DB2 Version 9.5
for Linux, UNIX, and Windows

IBM

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Getting Started with DB2 installation and administration on Linux and Windows
Updated April, 2009

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> **Note**
>
> Before using this information and the product it supports, read the general information under Appendix E, "Notices," on page 53.

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Chapter 1. Installation prerequisites

Disk and memory requirements

Disk requirements

The disk space required for your product depends on the type of installation you choose and the type of file system you have. The DB2® Setup wizard provides dynamic size estimates based on the components selected during a typical, compact, or custom installation.

Remember to include disk space for required databases, software and communication products.

On Linux® and UNIX® operating systems, 2 GB of free space in the /tmp directory is recommended.

On Windows operating systems the following free space is recommended in additional to that of your DB2 product:
- 40MB in the system drive
- 60MB in the temporary folder specified by the temp environment variable.

Memory requirements

At a minimum, a DB2 database system requires 256 MB of RAM. For a system running just a DB2 product and the DB2 GUI tools, a minimum of 512 MB of RAM is required. However, 1 GB of RAM is recommended for improved performance. These requirements do not include any additional memory requirements for other software that is running on your system.

When determining memory requirements, be aware of the following:
- DB2 products that run on HP-UX Version 11i for Itanium-based systems require 512 MB of RAM at a minimum.
- For IBM® data server client support, these memory requirements are for a base of five concurrent client connections. You will need an additional 16 MB of RAM per five client connections.
- Memory requirements are affected by the size and complexity of your database system, as well as by the extent of database activity and the number of clients accessing your system.

  For DB2 server products, the self-tuning memory feature simplifies the task of memory configuration by automatically setting values for several memory configuration parameters. When enabled, the memory tuner dynamically distributes available memory resources among several memory consumers including sort, the package cache, the lock list and buffer pools.
- On Linux operating system, SWAP space at least twice as large as RAM is recommended.

Windows installation prerequisites

Installation requirements for DB2 servers and IBM data server clients (Windows)

Before you install a DB2 database product on Windows® operating systems, ensure that the system you choose meets the necessary operating system, hardware, and software requirements.

Table 1. Windows workstation platforms

Operating System	Prerequisites	Hardware
Windows XP Professional (32-bit and 64-bit) Windows Vista Business (32-bit and 64-bit) Windows Vista Enterprise (32-bit and 64-bit) Windows Vista Ultimate (32-bit and 64-bit)	Windows XP Service Pack 2 or later IBM Data Server Provider for .NET client applications and CLR server-side procedures require .NET 1.1 SP1 or .NET 2.0 framework runtime 64-bit IBM data server provider for .NET applications are supported All Windows Vista service packs are supported.	All Intel® and AMD processors capable of running the supported Windows operating systems (32-bit and x64 based systems).

Table 2. Windows server platforms

Operating System	Prerequisites	Hardware
Windows Server 2003 Datacenter Edition (32-bit and 64-bit) Windows Server 2003 Enterprise Edition (32-bit and 64-bit) Windows Server 2003 Standard Edition (32-bit and 64-bit)	Service Pack 1 or later. R2 is also supported IBM data server provider for .NET client applications and CLR server-side procedures require .NET 1.1 SP1 or .NET 2.0 framework runtime 64-bit IBM data server provider for .NET applications are supported	All Intel and AMD processors capable of running the supported Windows operating systems (32-bit and x64 based systems).
Windows Server 2008 Datacenter Edition (32-bit and 64-bit) Windows Server 2008 Enterprise Edition (32-bit and 64-bit) Windows Server 2008 Standard Edition (32-bit and 64-bit)	IBM data server provider for .NET client applications and CLR server-side procedures require .NET 1.1 SP1 or .NET 2.0 framework runtime 64-bit IBM data server provider for .NET applications are supported All Windows Server 2008 service packs are supported.	

Note:

- DB2 database products support the hardware-enforced Data Execution Prevention (DEP) feature that is built into some Windows operating systems.
- Federation (federated systems, servers and databases) is currently not supported by DB2 database products on Windows Server 2008.
- To use Windows Server 2008 Failover Clusters for failover support of partitioned DB2 database systems, you must install DB2 Version 9.5 Fix Pack 3 (or later fix packs).

Additional software considerations

- Windows Installer 3.0 is required. It will be installed by the installer if is it not detected.
- IBM Data Server Provider for .NET client applications and CLR server-side procedures require .NET 1.1 SP1 or .NET 2.0 framework runtime. In an x64 environment, 32-bit IBM data server provider for .NET applications will run in the WOW64 emulation mode.
- MDAC 2.8 is required. The DB2 Setup wizard will install MDAC 2.8 if it is not already installed.

  Note: If a previous version of MDAC (for example, 2.7) is already installed, DB2 install will upgrade MDAC to 2.8. For a typical install, MDAC 2.8 is installed. For a custom install, MDAC 2.8 is installed but only if you have not deselected the default which is to install it. If you deselect MDAC as part of a custom install, it will not be installed.

- If you plan to use LDAP (Lightweight Directory Access Protocol), you should use either a Microsoft® LDAP client or the IBM Tivoli® Directory Server v6 client (also known as the IBM LDAP client which is included

with DB2 products). Prior to installation of the Microsoft Active Directory, you will need to extend your directory schema using the db2schex utility, which can be found on the installation media under the db2\Windows\utilities directory.

The Microsoft LDAP client is included with Windows operating systems.

- One of the following browsers is required to view online help, run the DB2 install launchpad (setup.exe), and to run First Steps (db2fs):
  - Internet Explorer 6 and up
  - Mozilla 1.4 and up
  - Firefox 1.0 and up
  - Netscape 7.0 and up

Setting up Windows elevated privileges prior to installing a DB2 product (Windows)

The usual method to install a DB2 product on Windows is to use an Administrator user account. However, DB2 products can be installed using a non-administrator account. To do so, a Windows Administrator must configure the elevated privileges feature in Windows.

This task explains how a Windows Administrator can set up a computer with elevated privileges to allow installation using a non-Administrator user account. The related task of granting DB2 administration authorities to non-Administrator users is also covered.

Typically a Windows Administrator would perform this task to enable another person who does not have an Administrator account to install a DB2 product. The role of this person might be only to install DB2 products or to also administer DB2 products once installed.

Prior to initiating this procedure, note the following restrictions on non-Administrator installation using elevated privileges:

- Non-Administrator users can only install fix packs, add-on products, or upgrade DB2 as long as prior installations or upgrades were also performed by the same non-Administrator user.
- Non-Administrator users cannot uninstall a DB2 product. Those non-Administrator users on a Windows Vista (and later) operating system **can** uninstall a DB2 product.

This procedure uses the Windows Group Policy Editor.

1. Click **Start -> Run** and type gpedit.msc. The **Group Policy** window opens.
2. Click on Computer Configuration –> Administrative Templates –> Windows Components –> Windows Installer.
3. Enable the following Group Policy settings:
   - Always install with elevated privileges (mandatory)
   - Enable user control over installs (mandatory)
   - Disable Windows Installer. Then set it to *Never*.
   - Enable user to patch elevated products (optional)
   - Enable user to use media source while elevated (optional)
   - Enable user to browse for source while elevated (optional for new installations, mandatory for fix pack upgrades)

4. Enable elevated privileges for the user account that will be performing the installation.
   a. Click **User Configuration –> Administrative Templates –> Windows Components –> Windows Installer**.
   b. Enable the **Always install with elevated privileges (mandatory)** Group Policy setting.
5. Perform setup related to the user account that will install the DB2 product.
   - Identify the user account that will install the DB2 product. If necessary, create that account.
   - Give that account write permission for the drive on which an installation is planned.
6. Optional: Complete additional steps applicable to installing fix packs:
   - Provide *read* access to the sqllib\cfg directory.
   - Ensure that *allowlockdownpatch* is enabled (as described in the Windows Installer SDK documentation) because fix pack installations are considered minor upgrades to the product.
7. Refresh the computer's security policy in any one of the following ways:
   - Reboot the PC.
   - At the command line, enter gpupdate.exe.

By following this procedure you will have set up the computer with elevated privileges and set up a user account that will be able to install DB2 server products, clients and fix packs.

After DB2 installation is complete:
- Any user in the system administrative (SYSADM) or system control (SYSCTRL) authority group defined in the database manager configuration for the instance can create and use DB2 databases within the DB2 instance.
- Only a user with local Administrator authority can run DB2 instance utilities, such as db2icrt, db2idrop, db2iupdt, or db2imigr.
- The authorization requirements for running the db2start or db2stop command is defined in the topics START DATABASE MANAGER command, and STOP DATABASE MANAGER command.

Using regedit instead of the Windows Group Policy Editor

An alternative to using the Windows Group Policy Editor is to use regedit.
1. In the registry branch HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows, add the key installer
2. Edit the key installer with the following values:
   - For AlwaysInstallElevated, enter REG_DWORD=1
   - For AllowLockdownBrowse, enter REG_DWORD=1
   - For AllowLockdownMedia, enter REG_DWORD=1
   - For AllowLockdownPatch, enter REG_DWORD=1
   - For DisableMSI, enter REG_DWORD=0
   - For EnableUserControl, enter REG_DWORD=1
3. In the registry branch HKEY_CURRENT_USER\SOFTWARE\Policies\Microsoft\Windows, add the key installer
4. Edit the key installer with the following values:
   - For AlwaysInstallElevated, enter REG_DWORD=1

Removing elevated privileges

After you have given elevated privileges, you can reverse this action. To do so, remove the registry key Installer under HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows.

Granting a non-administrator user DB2 administration authorities

At this point, only members of the Windows Administrators group will have DB2 administration authorities. The Windows Administrator has the option to grant one or more DB2 authorities, such as SYSADM, SYSMAINT, or SYSCTRL to the non-Administrator user who installed the DB2 product.

Granting user rights (Windows)

This topic describes the steps required to grant user rights on Windows operating systems. Specific user rights are recommended for user accounts required to install and set up DB2.

To grant advanced user rights on Windows you must be logged on as a local Administrator.

1. Click **Start -> Run** and type secpol.msc. On Windows Vista, click **Start** and type secpol.msc in the search bar. Click **OK**.
2. Select **Local Security Policy**.
3. In the left window pane, expand the **Local Policies** object, then select **User Rights Assignment**.
4. In the right window pane, select the user right that you want to assign.
5. From the menu, select **Action —> Security...**
6. Click **Add**, then select a user or group to assign the right to, and click **Add**.
7. Click **OK**.

If your computer belongs to a Windows domain, the domain user rights may override your local settings. In this case, your Network Administrator will have to make the changes to the user rights.

DB2 system administrator group considerations (Windows)

By default, system administrative (SYSADM) authority is granted to any valid DB2 user account that belongs to the Administrators group on the computer where the account is defined. If the account is a local account, then it must belong to the local Administrators group. If the account is a domain account, then it must belong to the Administrators group at the domain controller or the local Administrators group. You can force the DB2 database server to always perform group lookup on the local computer by setting the registry variable DB2_GRP_LOOKUP=local and adding the domain accounts (or global groups) to the local group.

For example, if a user logs on to a domain account and tries to access a DB2 database, the DB2 database server goes to a domain controller to enumerate groups (including the Administrators group).

For a domain user to have SYSADM authority, they must belong to the local Administrators group or the Administrators group at the domain controller. Since the DB2 database server always performs authorization at the machine where the account is defined, adding a domain user to the local Administrators group on the server does not grant the domain user SYSADM authority to this group, unless DB2_GRP_LOOKUP=local is set.

To avoid adding a domain user to the Administrators group at the domain controller, create a global group and add the domain users to which you want to grant SYSADM authority to it. Then update the DB2 configuration parameter SYSADM_GROUP with the name of the global group.

To update the DB2 configuration parameter, enter the following commands:

```
db2 update dbm cfg using sysadm_group global_group
db2stop
db2start
```

Linux installation prerequisites

Installation requirements for DB2 servers and IBM data server clients (Linux)

Before you install DB2 database products on Linux operating systems, ensure that the system you choose meets the necessary operating system, hardware, software, and communications requirements.

For the latest information on supported Linux distributions, point your browser to http://www.ibm.com/software/data/db2/linux/validate/.

DB2 database products are supported on the following hardware:
- x86 (Intel Pentium®, Intel Xeon™, and AMD) 32-bit Intel and AMD processors
- x64 (64-bit AMD64 and Intel EM64T processors)
- POWER™ (IBM eServer™ OpenPower®, System i™ or pSeries® systems that support Linux)
- eServer System z™ or System z9®

The supported operating systems for Linux include:
- Red Hat Enterprise Linux (RHEL) 4 Update 4
- Red Hat Enterprise Linux (RHEL) 5
- SUSE Linux Enterprise Server (SLES) 9 Service Pack 3
- SUSE Linux Enterprise Server (SLES) 10 Service Pack 1
- SUSE Linux Enterprise Server (SLES) 11

Note: POWER requires a minimum of SLES 10 Service Pack 1 or RHEL 5

Multithreaded architecture limitations

If you are installing a DB2 Version 9.5 32-bit database product on a Linux operating system, consider upgrading to a 64-bit operating system and installing the DB2 Version 9.5 64-bit database product instead. The multithreaded architecture generally simplifies memory configuration. However, this could affect the memory configuration of 32-bit DB2 database servers. For example:
- Private memory for agent threads is allocated within a single process. The aggregate of all private memory allocations for database agents might not fit in a single process memory space.
- Support for multiple databases is limited because all database shared memory segments for all databases are allocated in a single process. You might need to reduce the memory usage for some databases in order to activate all databases successfully at the same time. However, the database manager performance might be impacted. Another alternative is to create multiple instances and

catalog the databases across the instances. However, sufficient system resources is required to support this configuration.

Distribution Requirements

You should update your kernel configuration parameters in preparation for your Linux distribution. The default values for particular kernel parameters might not be sufficient when running a DB2 database system.

You might also have other products or applications that require Linux system resources. You should modify the kernel configuration parameters based on the needs of your Linux system working environment.

The kernel configuration parameters are set in /etc/sysctl.conf.

Refer to your operating system manual for information on setting and activating these parameters using the sysctl command.

Package requirements

The following tables list the package requirements for SLES and RHEL distributions for DB2 Version 9.5:
- libaio.so.1 is required for DB2 database servers using asynchronous i/o.
- libstdc++so.5 is required for DB2 database servers and clients.

Package requirements for SLES and RHEL

Package name	Description
libaio	contains the asynchronous library required for DB2 servers.
compat-libstdc++	contains libstdc++so.5 (not required for Linux on POWER)

The following tables list the package requirements for SUSE Linux and Red Hat distributions for DB2 Version 9.5 partitioned servers.
- The ksh93 Korn shell is required for SUSE10 and RHEL5 systems. The pdksh Korn Shell package is required for all other DB2 database systems.
- A remote shell utility is required for partitioned database systems. DB2 supports the following remote shell utilities:
  - rsh
  - ssh

  By default, DB2 database systems use rsh when executing commands on remote DB2 nodes, for example, when starting a remote DB2 database partition. To use the DB2 default, the rsh-server package must be installed (see table below). More information on rsh and ssh is available in the DB2 Information Center.

  If you choose to use the rsh remote shell utility, inetd (or xinetd) must be installed and running as well. If you choose to use the ssh remote shell utility, you need to set the **DB2RSHCMD** communication variable immediately after the DB2 installation is complete. If this registry variable is not set, rsh is used.
- The nfs-utils Network File System support package is required for partitioned database systems.

All required packages should be installed and configured before continuing with the DB2 database system setup. For general Linux information, see your Linux distribution documentation.

Package requirements for SUSE Linux

Package name	Description
pdksh or ksh93	Korn Shell. This package is required for partitioned database environments.
openssh	This package contains a set of server programs which allow users to run commands on (and from) remote computers via a secure shell. This package is not required if you use the default configuration of DB2 database systems with rsh.
rsh-server	This package contains a set of server programs which allow users to run commands on remote computers, login in to other computers, and copy files between computers (rsh, rexec, rlogin, and rcp). This package is not required if you configure DB2 database systems to use ssh.
nfs-utils	Network File System support package. It allows access to local files from remote computers.

Package requirements for Red Hat

Directory	Package name	Description
/System Environment/Shell	pdksh or ksh93	Korn Shell. This package is required for partitioned database environments.
/Applications/Internet	openssh	This package contains a set of client programs which allow users to run commands on a remote computer via a secure shell. This package is not required if you use the default configuration of DB2 database systems with rsh.
/System Environment/ Daemons	openssh-server	This package contains a set of server programs which allow users to run commands from a remote computer via a secure shell. This package is not required if you use the default configuration of DB2 database systems with rsh.
/System Environment/ Daemons	rsh-server	This package contains a set of programs which allow users to run commands on a remote computer. Required for partitioned database environments. This package is not required if you configure DB2 database systems to use ssh.
/System Environment/ Daemons	nfs-utils	Network File System support package. It allows access to local files from remote computers.

Software considerations

- (Clients only) If you plan to use Kerberos Authentication, you require IBM Network Authentication Service client v1.4 or later. The NAS client can be downloaded from https://www6.software.ibm.com/dl/dm/dm-nas-p.
- One of the following browsers is required to view online help and to run First Steps (db2fs):
  - Mozilla 1.4 and up
  - Firefox 1.0 and up

– Netscape 7.0 and up
- An X Window System software capable of rendering a graphical user interface is required if:
    – you want to use the DB2 Setup wizard to install a DB2 database product on Linux or UNIX operating systems, or
    – you want to use any DB2 graphical tools on Linux for x86 and Linux on AMD 64/EM64T.
- Micro Focus does not offer support for any of its COBOL compiler products on SLES 11.

Security-enhanced Linux considerations

On RHEL 4 and RHEL 5 systems, if Security-enhanced Linux (SELinux) is enabled and in enforcing mode, the installer might fail due to SELinux restrictions.

To determine if SELinux is installed and in enforcing mode, you can do one of the following:
- check the /etc/sysconfig/selinux file
- run the **sestatus** command
- check the /var/log/messages file for SELinux notices (Notice format might differ between RHEL 4 and RHEL 5.)

To disable SELinux, you can do one of the following:
- set it in permissive mode and run the **setenforce 0** command as a superuser
- modify /etc/sysconfig/selinux and reboot the machine.

If your DB2 database product installs successfully on a RHEL 4 or RHEL 5 system, DB2 processes will run in the unconfined domain. To assign DB2 processes to their own domains, modify the policy. A sample SELinux policy is provided in the sqllib/samples directory.

Centralized user-management considerations (Linux and UNIX)

In environments that include security software, there are some installation considerations.

Note: The DB2 installation cannot update or create users and groups if they are controlled outside of the operating system. For example, LDAP can be used to control users and groups outside of the operating system.

Note: Network Information Services (NIS) and Network Information Services Plus (NIS+) features are deprecated starting with DB2 Version 9.1 Fix Pack 2. Support for these features might be removed in a future release. Lightweight Directory Access Protocol (LDAP) is the recommended solution for centralized user-management services.

At instance creation, without a security component present, the instance owner's group list is modified to include that of the database administrative server (DAS) user's primary group, if the DAS is created. If the instance creation program is unable to modify these properties, it reports that it could not. The warning message provides the necessary information to manually make the changes.

These considerations hold true for any environment in which an external security program does not allow the DB2 installation or instance creation programs to modify user characteristics.

Chapter 2. Installing your DB2 product

Installing DB2 servers (Windows)

This task describes how to start the DB2 Setup wizard on Windows. You will use the DB2 Setup wizard to define your installation and install your DB2 database product on your system.

Before you begin

Before you start the DB2 Setup wizard:
- If you are planning on setting up a partitioned database environment, refer to "Setting up a partitioned database environment".
- Ensure that your system meets installation, memory, and disk requirements.
- If you are planning to use LDAP on Windows to register the DB2 server in Active Directory, you should extend the directory schema before you install otherwise you will need to manually register the node and catalog the databases. For more information, see the "Extending the Active Directory Schema for LDAP directory services (Windows)" topic.
- You must have a local Administrator user account with the recommended user rights to perform the installation. In DB2 database servers where LocalSystem can be used as the DAS and DB2 instance user and you are not using the database partitioning feature, a non-administrator user with elevated privileges can perform the installation.

  Note: If a non-Administrator user account is going to do the product installation, then the VS2005 runtime library must be installed before attempting to install a DB2 database product. The VS2005 runtime library is needed on the operating system before the DB2 database product can be installed. The VS2005 runtime library is available from the Microsoft runtime library download web site. There are two choices: choose vcredist_x86.exe for 32-bit systems or vcredist_x64.exe for 64-bit systems.
- Although not mandatory, it is recommended that you close all programs so that the installation program can update any files on the computer without requiring a reboot.

Restrictions
- The DB2 copy name and the instance name cannot start with a numeric value.
- The DB2 copy name and the instance name must be unique among all DB2 copies.
- The use of XML features is restricted to a database that has only one database partition.
- No other DB2 database product can be installed in the same path if one of the following is already installed:
  - IBM Data Server Runtime Client
  - IBM Data Server Driver Package
  - *DB2 Information Center*
- The DB2 Setup wizard fields do not accept non-English characters.
- If you enable extended security on Windows Vista, users must belong to the DB2ADMNS or DB2USERS group to run local DB2 commands and applications

because of an extra security feature (User Access Control) that limits the privileges that local administrators have by default. If users do not belong to one of these groups, they will not have read access to local DB2 configuration or application data.

Procedure

To start the DB2 Setup wizard:

1. Log on to the system with the local Administrator account that you have defined for the DB2 installation.
2. If you the DB2 database product DVD, insert it into the drive. If enabled, the auto-run feature automatically starts the DB2 Setup Launchpad. If the auto-run does not work, use Windows Explorer to browse the DB2 database product DVD and double-click on the setup icon to start the DB2 Setup Launchpad.
3. If you downloaded the DB2 database product from passport advantage, run the executable file to extract the DB2 database product installation files. Use Windows Explorer to browse the DB2 installation files and double-click on the setup icon to start the DB2 Setup Launchpad.
4. From the DB2 Setup launchpad, you can view installation prerequisites and the release notes, or you can proceed directly to the installation. You may want to review the installation prerequisites and release notes for late-breaking information.
5. Click **Install a Product** and the Install a Product window will display the products available for installation.

   If you have no existing DB2 database products installed on your computer, launch the installation by clicking **Install New**. Proceed through the installation following the DB2 Setup wizard's prompts.

   If you have at least one existing DB2 database product installed on your computer, you can:

   - Click **Install New** to create a new DB2 copy.
   - Click **Work with Existing** to upgrade an existing DB2 copy, to add functionality to an existing DB2 copy, migrate an existing DB2 Version 8 or Version 9.1 copy, or to install an add-on product.
6. The DB2 Setup wizard will determine the system language, and launch the setup program for that language. Online help is available to guide you through the remaining steps. To invoke the online help, click **Help** or press **F1**. You can click **Cancel** at any time to end the installation.

Results

Your DB2 database product will be installed, by default, in the *Program_Files*\IBM\sqllib directory, where *Program_Files* represents the location of the Program Files directory.

If you are installing on a system where this directory is already being used, the DB2 database product installation path will have _*xx* added to it, where *xx* are digits, starting at 01 and increasing depending on how many DB2 copies you have installed.

You can also specify your own DB2 database product installation path.

What to do next

- Verify your installation.

- Perform the necessary post-installation tasks.

For information on errors encountered during installation, review the installation log file located in the My Documents\DB2LOG\ directory. The log file uses the following format: DB2-*ProductAbrrev-DateTime*.log, for example, DB2-ESE-Tue Apr 04 17_04_45 2006.log.

If you want your DB2 database product to have access to DB2 documentation either on your local computer or on another computer on your network, then you must install the *DB2 Information Center*. The *DB2 Information Center* contains documentation for the DB2 database system and DB2 related products. By default, DB2 information will be accessed from the web if the *DB2 Information Center* is not locally installed.

DB2 Express Edition and DB2 Workgroup Server Edition memory limits
> If you are installing DB2 Express Edition, the maximum allowed memory for the instance is 4 GB.
>
> If you are installing DB2 Workgroup Server Edition, the maximum allowed memory for the instance is 16 GB.
>
> The amount of memory allocated to the instance is determined by the **INSTANCE_MEMORY** database manager configuration parameter.
>
> **Important notes when migrating from Version 9.1:**
> - If the memory configuration for your Version 9.1 DB2 database product exceeds the allowed limit, the DB2 database product might not start after migrating to the current version.
> - The self tuning memory manager will not increase your overall instance memory limit beyond the license limits.

Installing DB2 servers using the DB2 Setup wizard (Linux and UNIX)

This task describes how to start the DB2 Setup wizard on Linux and UNIX operating systems. The DB2 Setup wizard is used to define your installation preferences and to install your DB2 database product on your system.

Before you begin

Before you start the DB2 Setup wizard:
- If you are planning on setting up a partitioned database environment, refer to "Setting up a partitioned database environment" in *Quick Beginnings for DB2 Servers*
- Ensure that your system meets installation, memory, and disk requirements.
- You can install a DB2 database server using either root or non-root authority. For more information on non-root installation, see "Non-root installation overview (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*.
- The DB2 database product image must be available. You can obtain a DB2 installation image either by purchasing a physical DB2 database product DVD, or by downloading an installation image from Passport Advantage®.
- If you are installing a non-English version of a DB2 database product, you must have the appropriate National Language Packages.
- The DB2 Setup wizard is a graphical installer. You must have X windows software capable of rendering a graphical user interface for the DB2 Setup

wizard to run on your machine. Ensure that the X windows server is running. Ensure that you have properly exported your display. For example, `export DISPLAY=9.26.163.144:0.`

- If you are using security software in your environment, you must manually create required DB2 users before you start the DB2 Setup wizard.

Restrictions
- The use of XML features is restricted to a database that is defined with the code set UTF-8 and has only one database partition.
- The DB2 Setup wizard fields do not accept non-English characters.

Procedure

To start the DB2 Setup wizard:

1. If you have a physical DB2 database product DVD, change to the directory where the DB2 database product DVD is mounted by entering the following command:

   ```
   cd /dvdrom
   ```

   where */dvdrom* represents the mount point of the DB2 database product DVD.
2. If you downloaded the DB2 database product image, you must decompress and untar the product file.
   a. Decompress the product file:

      ```
      gzip -d product.tar.gz
      ```

      where *product* is the name of the product that you downloaded.
   b. Untar the product file:

      On Linux operating systems
      ```
      tar -xvf product.tar
      ```

      On AIX®, HP-UX, and Solaris operating systems
      ```
      gnutar -xvf product.tar
      ```

      where *product* is the name of the product that you downloaded.
   c. Change directory:

      ```
      cd ./product
      ```

      where *product* is the name of the product that you downloaded.

   Note: If you downloaded a National Language Package, untar it into the same directory. This will create the subdirectories (for example ./nlpack/disk1) in the same directory, and allows the installer to automatically find the installation images without prompting.
3. Enter the ./db2setup command from the directory where the database product image resides to start the DB2 Setup wizard.
4. The IBM DB2 Setup Launchpad opens. From this window, you can view installation prerequisites and the release notes, or you can proceed directly to the installation. You may want to review the installation prerequisites and release notes for late-breaking information.
5. Click **Install a Product** and the **Install a Product** window will display the products available for installation.

   Launch the installation by clicking **Install New**. Proceed through the installation following the DB2 Setup wizard's prompts.

Once you have initiated the installation, proceed through the DB2 Setup wizard installation panels and make your selections. Installation help is available to guide you through the remaining steps. To invoke the installation help, click **Help** or press F1. You can click **Cancel** at any time to end the installation.

Results

For non-root installations, DB2 database products are always installed in the $*HOME*/sqllib directory, where $*HOME* represents the non-root user's home directory.

For root installations, DB2 database products are installed, by default, in one of the following directories:

AIX, HP-UX, and Solaris
   /opt/IBM/db2/V9.5

Linux /opt/ibm/db2/V9.5

If you are installing on a system where this directory is already being used, the DB2 database product installation path will have _*xx* added to it, where _*xx* are digits, starting at 01 and increasing depending on how many DB2 copies you have installed.

You can also specify your own DB2 database product installation path.

DB2 installation paths have the following rules:
- Can include lowercase letters (a–z), uppercase letters (A–Z), and the underscore character (_)
- Cannot exceed 128 characters
- Cannot contain spaces
- Cannot contain non-English characters

The installation log files are:
- The DB2 setup log file. This file captures all DB2 installation information including errors.
  – For root installations, the DB2 setup log file name is db2setup.log.
  – For non-root installations, the DB2 setup log file name is db2setup_*username*.log, where *username* is the non-root user ID under which the installation was performed.
- The DB2 error log file. This file captures any error output that is returned by Java™ (for example, exceptions and trap information).
  – For root installations, the DB2 error log file name is db2setup.err.
  – For non-root installations, the DB2 error log file name is db2setup_*username*.err, where *username* is the non-root user ID under which the installation was performed.

By default, these log files are located in the /tmp directory. You can specify the location of the log files.

There is no longer a db2setup.his file. Instead, the DB2 installer saves a copy of the DB2 setup log file in the DB2_DIR/install/logs/ directory, and renames it

db2install.history. If the name already exists, then the DB2 installer renames it db2install.history.*xxxx*, where *xxxx* is 0000-9999, depending on the number of installations you have on that machine.

Each installation copy has a separate list of history files. If an installation copy is removed, the history files under this install path will be removed as well. This copying action is done near the end of the installation and if the program is stopped or aborted before completion, then the history file will not be created.

What to do next
- Verify your installation.
- Perform the necessary post-installation tasks.

National Language Packs can also be installed by running the ./db2setup command from the directory where the National Language Pack resides, after a DB2 database product has been installed.

On Linux x86, if you want your DB2 database product to have access to DB2 documentation either on your local computer or on another computer on your network, then you must install the *DB2 Information Center*. The *DB2 Information Center* contains documentation for the DB2 database system and related products.

DB2 Express Edition and DB2 Workgroup Server Edition memory limits
> If you are installing DB2 Express Edition, the maximum allowed memory for the instance is 4 GB.

> If you are installing DB2 Workgroup Server Edition, the maximum allowed memory for the instance is 16 GB.

> The amount of memory allocated to the instance is determined by the **INSTANCE_MEMORY** database manager configuration parameter.

> **Important notes when migrating from Version 9.1:**
> > - If the memory configuration for your Version 9.1 DB2 database product exceeds the allowed limit, the DB2 database product might not start after migrating to the current version.
> > - The self tuning memory manager will not increase your overall instance memory limit beyond the license limits.

Chapter 3. Verifying your installation

Verifying the installation of DB2 servers using First Steps (Linux and Windows)

You should verify that the DB2 server installation has completed successfully by accessing data from the SAMPLE database.

You must have the Control Center and the First Steps component installed to perform this task.

First Steps is listed as a getting started component in the feature selection window in the DB2 Setup wizard. It is installed as part of a Typical installation or may be selected when performing a Custom installation.

The Control Center component is only available on Linux (x86 and AMD64/EM64T only) and Windows (x86 and AMD64/EM64T only).

1. On Linux, log on to the system as the instance owner.
2. Start First Steps:
   - On Windows operating systems, click **Start** and, select **Programs -> IBM DB2 ->** [*DB2 Copy Name*] **-> Set-up Tools > First Steps**
   - On Linux and Windows operating systems, you can start First Steps by typing the **db2fs** command.
3. Select **Database Creation** in the First Steps launchpad. On the Database Creation page, you will see links to the DB2 Information Center for creating the SAMPLE database and the **Create SAMPLE Database** button. Click **Create SAMPLE Database** to launch the Create SAMPLE Database window.
4. You have the options to choose the type of database objects to create and the database location. You can choose the drive on which to create the SAMPLE database on Windows, and the directory in which to create the SAMPLE database on Linux.
5. This command may take a few minutes to process. When the SAMPLE database has been created, you will receive a completion message. Click **OK**.
6. Launch the Control Center. On Windows, click **Start** and, select **Programs -> IBM DB2 ->** [*DB2 Copy Name*] **-> General Administration Tools —> Control Center**. On Linux systems, type the db2cc command.
7. In the left pane of the Control Center screen, expand the object tree to view the SAMPLE database and SAMPLE database objects. Select the Tables object to view the SAMPLE database tables in the right pane of the Control Center screen. Right-click on the table name staff and select Query. In the command editor window, click the run button to execute the query and see the result set.

After you have verified the installation, you can remove the SAMPLE database to free up disk space. However, you will need to keep the SAMPLE database if you plan to make use of the sample applications.

Enter the db2 drop database sample command to drop the SAMPLE database.

Verifying the installation using the command line processor (CLP)

You can verify the installation by creating the SAMPLE database and running SQL commands to retrieve sample data.

Prerequisites

- The SAMPLE database component, found in the features selection, must be installed on your system and is included in a typical installation.
- You require a user with SYSADM authority.

To verify the installation:

1. Log on to the system as a user with SYSADM authority.
2. Start the database manager by entering the db2start command.
3. Enter the db2sampl command to create the SAMPLE database.

   This command may take a few minutes to process. There is no completion message; when the command prompt returns, the process is complete.

   The SAMPLE database is automatically cataloged with the database alias SAMPLE when it is created.
4. Connect to the SAMPLE database, retrieve a list of all the employees that work in department 20, and reset the database connection. Enter the following commands from the command line processor (CLP):

   ```
   connect to sample
   "select * from staff where dept = 20"
   connect reset
   ```

   The output should be similar to the following:

   ```
   ID   NAME      DEPT  JOB   YEARS  SALARY    COMM
   ---- --------- ----- ----- ------ --------- ---------
     10 Sanders      20 Mgr       7  98357.50          -
     20 Pernal       20 Sales     8  78171.25     612.45
     80 James        20 Clerk     -  43504.60     128.20
    190 Sneider      20 Clerk     8  34252.75     126.50

     4 record(s) selected.
   ```

After you have verified the installation, you can remove the SAMPLE database to free up disk space. Enter the db2 drop database sample command to drop the SAMPLE database.

Creating your own database using the Create Database with the Automatic Maintenance wizard

The Create Database with Automatic Maintenance wizard is the quickest way to set up your own database. Based on basic information that you provide, the wizard:

- creates a new database on the disk or directory of your choice
- assigns disk space for your data
- configures the new database for optimal performance
- turns on automatic maintenance
- configures notification by e-mail or pager if the database needs attention

The Create Database with Automatic Maintenance wizard can be started from First Steps or directly from within the Control Center.

Prerequisites

- If you wish to start the wizard from First Steps, you must also have the First Steps component installed. First Steps is part of the Getting started component grouping in the DB2 Setup wizard. It is installed as part of a Typical installation or may be selected when performing a Custom installation.
- You must have SYSADM or SYSCTRL authority to perform this task.
- For Linux, you must have Xwindow software capable of rendering a graphical user interface for First Steps and the Control Center to run on your machine. Ensure that you have properly exported your display. For example, `export DISPLAY=9.26.163.144:0.`
- On Linux, ensure that you are logged on as the instance owner, `db2inst1` by default. An instance is a logical database manager environment where you catalog databases and set configuration parameters.

1. Log on to the system with the user account that you want to use to create the database.
2. Start the Create Database with Automatic Maintenance in the one of the following ways:
   - From First Steps: Click **Create Your Own Database**.
   - From the Control Center: Click the **All Databases** folder. Click **Create New Database** in the **All Databases** pane.
3. Follow the steps of the wizard. You will have to provide some details and preferences about your new database, including such things as its name and the contacts who can be notified under various conditions.

If you created your own database from First Steps, you will now want to start the Control Center to begin exploring and working with your database. To do this, click **Work With Databases** in First Steps.

Chapter 4. DB2 product licensing

DB2 license files

There are two types of license keys associated with DB2 database products: *base license keys* and *full license keys*. These license keys are stored in plaintext files, which are generally referred to as *license files* or *license entitlement certificates*.

A "base" license does not confer any usage rights. It is included in the DB2 database product installation media and is applied automatically during the installation process. For example, db2ese.lic is a base license file for DB2 Enterprise Server Edition.

License keys are required for all DB2 database products (including DB2® Connect™) and for each optional database feature, with the exception of DB2 Express-C, Data Server Runtime Client and Data Server Client. The license key is found in the /db2/license directory of the Activation CD, which is supplied as a part of the product installation media. For example, db2ese_u.lic is a license key and can be found on the *DB2 Enterprise Server Edition for Linux, UNIX, and Windows - Authorized User Option Activation* CD. By default, license keys are not applied during the DB2 database product installation. DB2 Personal Edition and DB2 Connect Personal Edition are exceptions. If you installed DB2 Personal Edition or DB2 Connect Personal Edition, the license key is applied automatically as part of the installation.

For a list of license files, refer to Table 3 on page 24.

In general, licenses for DB2 database products can be purchased either per processor (priced by Processor Value Unit (PVU)) or by authorized user. IBM Database Enterprise Developer Edition is licensed per developer. The following features are exceptional, since they can only be purchased by PVU (and only if the underlying database system is licensed by PVU as well):

- DB2 Storage Optimization Feature
- IBM Homogeneous Replication Feature for DB2 Enterprise Server Edition

If you purchased a DB2 database product as well as separately priced features, you will need to apply more than one license key. Each DB2 database product and DB2 feature has its own license key. All of the features must be acquired under the same charge metric as the underlying DB2 database product. For example, if you purchase DB2 Enterprise Server Edition with a per processor license, you need to purchase the DB2 Performance Optimization Feature by processor as well.

If you downloaded a DB2 database product or feature from one of the following Web sites and you do not have an Activation CD, you can obtain license keys as follows:

- Passport Advantage: You can obtain an Activation CD image from the Passport Advantage Web site: http://www.ibm.com/software/lotus/passportadvantage/. When using Passport Advantage, you must download the Activation CD image for each product and feature separately.
- PartnerWorld®: Contact PartnerWorld for the appropriate license key. Refer to the PartnerWorld Web site: http://www.ibm.com/partnerworld/pwhome.nsf/weblook/index_pub.html

- The DB2 support or fix central Web sites: If you have not purchased a license key, contact an IBM Sales representative.

Once you have obtained the appropriate license keys, you should apply them before you use the DB2 database product. This is also referred to as registering the license key or adding a license. Your DB2 database products will run without registering the license key. It is recommended, however, as a mechanism for you to keep track of, and differentiate, the DB2 database products and features you have installed on your system. You can find the DB2 database product license terms at: http://www.ibm.com/software/sla.

The management of licenses for DB2 database products or features is done through either:
- the License Center within the Control Center, or,
- the db2licm license management tool command.

Table 3. DB2 license files

License file name	DB2 database product or feature
db2aac.lic	DB2 Advanced Access Control Feature
db2conpe.lic	DB2 Connect Personal Edition
db2consv.lic	DB2 Connect Enterprise Edition (Unlicensed base)
db2consv_as.lic	DB2 Connect Application Server Edition
db2consv_ee.lic	DB2 Connect Enterprise Edition
db2consv_is.lic	DB2 Connect Unlimited Edition for iSeries®
db2consv_zs.lic	DB2 Connect Unlimited Edition for zSeries®
db2dede.lic	IBM Database Enterprise Developer Edition
db2dpf.lic	DB2 Database Partitioning Feature
db2ese.lic	DB2 Enterprise Server Edition (Unlicensed base)
db2ese_c.lic	DB2 Enterprise Server Edition (CPU option)
db2ese_u.lic	DB2 Enterprise Server Edition (Authorized User option)
db2exp.lic	DB2 Express Edition (Unlicensed base)
db2exp_c.lic	DB2 Express Edition (CPU option)
db2exp_u.lic	DB2 Express Edition (Authorized User option)
db2expc_ftl.lic	DB2 Express-C (Fixed Term License)
db2expc_uw.lic	DB2 Express-C (Unwarranted)
db2geo.lic	DB2 Geodetic Data Management Feature
db2haexp.lic	DB2 High Availability Feature for DB2 Express Edition
db2hfese.lic[1]	IBM Homogeneous Federation Feature for DB2 Enterprise Server Edition
db2hfexp.lic[1]	IBM Homogeneous Federation Feature for DB2 Express Edition
db2hfwse.lic[1]	IBM Homogeneous Federation Feature for DB2 Workgroup Server Edition

Table 3. DB2 license files (continued)

License file name	DB2 database product or feature
db2hrese.lic	IBM Homogeneous Replication Feature for DB2 Enterprise Server Edition
db2pe.lic	DB2 Personal Edition
db2poese.lic	DB2 Performance Optimization Feature for DB2 Enterprise Server Edition
db2qowse.lic[1]	DB2 Query Optimization Feature for DB2 Workgroup Server Edition
db2so.lic	DB2 Storage Optimization Feature
db2wse.lic	DB2 Workgroup Server Edition (Unlicensed base)
db2wse_c.lic	DB2 Workgroup Server Edition (CPU option)
db2wse_u.lic	DB2 Workgroup Server Edition (Authorized User option)
db2xmlese.lic[1]	DB2 pureXML™ Feature for DB2 Enterprise Server Edition
db2xmlexp.lic[1]	DB2 pureXML Feature for DB2 Express Edition
db2xmlwse.lic[1]	DB2 pureXML Feature for DB2 Workgroup Server Edition
dwae.lic	DB2 Warehouse Advanced Edition
dwbe.lic	DB2 Warehouse Enterprise Base Edition
dwde.lic	DB2 Warehouse Developer Edition
dwee.lic	DB2 Warehouse Enterprise Edition
dwie_c.lic	DB2 Warehouse Intermediate Edition (CPU Option)
dwie_u.lic	DB2 Warehouse Intermediate Edition (Authorized User Option)
dwse_c.lic	DB2 Warehouse Starter Edition (CPU Option)
dwse_u.lic	DB2 Warehouse Starter Edition (Authorized User Option)
sam22.lic	IBM Tivoli System Automation for Multiplatforms (SA MP) Base Component

- [1] These license files are no longer required as of DB2 Version 9.5 Fix Pack 4.

If you have license files that end in _b.lic, _beta.lic, _o.lic, or _t.lic, they are special beta, original equipment manufacturer (OEM) or trial licenses.

Registering a DB2 product or feature license key using the License Center

From the License Center, use the Add License window to add new licenses on Linux or Windows operating systems. This action is also referred to as applying license entitlement certificates or adding a license.

Before you begin

To complete this task, you must have the appropriate license file (*.lic). Refer to "DB2 license files" in *Quick Beginnings for DB2 Servers*.On Linux operating systems, the instance owner must have read and write privileges on the directory where the license files are located.

Procedure

To register a DB2 license key:

1. Click ![key icon] in the Control Center to open the License Center. Select the system for which you want to add a new license.
2. Select an instance.
3. The **Installed Products** field will display the name of the products that you have installed. Select a product.
4. Select **Add** from the **License** menu. The Add License dialog opens.
5. Select the license key (*.lic) that you want to add.
6. Click **OK** to add the license key.

Results

The license information is refreshed immediately in the License Center.

Checking DB2 license compliance

Each DB2 database product and feature has a license key associated with it. The license key should be registered before using the DB2 database product or feature. To verify license compliance, examine the information in the License Center and generate a compliance report.

Note: If you installed a DB2 database product trial image, the image includes access to all features available in the edition you are using.

1. Verify that you have registered the license keys for your DB2 database products.
   a. Open the License Center or issue the command db2licm -l.
   b. Examine the License Type information.
      - If you see License Type: "Developer", it means that your DB2 database product was obtained as part of Database Enterprise Developer Edition for Linux, UNIX, and Windows. In this case, the IBM Database Enterprise Developer Edition license terms take precedence over the usual DB2 9.5 license terms.
      - If you see License Type: "Restricted use", it means that your DB2 database product was obtained as part of another IBM product. In this case, the license terms of the bundling product take precedence over the usual DB2 Version 9.5 license terms.
      - If you see License Type: "License not registered", it means that only a base license key has been registered. You should register the appropriate full license key for the DB2 database product.
2. Verify that you have registered the license keys for your DB2 features.
   a. Generate a compliance report using the License Center, the db2licm command or the ENV_FEATURE_INFO administrative view.
      - . To generate the compliance report from the License Center, select **License** → **Generate Compliance Report**.

- To generate compliance report using the db2licm command, issue the command:

  ```
  db2licm -g filename
  ```

  where *filename* is the path and file name where output is to be stored.
- To see the compliance information in the ENV_FEATURE_INFO administrative view, connect to a database and issue the following query:

  ```
  SELECT * FROM SYSIBMADM.ENV_FEATURE_INFO
  ```

  b. Analyze the compliance report. If you have not registered the license key for a DB2 feature, the compliance report will list the feature as a "Violation".
3. Resolve the compliance issues by registering the appropriate license keys or by removing the sources of the violation.

Upgrading a Trial license

If you installed a DB2 product with a trial license and now want to upgrade to a full license you need to upgrade the product license key.

If you bought the product on Media then the license key should be a part of the installation image and should be located under db2/license subdirectory. You will need to add this license key as an instance owner in the License Center GUI or the following command:

```
db2licm -a <path>/<license file name>
```

If you downloaded your product from the PartnerWorld site, you will need to contact PartnerWorld for the license key.

If you downloaded the product from the DB2 support site or from the Fix Central and do not have the product license key, then contact your IBM Sales representative.

If you downloaded your product from the passport advantage site then it comes with the temporary license key, which will be valid for 90 days after the product installation and will be shown as "Try & Buy" license in the output of the db2licm -l command. To have a permanent license you need to download it from the passport advantage site.

If a previously licensed copy of a DB2 server product does not already exist on the machine, a single server fix pack image can be used to install any of the DB2 database server products. In this case, the DB2 product installed is treated as a trial license.

You cannot use this method to upgrade from one DB2 product to another.

To upgrade your DB2 license:
1. Get the license key. The license key is available from either:
   - the activation key that you downloaded from Passport Advantage, or
   - the Activation CD that you received in the physical media pack from IBM.
2. Register the license key using the License Center or the db2licm command.

   Note: The trial license for DB2 Enterprise Server Edition on 32-bit Linux cannot be upgraded to a production license.

Appendix A. Installing DB2 products using response files

Response file installation basics

Unlike the DB2 Setup wizard, a DB2 response file installation lets you install DB2 products without any user interaction.

A *response file* is an English-only text file that contains setup and configuration information. A response file specifies configuration and setup parameters and the products and components to install.

This method is useful not only for large-scale deployments of DB2 products, but also for embedding the DB2 installation process transparently inside your customized installation and configuration procedure.

You can create a response file by any of the following methods:

- Modifying one of the sample response files that are provided. Sample response files are located in the DB2 product DVD under the directory:

  db2/*platform*/samples

  where *platform* refers to the appropriate hardware platform.
- Using the DB2 Setup wizard to save the setup and configuration data according to the input you provided. If you choose the option to create a response file in the DB2 Setup wizard, the response files (one for the server, and one for the partition, if you are setting up a multi-partitioned environment) will be saved by default at this location. The default names of the files are *name1* and *name2*.
- Using the response file generator to create a response file from an existing installed and configured DB2 product (Windows platforms only).

A response file installation can also be referred to as a silent installation or an unattended installation.

Response file considerations

You should understand the following considerations before proceeding with a response file installation:

- Although response files created in Version 8 and response files created in Version 9 have similar formats, there are version limitations as to where response files can be used. For example, any response file generated in DB2 Version 9 can only be used to install a DB2 Version 9 (or Version 9.5) product; it cannot be used to install DB2 Version 8. The opposite is also true, where response files generated in DB2 Version 8 cannot be used to install DB2 Version 9. This is primarily caused by mandatory keywords that are new in Version 9.
- On Linux or UNIX platforms, a response file created for a root installation might not be usable for a non-root installation. Some response file keywords are valid for root installation only. For details, see the response file keywords.
- If you are using the DB2 Setup wizard:
  - You can save your settings in a response file during the installation in the **Select the installation action** panel of the DB2 Setup wizard.

- You are creating a response file based on just the installation you are performing. This method is recommended if you have either a fairly simple configuration or if you want to create a response file that you plan to later customize.
  - A response file is only generated if you allow the installation process to complete, and it completes successfully. If you cancel the installation, or if the installation fails, the response file is not created.
- You can use a response file to install an identical configuration across every workstation on your network or to install multiple configurations of a DB2 product. You can then distribute this file to every workstation where you want this product to be installed.
- If you use the response file generator (Windows platforms only), you are creating the response file based on an existing installation. This method is recommended when you have a more complex configuration, one that you manually configured. If you are using the response file generator after generating the response file, you might need to input user names and passwords

Creating a response file using the DB2 Setup wizard

You can create a response file using the DB2 Setup wizard based on the installation you are performing. This response file will be generated based on your DB2 Setup wizard selections. You can then use the response file to perform an unattended installation using the same settings.

To create a response file using the DB2 Setup wizard:

1. From the DB2 Setup launchpad, select **Install New** for the product you want to install, or, select **Work with Existing** to select the DB2 copy you want to work with.
2. Select the product or DB2 copy you want to install and click **Next** to launch the DB2 Setup wizard.
3. Click **Next** on the Welcome page and accept the license agreement terms.
4. In the **Select the installation type** window, select from Typical, Compact or Custom installation.
5. In the **Select the installation, response file creation, or both** window, select either the **Save my installation setting in a response file** option or the **Install product on this computer and save my settings in a response file** option. Then, in the **Response file name** field type the path where you want the DB2 Setup wizard to place the generated response file. By default, the response file name is *name1*, and is saved in *directory1*.

   Note:
   a. If you select the **Save my installation setting in a response file** option, no software is installed on the computer, only the response file is created with the name specified in the **Response file name** field.
   b. If you select a partitioned database installation, two response files will be generated, one for the instance-owning computer and one for the participating computers. The participating computer response file name is generated based on the name of the instance-owning computer. By default, the partition response file name is *name2*, and is saved in *directory2*.
6. Proceed through the rest of the installation panels selecting the options you want.
7. In the **Start copying files and create response file** window, review the settings you selected.

8. To install the product, click **Finish**.
9. When the installation has completed, the DB2 Setup wizard will have placed the generated response file in the path you specified. When the DB2 Setup wizard is used to create the response file, a special keyword ENCRYPTED is added to the response file. For example:

```
DAS_PASSWORD = 0777402016445737756534665417024488312698553505156353
ENCRYPTED = DAS_PASSWORD
```

The keyword ENCRYPTED indicates the actual value of the password is not the sequence of numbers shown.

Appendix B. Applying DB2 fix packs

Applying fix packs

It is recommended that you keep your DB2 database environment running at the latest fix pack level to ensure problem-free operation. To install a fix pack successfully, perform all of the necessary pre-installation and post-installation tasks.

About this task

A DB2 fix pack contains updates and fixes for problems (Authorized Program Analysis Reports, or "APARs") found during testing at IBM, as well as fixes for problems reported by customers. Each fix pack contains an APARLIST.TXT file, which describes the fixes it contains.

Fix packs are cumulative. This means that the latest fix pack for any given version of DB2 contains all of the updates from previous fix packs for the same version of DB2.

The fix pack images available are:
- A single server image.

  The single server image contains the new and updated code required for all DB2 database server products and the IBM Data Server Client. If more than one DB2 database server product is installed in a single location, the DB2 database server fix pack applies maintenance code updates to all the installed DB2 database server products. The Data Server Client fix pack is contained within the one DB2 database server fix pack (namely the fix pack that can service any one of the following database server products: DB2 Enterprise Server Edition, DB2 Workgroup Server Edition, DB2 Express Edition, DB2 Personal Edition, DB2 Connect Enterprise Edition, DB2 Connect Application Server Edition, DB2 Connect Unlimited Edition for zSeries, and DB2 Connect Unlimited Edition for i5/OS®). You can use the DB2 database server fix pack to upgrade a Data Server Client.

  A single server image can also be used to install any of the DB2 database server products, at a particular fix pack level, with a DB2 try and buy license by default.
- A fix pack for each of the other DB2 database products.

  Use this fix pack only if you only have non-server database products or add-on products installed. For example, IBM Data Server Runtime Client or DB2 Query Patroller.

  Do not use this type of fix pack if the installed DB2 database products are only DB2 database server products or a Data Server Client. Instead, use the single server image fix pack.

  For Windows platforms, if you have more than one DB2 database product (which includes at least one product that is not a Data Server Client or a DB2 database server) installed in a single DB2 copy, you must download and uncompress all of the corresponding product-specific fix packs before starting the fix pack installation process.
- A universal fix pack (on Linux or UNIX platforms only).

  The universal fix pack services installations where more than one DB2 database product has been installed.

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The universal fix pack is not needed if the installed DB2 database products are only DB2 database server products or a Data Server Client. In this case, the single server image fix pack should used.

On Linux or UNIX operating systems, if national languages have been installed, you also require a separate national language fix pack. The national language fix pack can not be installed alone. A universal or product-specific fix pack must be applied at the same time and they must both be at the same fix pack level. For example, if you are applying a universal fix pack to non-English DB2 database products on Linux or UNIX, you must apply both the universal fix pack and the national language fix pack to update the DB2 database products.

Restrictions
- A DB2 Version 9.5 fix pack can only be applied to DB2 Version 9.5 general availability (GA) or fix pack level copies.
- All DB2 instances, DAS, and applications related to the DB2 copy being updated must be stopped before installing a fix pack.
- In a partitioned database environment, prior to installing the fix pack, you must stop the database manager on all database partition servers. You must install the fix pack on the instance-owning database partition server and all other database partition servers. All computers participating in the instance must be upgraded to the same fix pack level.
- On Linux or UNIX operating systems:
  - If you have DB2 database products on a Network File System (NFS), you must ensure the following are stopped completely before installing the fix pack: all instances, the DB2 administration server (DAS), interprocess communications (IPC), and applications on other machines using the same NFS mounted installation.
  - If the system commands fuser or lsof are not available, the installFixPack command cannot detect loaded DB2 files. You must ensure no DB2 files are loaded and provide an override option to install the fix pack. On UNIX, the fuser command is required to check for loaded files. On Linux, either the fuser command or lsof command is required.

    For details on the override option, see the installFixPack command.
- On client applications, after a fix pack has been applied, to perform autobind of applications, the user must have bind authority.
- Installation of a DB2 fix pack will not service IBM Data Studio Administration Console or IBM Data Studio.

Procedure

To install a fix pack:
1. Check fix pack prerequisites.
2. Perform the necessary tasks prior to installing a fix pack.
3. Choose a fix pack installation method and install the fix pack.
4. Perform the necessary tasks after installing the fix pack.
5. Apply the appropriate DB2 database product license.

    If a previously licensed copy of a DB2 database server product does not already exist on the machine, a single server fix pack image can be used to install any of the DB2 database server products. In this case, the DB2 database product installed is treated as a try and buy license, and will stop working after a 90 day trial period unless you upgrade the try and buy license.

What to do next

Check the log file for any post-installation steps, or error messages and recommended actions.

For non-root installations on Linux or UNIX, root-based features (such as High Availability and operating system-based authentication) can be enabled using the db2rfe command. If root-based features were enabled after installing your DB2 database product, you must rerun the db2rfe command each time a fix pack is applied in order to re-enable those features.

If you have multiple DB2 copies on the same system, those copies can be at different version and fix pack levels. If you want to apply a fix pack to one or more DB2 copies, you must install the fix pack on those DB2 copies one by one.

Appendix C. Uninstalling your DB2 product

Uninstalling your DB2 product (Windows)

This task provides steps for completely removing your DB2 product from your Windows operating system. You should only perform this task if you no longer require existing your DB2 instances and databases.

If you are uninstalling the DB2 default copy, and you have other DB2 copies on your system, you should use the db2swtch command to choose a new default copy before you proceed with the uninstallation. Also, if your database administration server (DAS) is running under the copy being removed, you should move your DAS to a copy that is not being removed. Otherwise, you will have to recreate the DAS using db2admin create command after the uninstall and you might have to reconfigure the DAS for some functionality to work.

To remove your DB2 product from Windows:

1. (Optional) Drop all databases using the Control Center or drop database command. Be sure that you no longer need these databases. If you drop your databases, all of your data will be gone.
2. Stop all DB2 processes and services. This can be done through the Windows Services panel or by issuing the db2stop command. If DB2 services and processes are not stopped before attempting to remove your DB2 product, you will receive a warning containing a list of processes and services that are holding DB2 DLLs in memory.
3. You have two options for removing your DB2 product:

   Add/Remove Programs
   > Accessible through the Windows Control Panel, use the Add/Remove Programs window to remove your DB2 product. Refer to your operating system's help for more information about removing software products from your Windows operating system.

   db2unins command
   > You can run the db2unins command to remove your DB2 product. Using this command, you can uninstall multiple DB2 products at the same time using the /p parameter. You can also silently uninstall DB2 products by using /u parameter which will remove the DB2 products specified in the response file. For more information, see the db2unins command topic.

Unfortunately, your DB2 product cannot always be removed by using the Control Panel - Add/Remove Programs facility or using the db2unins /p command or the db2unins /u command. The following uninstallation option should ONLY be attempted if the above method fails.

To forcefully remove all DB2 copies from your Windows system, run the db2unins /f command. This command will perform a brute force uninstallation of ALL DB2 copies on the system. Everything except user data, such as DB2 databases, will be forcefully deleted.

Uninstalling your DB2 product (Linux and UNIX)

This task provides steps for removing a DB2 product from your Linux or UNIX operating system.

This task is not required to install a new version of a DB2 product. Each version of a DB2 product on Linux or UNIX has a different installation path and can therefore coexist on the same computer.

Note: This task applies to DB2 products that were installed with root authority. A separate topic explains how to uninstall DB2 products that were installed as a non-root user.

To remove your DB2 product:
1. Optional: Drop all databases. You can drop databases using the Control Center or the drop database command. Database files remain intact on your file systems when you drop an instance without dropping databases first.
2. Stop the DB2 Administration Server. Refer to the *Quick Beginnings for DB2 Servers* manual.
3. Remove the DB2 Administration Server, or run the dasupdt command to update the DB2 Administration Server to another installation path. To remove the DB2 Administration Server, refer to the *Quick Beginnings for DB2 Servers* manual.
4. Stop all DB2 instances. Refer to the *Quick Beginnings for DB2 Servers* manual.
5. Remove the DB2 instances, or run the db2iupdt command to update the instances another installation path. To remove the DB2 instances, refer to the *Quick Beginnings for DB2 Servers* manual.
6. Remove the DB2 products. Refer to the *Quick Beginnings for DB2 Servers* manual.

Stopping the DB2 administration server (Linux and UNIX)

You must stop the DB2 administration server (DAS) before you remove your DB2 product.

When uninstalling a DB2 product, you must drop the DAS if you are removing your last DB2 Version 9.5 copy. If you have other DB2 Version 9.5 copies, it is recommended that you run the dasupdt command to associate the DAS with another DB2 copy. If you decide to drop the DAS, you must stop the DAS first.

Note: This task does not apply to non-root installations of DB2 products.

To stop the DB2 administration server:
1. Log in as the DB2 administration server owner.
2. Stop the DB2 administration server by entering the db2admin stop command.

Removing the DB2 administration server (Linux and UNIX)

If you are removing your last DB2 Version 9 copy, you must remove the DB2 administration server (DAS) before you remove your DB2 product.

If you removing a DB2 Version 9 copy, but have other DB2 Version 9 copies, you should run the dasupdt command from the DB2 copy that you would like to have the DB2 DAS associated with.

Note: This task applies only to DB2 products that were installed with root authority.

To remove the DAS:

1. Log in as a user with root authority.
2. Stop the DAS:

   ```
   db2admin stop
   ```

3. Remove the DAS by entering the following command:

   ```
   DB2DIR/instance/dasdrop
   ```

   where *DB2DIR* is the location you specified during the DB2 installation. The default installation path for UNIX is */opt/IBM/db2/V9.5*. The default installation path for Linux is */opt/ibm/db2/V9.5*.

Stopping root instances (Linux and UNIX)

You must stop all DB2 instances associated with the DB2 copy you are uninstalling. Instances associated with other DB2 copies should not be affected by uninstalling the current copy.

Note: This task applies to DB2 products that were installed with root authority.

To stop a DB2 instance:

1. Log in as a user with root authority.
2. Obtain a list of the names of all DB2 instances associated with your current DB2 copy by entering the following command:

   ```
   DB2DIR/bin/db2ilist
   ```

   where *DB2DIR* is the location you specified during the DB2 Version 9 installation. The default installation path for UNIX is */opt/IBM/db2/V9.5*. The default installation path for Linux is */opt/ibm/db2/V9.5*.

3. Run the start up script if it is not included in .profile.

   ```
   . INSTHOME/sqllib/db2profile        (bash, Bourne, or Korn shells)
   source INSTHOME/sqllib/db2cshrc     (C shell)
   ```

   where *INSTHOME* is the home directory of the instance.

4. It is recommended that you save the following files:
   - The database manager configuration file, $HOME/sqllib/db2systm
   - The node configuration file, $HOME/sqllib/db2nodes.cfg
   - User defined functions or fenced stored procedure applications in $HOME/sqllib/function

5. Stop the DB2 database manager by entering the db2stop force command.
6. Confirm that the instance is stopped by entering the db2 terminate command.
7. Repeat these steps for each instance.

Removing DB2 instances (Linux and UNIX)

This task explains how to remove some or all of the root instances on your system.

Note: This task does not apply to non-root installations. To remove a non-root instance, you must uninstall your DB2 product.

If you are removing your last DB2 Version 9 copy, you can remove the DB2 instances before you remove your DB2 product. If you removing a DB2 Version 9 copy, but have other DB2 Version 9 copies, you can run the db2iupdt command from the DB2 copy that you would like to have the DB2 instances associated with.

Once an instance is removed, you can use the DB2 databases owned by the instance if you catalog them under another instance of the same release. Even though you remove the instance, the databases are still intact and can be reused unless the database files are expressly deleted.

Remove DB2 instances only if you are not planning to use your DB2 products, or if you do not want to migrate existing instances to a later version of the DB2 product. Migration requires that both the new and old DB2 versions are still installed. You cannot migrate an instance if the DB2 copy it is associated with has been removed.

To remove an instance:
1. Log in as a user with root authority.
2. Optional: If you are certain you no longer need the data in the associated databases, you can remove the database files from the systems or drop the databases before dropping the instance.
3. Remove the instance by entering the following command:

   ```
   DB2DIR/instance/db2idrop InstName
   ```

   where *DB2DIR* is the location you specified during the DB2 installation. The default installation path for UNIX is */opt/IBM/db2/V9.5*. The default installation path for Linux is */opt/ibm/db2/V9.5*.

   The db2idrop command removes the instance entry from the list of instances and removes the *INSTHOME*/sqllib directory, where *INSTHOME* is the home directory of the instance and where *InstName* is the login name of the instance. If you are storing any files in /sqllib directory, these files will be removed by this action. If you still need these files, you must make a copy of them before dropping the instance.
4. Optional: As a user with root authority, remove the instance owner's user ID and group (if used only for that instance). Do not remove these if you are planning to re-create the instance.

   Note: This step is optional since the instance owner and the instance owner group might be used for other purposes.

Removing DB2 products using the db2_deinstall or doce_deinstall command (Linux and UNIX)

This task provides steps for removing DB2 products or DB2 components using the db2_deinstall command. The db2_deinstall command removes all DB2 products from your system. The doce_deinstall command removes the DB2 Information Center that is in the same install path as the doce_deinstall tool. This command is only available on the Linux operating systems.

Before you remove DB2 products from your system, ensure that you have performed all steps outlined in "Uninstalling your DB2 product (Linux and UNIX)" on page 38

Note:

- This task applies to DB2 products that were installed with root authority.
- You cannot remove DB2 products using a native operating system utility, such as rpm or SMIT.
- The doce_deinstall command is available only on Linux x32 and x64.

To remove **ALL** DB2 products from a specific path:
1. Log in as the root user.
2. Access the path where the DB2 products are located.
3. Run one of the following commands:
   - To remove a feature from an installed DB2 product in the current location, run the db2_deinstall -F command from the DB2DIR/install directory
   - To remove all installed DB2 products in the current location, run the db2_deinstall -a command from the DB2DIR/install directory
   - To remove the DB2 Information Center in the current location, run the doce_deinstall -a from the DB2DIR/doc/install directory

   where DB2DIR is the location that you specified when you installed your DB2 product.

Appendix D. Overview of the DB2 technical information

DB2 technical information is available through the following tools and methods:

- *DB2 Information Center*
  - Topics (Task, concept and reference topics)
  - Help for DB2 tools
  - Sample programs
  - Tutorials
- DB2 books
  - PDF files (downloadable)
  - PDF files (from the DB2 PDF DVD)
  - printed books
- Command line help
  - Command help
  - Message help

Note: The *DB2 Information Center* topics are updated more frequently than either the PDF or the hard-copy books. To get the most current information, install the documentation updates as they become available, or refer to the *DB2 Information Center* at ibm.com®.

You can access additional DB2 technical information such as technotes, white papers, and IBM Redbooks® publications online at ibm.com. Access the DB2 Information Management software library site at http://www.ibm.com/software/data/sw-library/.

Documentation feedback

We value your feedback on the DB2 documentation. If you have suggestions for how to improve the DB2 documentation, send an email to db2docs@ca.ibm.com. The DB2 documentation team reads all of your feedback, but cannot respond to you directly. Provide specific examples wherever possible so that we can better understand your concerns. If you are providing feedback on a specific topic or help file, include the topic title and URL.

Do not use this email address to contact DB2 Customer Support. If you have a DB2 technical issue that the documentation does not resolve, contact your local IBM service center for assistance.

If you would like to help IBM make the IBM Information Management products easier to use, take the Consumability Survey: http://www.ibm.com/software/data/info/consumability-survey/.

DB2 technical library in hardcopy or PDF format

The following tables describe the DB2 library available from the IBM Publications Center at www.ibm.com/shop/publications/order. English DB2 Version 9.5 manuals in PDF format and translated versions can be downloaded from www.ibm.com/support/docview.wss?rs=71&uid=swg2700947.

Although the tables identify books available in print, the books might not be available in your country or region.

The form number increases each time a manual is updated. Ensure that you are reading the most recent version of the manuals, as listed below.

Note: The *DB2 Information Center* is updated more frequently than either the PDF or the hard-copy books.

Table 4. DB2 technical information

Name	Form Number	Available in print	Last updated
Administrative API Reference	SC23-5842-02	Yes	April, 2009
Administrative Routines and Views	SC23-5843-02	No	April, 2009
Call Level Interface Guide and Reference, Volume 1	SC23-5844-02	Yes	April, 2009
Call Level Interface Guide and Reference, Volume 2	SC23-5845-02	Yes	April, 2009
Command Reference	SC23-5846-02	Yes	April, 2009
Data Movement Utilities Guide and Reference	SC23-5847-02	Yes	April, 2009
Data Recovery and High Availability Guide and Reference	SC23-5848-02	Yes	April, 2009
Data Servers, Databases, and Database Objects Guide	SC23-5849-02	Yes	April, 2009
Database Security Guide	SC23-5850-02	Yes	April, 2009
Developing ADO.NET and OLE DB Applications	SC23-5851-02	Yes	April, 2009
Developing Embedded SQL Applications	SC23-5852-02	Yes	April, 2009
Developing Java Applications	SC23-5853-02	Yes	April, 2009
Developing Perl and PHP Applications	SC23-5854-02	No	April, 2009
Developing User-defined Routines (SQL and External)	SC23-5855-02	Yes	April, 2009
Getting Started with Database Application Development	GC23-5856-02	Yes	April, 2009
Getting Started with DB2 installation and administration on Linux and Windows	GC23-5857-02	Yes	April, 2009
Internationalization Guide	SC23-5858-02	Yes	April, 2009

Table 4. DB2 technical information (continued)

Name	Form Number	Available in print	Last updated
Message Reference, Volume 1	GI11-7855-01	No	April, 2009
Message Reference, Volume 2	GI11-7856-01	No	April, 2009
Migration Guide	GC23-5859-02	Yes	April, 2009
Net Search Extender Administration and User's Guide	SC23-8509-02	Yes	April, 2009
Partitioning and Clustering Guide	SC23-5860-02	Yes	April, 2009
Query Patroller Administration and User's Guide	SC23-8507-01	Yes	April, 2009
Quick Beginnings for IBM Data Server Clients	GC23-5863-02	No	April, 2009
Quick Beginnings for DB2 Servers	GC23-5864-02	Yes	April, 2009
Spatial Extender and Geodetic Data Management Feature User's Guide and Reference	SC23-8508-02	Yes	April, 2009
SQL Reference, Volume 1	SC23-5861-02	Yes	April, 2009
SQL Reference, Volume 2	SC23-5862-02	Yes	April, 2009
System Monitor Guide and Reference	SC23-5865-02	Yes	April, 2009
Text Search Guide	SC23-5866-01	Yes	April, 2009
Troubleshooting Guide	GI11-7857-02	No	April, 2009
Tuning Database Performance	SC23-5867-02	Yes	April, 2009
Visual Explain Tutorial	SC23-5868-00	No	
What's New	SC23-5869-02	Yes	April, 2009
Workload Manager Guide and Reference	SC23-5870-02	Yes	April, 2009
pureXML Guide	SC23-5871-02	Yes	April, 2009
XQuery Reference	SC23-5872-02	No	April, 2009

Table 5. DB2 Connect-specific technical information

Name	Form Number	Available in print	Last updated
Quick Beginnings for DB2 Connect Personal Edition	GC23-5839-02	Yes	April, 2009
Quick Beginnings for DB2 Connect Servers	GC23-5840-02	Yes	April, 2009
DB2 Connect User's Guide	SC23-5841-02	Yes	April, 2009

Table 6. Information Integration technical information

Name	Form Number	Available in print	Last updated
Information Integration: Administration Guide for Federated Systems	SC19-1020-01	Yes	March, 2008
Information Integration: ASNCLP Program Reference for Replication and Event Publishing	SC19-1018-02	Yes	March, 2008
Information Integration: Configuration Guide for Federated Data Sources	SC19-1034-01	No	
Information Integration: SQL Replication Guide and Reference	SC19-1030-01	Yes	March, 2008
Information Integration: Introduction to Replication and Event Publishing	SC19-1028-01	Yes	March, 2008

Ordering printed DB2 books

If you require printed DB2 books, you can buy them online in many but not all countries or regions. You can always order printed DB2 books from your local IBM representative. Keep in mind that some softcopy books on the *DB2 PDF Documentation* DVD are unavailable in print. For example, neither volume of the *DB2 Message Reference* is available as a printed book.

Printed versions of many of the DB2 books available on the DB2 PDF Documentation DVD can be ordered for a fee from IBM. Depending on where you are placing your order from, you may be able to order books online, from the IBM Publications Center. If online ordering is not available in your country or region, you can always order printed DB2 books from your local IBM representative. Note that not all books on the DB2 PDF Documentation DVD are available in print.

Note: The most up-to-date and complete DB2 documentation is maintained in the DB2 Information Center at http://publib.boulder.ibm.com/infocenter/db2luw/v9r5.

To order printed DB2 books:

- To find out whether you can order printed DB2 books online in your country or region, check the IBM Publications Center at http://www.ibm.com/shop/publications/order. You must select a country, region, or language to access publication ordering information and then follow the ordering instructions for your location.
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  1. Locate the contact information for your local representative from one of the following Web sites:
     - The IBM directory of world wide contacts at www.ibm.com/planetwide
     - The IBM Publications Web site at http://www.ibm.com/shop/publications/order. You will need to select your country, region, or

language to the access appropriate publications home page for your location. From this page, follow the "About this site" link.

2. When you call, specify that you want to order a DB2 publication.

3. Provide your representative with the titles and form numbers of the books that you want to order. For titles and form numbers, see "DB2 technical library in hardcopy or PDF format" on page 43.

Displaying SQL state help from the command line processor

DB2 returns an SQLSTATE value for conditions that could be the result of an SQL statement. SQLSTATE help explains the meanings of SQL states and SQL state class codes.

To invoke SQL state help, open the command line processor and enter:

```
? sqlstate or ? class code
```

where *sqlstate* represents a valid five-digit SQL state and *class code* represents the first two digits of the SQL state.
For example, ? 08003 displays help for the 08003 SQL state, and ? 08 displays help for the 08 class code.

Accessing different versions of the DB2 Information Center

For DB2 Version 9.5 topics, the DB2 Information Center URL is http://publib.boulder.ibm.com/infocenter/db2luw/v9r5/

For DB2 Version 9 topics, the DB2 Information Center URL is http://publib.boulder.ibm.com/infocenter/db2luw/v9/

For DB2 Version 8 topics, go to the Version 8 Information Center URL at: http://publib.boulder.ibm.com/infocenter/db2luw/v8/

Displaying topics in your preferred language in the DB2 Information Center

The DB2 Information Center attempts to display topics in the language specified in your browser preferences. If a topic has not been translated into your preferred language, the DB2 Information Center displays the topic in English.

- To display topics in your preferred language in the Internet Explorer browser:

  1. In Internet Explorer, click the **Tools** —> **Internet Options** —> **Languages...** button. The Language Preferences window opens.

  2. Ensure your preferred language is specified as the first entry in the list of languages.

     – To add a new language to the list, click the **Add...** button.

       Note: Adding a language does not guarantee that the computer has the fonts required to display the topics in the preferred language.

     – To move a language to the top of the list, select the language and click the **Move Up** button until the language is first in the list of languages.

  3. Clear the browser cache and then refresh the page to display the DB2 Information Center in your preferred language.

- To display topics in your preferred language in a Firefox or Mozilla browser:

1. Select the button in the **Languages** section of the **Tools** —> **Options** —> **Advanced** dialog. The Languages panel is displayed in the Preferences window.
2. Ensure your preferred language is specified as the first entry in the list of languages.
   – To add a new language to the list, click the **Add...** button to select a language from the Add Languages window.
   – To move a language to the top of the list, select the language and click the **Move Up** button until the language is first in the list of languages.
3. Clear the browser cache and then refresh the page to display the DB2 Information Center in your preferred language.

On some browser and operating system combinations, you might have to also change the regional settings of your operating system to the locale and language of your choice.

Updating the DB2 Information Center installed on your computer or intranet server

If you have installed the DB2 Information Center locally, you can obtain and install documentation updates from IBM.

Updating your locally-installed *DB2 Information Center* requires that you:

1. Stop the *DB2 Information Center* on your computer, and restart the Information Center in stand-alone mode. Running the Information Center in stand-alone mode prevents other users on your network from accessing the Information Center, and allows you to apply updates. Non-Administrative and Non-Root *DB2 Information Centers* always run in stand-alone mode. .
2. Use the update feature to see what updates are available. If there are updates that you would like to install, you can use the update feature to obtain and install them.

   Note: If your environment requires installing the *DB2 Information Center* updates on a machine that is not connected to the internet, you have to mirror the update site to a local file system using a machine that is connected to the internet and has the *DB2 Information Center* installed. If many users on your network will be installing the documentation updates, you can reduce the time required for individuals to perform the updates by also mirroring the update site locally and creating a proxy for the update site.
   If update packages are available, use the update feature to get the packages. However, the update feature is only available in stand-alone mode.
3. Stop the stand-alone Information Center, and restart the *DB2 Information Center* on your computer.

Note: On Windows Vista, the commands listed below must be run as an administrator. To launch a command prompt or graphical tool with full administrator privileges, right-click on the shortcut and then select **Run as administrator**.

To update the *DB2 Information Center* installed on your computer or intranet server:

1. Stop the *DB2 Information Center*.
   • On Windows, click **Start** → **Control Panel** → **Administrative Tools** → **Services**. Then right-click on **DB2 Information Center** service and select **Stop**.

- On Linux, enter the following command:

  `/etc/init.d/db2icdv95 stop`

2. Start the Information Center in stand-alone mode.
   - On Windows:
     a. Open a command window.
     b. Navigate to the path where the Information Center is installed. By default, the *DB2 Information Center* is installed in the *Program_files*\IBM\DB2 Information Center\Version 9.5 directory, where *Program_files* represents the location of the Program Files directory.
     c. Navigate from the installation directory to the doc\bin directory.
     d. Run the help_start.bat file:

        `help_start.bat`
   - On Linux:
     a. Navigate to the path where the Information Center is installed. By default, the *DB2 Information Center* is installed in the /opt/ibm/db2ic/V9.5 directory.
     b. Navigate from the installation directory to the doc/bin directory.
     c. Run the help_start script:

        `help_start`

   The systems default Web browser launches to display the stand-alone Information Center.

3. Click the **Update** button ( ). On the right hand panel of the Information Center, click **Find Updates**. A list of updates for existing documentation displays.

4. To initiate the installation process, check the selections you want to install, then click **Install Updates**.

5. After the installation process has completed, click **Finish**.

6. Stop the stand-alone Information Center:
   - On Windows, navigate to the installation directory's doc\bin directory, and run the help_end.bat file:

     `help_end.bat`

     Note: The help_end batch file contains the commands required to safely terminate the processes that were started with the help_start batch file. Do not use `Ctrl-C` or any other method to terminate help_start.bat.
   - On Linux, navigate to the installation directory's doc/bin directory, and run the help_end script:

     `help_end`

     Note: The help_end script contains the commands required to safely terminate the processes that were started with the help_start script. Do not use any other method to terminate the help_start script.

7. Restart the *DB2 Information Center*.
   - On Windows, click **Start** → **Control Panel** → **Administrative Tools** → **Services**. Then right-click on **DB2 Information Center** service and select **Start**.
   - On Linux, enter the following command:

     `/etc/init.d/db2icdv95 start`

The updated *DB2 Information Center* displays the new and updated topics.

DB2 tutorials

The DB2 tutorials help you learn about various aspects of DB2 products. Lessons provide step-by-step instructions.

Before you begin

You can view the XHTML version of the tutorial from the Information Center at http://publib.boulder.ibm.com/infocenter/db2help/.

Some lessons use sample data or code. See the tutorial for a description of any prerequisites for its specific tasks.

DB2 tutorials

To view the tutorial, click on the title.

"pureXML" in *pureXML Guide*
> Set up a DB2 database to store XML data and to perform basic operations with the native XML data store.

"Visual Explain" in *Visual Explain Tutorial*
> Analyze, optimize, and tune SQL statements for better performance using Visual Explain.

DB2 troubleshooting information

A wide variety of troubleshooting and problem determination information is available to assist you in using DB2 database products.

DB2 documentation
> Troubleshooting information can be found in the DB2 Troubleshooting Guide or the Database fundamentals section of the DB2 Information Center. There you will find information on how to isolate and identify problems using DB2 diagnostic tools and utilities, solutions to some of the most common problems, and other advice on how to solve problems you might encounter with your DB2 database products.

DB2 Technical Support Web site
> Refer to the DB2 Technical Support Web site if you are experiencing problems and want help finding possible causes and solutions. The Technical Support site has links to the latest DB2 publications, TechNotes, Authorized Program Analysis Reports (APARs or bug fixes), fix packs, and other resources. You can search through this knowledge base to find possible solutions to your problems.
>
> Access the DB2 Technical Support Web site at http://www.ibm.com/ software/data/db2/support/db2_9/

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Appendix E. Notices

This information was developed for products and services offered in the U.S.A.

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