

DB2 for Mac OS X

Installing and setting up DB2 for Mac OS X

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About DB2 for Mac OS X

What is DB2 ?

[DB2](#) is one of IBM's database software products (the other one is [Informix](#)). DB2 provides a range of products that scale from handheld devices to huge data warehouses and mainframe servers.

For the first time ever, DB2 functionality which has previously been available on Linux, Unix, and Windows (LUW) is now available for Mac OS X. These DB2 products are available free of charge through the [DB2 Express-C](#) program. The DB2 Express-C program gives you access to a DB2 data server (DB2 Express-C) and DB2 Client for Mac OS X. The DB2 Client also includes drivers that let you access the data in DB2 databases using JDBC, ODBC, PHP, CLI (DB2's Command Line Interface), and more.

If you want to create DB2 databases on your own Mac, then you will need the DB2 Express-C data server. For example, if you are developing an application that works with DB2 on your Macbook, then you want the server. If you already have a DB2 data server running on a different computer and you just want to connect to that computer from your Mac, then you just need the DB2 Client. You can connect to a DB2 data server running on Windows, Linux, or Mac OS X using the DB2 Client for Mac OS X.

The official DB2 documentation is at

<http://publib.boulder.ibm.com/infocenter/db2luw/v9r5/index.jsp> .

About DB2 for Mac OS X

Years ago, the notion of running IBM's DB2 on Mac was unthinkable ... but in the past 5 years or so, some significant changes in the IT world have made this a reality.

Mac OS X is now built on a BSD-like base, and BSD is similar to Linux, and IBMers (especially the DB2 folks) know all about Linux. This made it possible for us to port DB2 to Mac OS X.

Mac's continue to grow in popularity, not just in their specific niche markets (e.g. music/graphic design) but also amongst application developers and users in general.

The DB2 documentation does not have Mac-specific information yet, but DB2 for Mac OS X is quite similar to DB2 for Linux/Unix, because you can open a Terminal on your Mac and interact with DB2 from the command line much like you would interact with DB2 on Linux/Unix.

Prerequisites

Introduction

DB2 is a powerful application and as a result makes extensive demands on any operating system. As a similarly powerful computing platform that ships on serious hardware, Mac OS X is able to satisfy the bulk of those requirements. However, there are still some manual tasks that you will need to complete in order to prepare your computer to run DB2.

Mac OS X Leopard +

DB2 for Mac OS X can only be installed on Intel Macs running Leopard (Mac OS X 10.5 or higher). DB2 data server and client can both run on Mac computers running Mac OS X Server or Mac OS X Workstation.

Enable the root user

Linux users will be quite familiar with the concept of a root user, for Mac users this may be new information. The "root" user is basically the super-admin account on Linux/Unix systems. The "root" user can do pretty much anything. This can be great in the right hands, horrible in the wrong hands, and probably because of this, the "root" user is not enabled by default in Mac OS X. Anyone with an "Administrator" account on a Mac can enable and make use of the "root" user. "Standard" user accounts are not allowed to enable or use the "root" user account on Mac. For this reason, you

can basically think of an "Administrator" account and the "root" account on Mac OS X as being roughly equivalent.

If you are an "Administrator" user on your Mac, then whenever you get prompted for a password (in a dialog box or at the command line), just provide your own password. However, for DB2 to work properly, you need to enable the "root" user account on Mac OS X.

Here's a quick list of steps required to enable the "root" user on Mac OS X. This information is taken from an Apple support doc

http://support.apple.com/kb/HT1528?viewlocale=en_US& . For more information about the "root" user on Mac OS X, please read this document. For more background you can also see what wiki has to say about it here

http://en.wikipedia.org/wiki/Root_user

1. From the Finder's Go menu, choose Utilities.
2. Open Directory Utility.
3. Click the lock in the Directory Utility window.
4. Enter an administrator account name and password, then click OK.
5. Choose Enable Root User from the Edit menu.
6. Enter the root password you wish to use in both the Password and Verify fields, then click OK.

For installation of DB2 and day-to-day use of DB2 on Mac OS X, it's not 100% necessary for you to have an Administrator / "root" account, but you do need Administrator / "root" access at least once in order to complete the "Increasing System Parameters" step, and without this, DB2 won't work. If you don't have Administrator / "root" access on your Mac, then just send the info about increasing System Parameters to whoever does and they can do this one time update.

Once you have increased the system parameters as an Admin user, you can install DB2 on Mac OS X as an Administrator or as a Standard User. There are some restrictions when you install DB2 as a Standard user. For more information about the difference between root and non-root DB2 installations, see this link in the DB2 documentation.

Increase System Parameters

Open `/etc/sysctl.conf` (or create it if it doesn't already exist) and insert the following settings. These settings increase some settings for shared memory and user limits that DB2 needs in order to work on Mac.

Add the following to `/etc/sysctl.conf`

```
kern.sysv.shmmax=1073741824
```

```
kern.sysv.shmmin=1
```

```
kern.sysv.shmmni=4096
```

```
kern.sysv.shmseg=32
```

```
kern.sysv.shmall=1179648
```

```
kern.maxfilesperproc=65536
```

```
kern.maxfiles=65536
```

Save the file and reboot your computer. You don't need to reboot after you install DB2, only after you increase the System Parameters.

Java 1.6 for GUI installation

The graphical installation of DB2 for Mac OS X requires Java 1.6, and expects to find it in

`/System/Library/Frameworks/JavaVM.framework/Versions/1.6.0/Home` . If you do

not have Java 1.6 on your computer, DB2 can also be installed using the `db2_install`

`/db2icrt` scripts.

Quickstart Guide

Introduction

This is the quickstart guide for installing DB2 on Mac OS X. We encourage you to familiarize yourself with the rest of this document, but if you know what you are doing (or at least think you do) and are somewhat familiar with databases and you know how to use the "root" user on your Mac, or just don't want to read a lot of docs and just want to dive in right away, here's what you need to do. Don't worry, it's really not that hard.

Quick installation & setup

1. Download the server (DB2 Express-C) or the client, depending on what you need. If you need to create databases on your local machine, get the server, if you already have some other DB2 server to connect to, get the client. All the client functionality is included in the server, so you probably don't need both. Download from <http://www.ibm.com/db2/express/download.html> . Make sure you don't download it to folder with a space in its name, otherwise the install won't work.
2. After downloading either the server (db2exc_952beta_MAC_x86_64.tar.gz) or the client (db2exc_client_952beta_MAC_x86_64.tar.gz) to a folder on your computer, go to that folder and unpack the file by double clicking it. If you prefer the command line, go to the folder with the download file and unpack it with `tar -xvzf <filename> .`
3. You can install DB2 on Mac OS X as a Standard User, or as an Admin User (aka root). There are some limitations when you install DB2 as a Standard User. You can switch from a "Standard User" installation to an "Admin User" installation after you install DB2 using the db2rfe script.

4. After unpacking the file, install it in one of the following ways:
- . Gui install, standard user - double click on db2setup in the finder.
 - . Script install, standard user - double click on db2_install in the finder.
 - . Gui install, root user - open a terminal, run `sudo ./db2setup`, then run `sudo <db2 install dir>/instance/db2icrt -u <username> <username>`
 - . script install, root user - open a terminal, run `sudo ./db2_install`, then run `sudo <db2 install dir>/instance/db2icrt -u <fenced username> <instance owning username>` .
You can use the same user for the fenced user and the instance owning user.

After you install - DB2 First Steps

After you install, we recommend you run DB2 First Steps to get some more info on using DB2. DB2 First Steps requires Firefox and does not work with Safari. To run DB2 First Steps, log on as the DB2 user and run `db2fs`. You will see a dialog prompting you for the location of your browser, if you have installed Firefox in the default location, enter `/Applications/Firefox.app/Contents/MacOS/firefox` in the First Steps dialog.

If you have trouble running first steps, make sure you LANG is set to either `en_US.UTF8` or just `en_US` .

Installation & Setup

Download DB2 for Mac OS X

DB2 for Mac OS X is available for free through the DB2 Express-C program. Visit the home page for more information, or go straight to the download page to download the DB2 Express-C data server for Mac OS X or the DB2 Client for Mac OS X.

NOTE: When you download DB2, make sure you store it in a directory with no spaces in its name, otherwise installation will fail. For example, it's ok to download and unpack the install image to `"/Users/rchase/db2formac"`, but if you use `"/Users/rchase/db2 for mac"`, installation will not work.

General information

For an easy graphical setup method, use `db2setup`. This is the recommended installation method, especially if you are new to DB2.

For fast, simple command line setup, use the `db2_install + db2icrt` scripts.

To install from the command line with more setup options or for scripted installs, use the `db2setup` script with a response file.

Installation and setup of DB2 on Mac OS X is very similar to installation and setup of DB2 on Linux/AIX/Solaris. Future releases of DB2 on MAC OS X will provide additional setup improvements and Mac OS X integration.

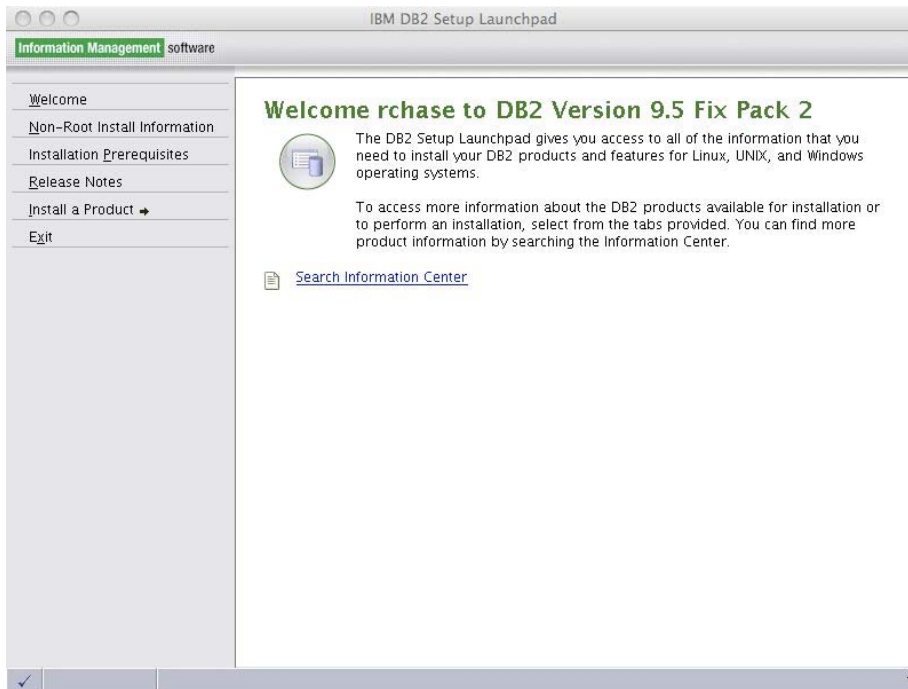
You can install DB2 on Mac OS X as a Standard User, or as an Admin User (aka root).

There are some limitations when you install DB2 as a Standard User. You can switch from a "Standard User" installation to an "Admin User" installation after you install DB2 using the `db2rfe` script.

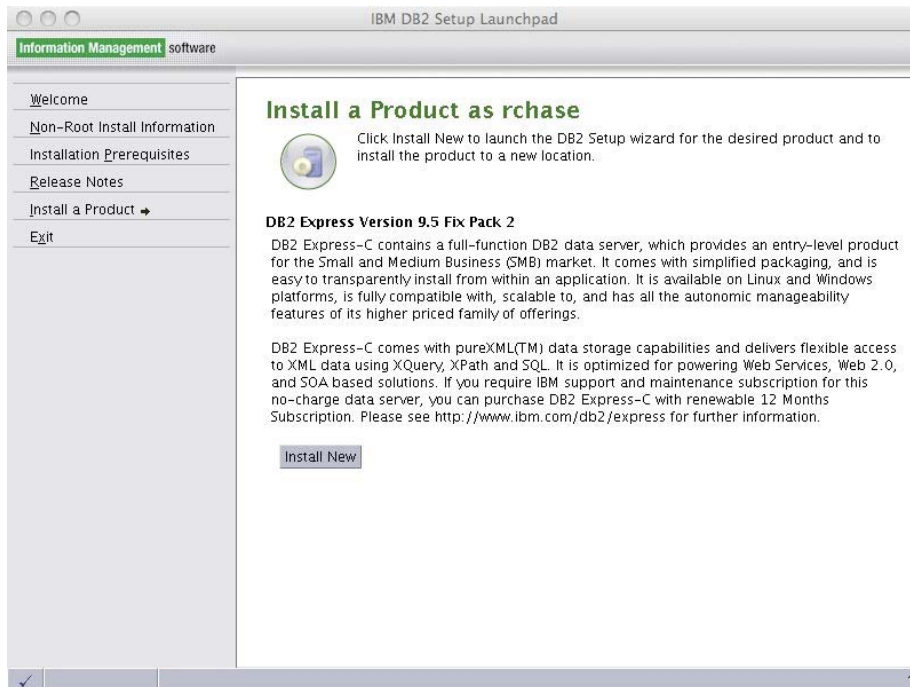
Graphical installation

Standard User installation

1. Download DB2 Express-C from <http://www.ibm.com/db2/express> .
2. Unpack the downloaded file by double clicking on the tar.gz file in the Finder, or by running the following command using the Terminal application: `tar -xvzf db2exc_952beta_MAC_x86_64.tar.gz`. The Terminal application is located in `/Applications/Utilities`.
3. Run the `db2setup` command by double clicking on the file in the Finder, or run it from the Terminal application.
4. DB2 Setup Launchpad



Click on "Install a Product" to get to this:



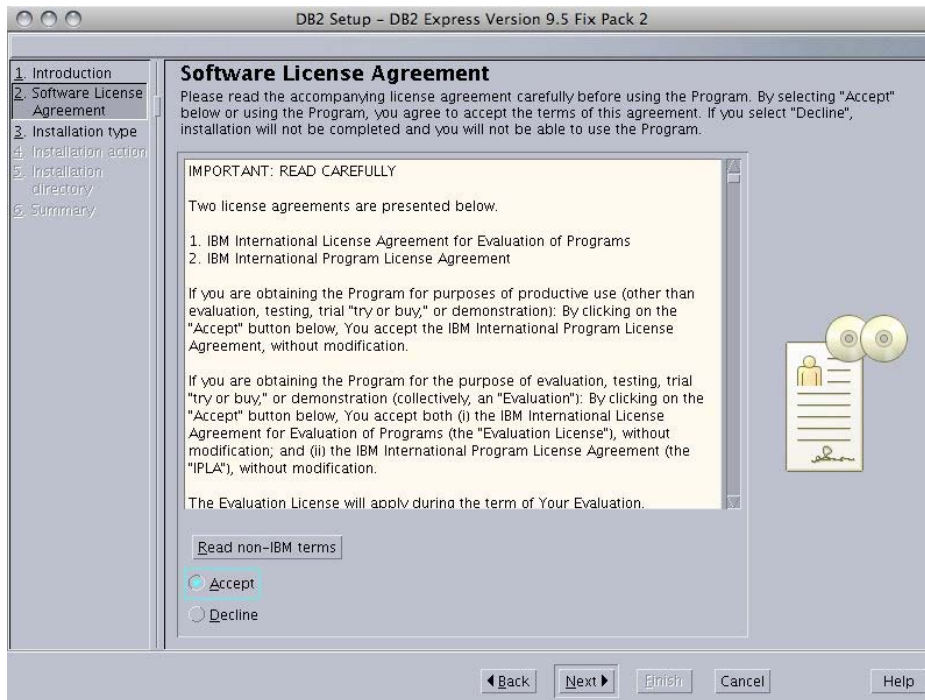
Click the "Install New" button to launch the DB2 Setup wizard.

5. DB2 Setup wizard, welcome page.



Click "Next" to get to the software license agreement page.

6. DB2 Setup wizard - License agreement page.



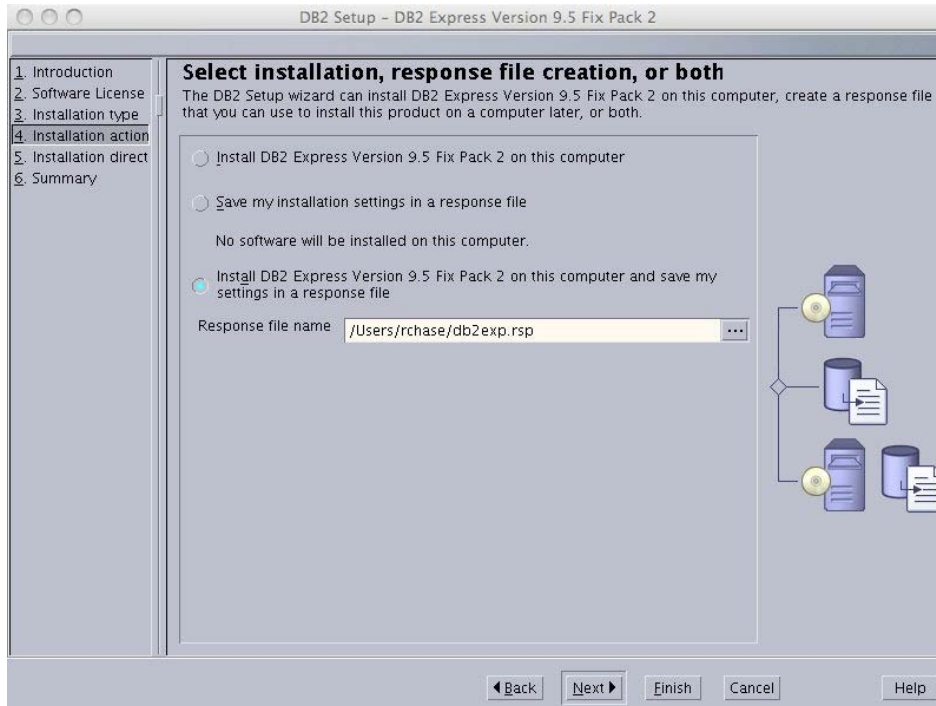
Click on the "Accept" radio button to accept the terms of the license agreement, then click "Next".

7. DB2 Setup wizard - Installation type page



Select the install type, click next

8. DB2 Setup wizard - Select installation type



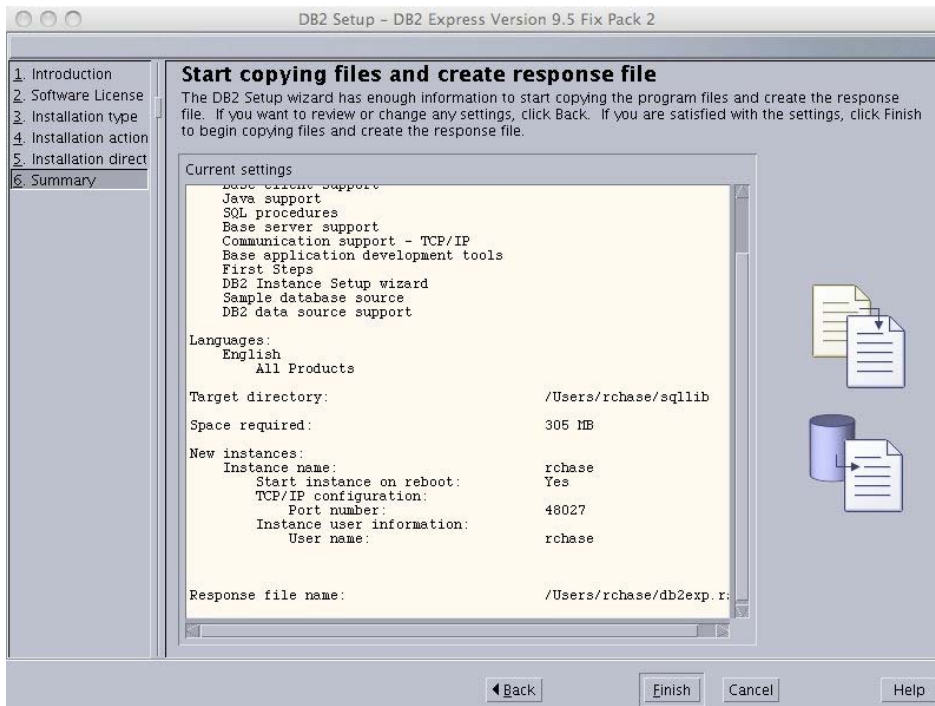
Select the install type you want, click next

9. DB2 Setup wizard - Installation directory page



In the Standard User installation, the install directory must be `~/sqllib`. Click next on this panel.

10. DB2 Setup wizard - Summary page



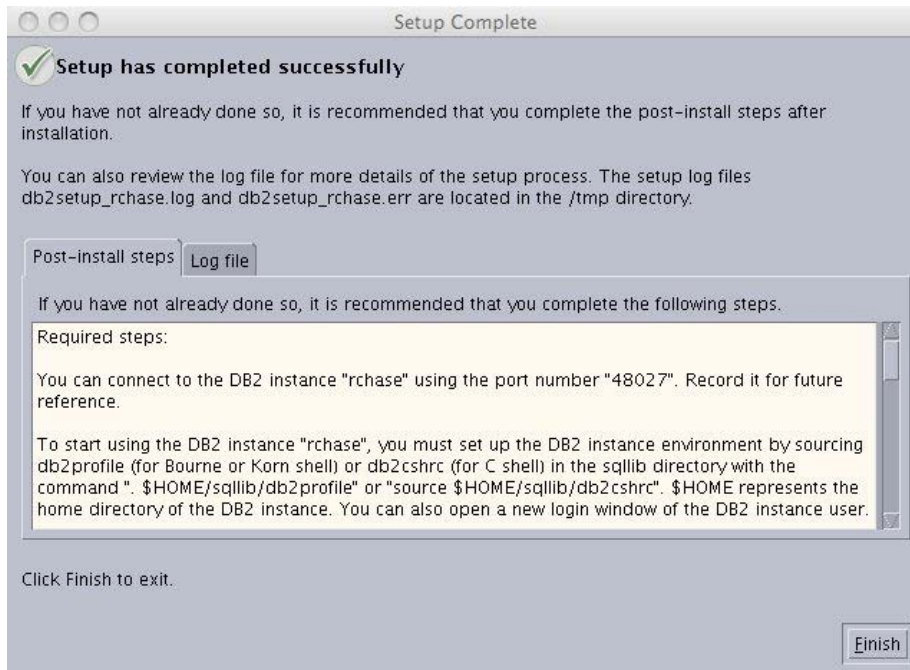
If you want to change any of the settings, click back, otherwise click "Finish" to start the process of copying files to your computer and performing the necessary configuration tasks. When you click finish, you will see a window that displays the progress of the DB2 installation process.

11. DB2 Setup wizard - Progress window



Once install finishes, you'll see a window that shows a summary of all the tasks performed and the status

12. Setup complete. Make sure you read the contents of this dialog to ensure that all DB2 Setup tasks completed successfully, and to see what post-install steps you need to use DB2.



In particular, pay attention to the following message that will tell you how to set up the new DB2 instance you have created.

DBI1272I To start using the DB2 instance rchase, you must set up the DB2 instance environment by sourcing db2profile or db2cshrc in the sqllib directory, or you can open a new login window of the DB2 instance user.

Explanation:

The DB2 instance cannot be used before db2profile (for Bourne or Korn shell users) or db2cshrc (for C shell users) is sourced.

User response:

To set up the DB2 instance environment, you can open a new login window

under the ID that owns the DB2 instance, or source the DB2 instance environment by running the appropriate following command under the ID that owns the DB2 instance:

```
. $HOME/sqllib/db2profile
```

```
source $HOME/sqllib/db2cshrc
```

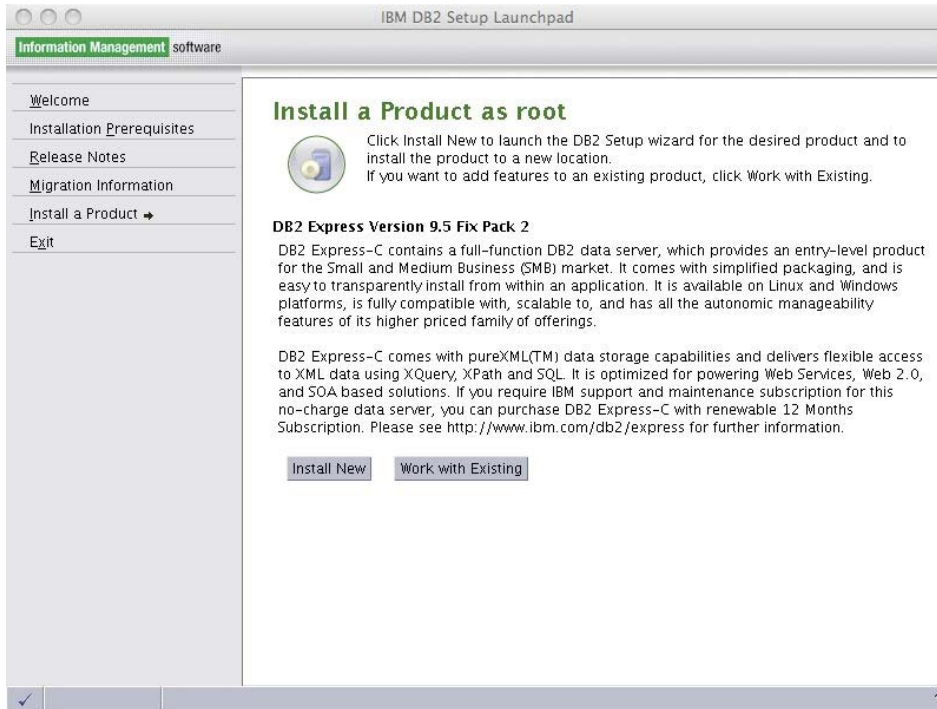
where \$HOME represents the home directory of the user ID that owns the DB2 instance.

Admin User (root) installation

1. Download DB2 Express-C from <http://www.ibm.com/db2/express> .
2. Unpack the downloaded file by double clicking on the tar.gz file in the Finder, or by running the following command using the Terminal application: `tar -xvzf db2exc_952beta_MAC_x86_64.tar.gz`. The Terminal application is located in `/Applications/Utilities`.
3. Launch the `db2setup` command as the Admin user by running `sudo ./db2setup`, and provide the password for your Admin user account.
4. DB2 Setup Launchpad



Click on "Install a Product" to get to this:



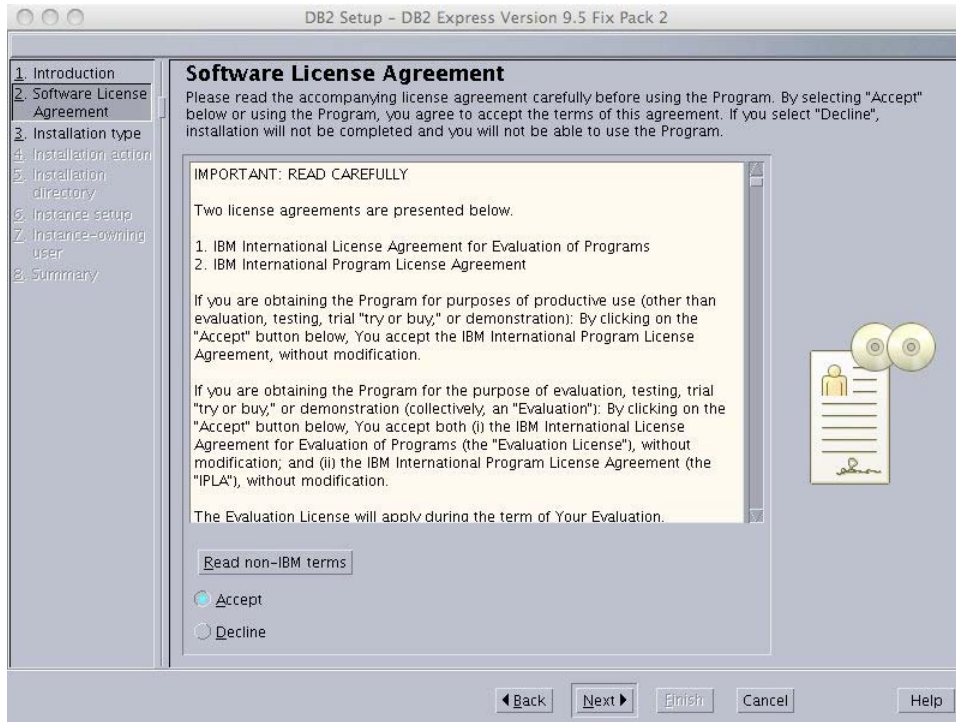
Click the "Install New" button

5. DB2 Setup wizard - welcome page



Click "Next" to get to the software license agreement page:

6. DB2 Setup wizard - software license agreement page



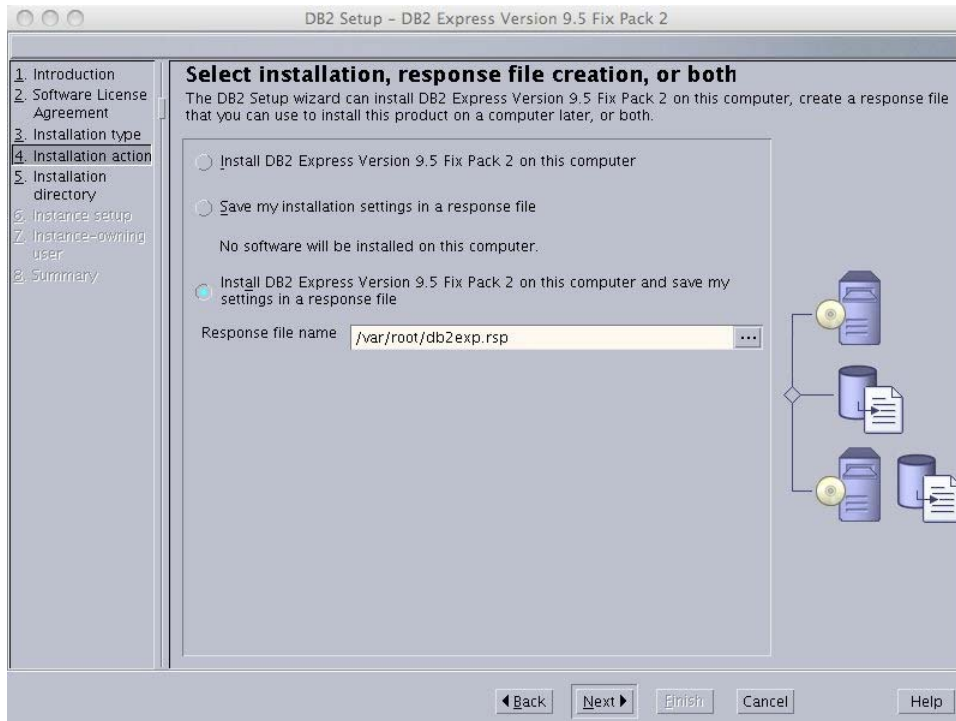
Click on the "Accept" radio button to accept the terms of the license agreement, then click "Next".

7. DB2 Setup wizard - installation type page



Select the install type, click next

8. DB2 Setup wizard - installation action page

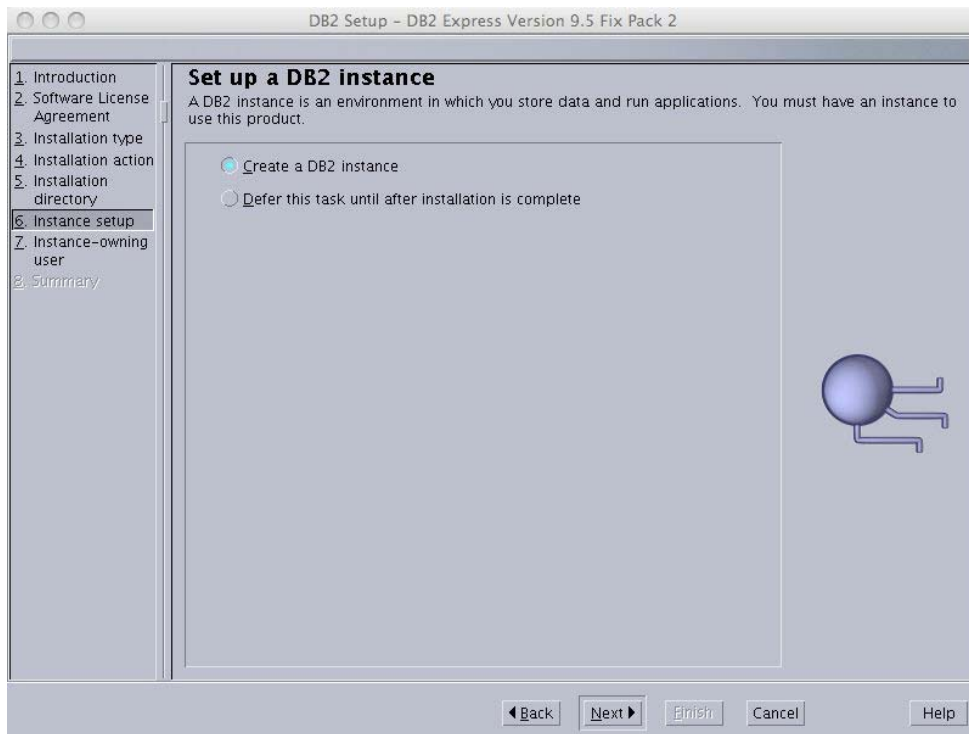


Select the install type you want, click next

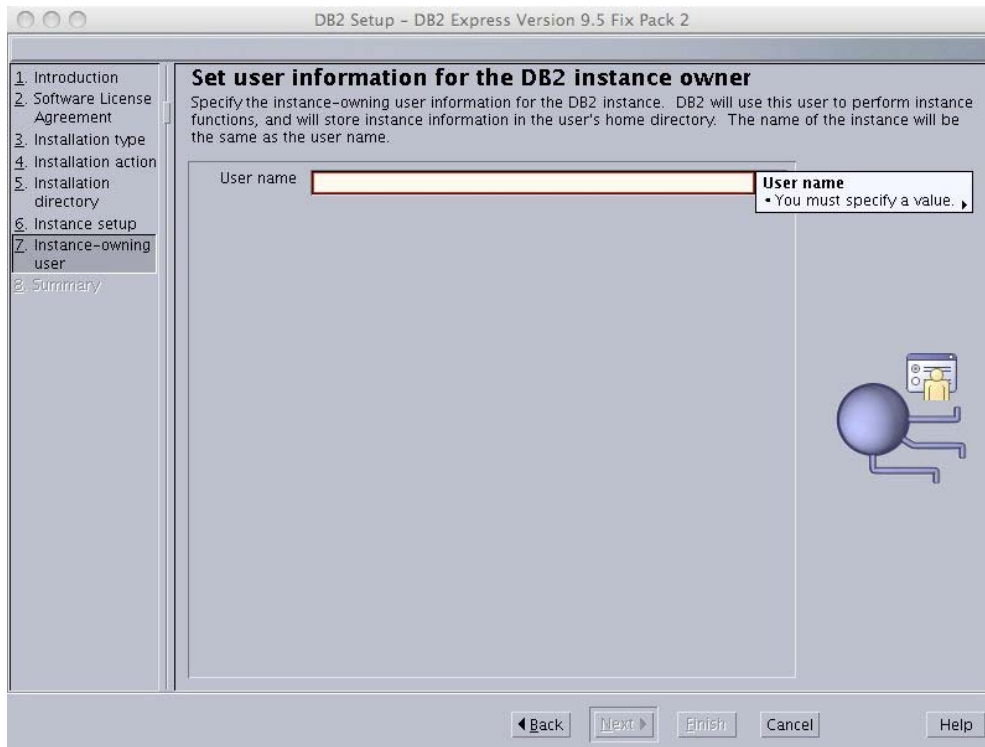
9. DB2 Setup wizard - installation directory page



10. DB2 Setup wizard - create instance page

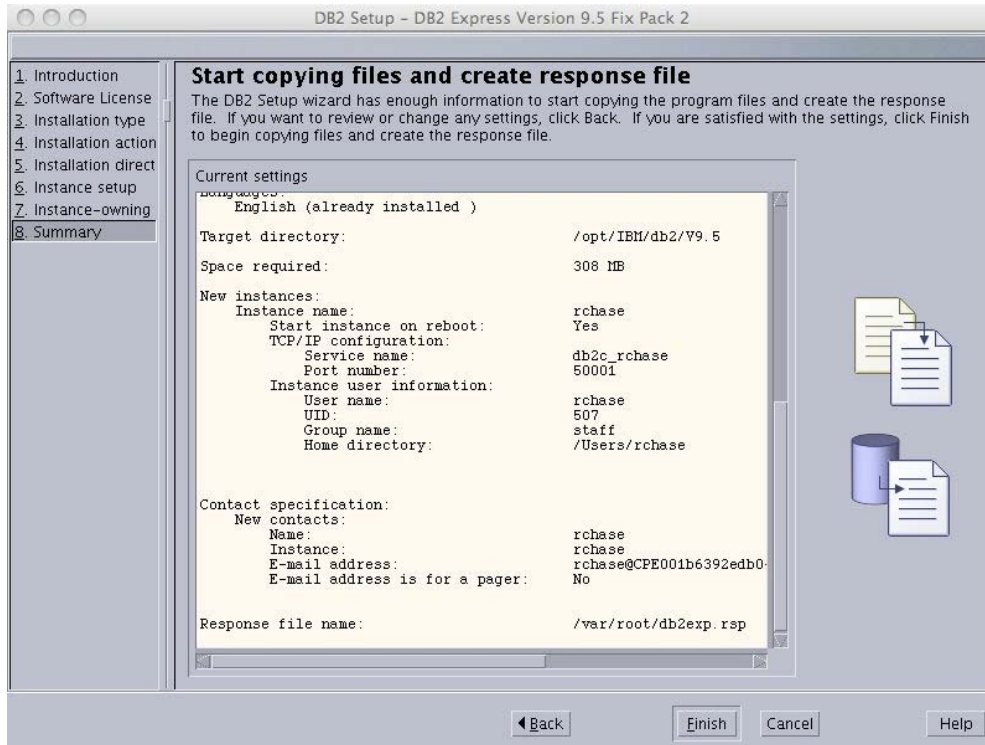


11. DB2 Setup wizard - instance owning user page



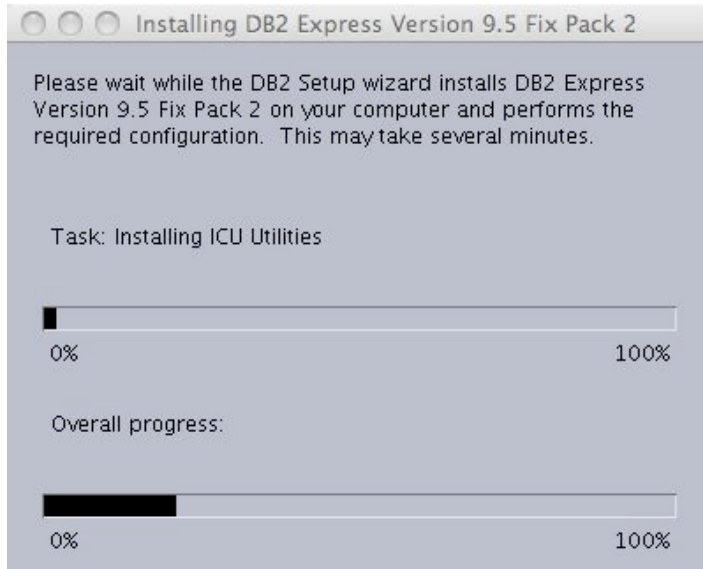
On this panel, you must specify an existing user to use as the DB2 instance owning user. If you need to create a new user to run DB2, use the "Accounts" panel in the Mac OS X System Preferences application.

12. DB2 Setup wizard - Summary page

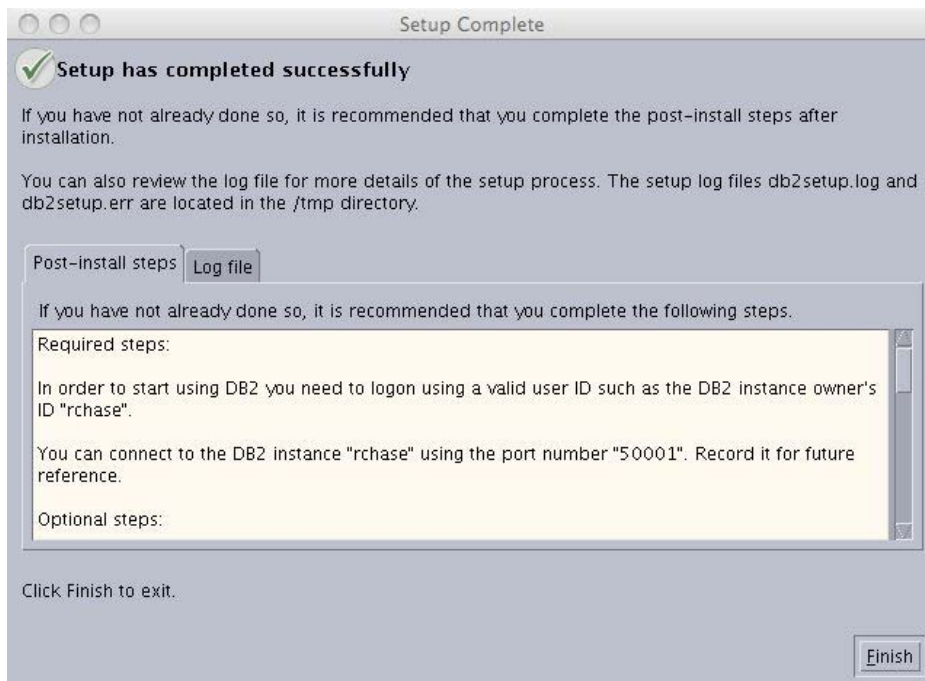


If you want to change any of the settings, click back, otherwise click "Finish" to start the process of copying files to your computer and performing the necessary configuration tasks. When you click finish, you will see a window that displays the progress of the DB2 installation process.

13. Progress



14. Setup complete. Make sure you read the contents of this dialog to ensure that all DB2 Setup tasks completed successfully, and to see what post-install steps you need to use DB2.



In particular, pay attention to the following message that will tell you how to set up the new DB2 instance you have created.

DBI1272I To start using the DB2 instance rchase, you must set up the DB2 instance environment by sourcing db2profile or db2cshrc in the sqllib directory, or you can open a new login window of the DB2 instance user.

Explanation:

The DB2 instance cannot be used before db2profile (for Bourne or Korn shell users) or db2cshrc (for C shell users) is sourced.

User response:

To set up the DB2 instance environment, you can open a new login window under the ID that owns the DB2 instance, or source the DB2 instance environment by running the appropriate following command under the ID that owns the DB2 instance:

```
. $HOME/sqllib/db2profile
```

```
source $HOME/sqllib/db2cshrc
```

where \$HOME represents the home directory of the user ID that owns the DB2 instance.

Script installation

Standard User installation

If you do not want to use the GUI installation method to install DB2, you can easily install DB2 using the provided scripts. This can be useful if you do not have Java 1.6 installed on your Mac, or if you are installing on your Mac remotely and cannot successfully launch the graphical DB2 Setup wizard.

Follow the following steps to install DB2 on your Mac OS X computer as a Standard User.

1. Download DB2 Express-C from <http://www.ibm.com/db2/express> .
2. Unpack the downloaded file by double clicking on the tar.gz file in the Finder, or by running the following command using the Terminal application: `tar -xvzf db2exc_952beta_MAC_x86_64.tar.gz`. The Terminal application is located in `/Applications/Utilities`.
3. Run the `db2_install` command by double clicking on the file in the Finder, or run it from the Terminal application. This will install DB2 in the `sqllib` dir under the current user's home directory. This install dir is also treated as your DB2 instance directory.
4. Complete the setup of your DB2 instance by completing the following task:

In particular, pay attention to the following message that will tell you how to set up the new DB2 instance you have created.

```
DBI1272I To start using the DB2 instance rchase, you must
set up the DB2 instance environment by sourcing db2profile or
db2cshrc in the sqllib directory, or you can open a new login
window of the DB2 instance user.
```

Explanation:

The DB2 instance cannot be used before db2profile (for Bourne or Korn shell users) or db2cshrc (for C shell users) is sourced.

User response:

To set up the DB2 instance environment, you can open a new login window under the ID that owns the DB2 instance, or source the DB2 instance environment by running the appropriate following command under the ID that owns the DB2 instance:

```
. $HOME/sql/lib/db2profile
```

```
source $HOME/sql/lib/db2cshrc
```

where \$HOME represents the home directory of the user ID that owns the DB2 instance.

Admin User (root) installation

1. Download DB2 Express-C from <http://www.ibm.com/db2/express> .
2. Unpack the downloaded file by double clicking on the tar.gz file in the Finder, or by running the following command using the Terminal application: `tar -xvzf db2exc_952beta_MAC_x86_64.tar.gz`. The Terminal application is located in `/Applications/Utilities`.
3. Launch the `db2_install` command as the Admin user by running "`sudo ./db2setup`" from the Terminal, and provide the password for your Admin user account. You will be prompted to enter the name of the product you are installing, for Client installs, type "CLIENT", for Express-C installs, type "EXP". You will also be prompted to enter the desired installation directory.
4. After successfully installing DB2 using the `db2_install` command, you must create a DB2 instance using the `db2icrt` command, located in `<DB2 install dir>/instance` . You can run `db2icrt` with no arguments for full syntax, but all you really need is a user name that you will use as the instance-owning user, and optionally you can use a different user as the fenced user.

To use the same user for instance owning user and fenced user, run "`db2icrt -u <username> <username>`".

To use different users for the instance owning user and fenced user, run "`db2icrt -u <fenced user> <instance owning user>`".

5. Complete the setup of your DB2 instance by completing the following task as described in this message.

DBI1272I To start using the DB2 instance rchase, you must set up the DB2 instance environment by sourcing `db2profile` or `db2cshrc` in the `sqllib` directory, or you can open a new login window of the DB2 instance user.

Explanation:

The DB2 instance cannot be used before db2profile (for Bourne or Korn shell users) or db2cshrc (for C shell users) is sourced.

User response:

To set up the DB2 instance environment, you can open a new login window under the ID that owns the DB2 instance, or source the DB2 instance environment by running the appropriate following command under the ID that owns the DB2 instance:

```
. $HOME/sql/lib/db2profile
```

```
source $HOME/sql/lib/db2cshrc
```

where \$HOME represents the home directory of the user ID that owns the DB2 instance.

Response file installation

DB2 for Mac OS X supports installing using a response file. The instructions for installing with a response file on Mac OS X are the same as other Linux/Unix platforms. For more information, see this topic in the DB2 documentation.

After you install - DB2 First Steps

After you install, we recommend you run DB2 First Steps to get some more info on using DB2. DB2 First Steps requires Firefox and does not work with Safari. To run DB2 First Steps, log on as the DB2 instance-owning user and run db2fs. You will see a dialog prompting you for the location of your browser, if you have installed Firefox in the default location, enter `/Applications/Firefox.app/Contents/MacOS/firefox` in the First Steps dialog.

If you have trouble running first steps, make sure you LANG is set to either `en_US.UTF8` or just `en_US` .

Don't forget to set up the DB2 environment by sourcing the `sqllib/cfg/db2profile` file. You can do this by typing `". ~<DB2 instance owning user>/sqllib/cfg/db2profile"` or `"source ~<DB2 instance owning user>/sqllib/cfg/db2profile"` . You can also do this automatically by adding this to your `.profile` or `.bashrc` or `.bash_profile` file .

Current restrictions

Introduction

The initial release of DB2 for Mac OS X is still not quite perfect. We are still actively fixing certain DB2 functionality, this section provides information on the functionality that is not quite working in our first release of DB2 for Mac OS X.

Please keep in mind that this is still a beta release of DB2. That means don't put this into production, and don't put your critical business data into a database on DB2 for Mac OS X without a solid backup story. Not yet. We are actively fixing these remaining bugs and will be delivering updates that fix these problems. In the meantime, if any of these restrictions affect any of your critical business planning, let us know by posting in the DB2 Express-C forum at <db2expressc forum link>. This will help us determine the priority of some of our bug-fixing work.

Java Stored Procedures

Java stored procedure functionality is not available in this release.

LBAC

There are some problems with usage of certain DB2 utilities in scenarios where LBAC is being used. You may see problems using db2look, export/import, db2cat, db2audit, or load in a scenario including LBAC.

Reorg

Basic DB2 reorg functionality has been tested successfully in a limited number of test scenarios. In certain scenarios, trace information about DB2 reorg may be inaccurate. DB2 may also report errors related to reorg and tracing in certain scenarios. These errors only effect the tracing of reorg functionality, the actual reorg functionality is unaffected.

Uninstalling DB2

The db2_deinstall script is usually the recommended method for uninstalling DB2; however there are some outstanding issues with the db2_deinstall script on Mac OS X. Until these issues are fixed, you can uninstall DB2 manually by deleting the directories where DB2 is installed. If you performed an Admin user install, you need to remove the DB2 install dir as an Admin user by running `sudo rm -rf <DB2 installdir>` from the Terminal command line.

Delete the following directories.

- DB2 install dir (e.g. /opt/IBM/db2/V9.5 for Admin user installs, ~/sqllib for Standard User installs).
- DB2 instance dir (for Admin installs only, e.g. ~<instance owning user>/sqllib
- DB2 database directory (~<instance owning user>/<instance owning user>, e.g. ~rchase/rchase)
