as if it owns them. Leave this blank if the logged-in user is the user that owns the tables.
Oracle instance	Optional – if entered, this should be the name of the specific instance of Oracle to connect to on a machine with multiple instances running.
Oracle port	Optional – if entered, this should be the TCP port on which Oracle is listening for connections. Normally you'd leave this blank.

**MySQL 4.1**

Server address	Enter the IP address (e.g. 192.168.2.1) or DNS-resolvable name (gmsdata.myorg.com) of the server which holds your data.
Database	The name of the database within MySQL that holds your data. This will have been set by your database administrator.

**Paradox**

Data folder	The folder on this machine or another which holds the Paradox data you want to connect to. Note that all users connected to this data should refer to this folder by the same name. You should not have one machine connecting to the data as “c:\gms” and another as “r:\gms” - this will confuse the BDE and may lead to lock conflicts and damaged tables.
BDE Locking folder	The BDE uses a special locking folder in order to coordinate locks among multiple machines. Normally this folder will be the same as the data folder set above.

After setting the appropriate options, click on the green checkbox next to the database name to save this particular record, then on the big [Save changes] button at the bottom of the screen. (Clicking on [Cancel] there will undo and cancel any changes you've made here.)

## Server-specific Notes

### Installing and configuring NexusDB Server

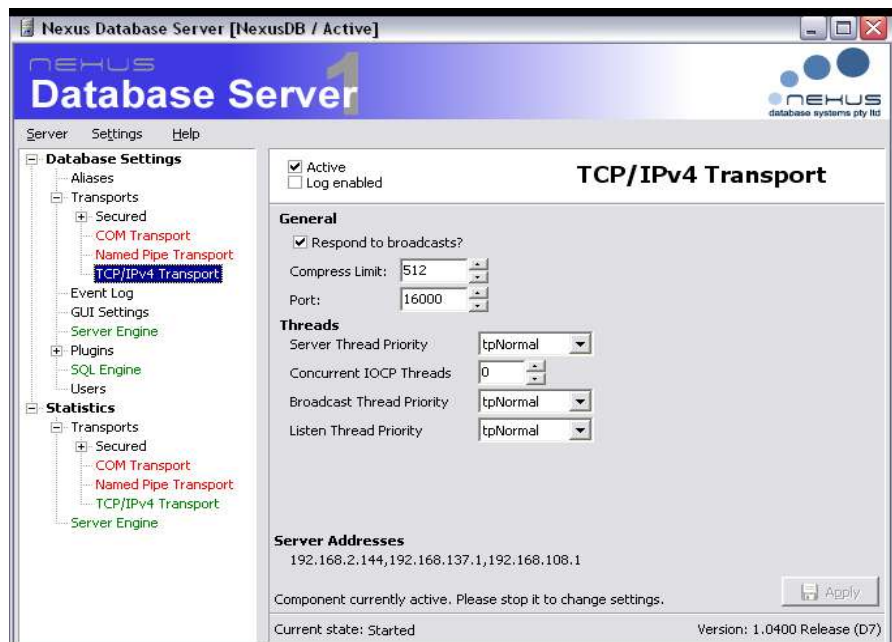
The NexusDB server is very straightforward to install and configure. If GMS previously installed the nxServer.exe file, skip to step 2.

1. Download NexusDB server from the NexusDB website, <http://www.nexusdb.com>. Select “Downloads” then “Binaries”, then download NexusDB Server. Unzip it into the folder on the machine where you intend to store your NexusDB data.
2. Start NexusDB server from the machine which will act as the server. This machine must not be a Windows 98 or ME machine, and should have at least 128MB of memory (more is always better).
3. Click on “Aliases”. At the bottom, enter an alias name “GMS” then the path to where your data is stored – you entered this when you ran the installer.

Click on [Add] to save the new alias and its path, so that NexusDB knows where to look for files when a copy of GMS asks for it.

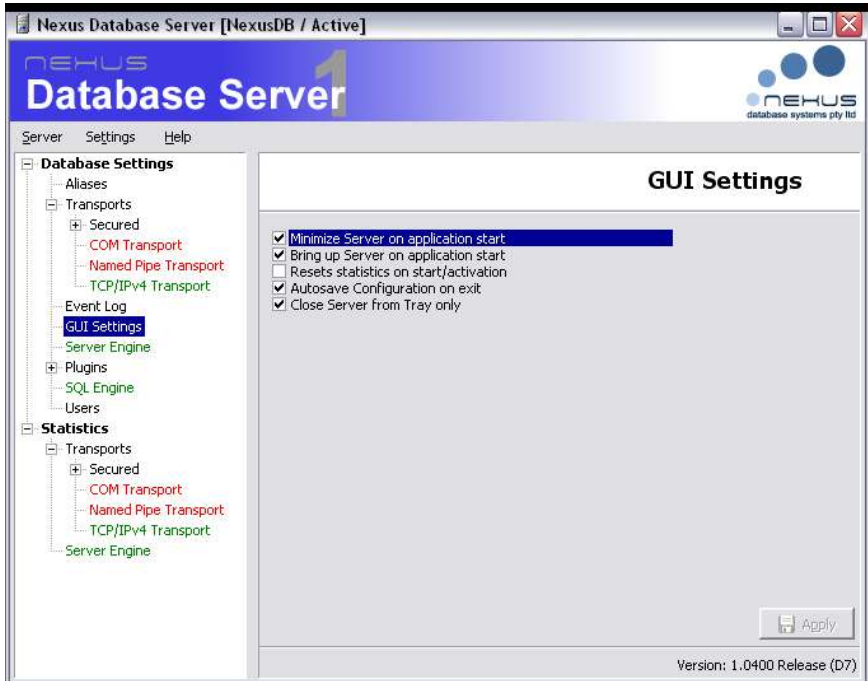


4. Click on the plus sign next to “Transports”, then on “TCP/IPv4 Transport”. Check the “Active” checkbox in the upper-left corner.

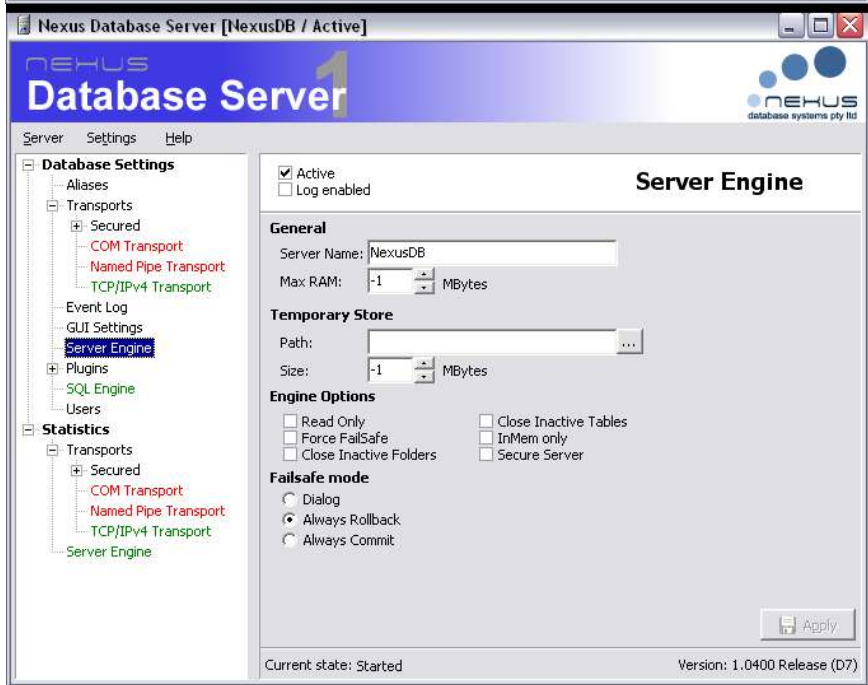


5. Click on “GUI Settings”, then check the boxes “Minimize Server on application start”, “Bring up Server on application start”, “Autosave configuration on exit” and “Close Server from Tray only”. Click on the [Apply]

button if it's not grayed-out.



- 6. Click on "Server Engine", then check the "Active" checkbox in the upper-left corner to start the server.



NexusDB is now configured and started. For applications to connect to it, the NexusDB server will need to be started. You should probably add a shortcut nxServer.exe to the startup folder to ensure this, or you can manually start it each time you reboot this machine.

### Compression

NexusDB supports integral compression when connecting to a NexusDB server. This compression is set on a client-by-client basis in each client's GMS5.ini file. Find the appropriate section in the ini file which corresponds to the connection you want to adjust, then put in the value

opt:compression=n

where “n” is 0 (for no compression) to 9 (for maximum compression). Compression is particularly helpful for users who connect to the data over the Internet. You will have to experiment to find the best setting for your circumstances. (Compression should be set to zero for connections from within your office, since the CPU time to compress and decompress the data will usually exceed the savings of less data on your network.)

### *Secure transports*

NexusDB supports secure data connections using Blowfish/RC4 symmetric encryption (in GMS 5.0.1.1 and above). To enable and use it, put the following entries in the appropriate section of your GMS5.ini file:

opt:secure=Y

opt:securekey=verybeefy

Where “verybeefy” is your password. On the NexusDB server side, you need to set the password under “Transports”, “Secured”, “Blowfish/RC4 Secured Transport” and click on [Apply], then enable the “TCP/IPv4 Transport (Blowfish)”. You can optionally turn off the standard “TCP/IPv4 Transport” if you will not be allowing any incoming unsecure connections.

Note that this is stored in plaintext on GMS' end and so can be read by users of this machine. The secured transport is *not* designed to prevent users from accessing data, it *is* intended to prevent “sniffing” of passwords and data on the wire by unauthorized persons.

Note also that compression and secure transports are incompatible. Any compression level set for a secured connection will be ignored, this is due to the fact that NexusDB encrypts the data before it can be compressed, and encrypted data is generally incompressible.

### *Ports*

NexusDB server and the GMS client can be configured to communicate on other than the “standard” port 16000 (17000 for secured) (GMS 5.0.1.1 and higher). To do this, put the following entry in the appropriate section of your GMS5.ini file:

Port=16001

Where 16001 is the port you've told the NexusDB server to listen on. If this is blank or zero, GMS will use the standard ports when connecting.

### MySQL Notes

GMS requires MySQL 4.1 or higher in order to work. All versions of MySQL default to a non-ANSI standard syntax for column naming; MySQL 4.1 added a convenient option to switch itself to ANSI mode on a session-by-session basis, which allows GMS sessions to work correctly without disturbing other sessions which expect MySQL's default syntax.

### SQL Server notes

For GMS to work right, SQL Server requires that the GMS tables be owned by “dbo”, not the person who created them or who ran GMS Convert. You can see table ownership within SQL Server Enterprise Manager – just open up the database where your GMS data is stored, then open up Tables; the owner will show in a column next to each table. To change it if necessary, right-click on the table, select Design Table, then right-click on any field and click on “Properties”. Change the owner there, then click on [Close]. Click on the Save icon to save your changes, then continue on to the next table. (GMS Installer and GMS Convert 5.0.1.0 and higher will automatically make all new tables owned by “dbo”.)

GMS requires that certain columns use case-insensitive collation orders. When GMS creates tables, it will specify the collation order for these columns as Latin1\_General\_BIN. Don't change this: GMS will fail miserably on most lookups if you do.

### *User rights*

All GMS users must have at least select access to all GMS tables. Lacking insert, delete or update rights may cause aspects of GMS to not work as it attempts these operations.

In general, users should not have rights to create or drop tables. Rights to create new tables may be needed occasionally to enable new features – for example, enabling tracing or comments – but drop rights are only needed for data restores when tables already exist.

### Oracle notes

#### *Synonyms*

Oracle stores its tables not in “databases” but as owned by individual users. The syntax for referencing tables which are not owned by the current user would break GMS' methods of accessing tables in other systems (MySQL, SQL Server, NexusDB), and so GMS uses Oracle synonyms to make it look to the calling application like the tables owned by another user are local to the current user.

To do this, GMS does a few tricks:

1. It names tables under Oracle in all upper-case (it's all lower-case on other systems)
2. For every user who logs in, GMS creates a table synonym in lower-case to each table, even if the logged-in user owns the table. This allows GMS to reference the table as lower-case, regardless of the ownership of the data.

This means that all GMS users must have:

1. At least select access to all GMS tables. Lacking insert, delete or update rights may cause aspects of GMS to not work as it attempts these operations.
2. The rights to create and drop synonyms

In general, users should not have rights to create or drop tables. Rights to create new tables may be needed occasionally to enable new features – for example, enabling tracing or comments – but drop rights are only needed for data restores when tables already exist.

If you really know what you're doing, you can disable synonym creation. Find the appropriate section in the ini file which corresponds to the connection you want to adjust, then put in the value

```
opt:nosynonyms=Y
```

If you do this, GMS will expect that the tables are named in lower-case and are owned by the currently logged-in user.

### *Locking*

GMS uses a the dbms\_lock package in order to provide cooperative locking among sessions. It is therefore important that all users be granted execute rights to that package. From an Oracle prompt:

```
grant execute on dbms_lock to YOUR_ORACLE_USER;
```

Do this for every Oracle user who will log into GMS.

**Interesting files***GMS5.ini*

This file stores all of the databases, the GMS registration code and the current language for this copy of GMS. GMS will use the *GMS5.ini* file which is in the same folder as the *GMS5.exe* file. If there is no *GMS5.ini* file there, GMS will make one and prompt you for database and registration information.

You can copy the *GMS5.ini* file from one machine to another, as long as you intend to use the same settings. If multiple users use the same *GMS5.exe* on a network, they are using the same *GMS5.ini* file.

As of GMS 5.2.0.48, making *GMS5.ini* read-only or setting the value under [General]

Locked=1

will prevent users from making changes from within GMS that will change this file.

As of GMS 5.2.0.48, making *GMS5.ini* read-only or setting the value under any database's entry

NoRestore=1

will prevent users from restoring data to that database.

*libmysql.dll*

GMS 5 always installs this file, but it is only used by GMS 5 if you're connecting to a MySQL database.