Honeywell

Reference Manual

IQ
Administrator Pro

and

PostgreSQL
Database Server
Installation Guide

⚠WARNING

HONEYWELL ANALYTICS' IQ SYSTEMS ARE DESIGNED TO INTERFACE WITH HONEYWELL ANALYTICS' GAS DETECTORS THAT ARE MANUFACTURED IN MIDDLETOWN, CT. CHANGES MADE THROUGH THE IQ SYSTEM MAY AFFECT THE FUNCTIONALITY OF THE DETECTOR.

HONEYWELL ANALYTICS' GAS DETECTORS HAVE BEEN DESIGNED FOR THE DETECTION OF DEFICIENCIES OF OXYGEN, ACCUMULATIONS OF FLAMMABLE GASES AND VAPORS AND ACCUMULATIONS OF TOXIC VAPORS.

IN ORDER TO ENSURE THAT THE USER IS PROPERLY WARNED OF POTENTIALLY DANGEROUS ATMOSPHERIC CONDITIONS, IT IS ESSENTIAL THAT THE INSTRUCTIONS IN THE OPERATIONS AND/OR REFERENCE MANUALS FOR THE GAS DETECTOR(S) BE READ, FULLY UNDERSTOOD, AND FOLLOWED.

THIS MANUAL IS NOT INTENDED TO REPLACE THE OPERATIONS AND/OR REFERENCE MANUALS FOR THE GAS DETECTOR. THIS MANUAL IS ONLY DESIGNED TO ASSIST THE USER IN THE INSTALLATION OF THE POSTGRESQL DATABASE AND THE ADMINISTRATION OF THAT DATABASE THROUGH THE IQ ADMINSTRATOR PRO PROGRAM.

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1. Postgre SQL

In early 2006, Sperian Instrumentation now known as Honeywell Analytics recognized that the amount of data generated by the IQ System programs for gas detector maintenance could easily surpass the limit of the Microsoft Access database that was initially adopted for use in the IQ System. After reviewing the available options, Sperian engineers selected a PostgreSQL database, which could store much larger quantities of data. The PostgreSQL database was incorporated into the IQ Database Manager program and became an integral component in the IQ System.

IQ hardware and software that includes the PostgreSQL database includes the term Pro in the name. As an example, the Database Manager program with the standard MS Access database is called IQ Database Manager. The version that uses the PostgreSQL program is called IQ Database Manager Pro.

This manual is designed to aid the user in setting up and maintaining the PostgreSQL database, which is done through the IQ Administrator Pro program.

2. Installation Overview

Each IQ Pro System is delivered with a disk that contains the complete PostgreSQL Database Server installation.

2.1 Database Server Installation Overview

To complete the database server installation, the following items must be accomplished:

1. Install the PostgreSQL Database Server (see section 3).

    Note: The Postgre SQL Database Server must be installed from the PC or network server's console. The server may not be installed remotely.

2. Install Database Manager Pro (see the Database Manager Pro Reference Manual that was included with your purchase)

3. Install the specific IQ Program that you desire (see the IQ Pro Reference Manual that came with your purchase)

4. Launch IQ Administrator Pro and create the IQ Database.

2.2 Upgrading an Access Database to PostgreSQL

To upgrade an existing MS Access database to PostgreSQL, perform all the steps described in above in section 2.1 and then follow the instructions below in section 6.2 to import the data into the new database.

3. Install PostgreSQL Database Server

Note: Administrator-level system access is required to implement some of the changes necessary to install the PostgreSQL database server. Do not begin the installation unless you are sure that you have administrator-level system access.

Note: The Postgre SQL Database Server must be installed from the PC or network server's console. The server may not be installed remotely.

1. Place the IQ Software disk into your computer's CD tray and close the tray. The following screen (or a similar one) will be shown when the installation CD boots up.
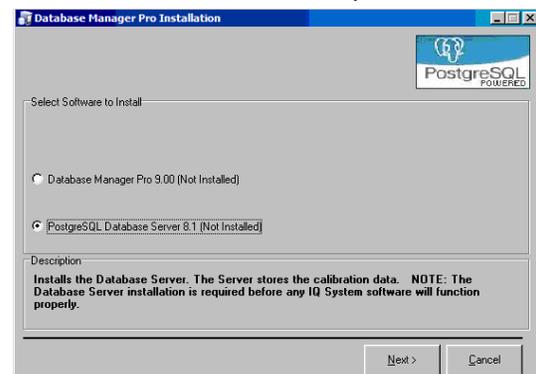
Note: Screens will be slightly different for each IQ Pro program

2. Select PostgreSQL Database Server and click "Next".

    The software will prompt you to select either Basic or Advanced Network Installation.
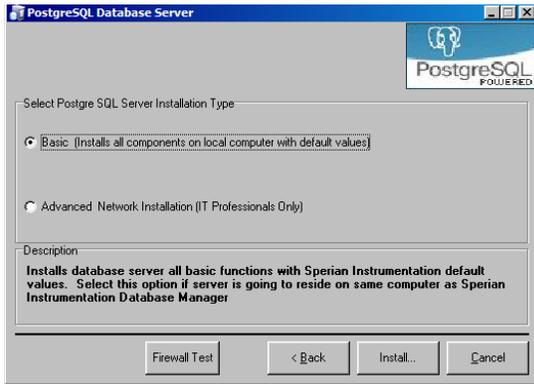
To install the database on a single PC proceed to section 3.1 below and follow the instructions for Basic Installation

To install the database on a network server proceed to section 3.2 below and follow the instructions for Advanced Network Installation.

The Advanced Network Installation is required to allow client access to the database.

3.1 Basic Installation

Once "Basic" has been selected, click "Install". The Service Account Configuration screen will be shown and will prompt for the Service Account Name. The service account is the account that runs the PostgreSQL database server. It must not be given the same name as a local administrator. The default Service Account Name is "bio1", which is generally used.

IQ Administrator Pro will proceed with the installation of the database on the PC.
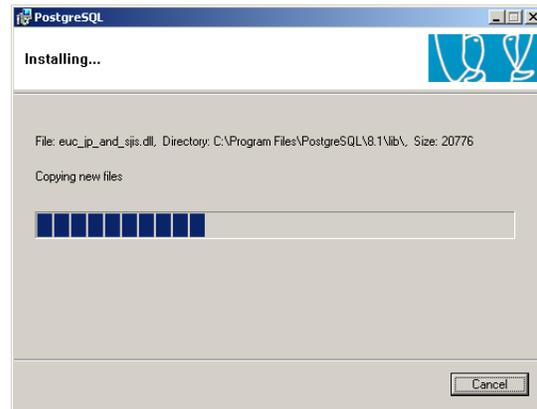
Once the installation is complete, you may receive a notice from your AntiSpyware (if you have any installed on the PC)

3. Click "Allow".

The Postgre SQL database has now been installed on the PC.

3.2 Advanced Installation

The Advanced Installation is only necessary for installing the PostgreSQL database server on a network. If you are installing the database on a PC and it will be accessed only from the PC on which it is installed, return to section 3.1.

To complete the software installation, first complete section 3.2.1 to install the database server, then complete section 3.2.2 to change the client access settings.

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3.2.1 Advanced Software Installation

1. Select "Advanced" at the Server Installation Type screen.
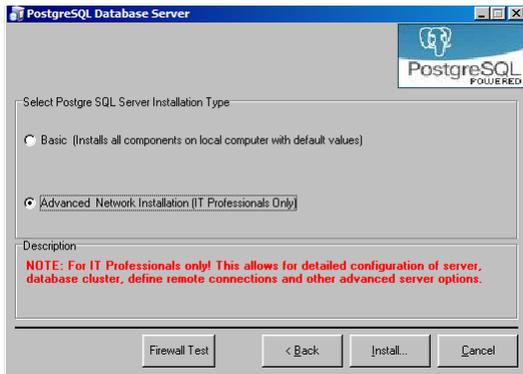
2. Click "Install". IQ Administrator Pro will proceed with the installation of the database on the PC. The installation language screen will then be shown.
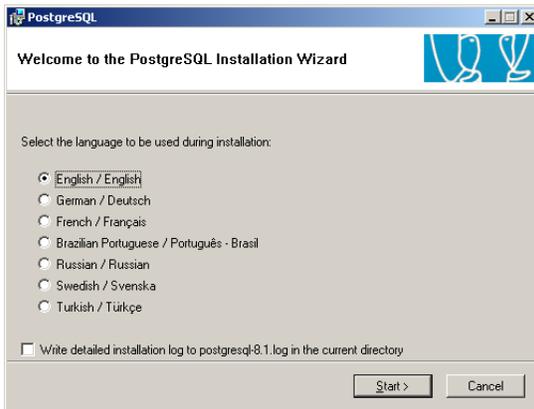
3. Select the language that will be used during the installation and click "Start" to begin the installation.

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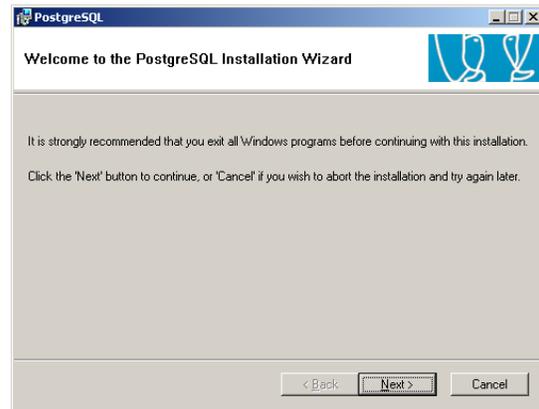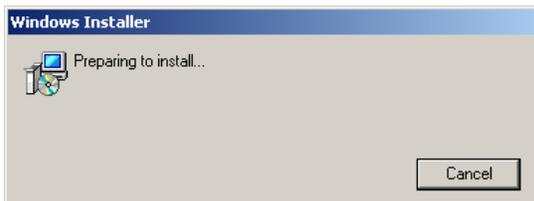
4. Close out all windows programs that are currently running on the PC and click "Next". The PostgreSQL 8.1 Installation Notes will be shown.
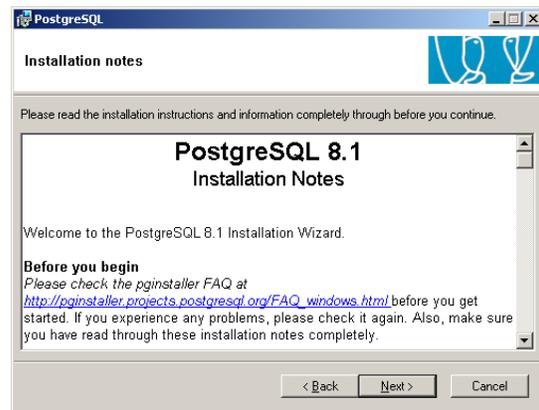
5. The Installation Note contains information on the legal status of the PostgreSQL software and an FAQ (Frequently Asked Questions) link is given. For those not familiar with this type of installation, it is recommended that you read through the material. Click "Next" when you are ready to proceed. Installation Options will be shown.
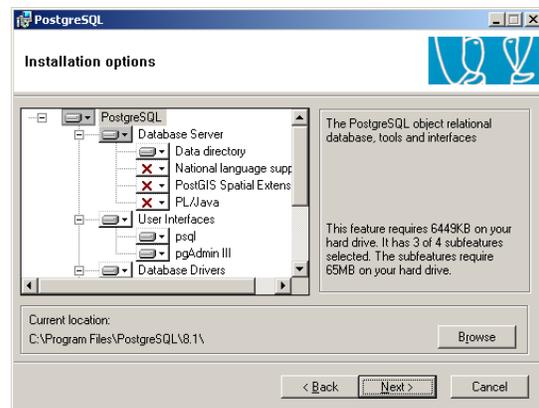
6. Use the "Browse" button to select the location of the database. Once this is done, the Service Configuration screen will be shown.

Honeywell Analytics recommends installing the user interfaces and the data directory on the same machine. The data directory should be backed up on a regular basis. For more information on data backups please consult your IT Department.
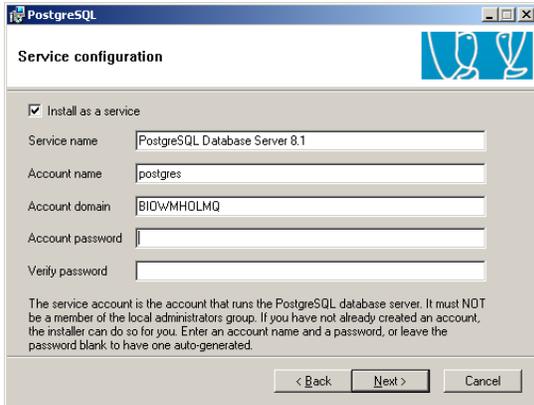
7. The account domain may be automatically generated by your network. Enter an account name and a password, then enter the password again in the input box next to "Verify Password".
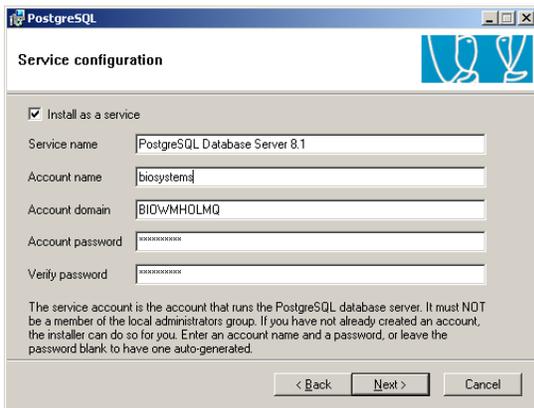
8. Once the password has been entered and verified, press "Next". The following two screens may be shown depending on the configuration of your network and your password choice.
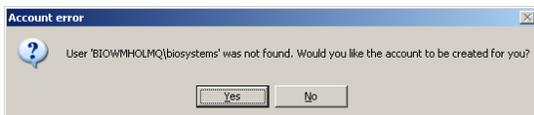
9. Click "Yes" if this screen is shown

10. Click "Yes" if you prefer to use a randomly generated password. Once

this is accomplished, the software will move on to installing the database cluster.
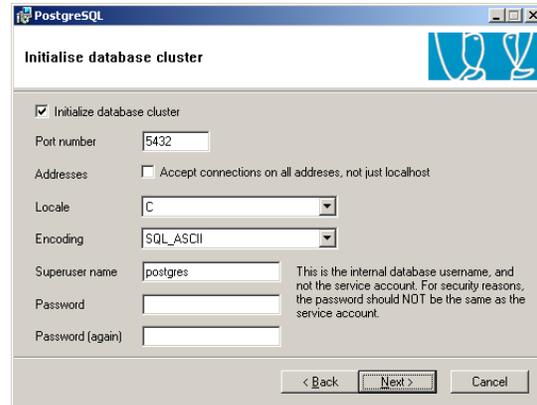
11. A number of changes must be made here. First select the appropriate locale.
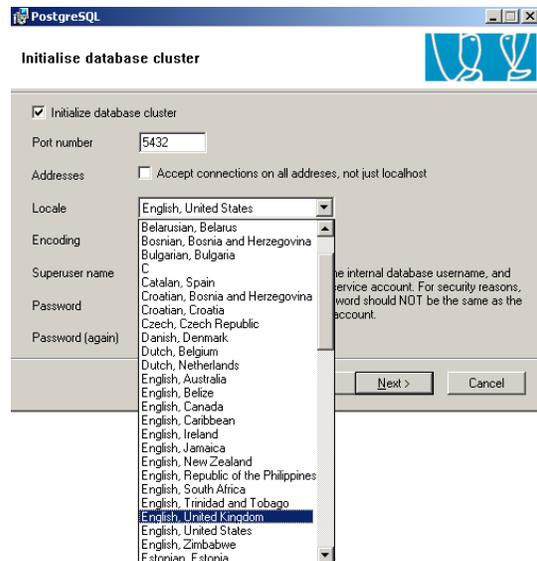
12. Click on "Encoding". Upon installation it will be set to SQL ASCII.
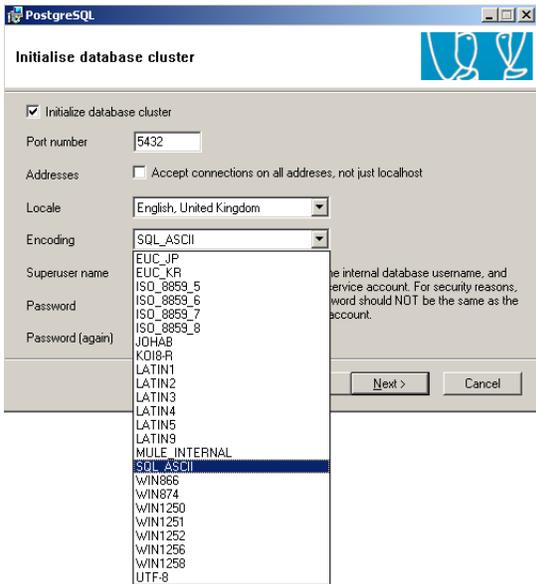
13. Change the Encoding to UTF8.

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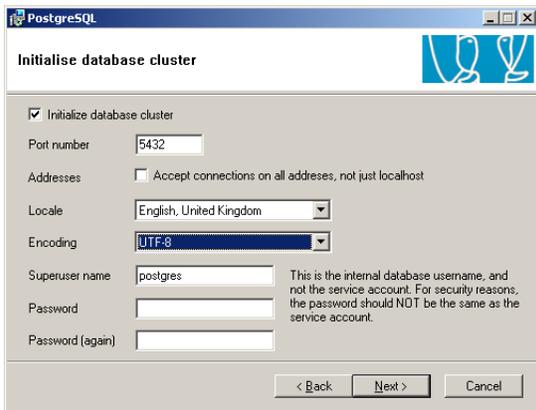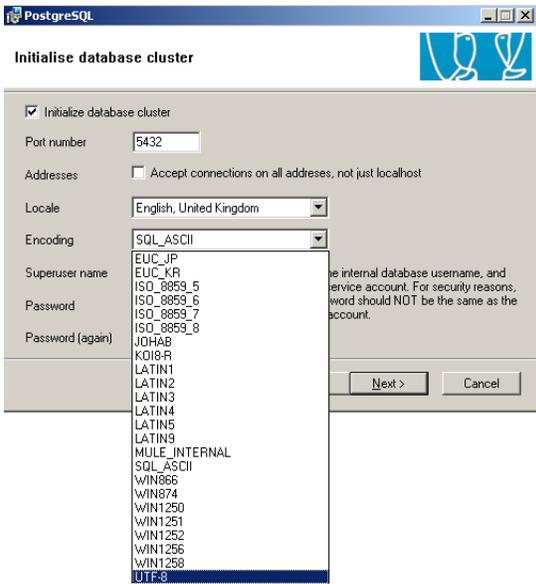
14. Enter a password in the Password Input box and then enter it again in the box below it to verify it. This password will be used later in this

installation, so enter the password here for future reference:

PASSWORD:_____
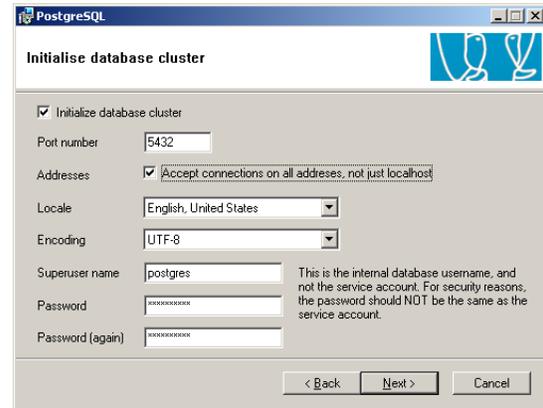
15. For the database to be accessed from external addresses, click the checkbox next to Addresses and click "Next". The software will show a window stating the modifications necessary for connections by users other than the host. This will be covered in detail in section 3.2.2 below.

16. Click OK. The procedural language settings will then be shown.
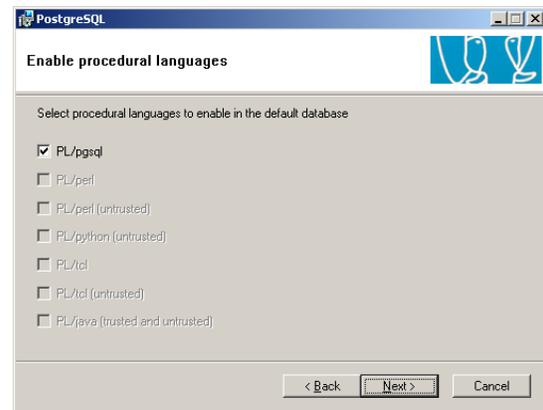
17. Click "Next" with "PL/pgsql" selected.
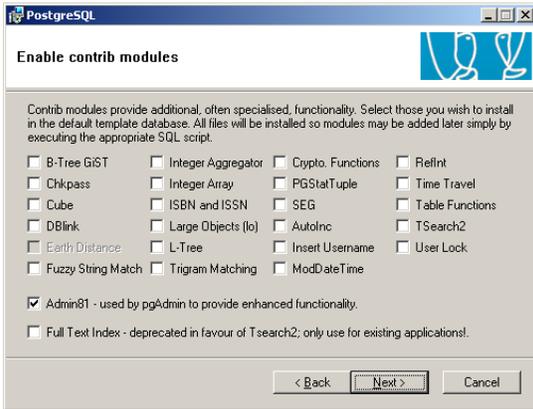
18. Contrib modules do not need to be enabled for the IQ System. Click "Next" with Admin01 as the only enabled selection. The Ready to Install screen will then be shown.
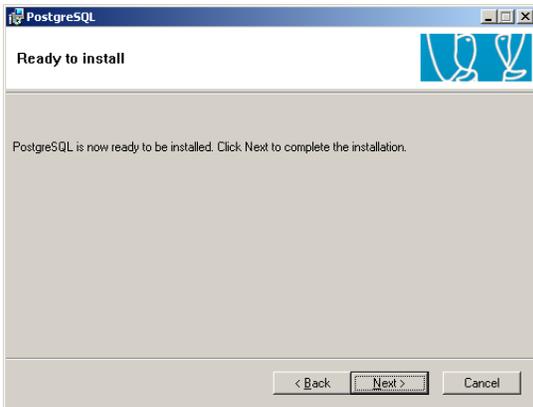
19. Click "Next" to proceed with the installation.
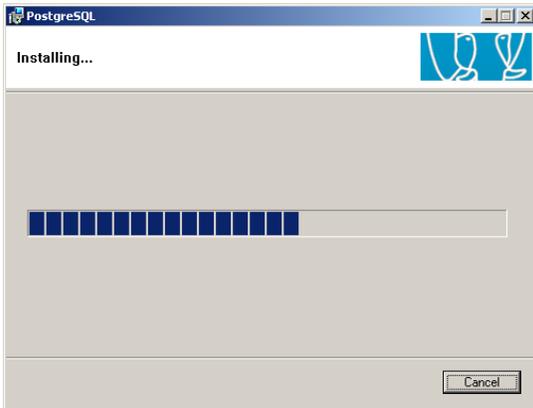
If Anitspyware is installed on the PC, the following notice may be shown to advice you that an Application change has been allowed.

Once the installation is complete the following window will be shown.
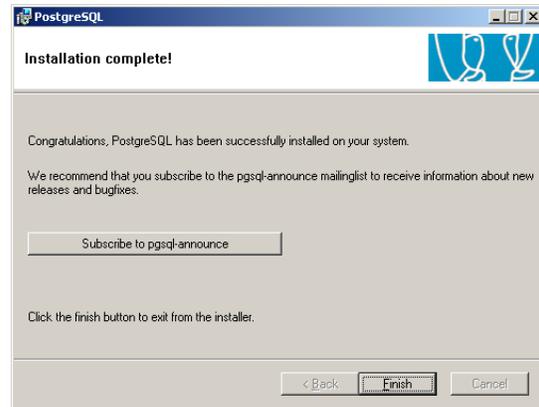
20. Click "Finish" to complete the installation. The software installation screen will then be shown.

Postgre's client access settings must be configured prior to use. To configure the database server's client access settings, proceed to section 3.2.2 below.

To bypass the client access settings, the next step in the installation of the IQ Pro system is to install the IQ Database Manager Pro program. See the IQ Database Manager Pro Reference Manual for further details.

3.2.2 Client Access Settings

The database server's client access settings control access to the database when it is located on a network with wider access than a one-computer system.

Postgre's client access settings must be configured prior to use. Database configuration options are located under

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All Programs / PostgreSQL 8.1 /
pgAdmin III.

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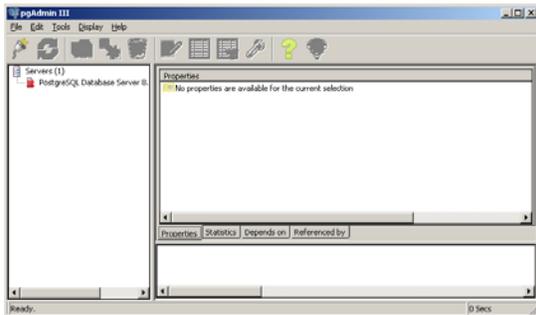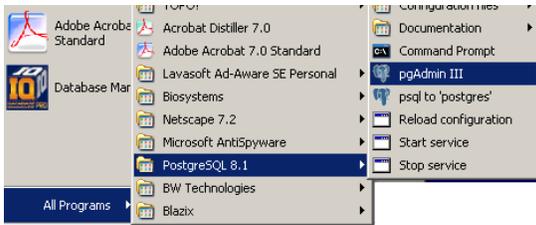
1. In the left column under Servers, click
   on "PostgreSQL Database Server
   8.1". A password is required.

2. Enter the password that was entered
   above in step 14 of section 3.2.1.

3. Press OK. The following screen will
   be shown.
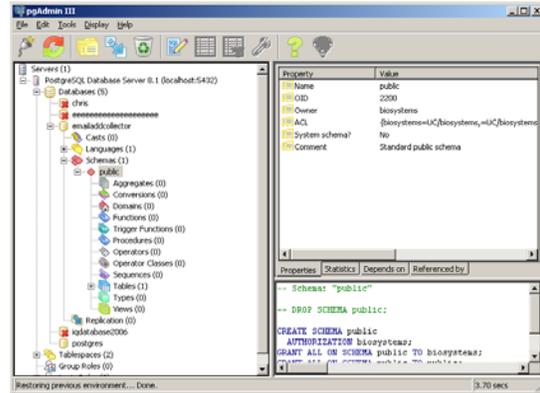
4. From the Tools Menu select "Server
   Configuration / postgresql.conf" to
   access the PostgreSQL backend
   configuration settings.
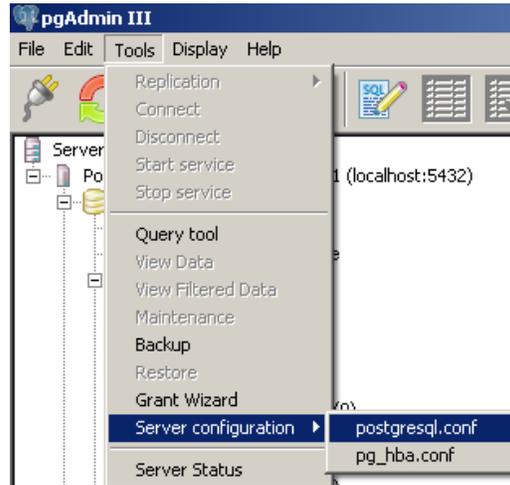
5. At the "Backend Configuration
   Editor", double click on
   "listen_addresses".
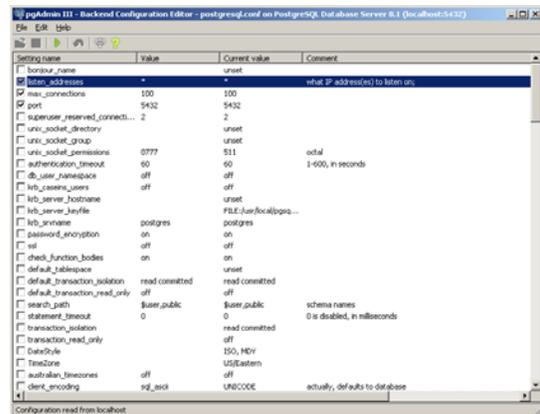
The configuration settings for listen
addresses will be shown.

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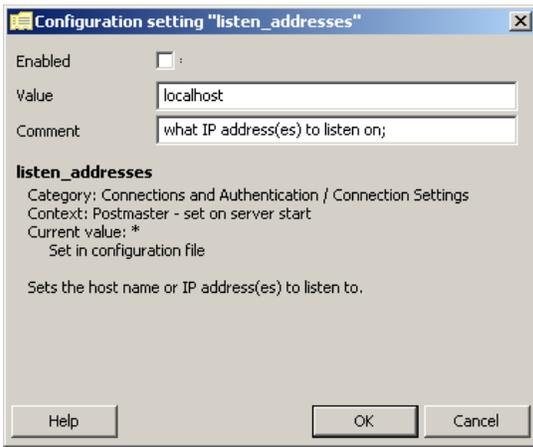
6. Click on the enabled box. The default entry for the Value input box is "localhost". Since this procedure is a description of how to configure client access settings, in most cases, the Value input box should be changed to an asterisk ("*"). The asterisk setting will allow the PC that is creating the database to continue to access the database along with the listen addresses that will be specified below in the Client Access Configuration screen.

In the unlikely event that you are changing client access settings and would like to limit database access to the PC that you are working on, leave the setting as "localhost". Then click OK, close out the PG Admin screens and disregard the remainder of this section.

7. Click OK and return to the main pgAdmin screen. Then select Server Configuration / "postgresql.conf" from the Tools / Menu.
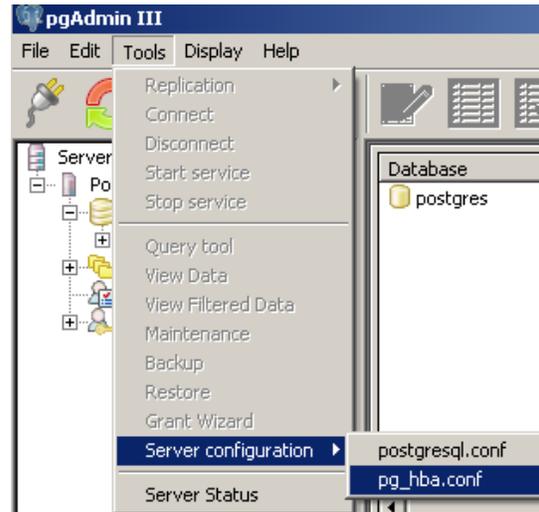
8. From the Tools menu, select "Server configuration / pg_hba.conf" to access the Backend Access Configuration Editor.
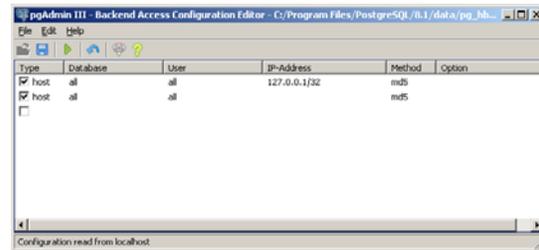
9. Three options will be shown at initial launch. The upper two options may or may not be enabled depending on your network configuration (as shown by the check mark in the box to the right). Leave the upper two options as they are. The unchecked, final option will be configured for the IQ System's client access.
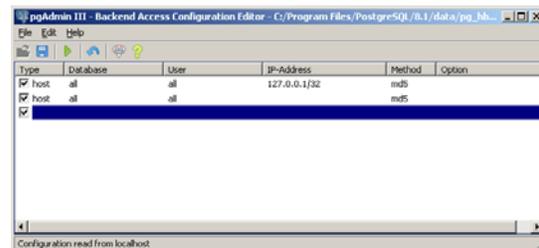
10. Select the bottom option to configure the client access settings. The Client Access Configuration window will be shown.
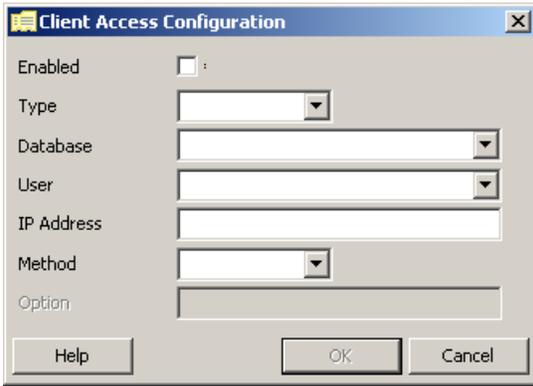
The Client Access Configuration window allows the user to control access to the IQ Pro Database through the PostgreSQL database server. The settings allow the user to specify the parameters that need to be met for the client (external) to access the database(s) (internal).

11. To set up client access, first click on the check box next to "Enabled".
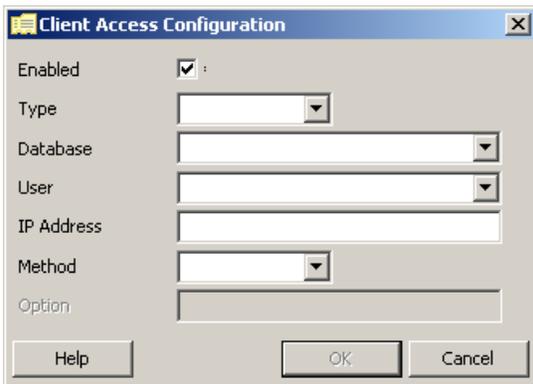
12. The Type setting should be "host", although other options are given.

13. Under Database, select the database that should be accessible by the client or leave it set to "All". To limit the client's access to only the PostgreSQL database(s), select "postgres".

14. Under User, enter a specific user name as the network would recognize it.

15. Enter the IP Address specification for the user or user group.
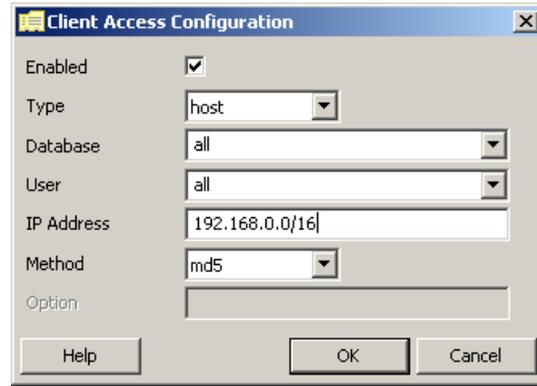
The entry made under IP Address is a filter that the server will use to grant access to users whose PC matches the requirements stated. The IP address is comprised of 4 sets of between 1 and 3 digits each, which are between 0 and 255. A dot separates the groupings. Following the IP address is a slash and a two digit number.

The first 6 digits of the IP address typically specify a local network. In the screen shot above "192.168" specifies a network at Honeywell Analytics in Middletown, CT.

The next 3 digits specify a subgrouping on the local network.

The final 3 digits specify a unique PC within the subgrouping on the local network.

The two digit number following the slash specifies how many digits of the IP address will be checked by the server to allow access to the databases.

/16 specifies verification of the first two sets of 3 numbers in the preceding IP address. If /16 is specified, a potentially large number of users will have access to the database.

/24 specifies verification of the first three sets of 3 numbers in the preceding IP address. If /24 is specified, a smaller number of potential users will have access to the database (a maximum of 256 users).

/32 specifies verification of all four sets of 3 numbers in the preceding IP address. If /32 is specified, then only the specific PC with the

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matching IP address will have access to the database

Client Access Example 1:

Grant access to the all postgresql databases for all Industrial Hygienists in the company – all of whom own PC's with an IP address starting with "192.168.132".

Note: Be sure that the configuration setting for listen addresses is set to enabled and that the value is set to an asterisk ("*") before proceeding. See section 3.2.2 steps 4-6 above.

a. From the Backend Access Configuration Editor open an unused option.
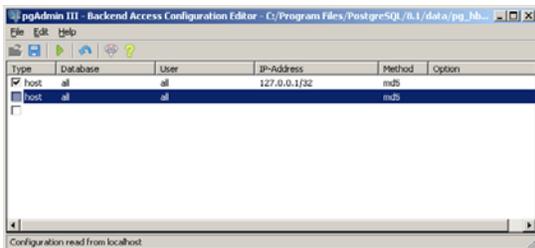
b. At the Client Access Configuration window click on the box next to "Enabled".

c. Change the database setting in the Client Access Configuration window to postgres.

d. Set the IP address filter to 192.168.132.0/24.
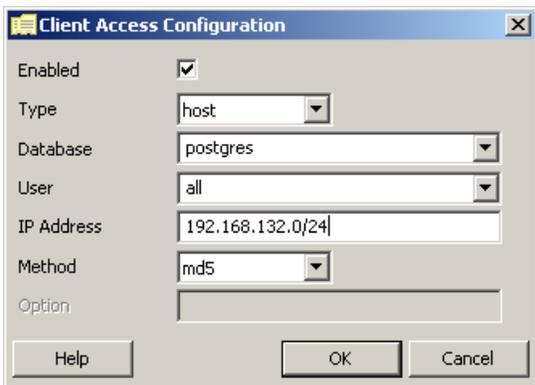
e. Click OK. The new configuration will be shown in the window.
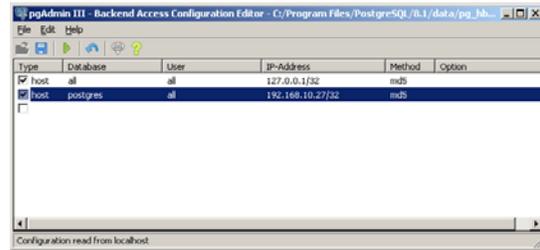
Client Access Example 2:

Grant access to all databases to two specific PC's whose IP addresses are known to be 192.168.10.27 and 192.168.10.28.

Note: Be sure that the configuration setting for listen addresses is set to enabled and that the value is set to an asterisk ("*") before proceeding. See section 3.2.2 steps 4-6 above.

a. From the server configuration window open the lowest unused option.

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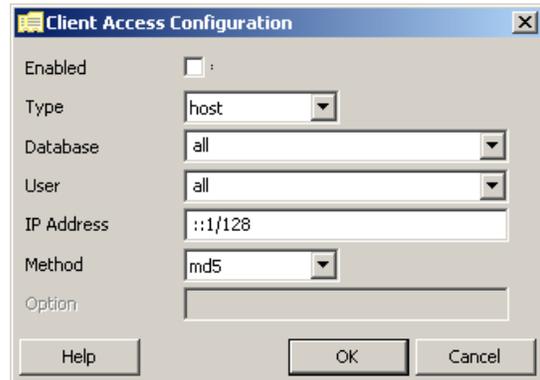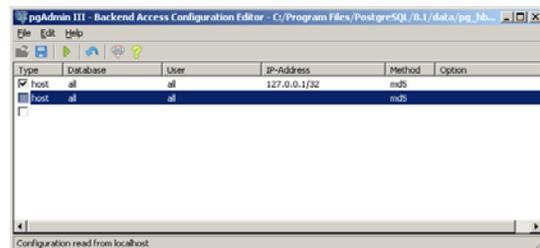
or
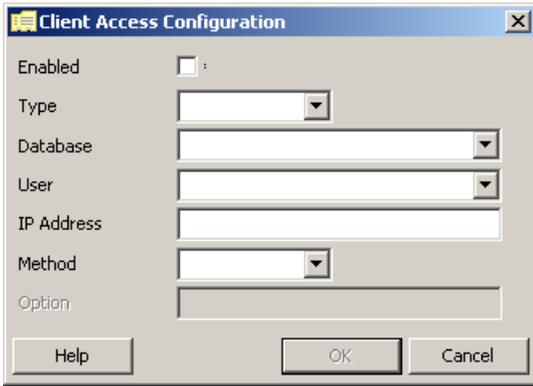
b. Click on the box next to "Enabled".

c. Set "Type" to "host"

d. Set "Database" to "all"

e. Set the "User" to "all".

f. Set the IP address filter to 192.168.10.27/32

g. Set "Method" to "md5".
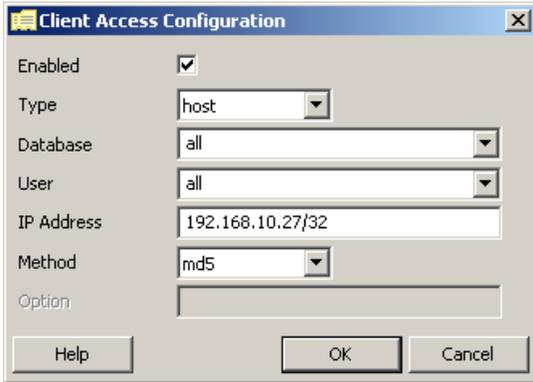
h. Click OK. The new access configuration will appear in the window.
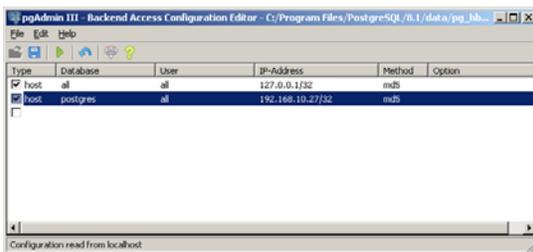
i. Open the next window.

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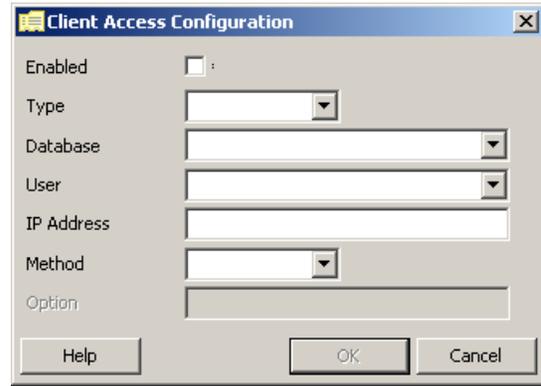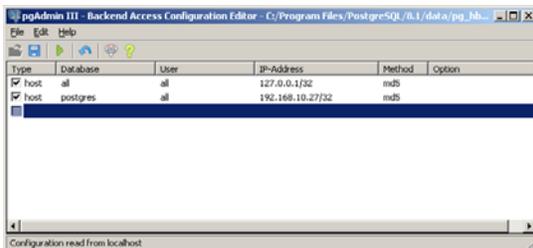
j. Click on the box next to "Enabled".

k. Set Type to host

l. Set Database to all

m. Leave user field blank

n. Enter 192.168.10.28/32 in the IP address field.

o. Select md5 in the Method field.

p. Click OK. The new access configuration will appear in the window.

12. Press "OK". The following screen will be shown. It is a safeguard to prevent inadvertent changes to the client access settings.

13. Press "Yes" to save the settings.

The next step in the installation of the IQ Pro system is to install the IQ Database Manager Pro program.

4. IQ Database Manager Software Installation

The Database Manager Program is contained on the IQ Installation Disk. Place the disk in your PC's CD tray and follow the installation instructions given in the IQ Database Manager Software manual that is included with the IQ Express.

5. IQ PC Software Installation

The IQ PC Software is contained on the IQ Installation Disk. Place the disk in your PC's CD tray and follow the installation instructions given in the IQ Express Pro Software manual.

6. First Launch / PostgreSQL Database Creation

A default PostgreSQL database must be created before any of the IQ Pro software can be used. To create a new database without importing any existing data from MS Access complete the instructions below in section 6.1.

To import the data from an existing Microsoft Access (.mdb) database into a PostgreSQL database, first create the new database as described in section 6.1 and then follow the instructions in section 6.2.

6.1 First Launch / PostgreSQL database creation

On initial launch, the IQ software will prompt you to open the IQ Administrator Pro program so that you can specify a default database. A default database must be assigned before the IQ software can be used.
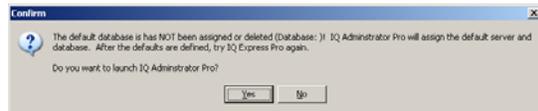
1. Click Yes to proceed to Administrator Pro.
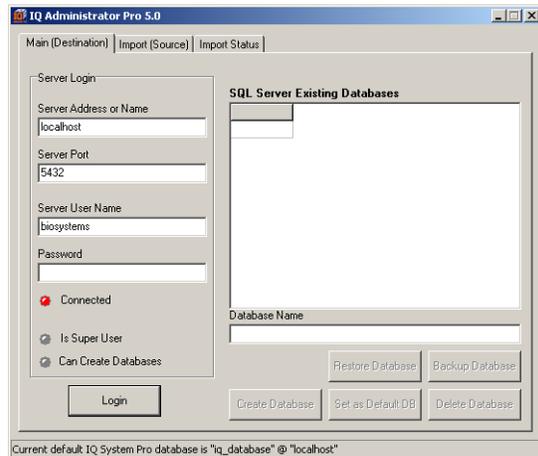
2. If the basic version was installed enter the password "biosystems" into the input box below "Password" and press the "Login" button.

   If the advanced version was installed, enter the user name and password that was entered in section 3.2.1 step 14.
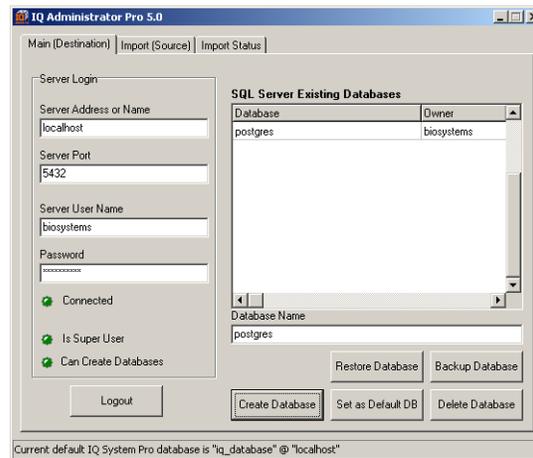
3. Enter the name of the new database in the input box below "Database Name". In the example below, the name "iq_database" has been entered.

Note: The database name must begin with a letter (A-Z). The server will not recognize a PostgreSQL database name that starts with anything else – including numbers.
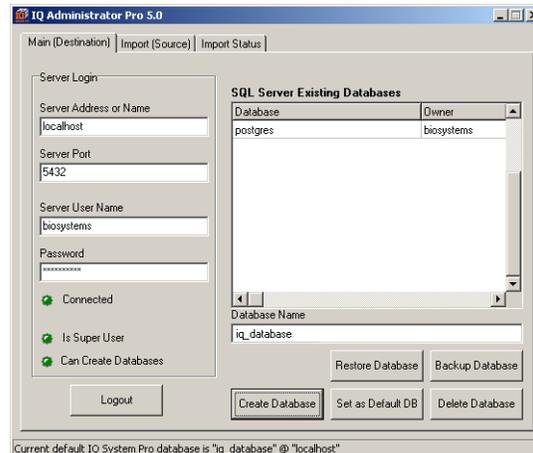
4. Once the database has been named, press the "Create Database" button. The software will prompt you to confirm the creation of the database.
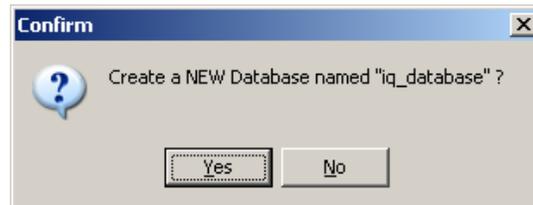
5. Click Yes to continue. The New User screen will be shown.

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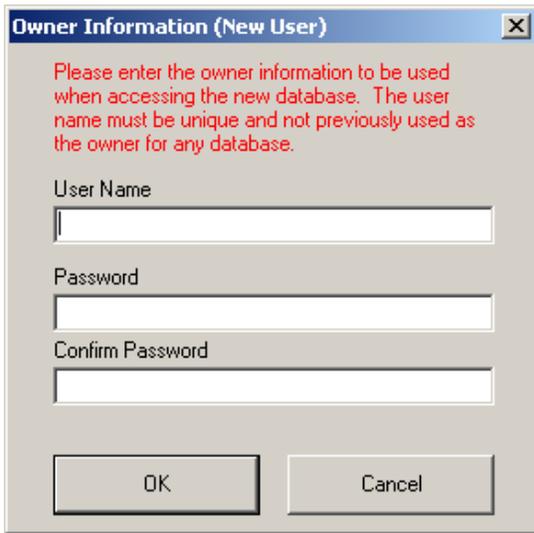
6. Enter a user name and password and press OK. This user name and password will allow the user to access the database directly. This password and user name should be held by the company's IT Administrator.

   The software will prompt for whether this database should be the default database for Honeywell Analytics programs running on this computer.
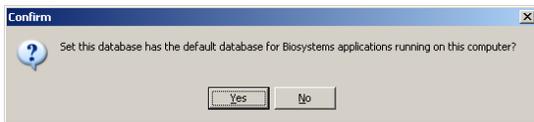
7. Click "Yes" if you intend for this to be the default database (recommended). The database will be set as the default database and the software will prompt for launching Database Manager (if it is not running already).
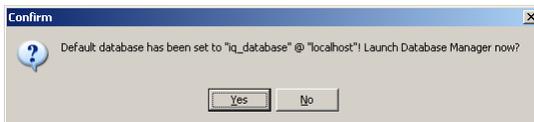
8. To begin using the IQ Express system with the new database, click "Yes" to launch the Database Manager program. Proceed to the Database Manager Reference Manual for further instructions. To import an existing MS Access database into the new PostgreSQL database, click "No" and proceed to section 6.2 below.

6.2 Import MS Access (.mdb) database to PostgreSQL.

1. To import an existing MS Access database into PostgreSQL, first follow the steps in section 6.1 to create the destination database for the data that will be imported from the MS Access database. Once the default database has been created, the software will prompt the user to launch Database Manager.
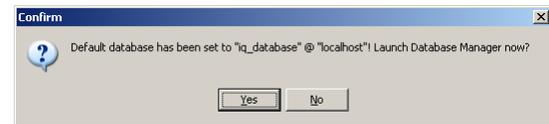
2. Select "No". The software will advise you that the database has been created.

3. Click OK. The "Main (Destination)" tab of the IQ Administrator Pro program will be shown.
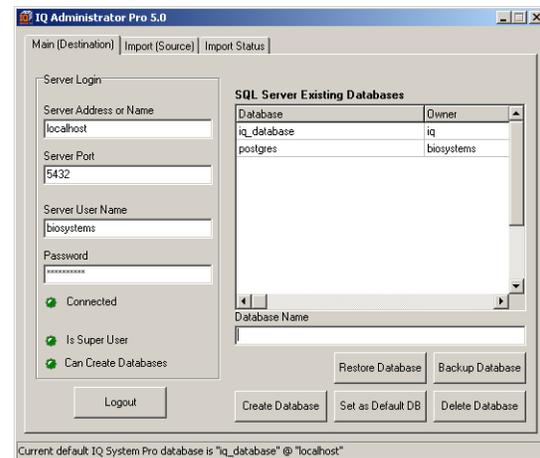
4. On the "Main (Destination)" tab, select the destination database in the column at right. (Presumably this will be the new database that was just created). Once the database has been selected, its name will appear in the field below Database Name.

5. Click on the Import (Source) tab.
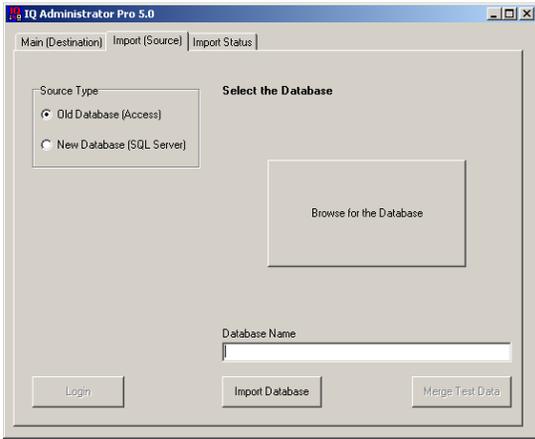
6. Select "Old Database (Access)" from the source type options at left. Then click on the "Browse for the Database" button and use the browser function to locate the MS Access (.mdb) database, whose information you would like to import into the new PostgreSQL database. Once the database has been selected, the database name will be shown in the Database Name field at lower right.
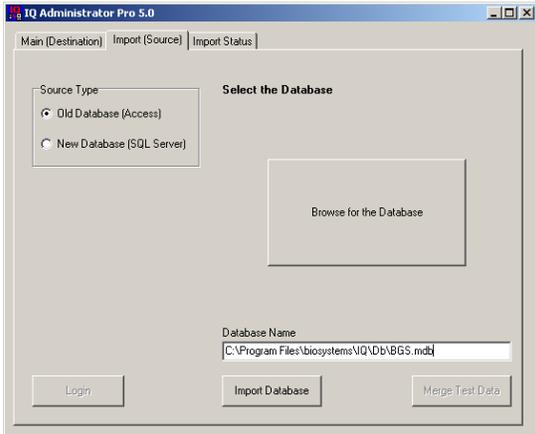
7. Once the database is selected, click "Import Database".

   If the MS Access database is older than version 18, the software will prompt to upgrade the database. If the database is version 18 or newer, continue from step 11.
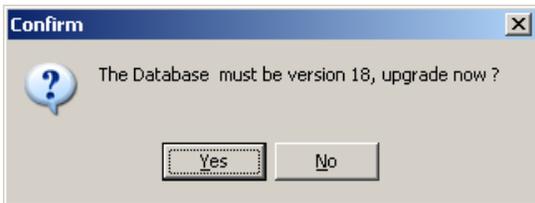
8. Click "Yes" to upgrade the database.

9. Click "OK". A series of screens will appear to show the status of the database upgrade.
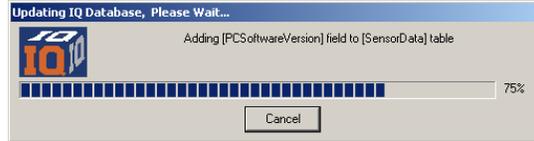
10. Once the upgrade has been completed, the software will return to the "Import (Source)" tab. The updated source database should still be highlighted and shown in the Database Name field.

11. Click Import Database.

    The software will ask you to confirm that import from the source database (.mdb) to the destination database (PostgreSQL).

12. Click Yes. The Import Status tab will be shown as the data import proceeds.
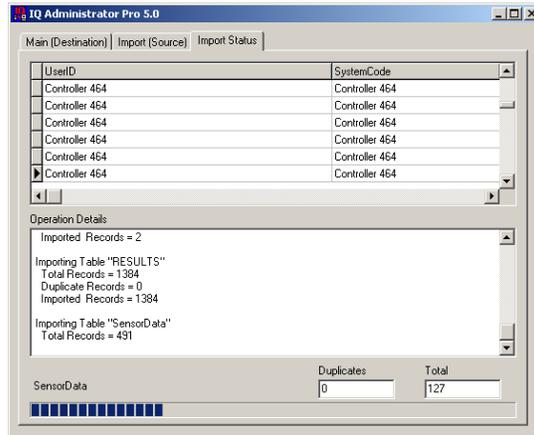
13. Once the database has been imported, the following window will be shown.
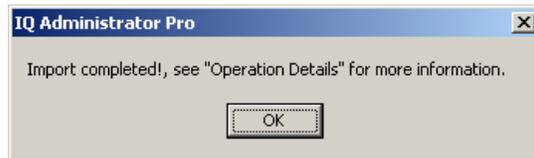
14. Click "OK". Then close out the IQ Administrator Pro program.

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6.3 Import local database to network PostgreSQL database

1. To import a local PostgreSQL database into a network PostgreSQL database, begin by creating the destination database on the network. Open the IQ Administrator Pro program from Start / Biosystems / IQ Pro / Database Manager Pro / Administrator Pro. The Main (Destination) tab will be shown.
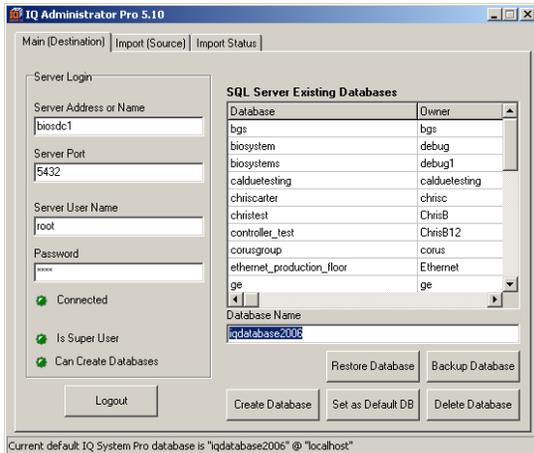
2. To create the new database, enter the name of the new destination database in the input box below Database Name and press the "Create Database" button. In the example above, the new database is named "iqdatabase2006".
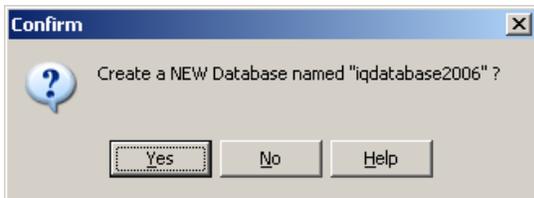
3. Click Yes to create the database.

4. The software will prompt to set this database as the default database. All new information stored by IQ is automatically stored in the default database. Select Yes or No as needed. The software will prompt to open the Database Manager program.
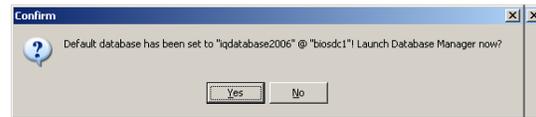
5. Click No and return to IQ Administrator Pro. Then click on the Import (Source) tab.
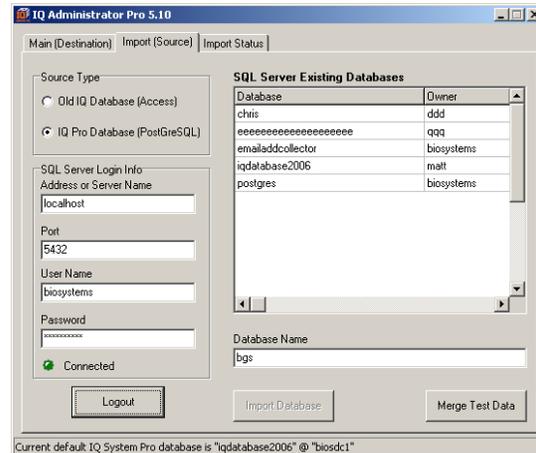
6. Select the local source database that is to be imported into the new destination database on the network. Then click the "Merge Test Data" button in the bottom right corner. The software will prompt to confirm the merger.

7. Click Yes to confirm the merger. Administrator Pro will then proceed with the merger.
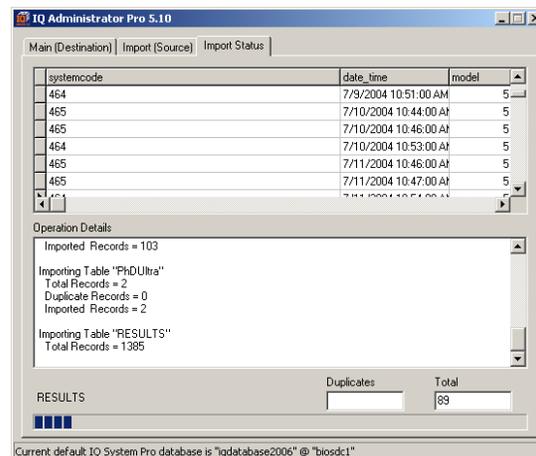
A window will indicate when the merger is complete.

8. Click OK to proceed.

7. FAQs

Below are the most frequently asked questions regarding installation of the PostgreSQL database. If your problem can not be corrected with the following instructions, see the PostgreSQL web site (www.postgresql.org).

1. **Error: "Failed to run initdb:1","Failed to run initdb: Access Denied"**

   Description: PostgreSQL basic installation fails at the end when trying to initialize the cluster with initdb.

   Solution:

   1. Create a user as a member of the "Users" group on the computer (access through Control Panel>User Accounts>Users Tab>Add) and enter a password. Write both user name and password down for future reference.
   2. Insert the IQ System CD and install the PostgreSQL Database Server using the "Advanced" installation option.
   3. At the "Run as Service" form, enter the User Name and Password you created.
   4. Follow the "Advanced" installation instructions from the PostgreSQL Installation Guide for all the other options. *******
   5. You may be prompted to adjust User or Group permissions - allow the installation to do it for you.
   *** The latest version of the PostgreSQL Database Server Installation guide visit: http://www.biodownloads.com/html/prog_iq_database_sql_server.htm

2. **"SQL Error: could not connect to server: Connection refused (0x0000274D/10061) Is the server running on host "localhost" and accepting TCP/IP connections on port 5432?"**

Description: The IQ software and PostgreSQL server was installed on same computer and was working fine. Following a reboot of the PC, the IQ software fails to connect with the database.

Solution: The probable cause is the PostgreSQL server service is not running properly. Check the service status using Control Panel>Administrative Tools>Services. Find the PostgreSQL service in the list and check the "Status" column. It should be displaying "Started". If not, try the following to start the service:

1. Right mouse click on the PostgreSQL server service entry and select "Start".
2. If the service fails to start and the message "Login Failed" is shown, then the User Name the service is running under has lost the right to login as service. Check with your Domain (Network) Administrator to have the User Name given the right to login as service. *******
3. To temporarily grant the rights of login as service, you have to reenter the password. Right mouse click on the service and select "Properties". Select the "Log On" tab and reenter the password.
4. If you don't know the password for the user that the service runs under then go into Control Panel/Administrative Tools/Computer Management and find the user name. Then right click on the name and select Set Password to enter a new password.
5. Try to start the service; the service should now start with no errors.
*** To find the User Name, follow Step 3.

3. **"PostgreSQL Service Error: Service Started and Stopped. Maybe stop when not busy"**

   Description: After creating a new user to run the service (after server has been installed) and

changing the PostgreSQL service logon to the new user, the message above is displayed.

Solution: The user must be granted rights to the "bin" (service files) and "data" (database cluster location) folders. The user must be given "read and execute", "list folder contents" and "read" rights to the "bin" folder, but "write" access must be denied. The user must be given all rights to the "data" folder except for "Full Control".

4. **Basic Installation Mode: "Service Failed to Start in Basic"**

   Description: The PostgreSQL service fails to start and the installation fails

   Solution: Remove the "NT Authority\Authenticated Users" from the created user's profile.

5. **Advanced Installation Mode: "Authenticated Users"**

   Description: When trying to create a new user to run the service, the installation displays this message.

   Solution: Remove the "NT Authority\Authenticated Users" from the created user's profile.

6. **"Could Not Connect to Server" message when starting IQ programs**

   Description: When trying to start an IQ program the above message is displayed and the PostgreSQL service is not running.

Solution1: Check for "NT Authority\Authenticated Users" in any User group and remove it from the PostgreSQL created user's profile.

Solution2: Verify that the user profile used to run the service has "login as services" rights. If not, re-enter the service password for PostgreSQL service user using Service Properties.

7. **IQ Administrator, IQ Express or IQ6 Internal Error and Needs to Close**

   Description: When starting any of the above programs an internal error occurs immediately and the main form is never shown

   Solution: The MDAC installation is damaged and needs to be repaired. Use the following to repair it.
   1. Open the folder C:\Windows\inf and locate the file mdac.inf.
   Note: Your Windows folder could be named differently, e.g. C:\WinXP
   2. Right-click the file mdac.inf and click Install.
   3. When prompted for a location, point to
   :\Windows\servicepackfiles\i386 or :\i386. If nether exist, use the the Windows Search function to find "adcjavas.inc" on the computer and point to the found location.
   4. When prompted for the file handler.reg, either point to C:\Program files\Common files\System\msadc, or put the Windows Operating System CD in your CD-ROM drive. (you may receive file not found error(s), click cancel and the continue