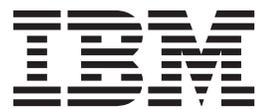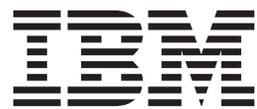IBM DB2 10.1
for Linux, UNIX, and Windows

Getting Started with DB2 Installation and Administration on Linux and Windows

IBM

IBM DB2 10.1
for Linux, UNIX, and Windows

Getting Started with DB2 Installation and Administration on Linux and Windows

IBM

Edition Notice

Contents

Part 1. Installation prerequisites

Chapter 1. Disk and memory requirements

Ensure that an appropriate amount of disk space is available for your DB2®
environment, and allocate memory accordingly.

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 operating systems, 2 GB of free space in the /tmp directory is
recommended.

Memory requirements

Memory requirements are affected by the size and complexity of your database
system, the extent of database activity, and the number of clients accessing your
system. At a minimum, a DB2 database system requires 256 MB of RAM[1]. 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. For IBM® data
server client support, these memory requirements are for a base of five concurrent
client connections. For every additional five client connections, an additional 16
MB of RAM is required.

For DB2 server products, the self-tuning memory manager (STMM) 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.

Paging space requirements

DB2 requires paging, also called swap to be enabled. This configuration is required
to support various functions in DB2 which monitor or depend on knowledge of
swap/paging space utilization. The actual amount of swap/paging space required
varies across systems and is not solely based on memory utilization by application
software. It is only strictly required by DB2 on the Solaris and HP platforms due to
their use of early paging space allocation.

A reasonable minimum swap/paging space configuration for most systems is
25-50% of RAM. Solaris and HP systems with many small databases or multiple
databases tuned by STMM might require a paging space configuration of 1 x RAM
or higher. These higher requirements are due to virtual memory pre-allocated per
database / instance, and retained virtual memory in the case of STMM tuning

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1. DB2 products that run on HP-UX Version 11i for Itanium-based systems require a minimum of 512 MB of RAM.

multiple databases. Additional swap/paging space might be wanted to provision for unanticipated memory overcommitment on a system.

Chapter 2. Windows installation prerequisites

Installation requirements for DB2 database 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. The **db2prereqcheck** command checks whether your system meets the prerequisites for the installation.

DB2 database products are available in several different editions. Some DB2 database products and features are only available on specific operating systems.

Table 1. Windows workstation platforms

Operating System	Prerequisites	Hardware
Windows XP Professional (32-bit and 64-bit) Windows XP Enterprise (32-bit and 64-bit) Windows XP Ultimate (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 7 Professional (32-bit and 64-bit) Windows 7 Enterprise (32-bit and 64-bit) Windows 7 Ultimate (32-bit and 64-bit)	Windows XP Service Pack 3 or later Windows Vista Service Pack 2 Windows 7 Service Pack 1 IBM Data Server Provider for .NET client applications and CLR server-side procedures require .NET 2.0 or later framework run time. 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 64-bit based systems)

Table 2. Windows server platforms

Operating System	Prerequisites	Hardware
Windows 2003 Datacenter Edition (32-bit and 64-bit) and Windows 2003 R2 (32-bit and 64-bit) Windows 2003 Enterprise Edition (32-bit and 64-bit) and Windows 2003 R2 (32-bit and 64-bit) Windows 2003 Standard Edition (32-bit and 64-bit) and Windows 2003 R2 (32-bit and 64-bit)	Service Pack 2 or later. IBM data server provider for .NET client applications and CLR server-side procedures require .NET 2.0 or later 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 64-bit based systems).
Windows Server 2008 Datacenter Edition (32-bit and 64-bit) and Windows Server 2008 R2 (64-bit) Windows Server 2008 Enterprise Edition (32-bit and 64-bit) and Windows Server 2008 R2 (64-bit) Windows Server 2008 Standard Edition (32-bit and 64-bit) and Windows Server 2008 R2 (64-bit)	Service Pack 2 or later. IBM data server provider for .NET client applications and CLR server-side procedures require .NET 2.0 or later framework runtime. 64-bit IBM data server provider for .NET applications are supported.	

Note: DB2 database products support the hardware-enforced Data Execution Prevention (DEP) feature that is built into some Windows operating systems.

Additional software considerations

- Windows Installer 3.0 is required. It is installed by the installer if is it not detected.
- IBM Data Server Provider for .NET client applications and CLR server-side procedures require .NET 2.0 or later framework runtime. In an x64 environment, 32-bit IBM data server provider for .NET applications runs in the WOW64 emulation mode.
- If you plan to use LDAP (Lightweight Directory Access Protocol), 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 database products). Before installation of the Microsoft Active Directory, you must 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 installation launchpad (setup.exe), and to run First Steps (**db2fs**):
  - Firefox 3.0 and later
  - Internet Explorer 7.0 and later
  - Google Chrome
  - Safari 4.0

Setting up Windows elevated privileges before installing a DB2 product (Windows)

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

About this task

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 database product. The role of this person might be only to install DB2 database products or to also administer DB2 database products once installed.

Restrictions

Before 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 database products if prior installations or upgrades were also performed by the same non-Administrator user.
- Non-Administrator users cannot uninstall a DB2 database product. Those non-Administrator users on a Windows Vista (and later) operating system **can** uninstall a DB2 database product.

This procedure uses the Windows Group Policy Editor.

Procedure

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 database product.
    - Identify the user account that will install the DB2 database 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:
    a. Provide read access to the `sqllib\cfg` directory.
    b. 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**.

Results

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 database server products, clients and fix packs.

After DB2 database product 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 **db2iupgrade**.
- The authorization requirements for running the **db2start** or **db2stop** command is defined in the topics **START DATABASE MANAGER** command, and **STOP DATABASE MANAGER** command.

What to do next

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 database 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.

About this task

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

Procedure

1. Click **Start -> Run** and type secpol.msc. On Windows 2008 and Windows Vista (or higher), 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**.

What to do next

If your computer belongs to a Windows domain, the domain user rights can override your local settings. In this case, your Network Administrator must 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
```

Chapter 3. 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. The **db2prereqcheck** command checks whether your system meets the prerequisites for the installation.

DB2 database products are available in several different editions. Some DB2 database products and features are only available on specific operating systems.

If you are planning to install the IBM DB2 pureScale® Feature, different installation prerequisites are required. See the Installing the DB2 pureScale Feature topic.

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® (System i®, System p®, and POWER Systems that support Linux)
* System z®: System z196, System z10®, or System z9®

The minimum supported operating systems for Linux include:
* Red Hat Enterprise Linux (RHEL) 5 Update 6
* Red Hat Enterprise Linux (RHEL) 6
* SUSE Linux Enterprise Server (SLES) 10 Service Pack 3
* SUSE Linux Enterprise Server (SLES) 11 Service Pack 1
* Ubuntu 10.04

For the latest information about supported Linux distributions, see http://www.ibm.com/software/data/db2/linux/validate/.

Note:
* Version 9.7 Fix Pack 2 and later fix packs (and Version 9.8 Fix Pack 2 and later fix packs) include an updated version of IBM Tivoli System Automation for Multiplatforms (SA MP) Base Component that you can use in environments with SLES 11 or POWER7® systems. For more information, see "Installing IBM Tivoli System Automation for Multiplatforms (SA MP) Base Component" or "Upgrading IBM Tivoli System Automation for Multiplatforms (SA MP) Base Component".

Multithreaded architecture limitations

If you are installing a DB2 32-bit database product on a Linux operating system, consider upgrading to a 64-bit operating system and installing the DB2 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 before installing a DB2 database product. 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 about setting and activating these parameters using the **sysctl** command.

Package requirements

The following tables list the package requirements for SLES and RHEL distributions:
- `libpam.so.0` (32-bit) is required for DB2 database servers to run 32-bit non-SQL routines.
- `libaio.so.1` is required for DB2 database servers using asynchronous I/O.
- `libstdc++.so.6` 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 database servers.
compat-libstdc++	Contains `libstdc++.so.6` (not required for Linux on POWER)

The following tables list the package requirements for SUSE Linux and Red Hat distributions for DB2 partitioned database 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 database systems support 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 database system default, the `rsh-server` package must be installed (see following table). More information about **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.
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**.

Package requirements for Red Hat

Directory	Package name	Description
/System Environment/Daemons	nfs-utils	Network File System support package. It allows access to local files from remote computers.

Software considerations

- (Client and Server) To use Kerberos authentication, install the Linux krb5 Kerberos support via the operating system Kerberos packages.
- One of the following browsers is required to view online help and to run First Steps (**db2fs**):
  - Firefox 3.0 and later
  - Google Chrome
  - Safari 4.0
- 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 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 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.

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 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)

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.

Part 2. Installing your DB2 product

Chapter 4. Installing DB2 database servers using the DB2 Setup wizard (Windows)

This task describes how to start the DB2 Setup wizard on Windows. 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:

- Ensure that your system meets installation, memory, and disk requirements.
- If you are planning to use LDAP to register the DB2 server in Windows operating systems Active Directory, extend the directory schema before you install, otherwise you must 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 VS2010 runtime library must be installed before attempting to install a DB2 database product. The VS2010 runtime library is needed on the operating system before the DB2 database product can be installed. The VS2010 runtime library is available from the Microsoft runtime library download website. 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.
- Installing DB2 products from a virtual drive or an unmapped network drive (such as *hostname**sharename* in Windows Explorer) is not supported. Before attempting to install DB2 products, you must map the network drive to a Windows drive letter (for example, Z:).

Restrictions

- You cannot have more than one instance of the DB2 Setup wizard running in any user account.
- The DB2 copy name and the instance name cannot start with a numeric value.The DB2 copy name is limited to 64 English characters consisting of the characters A-Z, a-z and 0-9.
- 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 or Windows 2008, or higher, 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 have the DB2 database product DVD, insert it into the drive. If enabled, the autorun feature automatically starts the DB2 Setup Launchpad. If the autorun does not work, use Windows Explorer to browse the DB2 database product DVD and double-click 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 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 might want to review the installation prerequisites and release notes for late-breaking information.
5. Click **Install a Product** and the Install a Product window displays 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 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 update an existing DB2 copy, to add function to an existing DB2 copy, upgrade an existing DB2 Version 9.5 and Version 9.7 copy, or to install an add-on product.
6. The DB2 Setup wizard determines 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.
7. Sample panels when using the DB2 setup wizard lead you to the installation process. See the related links.

Results

Your DB2 database product is 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 has _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 about 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 2012.log`.

If this is a new DB2 product installation on Vista 64–bit, and you use a 32–bit OLE DB provider, you must manually register the IBMDADB2 DLL. To register this DLL, run the following command:

`c:\windows\SysWOW64\regsvr32 /s c:\Program_Files\IBM\SQLLIB\bin\ibmdadb2.dll`

where *Program_Files* represents the location of the `Program Files` directory.

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 is accessed from the web if the *DB2 Information Center* is not locally installed.

IBM Data Studio can be installed by running the the DB2 Setup wizard

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 64 GB.

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

Important notes when upgrading from Versions 9.5 or 9.7:

- The self tuning memory manager does not increase your overall instance memory limit beyond the license limits.

Chapter 5. Installing DB2 servers using the DB2 Setup wizard (Linux)

This task describes how to start the DB2 Setup wizard on Linux 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:
- Ensure that your system meets installation, memory, and disk requirements.
- Ensure you have a supported browser installed.
- You can install a DB2 database server using either root or non-root authority. For more information about non-root installation, see "Non-root installation overview (Linux and UNIX)" in *Installing 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
- You cannot have more than one instance of the DB2 Setup wizard running in any user account.
- 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.
- For HP-UX 11i V2 on Itanium based HP Integrity Series Systems, users created with Setup Wizard for DB2 instance owner, fenced user, or DAS cannot be accessed with the password specified on DB2 Setup Wizard. After the setup wizard is finished, you need to reset the password of those users. This does not affect the instance or DAS creation with the setup wizard, therefore, you do not need to re-create the instance or DAS.

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 extract and untar the product file.

   a. Extract 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
      ```

      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`) 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 can also 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.

6. Sample panels when using the DB2 setup wizard will lead you to the installation process. See the related links.

   After 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 :

Linux   /opt/ibm/db2/V10.1

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.

IBM Data Studio can be installed by running the the DB2 Setup wizard

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 DB2 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 64 GB.

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

Important notes when upgrading from Versions 9.5 or 9.7:

- If the memory configuration for your Versions 9.5 or 9.7 DB2 database product exceeds the allowed limit, the DB2 database product might not start after upgrading to the current version.
- The self tuning memory manager will not increase your overall instance memory limit beyond the license limits.

Part 3. Verifying your installation

Chapter 6. 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.

Before you begin

- 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.

Procedure

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 can 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.
   ```

What to do next

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.

Chapter 7. Main menu entries for DB2 tools (Linux)

After installation, you can add several DB2 tools to the Main menu.

On Linux operating systems, the following DB2 tools can be added to the Main menu:

- Check for DB2 Updates
- Command Line Processor (CLP)
- Command Line Processor Plus (CLPPlus)
- First Steps

These DB2 tools can be added to the main menu automatically or manually. Main menu entries are created automatically when any of the following DB2 commands are run:

- **db2icrt**
- **db2iupdt**
- **db2nrcfg**
- **db2nrupdt**.

The **db2icrt** and **db2iupdt** commands must be run by root. The **db2nrcfg** and **db2nrupdt** are for non-root install and are run by the instance owner.

To see the menu entries you might need to restart the desktop.

The main menu entries are automatically removed when either of the following commands are run:

- **db2_deinstall** (only removes the menu entries for the DB2 non-root instance when the non-root installation is removed)
- **db2idrop**.

In addition, you can manually create or remove main menu entries by running the following commands:

- **db2addicons** – to add menu entries
- **db2rmicons** – to remove menu entries.

Before running the **db2addicons** command, the DB2 instance environment must be set for the current user. The instance environment can be setup with: *Instance_HOME*/sqllib/db2profile (for Bourne shell and Korn shell users), or *Instance_HOME*/sqllib/db2chsrc (for C shell users), where *Instance_HOME* is the instance owner's home directory.

Part 4. DB2 product licensing

Chapter 8. DB2 license files

There are two types of license files 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. 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 Single Install Option Activation* CD. By default, license keys are not applied during the DB2 database product installation. However, the following products do not have an Activation CD, therefore their license is automatically applied during the installation process: DB2 Express-C and DB2 Connect Personal Edition.

For a list of license files, refer to Table 3 on page 36.

In general, licenses for DB2 database products can be purchased either per processor (priced by processor value unit (PVU)) or by authorized user. There are also limited use virtual server and limited use socket charge metrics for DB2 Express Edition and DB2 Workgroup Server Edition, respectively. The DB2 Storage Optimization Feature is an exception. Since it can be purchased only by PVU (and only if the underlying database system is also licensed by PVU).

If you purchased a DB2 database product as well as separately priced features, 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 would 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 websites 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 website: 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 website: http://www.ibm.com/partnerworld/pwhome.nsf/weblook/index_pub.html
- The DB2 support or fix central websites: If you have not purchased a license key, contact an IBM Sales representative.

After you have obtained the appropriate license keys, apply them before you use the DB2 database product. Applying a license key is also referred to as registering the license key or adding a license. You can keep track of, and differentiate, the DB2 database products and features you have installed on your system, it is recommended that you register the license key for your DB2 database products. 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 the **db2licm** license management tool command.

Table 3. DB2 license files

License file name	DB2 database product or feature
db2aese_c.lic	DB2 Advanced Enterprise Server Edition (CPU option)
db2aese_u.lic	DB2 Advanced Enterprise Server Edition (Authorized User Single Install option)
db2conpe.lic	DB2 Connect Personal Edition (Client devices)
db2consv_as.lic	DB2 Connect Application Server Edition (CPU option)
db2consv_ee.lic	DB2 Connect Enterprise Edition (User option)
db2consv_is.lic	DB2 Connect Unlimited Edition for System i (Managed Processor)
db2consv_zs.lic	DB2 Connect Unlimited Edition for System z (Host Server and MSU)
db2dede.lic	IBM Database Enterprise Developer Edition
db2dpf.lic	DB2 Database Partitioning Feature
db2dsf.lic	DB2 pureScale Feature
db2ese_c.lic	DB2 Enterprise Server Edition (CPU option)
db2ese_u.lic	DB2 Enterprise Server Edition (Authorized User Single Install option)
db2exp_c.lic	DB2 Express Edition (CPU option)
db2exp_s.lic	DB2 Express Edition (Server option)
db2exp_sftl.lic	DB2 Express Edition (Server option Fixed Term License)
db2exp_u.lic	DB2 Express Edition (Authorized User Single Install option)
db2exp_uftl.lic	DB2 Express Edition (Authorized User Single Install Option Fixed Term License)
db2expc_uw.lic	DB2 Express-C (Unwarranted)
db2so.lic	DB2 Storage Optimization Feature
db2wse_c.lic	DB2 Workgroup Server Edition (CPU option)
db2wse_sk.lic	DB2 Workgroup Server Edition (Limited Use Socket Option)
db2wse_u.lic	DB2 Workgroup Server Edition (Authorized User Single Install option)

Table 3. DB2 license files (continued)

License file name	DB2 database product or feature
bwdb2.lic	Base Warehouse Feature for DB2 (PVU option)
ewdb2.lic	Enterprise Warehouse Feature for DB2 (PVU option)
iwaee_c.lic	IBM InfoSphere® Warehouse Advanced Enterprise Edition (PVU option)
iwaee_tb.lic	IBM InfoSphere Warehouse Advanced Enterprise Edition (Terabyte option)
iwadp_tb.lic	IBM InfoSphere Warehouse Advanced Departmental Edition (Terabyte option)
iwdp_sk.lic	IBM InfoSphere Warehouse Departmental Edition (Limited Use Socket Option)
iwebe.lic	IBM InfoSphere Warehouse Enterprise Base Edition (PVU option)
iwde.lic	IBM InfoSphere Warehouse Developer Edition
iwdp_tb.lic	InfoSphere Warehouse Departmental Edition (Terabyte Option)
iwdp_u.lic	IBM InfoSphere Warehouse Departmental Edition (Authorized User Single Install Option)
iwee.lic	IBM InfoSphere Warehouse Enterprise Edition (PVU option)
iwee_tb.lic	InfoSphere Warehouse Enterprise Edition (Terabyte Option)
sam32.lic	IBM Tivoli System Automation for Multiplatforms (SA MP)
isfs.lic	InfoSphere Federation Server
isfs_d.lic	InfoSphere Federation Server Developer Edition
isrs.lic	InfoSphere Replication Server
isrs_d.lic	InfoSphere Replication Server Developer Edition
isep.lic	InfoSphere Data Event Publisher
isep_d.lic	InfoSphere Data Event Publisher Developer Edition

If you have license files that end in _t.lic, they are trial licenses.

Chapter 9. Registering a DB2 database product or feature license key using the db2licm command

Use the **db2licm** command to apply the license entitlement certificate (also referred to as registering a license key).

Before you begin

To complete this task, you must have the appropriate license file (`*.lic`).

To connect to a z/OS® server or a System i server, you must register a DB2 Connect license key. (Retrieve the license file from your Passport Advantage distribution, for example db2conpe.lic, then copy the license file to the license directory under the directory where the driver was installed.)

If you are using DB2 Connect Unlimited Edition for z/OS, then use a server based license key. This one step will prevent the need for client based license keys. For details, see the topic about activating the license key for DB2 Connect Unlimited Edition for System z.

On Windows operating systems, you must belong to the local Administrators or Power Users group to use the **db2licm** command with the **-a** command parameter.

Procedure

- On Windows operating systems, register a DB2 license key by entering the following command:

  db2instance_path\bin\db2licm -a *filename*

  where *db2instance_path* is where the DB2 instance was created and *filename* is the full path name and file name for the license file that corresponds to the product or feature you have purchased.

- On Linux operating systems, register a DB2 license key by entering the following command:

  INSTHOME/sqllib/adm/db2licm -a *filename*

  where *INSTHOME* represents the home directory of the instance owner and *filename* is the full path name and file name for the license file that corresponds to the product or feature you have purchased. The **db2licm** command can also be found in the path where the DB2 database product is installed. For example, /opt/ibm/db2/V10.1/adm on Linux operating systems, if you use the default installation directory.

Chapter 10. 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, run the **db2licm** command and generate a compliance report.

About this task

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

Procedure

1. Verify that you have registered the license keys for your DB2 database products.

   a. Issue the **db2licm -l** command.

   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 typical DB2 product 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 typical DB2 product 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 by issuing the **db2licm** command or querying the ENV_FEATURE_INFO administrative view.

      - 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 used DB2 feature, the compliance report will list the feature as a `"In Violation"`.

Chapter 11. Updating a Trial license

If you installed a DB2 product with a trial license and now want to update to a full license, you must update the product license key.

Before you begin

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

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

Procedure

To update 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 **db2licm** command.

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

Part 5. Appendixes

Appendix A. Installing DB2 products using response files

Response file installation basics

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 the db2dsf.rsp sample response files provided in the db2/*platform*/samples directory, where *platform* refers to the appropriate operating system.
- 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 will be saved by default at this location. By default, response files are saved to: /tmp.

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 9 and response files created in Version 10 have similar formats, there are version limitations as to where response files can be used. For example, any response file generated in DB2 Version 10 can only be used to install a DB2 Version 10 product (for example Version 10.1); the response file cannot be used to install DB2 Version 9. The opposite is also true, where response files generated in DB2 Version 9 cannot be used to install DB2 Version 10. This is primarily caused by mandatory keywords that are new in Version 10.
- On Linux 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.
- 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.
- Response files created with this method cannot be used in the **db2isetup** command **-r** parameter without modification. A response file created using the setup wizard, and used in the **db2isetup** command must be modified to meet the following conditions:
  - must contain the keyword **FILE**
  - must not contain the keywords: **PROD**, **LIC_AGREEMENT**, or **INSTALL_TYPE**.
- 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 database 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, 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 generated by the response file generator, you might need to input user names and passwords.

Creating a response file using the DB2 Setup wizard or the DB2 Instance Setup wizard

You can create a response file using the DB2 Setup wizard or the DB2 Instance Setup wizard. You can save your panel selections from the GUI in a response file without having to actually perform a DB2 database product installation.

Procedure
- To create a response file using the DB2 Setup wizard:
  1. Type the **db2setup** command to launch the DB2 Instance Setup wizard.
  2. On the Select installation, response file creation, or both panel, select the **Save my installation settings in a response file** option. Specify a location where the DB2 Instance Setup wizard will copy the generated response file. Click **Next**.
  3. Proceed through the remaining panels making the appropriate selections.
  4. On the Start copying files and create response file panel, click **Finish** to generate the response file.
- To create a response file using the DB2 Instance Setup wizard:
  1. Type the **db2isetup** command to launch the DB2 Instance Setup wizard.
  2. On the Select installation, response file creation, or both panel, select the **Save my installation settings in a response file** option. Specify a location where the DB2 Instance Setup wizard will copy the generated response file. Click **Next**.
  3. Proceed through the remaining panels making the appropriate selections.
  4. On the Start copying files and create response file panel, click **Finish** to generate the response file.

What to do next

You can now use the generated response file to perform an unattended installation using the same settings.

Appendix B. Checking for DB2 product updates

Checking for DB2 updates

Check for product updates to ensure that you are aware of the available product updates and enhancements for DB2 products.

About this task

During DB2 product installation, the update service is enabled by default. The update service allows you to stay informed of product updates such as:

* Messages about releases and updates of the DB2 products.
* Availability of technical materials such as tutorials, Web cast, and white papers.
* IBM Marketing activities pertinent to your area of interest.

You can access product updates in any of the following ways:

* Using the command line
* Using First Steps
* On Linux operating systems, using the Main Menu.
* On Windows operating systems, using the shortcuts in the Start menu.

Restrictions

* This update service requires an Internet connection.
* On Windows operating systems, if the DB2 product was installed without elevated privileges, the update service is disabled.

Procedure

Access DB2 product updates and enhancements using one of the following ways:

* Using the command line, enter:

      db2updserv

* Using First Steps:
    - You can start First Steps by typing the **db2fs** command.
    - On Windows operating systems, click **Start** and, select **Programs** > **IBM DB2** > [*DB2 Copy Name*] > **Set-up Tools** > **First Steps**.

  Click the **Start Check for Product Updates** button.

* On Windows operating systems, using the shortcuts in the Start menu, click **Start** and, select **Programs** > **IBM DB2** > [*DB2 Copy Name*] > **Information** > **Check for DB2 Updates**.

* On Linux operating systems, click **Main Menu** and, select **IBM DB2** > **Check for DB2 Updates**.

Results

With this update service you can view a list of available DB2 product updates, and learn details about DB2 product updates.

Appendix C. 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 preinstallation 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. The APARLIST.TXT file describes the fixes contained in each fix pack and it is available for download at ftp:// ftp.software.ibm.com/ps/products/db2/fixes/english-us/aparlist/.

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

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 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.

  The single server fix pack image contains DB2 try-and-buy licenses for all DB2 server products. When you select a new DB2 server product to install or a previously installed DB2 server product to update, the try-and-buy licenses are installed. The try-and-buy licenses do not affect any valid licenses already installed in the same DB2 installation path. Regarding DB2 Connect server products, if you run the **db2licm -l** command to query valid licenses, the try-and-buy license for DB2 Connect server product might display as an invalid license. However, if you do not need to use the DB2 Connect functionality, you can ignore the report. To remove the try-and-buy license for DB2 Connect server, use the **db2licm** command.

- 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.

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.

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

  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 be used.

On Linux 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, you must apply both the universal fix pack and the national language fix pack to update the DB2 database products.

Restrictions
- A DB2 Version 10.1 fix pack can only be applied to DB2 Version 10.1 general availability (GA) or DB2 Version 10.1 fix pack 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, before 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 updated to the same fix pack level.
- On Linux operating systems:
  - If you have DB2 database products on a Network File System (NFS), you must ensure the following applications 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 database files. You must ensure no DB2 files are loaded and provide an override option to install the fix pack. 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 before 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, 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 D. Uninstalling your DB2 product

Uninstalling your DB2 database product (Windows)

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

About this task

If you are uninstalling the default DB2 copy, and you have other DB2 copies on your system, use the **db2swtch** command to choose a new default copy before you proceed with the uninstallation. Also, if your DB2 Administration Server (DAS) is running under the copy being removed, move your DAS to a copy that is not being removed. Otherwise, re-create the DAS using the **db2admin create** command after the uninstall, and you reconfigure the DAS for some function to work.

Procedure

To remove your DB2 database product from Windows:

1. Optional: Drop all databases using the **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 database product, you will receive a warning containing a list of processes and services that are holding DB2 DLLs in memory. If you will use Add/Remove Programs to remove your DB2 database product, this step is optional.

3. You have two options for removing your DB2 database product:
   - Add/Remove Programs

     Accessible through the Windows Control Panel, use the Add/Remove Programs window to remove your DB2 database 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 from the *DB2DIR*\bin directory to remove your DB2 database products, features, or languages. Using this command, you can uninstall multiple DB2 database products at the same time using the **/p** parameter. You can use a response file to uninstall DB2 database products, features, or languages using **/u** parameter.

What to do next

Unfortunately, your DB2 database 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 must ONLY be attempted if the previous 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. Before running this command with the **/f** parameter, see the **db2unins** command for details.

Uninstalling your DB2 database product (Linux)

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

About this task

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

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

Procedure

To remove your DB2 database product:

1. Optional: Drop all databases. You can drop databases using 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 *Installing 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 *Installing DB2 Servers* manual.
4. Stop all DB2 instances. Refer to the *Installing DB2 Servers* manual.
5. Remove the DB2 instances, or run the **db2iupdt** command to update the instances to another installation path. To remove the DB2 instances, refer to the *Installing DB2 Servers* manual.
6. Remove the DB2 database products. Refer to the *Installing DB2 Servers* manual.

Stopping the DB2 administration server (Linux)

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

About this task

Important: The DB2 Administration Server (DAS) has been deprecated in Version 9.7 and might be removed in a future release. The DAS is not supported in DB2 pureScale environments. Use software programs that use the Secure Shell protocol for remote administration. For more information, see " DB2 administration server (DAS) has been deprecated" at .

When uninstalling a DB2 product, you must drop the DAS if you are removing your last DB2 copy. If you have other DB2 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.

Procedure

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)

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

About this task

Important: The DB2 Administration Server (DAS) has been deprecated in Version 9.7 and might be removed in a future release. The DAS is not supported in DB2 pureScale environments. Use software programs that use the Secure Shell protocol for remote administration. For more information, see " DB2 administration server (DAS) has been deprecated" at .

If you are removing a DB2 copy, but have other DB2 copies, run the **dasupdt** command from the DB2 copy that you want to have the DB2 DAS associated with.

Restrictions

This task applies only to DB2 database products that were installed with root user authority.

Procedure

To remove the DAS:
1. Log in as a user with root user authority.
2. Stop the DAS. For example:
   db2admin stop
3. Remove the DAS. Enter the following command:
   DB2DIR/instance/dasdrop

   where *DB2DIR* is the location you specified during the DB2 database product installation. The default installation path for Linux is /opt/ibm/db2/V10.1.

Stopping root DB2 instances (Linux)

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

About this task

Procedure

To stop a DB2 instance:
1. Log in as a user with root user 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 database product installation. The default installation path for Linux is `/opt/ibm/db2/V10.1`.

3. Run the 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)

This task explains how to remove some or all of the root instances on your system. Remove DB2 instances only if you are not planning to use your DB2 database products, or if you do not want to upgrade existing instances to a later version of the DB2 database product.

About this task

If you are removing your last DB2 Version 9 copy, you can remove the DB2 instances before you remove your DB2 database 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.

Upgrading requires that both the new and old DB2 database versions are still installed. You cannot upgrade an instance if the DB2 copy it is associated with has been removed.

Restrictions

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

Procedure

To remove an instance:

1. Log in as a user with root user 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 database product installation. The default installation path for Linux is `/opt/ibm/db2/V10.1`.

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 user 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 database products using the db2_deinstall and doce_deinstall commands (Linux)

This task provides steps for removing DB2 database products or DB2 database components using the **db2_deinstall** and **doce_deinstall** commands.

Before you begin

Before you remove DB2 database products from your system, ensure that you have performed all steps outlined in "Uninstalling your DB2 database product (Linux)" on page 56

About this task

This task applies to DB2 database products that were installed with root user authority.

The **db2_deinstall** command removes DB2 database 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.

Restrictions
* You cannot remove DB2 database products using a native operating system utility, such as **rpm** or **SMIT**.
* The **doce_deinstall** command is available only on Linux operating systems (Linux x32 and x64).

Procedure

To remove DB2 database products, features or the *DB2 Information Center* from a specific path:

1. Log in with root user authority.
2. Access the path where the DB2 database products are located.
3. Run one of the following commands:
   * To remove a feature from an installed DB2 database product in the current location, run the **db2_deinstall -F** command from the *DB2DIR*/`install` directory.

- To remove all installed DB2 database products in the current location, run the **db2_deinstall -a** command from the *DB2DIR*/install directory.
- To remove a DB2 database product using a response file, run the db2_deinstall -r *response_file* command from the *DB2DIR*/install directory. You can use a sample response file to uninstall the product. For example, doce_deinstall -r db2un.rsp
- To remove the *DB2 Information Center* in the current location, run the **doce_deinstall -a** from the *DB2DIR*/install directory.
- To remove the *DB2 Information Center* using a response file, run the doce_deinstall -r *response_file* from the *DB2DIR*/install directory. You can use the sample response file to uninstall the Information Center. For example, doce_deinstall -r doceun.rsp

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

Appendix E. Overview of the DB2 technical information

DB2 technical information is available in multiple formats that can be accessed in multiple ways.

DB2 technical information is available through the following tools and methods:
- DB2 Information Center
  - Topics (Task, concept and reference topics)
  - 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 hardcopy 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.

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/e-business/linkweb/publications/servlet/pbi.wss. English and translated DB2 Version 10.1 manuals in PDF format 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	SC27-3864-00	Yes	April, 2012
Administrative Routines and Views	SC27-3865-00	No	April, 2012
Call Level Interface Guide and Reference Volume 1	SC27-3866-00	Yes	April, 2012
Call Level Interface Guide and Reference Volume 2	SC27-3867-00	Yes	April, 2012
Command Reference	SC27-3868-00	Yes	April, 2012
Database Administration Concepts and Configuration Reference	SC27-3871-00	Yes	April, 2012
Data Movement Utilities Guide and Reference	SC27-3869-00	Yes	April, 2012
Database Monitoring Guide and Reference	SC27-3887-00	Yes	April, 2012
Data Recovery and High Availability Guide and Reference	SC27-3870-00	Yes	April, 2012
Database Security Guide	SC27-3872-00	Yes	April, 2012
DB2 Workload Management Guide and Reference	SC27-3891-00	Yes	April, 2012
Developing ADO.NET and OLE DB Applications	SC27-3873-00	Yes	April, 2012
Developing Embedded SQL Applications	SC27-3874-00	Yes	April, 2012
Developing Java Applications	SC27-3875-00	Yes	April, 2012
Developing Perl, PHP, Python, and Ruby on Rails Applications	SC27-3876-00	No	April, 2012
Developing User-defined Routines (SQL and External)	SC27-3877-00	Yes	April, 2012
Getting Started with Database Application Development	GI13-2046-00	Yes	April, 2012

Table 4. DB2 technical information (continued)

Name	Form Number	Available in print	Last updated
Getting Started with DB2 Installation and Administration on Linux and Windows	GI13-2047-00	Yes	April, 2012
Globalization Guide	SC27-3878-00	Yes	April, 2012
Installing DB2 Servers	GC27-3884-00	Yes	April, 2012
Installing IBM Data Server Clients	GC27-3883-00	No	April, 2012
Message Reference Volume 1	SC27-3879-00	No	April, 2012
Message Reference Volume 2	SC27-3880-00	No	April, 2012
Net Search Extender Administration and User's Guide	SC27-3895-00	No	April, 2012
Partitioning and Clustering Guide	SC27-3882-00	Yes	April, 2012
pureXML Guide	SC27-3892-00	Yes	April, 2012
Spatial Extender User's Guide and Reference	SC27-3894-00	No	April, 2012
SQL Procedural Languages: Application Enablement and Support	SC27-3896-00	Yes	April, 2012
SQL Reference Volume 1	SC27-3885-00	Yes	April, 2012
SQL Reference Volume 2	SC27-3886-00	Yes	April, 2012
Text Search Guide	SC27-3888-00	Yes	April, 2012
Troubleshooting and Tuning Database Performance	SC27-3889-00	Yes	April, 2012
Upgrading to DB2 Version 10.1	SC27-3881-00	Yes	April, 2012
What's New for DB2 Version 10.1	SC27-3890-00	Yes	April, 2012
XQuery Reference	SC27-3893-00	No	April, 2012

Table 5. DB2 Connect-specific technical information

Name	Form Number	Available in print	Last updated
DB2 Connect Installing and Configuring DB2 Connect Personal Edition	SC27-3861-00	Yes	April, 2012
DB2 Connect Installing and Configuring DB2 Connect Servers	SC27-3862-00	Yes	April, 2012
DB2 Connect User's Guide	SC27-3863-00	Yes	April, 2012

Displaying SQL state help from the command line processor

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

Procedure

To start 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

Documentation for other versions of DB2 products is found in separate information centers on ibm.com®.

About this task

For DB2 Version 10.1 topics, the *DB2 Information Center* URL is http://publib.boulder.ibm.com/infocenter/db2luw/v10r1.

For DB2 Version 9.8 topics, the *DB2 Information Center* URL is http://publib.boulder.ibm.com/infocenter/db2luw/v9r8/.

For DB2 Version 9.7 topics, the *DB2 Information Center* URL is http://publib.boulder.ibm.com/infocenter/db2luw/v9r7/.

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

For DB2 Version 9.1 topics, the *DB2 Information Center* URL is http://publib.boulder.ibm.com/infocenter/db2luw/v9/.

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

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

A locally installed DB2 Information Center must be updated periodically.

Before you begin

A DB2 Version 10.1 Information Center must already be installed. For details, see the "Installing the DB2 Information Center using the DB2 Setup wizard" topic in *Installing DB2 Servers*. All prerequisites and restrictions that applied to installing the Information Center also apply to updating the Information Center.

About this task

An existing DB2 Information Center can be updated automatically or manually:

- Automatic updates update existing Information Center features and languages. One benefit of automatic updates is that the Information Center is unavailable for a shorter time compared to during a manual update. In addition, automatic updates can be set to run as part of other batch jobs that run periodically.
- Manual updates can be used to update existing Information Center features and languages. Automatic updates reduce the downtime during the update process, however you must use the manual process when you want to add features or languages. For example, a local Information Center was originally installed with both English and French languages, and now you want to also install the German language; a manual update will install German, as well as, update the existing Information Center features and languages. However, a manual update requires you to manually stop, update, and restart the Information Center. The Information Center is unavailable during the entire update process. In the automatic update process the Information Center incurs an outage to restart the Information Center after the update only.

This topic details the process for automatic updates. For manual update instructions, see the "Manually updating the DB2 Information Center installed on your computer or intranet server" topic.

Procedure

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

1. On Linux operating systems,
   a. Navigate to the path where the Information Center is installed. By default, the DB2 Information Center is installed in the `/opt/ibm/db2ic/V10.1` directory.
   b. Navigate from the installation directory to the `doc/bin` directory.
   c. Run the `update-ic` script:
      `update-ic`
2. On Windows operating systems,
   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 10.1` 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 `update-ic.bat` file:
      `update-ic.bat`

Results

The DB2 Information Center restarts automatically. If updates were available, the Information Center displays the new and updated topics. If Information Center updates were not available, a message is added to the log. The log file is located in `doc\eclipse\configuration` directory. The log file name is a randomly generated number. For example, `1239053440785.log`.

Manually 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.

About this task

Updating your locally installed *DB2 Information Center* manually 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. The Workstation version of the DB2 Information Center always runs in stand-alone mode. .

2. Use the Update feature to see what updates are available. If there are updates that you must 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, mirror the update site to a local file system by 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 2008, Windows Vista (and higher), the commands listed later in this section must be run as an administrator. To open a command prompt or graphical tool with full administrator privileges, right-click the shortcut and then select **Run as administrator**.

Procedure

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 **DB2 Information Center** service and select **Stop**.
   - On Linux, enter the following command:
     ```
     /etc/init.d/db2icdv10 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 10.1 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/V10.1` 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 opens to display the stand-alone Information Center.

3. Click the **Update** button ( ). (JavaScript must be enabled in your browser.) On the right panel of the Information Center, click **Find Updates**. A list of updates for existing documentation displays.

4. To initiate the installation process, check that 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 `doc\bin` directory within the installation directory, and run the `help_end.bat` file:
     ```
     help_end.bat
     ```

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

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

7. Restart the *DB2 Information Center*.
   - On Windows, click **Start** > **Control Panel** > **Administrative Tools** > **Services**. Then right-click **DB2 Information Center** service and select **Start**.
   - On Linux, enter the following command:
     ```
     /etc/init.d/db2icdv10 start
     ```

Results

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

DB2 tutorials

The DB2 tutorials help you learn about various aspects of DB2 database 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/db2luw/v10r1/.

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 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.

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 *Troubleshooting and Tuning Database Performance* or the Database fundamentals section of the *DB2 Information Center*, which contains:
>
> - Information about how to isolate and identify problems with DB2 diagnostic tools and utilities.
> - Solutions to some of the most common problem.
> - Advice to help solve other problems you might encounter with your DB2 database products.

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