DB2®

DB2 Connect Version 9

Quick Beginnings for DB2 Connect Personal Edition

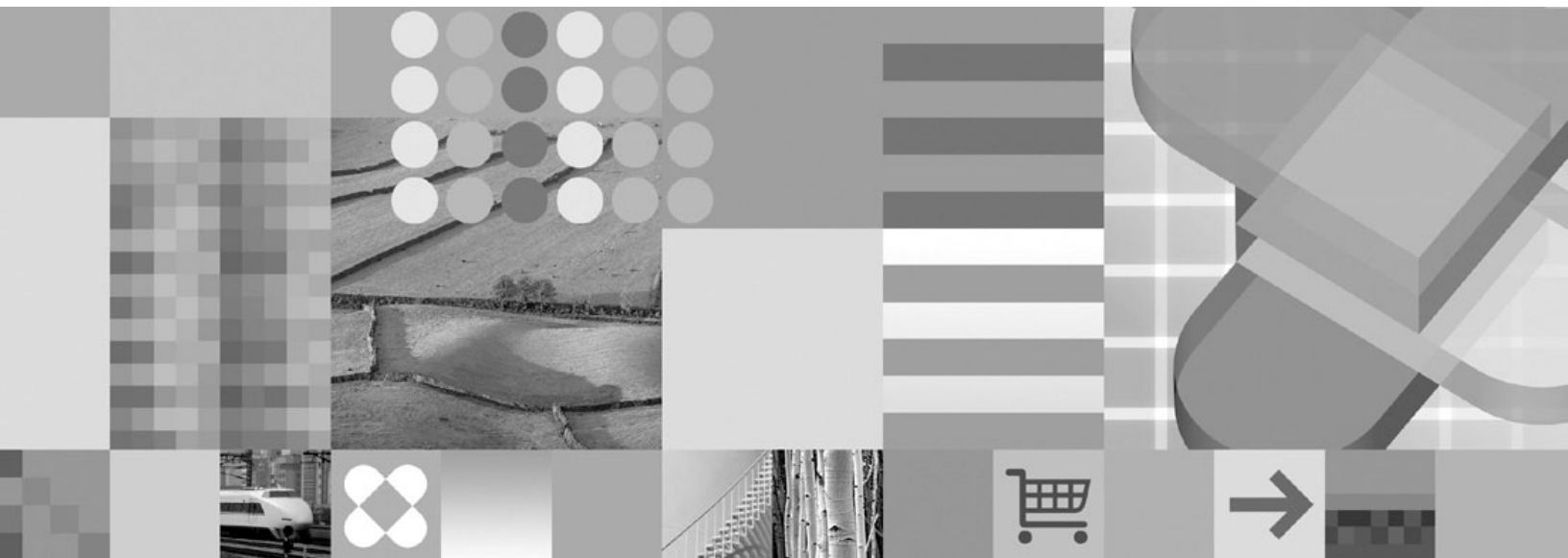DB2.

DB2 Connect Version 9

IBM

Quick Beginnings for DB2 Connect Personal Edition

Before using this information and the product it supports, be sure to read the general information under *Notices*.

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DB2 9 BETA

Contents

Part 1. Introduction to DB2 Connect

DB2 9 BETA

Chapter 1. About DB2 Connect

DB2 Connect™ provides connectivity to mainframe and midrange databases from Linux®, UNIX®, and Windows® based platforms. You can connect to DB2® databases on OS/390® and z/OS®, iSeries™, VSE, and VM. You can also connect to non-IBM databases that comply with the Distributed Relational Database Architecture™ (DRDA®).

DB2 Connect product offerings

DB2 Connect has several connection solutions, including DB2 Connect Personal Edition, and a number of DB2 Connect server products:

- DB2 Connect Enterprise Edition
- DB2 Connect Application Server Edition
- DB2 Connect Unlimited Edition for zSeries™
- DB2 Connect Unlimited Edition for iSeries

For detailed information about DB2 Connect product offerings, see http://www.ibm.com/support/docview.wss?rs=73&uid=swg21219983

Related tasks:

- "Installing a DB2 Connect server product (AIX)" in *Quick Beginnings for DB2 Connect Servers*
- "Installing a DB2 Connect server product (HP-UX)" in *Quick Beginnings for DB2 Connect Servers*
- "Installing a DB2 Connect server product (Linux)" in *Quick Beginnings for DB2 Connect Servers*
- "Installing a DB2 Connect server product (Solaris)" in *Quick Beginnings for DB2 Connect Servers*
- "Installing a DB2 Connect server product (Windows)" in *Quick Beginnings for DB2 Connect Servers*
- "Installing DB2 Connect Personal Edition (Linux)" on page 21
- "Installing DB2 Connect Personal Edition (Windows)" on page 19

Chapter 2. DB2 Connect scenarios

Accessing host or iSeries DB2 data using DB2 Connect Personal Edition

A direct connection without intermediate servers is a very convenient and desirable configuration. This is especially true for situations where the host or iSeries database server supports TCP/IP connectivity. In such situations, each DB2 Connect workstation establishes a direct connection with the host or iSeries database server.

TCP/IP connectivity requires that the host or iSeries database support TCP/IP. The following versions support native TCP/IP connections:

- DB2 UDB for OS/390 and z/OS Version 7.1 or later
- DB2 UDB for iSeries Version 5 Release 1 or later, and
- DB2 Server for VSE & VM Version 7 or later

To connect to an IBM® host or iSeries database server you require a licensed DB2 Connect product. You cannot connect directly to an IBM host or iSeries Data Server using a DB2 client.

Figure 1 on page 6 shows a workstation, with DB2 Connect Personal Edition installed, directly connected to a host or iSeries database server.

DB2
for VSE

DB2
for VM

DB2
for OS/390
and z/OS

S/390, S/370, zSeries

iSeries

DB2 for
iSeries

TCP/IP

DB2 Connect Personal Edition

ODBC	ADO.NET	DB2 CLI	JDBC	SQLJ	Embedded SQL	Perl	PHP	OLE DB

Application 1

Application 2

Application 3

Application 4

Application n
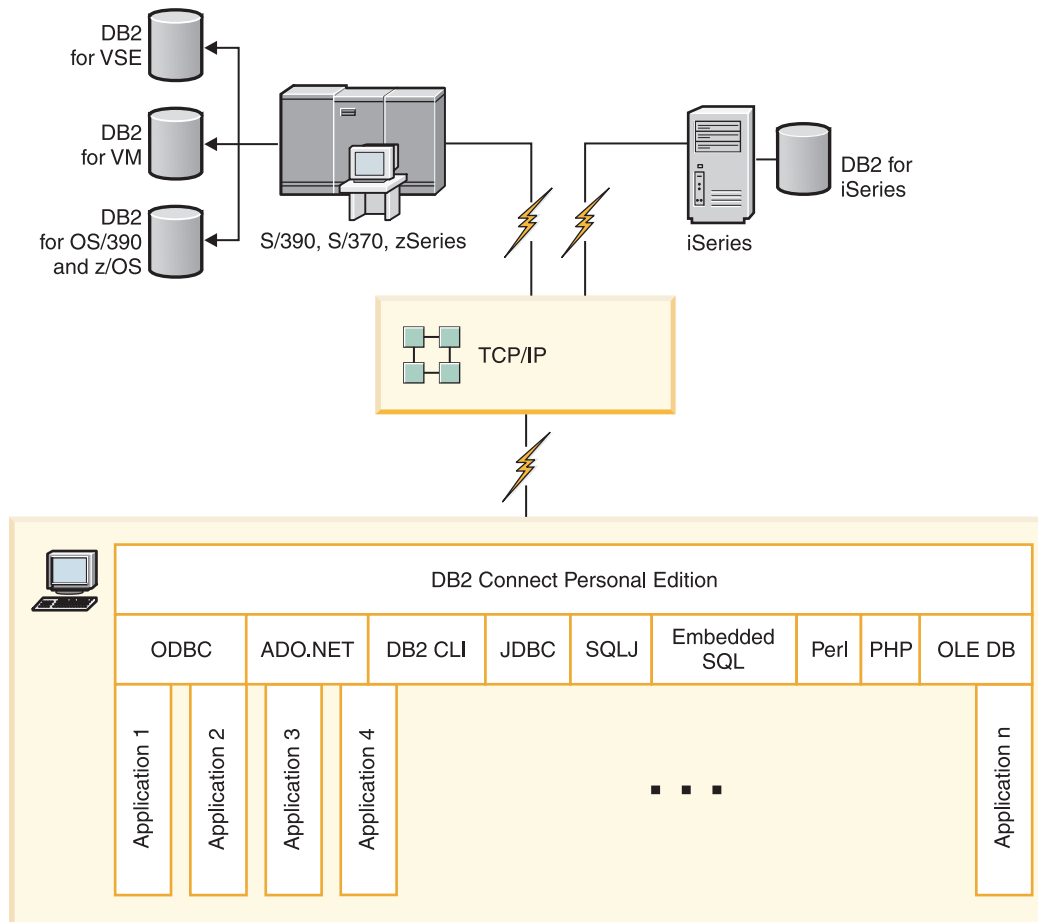
Figure 1. Direct connection between DB2 Connect and a host or iSeries database server

Related concepts:
- "Direct access to host databases" in *DB2 Connect User's Guide*

Managing connections to databases using the Configuration Assistant (Linux and Windows)

The Configuration Assistant (CA) helps you manage your database connections to remote servers. The CA is available as part of the DB2 client. The CA is the preferred method to set up any client to server communications.

Note: In previous releases, the DB2 Administration Tools, such as the CA, were supported on all platforms. As of Version 9, the DB2 Administration Tools are supported only on Windows x86, Windows x64 (AMD64/EM64T), Linux on x86, and Linux on AMD64/EM64T. For all platforms, you can use the DB2 command line processor (CLP) to manage connections.

With the CA, you can:
- Catalog databases so that they can be used by applications. Three methods are available:
  - Use a profile provided by a database administrator to automatically define your connections. Client access is automatically set up for that database.

– Search the network for available databases and select one. Client access is automatically set up for those databases defined in the profile. DB2 Connect Personal Edition cannot search for host or iSeries databases except through a DB2 Connect server that has host or iSeries databases defined.

– Manually configure a connection to a database by entering the required connection parameters.

- Remove cataloged databases, or change the properties of a cataloged database.
- Export and import client profiles that contain database and configuration information for a client.
- Test connections to local or remote databases identified on your system.
- Bind applications to a database by selecting utilities or bind files from a list.
- Add, change, remove CLI/ODBC data sources, and configure CLI/ODBC configuration settings.
- Tune the client configuration parameters on your system. Parameters are logically grouped and suggested settings are provided on the interface as parameters are selected.
- Update the database server password.

Related concepts:
- "Client-to-server communications configuration overview" in *Quick Beginnings for DB2 Clients*

Related tasks:
- "Configuring a database connection manually using the Configuration Assistant" on page 56
- "Configuring database connections using a client profile with the Configuration Assistant" in *Quick Beginnings for DB2 Clients*
- Chapter 14, "Binding database utilities on DB2 Connect," on page 45
- "Configuring a connection to host or iSeries database servers using the CA (Linux and Windows)" on page 37

DB2 Client support for database application development

There are two DB2 clients: the DB2 Client; and the DB2 Runtime Client. Of the two, only the DB2 Client is suitable for database application development.

The DB2 Client includes the following:
- **Precompilers for C/C++, COBOL, and Fortran**, (providing the language is supported for that platform).
- **Embedded SQL application support**, including programming libraries, include files and code samples.
- **ODBC and DB2 Call Level Interface (DB2 CLI) application support**, including programming libraries, include files, and code samples for developing applications which are easily ported to ODBC and compiled with an ODBC SDK. An ODBC SDK is available from Microsoft® for Windows operating systems, and from various other vendors for many of the other supported platforms. On Windows operating systems, the ODBC and CLI driver is installed by default with the DB2 Client, supporting applications developed with the Microsoft ODBC Software Developer's Kit. For all other platforms, the ODBC

and CLI driver can optionally be installed with the DB2 Client, supporting
applications that can be developed with an ODBC SDK for that platform, if one
exists.

- **The IBM DB2 Driver for JDBC and SQLJ**, which includes:
  - JDBC support, for developing Java™ applications with dynamic SQL
  - SQLJ support, for developing Java applications with static SQL
- **An SDK for Java** is shipped with DB2 clients for all supported operating
  systems.
- **ActiveX Data Objects (ADO) and Object Linking and Embedding (OLE)
  automation routines (UDFs and Stored Procedures)** on Windows operating
  systems, including code samples implemented in Microsoft Visual Basic and
  Microsoft Visual C++. Also, code samples with Remote Data Objects (RDO)
  implemented in Microsoft Visual Basic.
- **Object Linking and Embedding Database (OLE DB) table functions** on
  Windows operating systems.
- **C# and Visual Basic .NET applications and CLR .NET routines** on Windows
  operating systems.
- **DB2 Developer Workbench** is an Eclipse-based tool that replaces the
  Development Center from DB2 Universal Database™ (DB2 UDB) for Linux,
  UNIX, and Windows Version 8. Developer Workbench is a comprehensive
  development environment for creating, editing, debugging, deploying, and
  testing DB2 stored procedures and user-defined functions. You can also use
  Developer Workbench to develop SQLJ applications, and create, edit, and run
  SQL statements and XML queries.
- **Interactive SQL** through the Command Editor or Command Line Processor
  (CLP) to prototype SQL statements or to perform ad hoc queries against the
  database.
- **A set of documented APIs** to enable other application development tools to
  implement precompiler support for DB2 directly within their products. For
  example, IBM COBOL on AIX® uses this interface.

Related concepts:

- "Types of clients - DB2 Runtime Client and DB2 Client" in *Quick Beginnings for
  DB2 Clients*

Related reference:

- "Support for elements of the database application development environment" in
  Getting Started with Database Application Development

Chapter 3. Typical steps required to install and configure DB2 Connect Personal Edition

Setting up DB2 Connect Personal Edition is a multi-step process. This topic discusses the typical steps required to install and configure DB2 Connect Personal Edition.

1. Determine how you want to use DB2 Connect in your network.
2. Verify that you have the correct hardware and software prerequisites on both your workstation and the host or iSeries database server.
3. Verify that your host or iSeries database server is configured to accept connections from DB2 Connect.
4. Install your DB2 Connect software. You will use this workstation to configure and verify your host and iSeries connections.

   Note: If you have a computer with a DB2 client installed, you can activate DB2 Connect Personal Edition by registering your DB2 Connect Personal Edition licence to that computer.

5. After installation, establish the connection between DB2 Connect and your host or iSeries database system.

   DB2 Connect can locate and configure all TCP/IP connections for you. You can use the Configuration Assistant (CA) to find the host or iSeries database.
6. Bind the programs and utilities provided with DB2 Connect to your host or iSeries database.
7. Test the host or iSeries connection.
8. You are now ready to use DB2 Connect with all your applications. Workstations that will be used for application development should have the DB2 client installed.
9. If you want to use this workstation to administer DB2 UDB for OS/390 and z/OS, or DB2 Database for Linux, UNIX, and Windows servers, install the DB2 client.

Related tasks:
- Chapter 14, "Binding database utilities on DB2 Connect," on page 45
- "Configuring a connection to host and iSeries database servers using the CLP" on page 39
- "Configuring a connection to host or iSeries database servers using the CA (Linux and Windows)" on page 37
- "Installing DB2 Connect Personal Edition (Linux)" on page 21
- "Installing DB2 Connect Personal Edition (Windows)" on page 19
- "Preparing DB2 Universal Database for OS/390 and z/OS for connections from DB2 Connect" on page 27
- "Testing a database connection using the Configuration Assistant" on page 57
- "Registering a DB2 product or feature license key using the License Center" in *Installation and Configuration Supplement*

Related reference:
- "Installation requirements for DB2 Connect Personal Edition (Linux)" on page 15

- "Installation requirements for DB2 Connect Personal Edition (Windows)" on page 13

Part 2. Installing DB2 Connect

Chapter 4. Installation requirements

Disk and memory requirements

Disk requirements:

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

On Windows, you might require significantly more space on FAT (File Allocation Table) drives with large cluster sizes than with NTFS (New Technology File System) drives.

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

Memory requirements:

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

When determining memory requirements, be aware of the following:
- DB2 products that run on HP-UX Version 11i v2 (B.11.23) for Itanium-based systems require 512 MB of RAM at a minimum.
- For DB2 client support, these memory requirements are for a base of five concurrent client connections. You will need an additional 16 MB of RAM per five client connections.
- Memory requirements are affected by the size and complexity of your database system, as well as by the extent of database activity and the number of clients accessing your system.
- On Linux, SWAP space at least twice as large as RAM is recommended.

Related concepts:
- "Self tuning memory" in *Performance Guide*

Installation requirements for DB2 Connect Personal Edition (Windows)

For the most up-to-date prerequisite information, see http://www.ibm.com/ software/data/db2/db2connect/sysreqs.html.

To install DB2 Connect Personal Edition, the following operating system, software, and communications requirements must be met:

Operating system requirements
    One of:

- Windows XP Professional Edition (32-bit and 64-bit) with Service Pack 2 or later
- Windows 2003 with Service Pack 1 or later:
  - Standard Edition (32-bit and 64-bit)
  - Advanced Edition (32-bit and 64-bit)
  - Datacenter Edition (32-bit and 64-bit)

Software requirements

- MDAC 2.8 is required. The DB2 Setup wizard will install MDAC 2.8 if it is not already installed.
- A browser is required to view online help.

Communication requirements

- TCP/IP is supported and supplied by the operating system.

Windows (64–bit) considerations

- SQL requests sent by remote 32-bit clients from earlier versions are supported.

Related tasks:
- "Installing DB2 Connect Personal Edition (Linux)" on page 21

Related reference:
- "IBM Software Development Kit for Java levels for DB2 products" in *Quick Beginnings for DB2 Servers*

Required user accounts for installation of DB2 Connect Personal Edition (Windows)

If you are installing DB2 Connect Personal Edition product on Windows, you require an installation user account.

The installation user account is the account of the user performing the installation. The installation user account must be defined prior to running the DB2 Setup wizard. The setup user accounts can be defined prior to installation or you can have the DB2 Setup wizard create them for you.

All user account names must adhere to your system naming rules and to DB2 naming rules.

A local or domain user account is required to perform the installation. Normally, the user account must belong to the *Administrators* group on the computer where you will perform the installation.

Alternatively, a non-Administrator user account can be used. This alternative requires that a member of the Windows Administrators group first configure the Windows elevated privileges settings to allow a non-Administrator user account to perform an installation.

The user right "Access this computer from the network" is required for the installation user account.

For domain accounts, to verify user IDs, the installation user ID must belong to the Domain Administrators group on the domain where the accounts are going to be created.

You can also use the built-in Local System account to run the installation for all products.

User rights granted by the DB2 installer:

The DB2 installation program does not grant the Debug Programs user right. The DB2 installer grants the following user rights:
- Act as part of the operating system
- Create token object
- Lock pages in memory
- Log on as a service
- Increase quotas
- Replace a process level token

Extended security on Windows:

DB2 products offer extended Windows security. You can install DB2 Connect Personal Edition with a user ID, but unless that user ID belongs to either the DB2ADMNS or DB2USERS group, that user ID won't be able to run any DB2 commands.

The DB2 installer creates these two new groups. You can either specify a new name during a custom installation or accept the default names.

To enable this security feature, select the **Enable operating system security** check box on the **Enable operating system security for DB2 objects** panel during the DB2 installation. Accept the default values for the DB2 Administrators Group field, and the DB2 Users Group field. The default group names are DB2ADMNS and DB2USERS. If there is a conflict with existing group names, you will be prompted to change the group names. If required, you can specify your own values.

Related concepts:
- Chapter 3, "Typical steps required to install and configure DB2 Connect Personal Edition," on page 9
- "User, user ID and group naming rules" in *Administration Guide: Implementation*

Related tasks:
- "Setting up Windows elevated privileges prior to installing a DB2 product (Windows)" in *Quick Beginnings for DB2 Servers*

Installation requirements for DB2 Connect Personal Edition (Linux)

For the most up-to-date prerequisite information, see http://www.ibm.com/software/data/db2/db2connect/sysreqs.html.

To install DB2 Connect Personal Edition, the following operating system, software, and communications requirements must be met:

Hardware requirements
   Your processor must be one of:

- x86 (Intel® Pentium®, Intel Xeon®, and AMD Athlon)
- x86–64 (Intel EM64T and AMD64)
- POWER™ (any iSeries or pSeries® that support Linux)
- eServer™ zSeries

Distribution requirements

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

You might be required to update your kernel configuration parameters. The kernel configuration parameters are set in `/etc/sysctl.conf`. See the Modifying kernel parameters (Linux) section of the DB2 Information Center. Refer to your operating system manual for information on setting and activating these parameters using the **sysctl** command.

Software requirements

- A browser is required to view online help.
- 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 DB2 Connect or if you want to use any DB2 graphical tools.

Communication requirements

For TCP/IP connectivity, no additional software is required.

Related tasks:

- "Installing DB2 Connect Personal Edition (Linux)" on page 21
- "Mounting the CD-ROM (Linux)" in *Quick Beginnings for DB2 Servers*

Related reference:

- "IBM Software Development Kit for Java levels for DB2 products" in *Quick Beginnings for DB2 Servers*

Chapter 5. Preparing Windows for LDAP

Extending the directory schema (Windows)

If you plan to use the Lightweight Directory Access Protocol (LDAP) directory server feature with Windows 2000 or Windows Server 2003, you should extend the Active Directory schema to contain DB2 object classes and attribute definitions. You should perform this task before you install any DB2 products.

Extending the directory schema ensures that:
- The default DB2 instance, created during the installation, is cataloged as a DB2 node in Active Directory provided the installation user ID had sufficient privileges to write to Active Directory.
- Any databases that the user creates after installation will automatically be cataloged into Active Directory.

If you decide to install your DB2 product and create databases before you extend the directory schema, you will have to manually register the node and catalog the databases.

Prerequisites:

Your Windows user account must have Schema Administration authority.

Procedure:

To extend the directory schema:
1. Log onto the domain controller.
2. Run the **db2schex.exe** program from the installation CD with a user account that has Schema Administration authority. You can run this program without logging off and logging on again, as follows:

       runas /user:MyDomain\Administrator x:\db2\Windows\utilities\db2schex.exe

   where x: represents the CD drive letter.

   When **db2schex.exe** completes, you can proceed with the installation of your DB2 product.

Related reference:
- "Installation requirements for DB2 clients and servers (Windows)" in *Quick Beginnings for DB2 Servers*
- "CATALOG LDAP DATABASE command" in *Command Reference*
- "REGISTER command" in *Command Reference*

Chapter 6. Installation tasks

Installing DB2 Connect Personal Edition (Windows)

Installing DB2 Connect Personal Edition (Windows)

This task describes how to install DB2 Connect Personal Edition on Windows operating systems.

Prerequisites:

Before you launch the DB2 Setup wizard:
- Ensure that your system meets the following requirements:
  - Hardware and software requirements
  - Disk and memory requirements
- If you are installing on Windows and intend to use Lightweight Directory Access Protocol (LDAP), you must extend the directory schema.
- It is recommended that you use an Administrator account to perform the installation. The Administrator account must belong to the local administrator's group on the Windows computer where you are installing your DB2 product and should have the following advanced user rights:
  - Act as part of the operating system
  - Create token object
  - Increase quotas
  - Replace a process level token

  You can perform the installation without advanced user rights, but the setup program might be unable to validate accounts.
- If you want to install DB2 Connect with a non-Administrator account, refer to the topic, Non-Administrator installation of DB2 Connect (Windows).

Procedure:

To install DB2 Connect Personal Edition:
1. Log on to the system as a user with administrator authority.
2. Close all programs so the installation program can update files as required.
3. If you have a computer with a DB2 client installed, you can activate DB2 Connect Personal Edition by registering your DB2 Connect Personal Edition licence to that computer. To install DB2 Connect Personal Edition by running the setup program, follow the remaining steps.
4. Insert the CD into the drive. The auto-run feature automatically starts the DB2 Setup wizard. The DB2 Setup wizard will determine the system language, and launch the setup program for that language. If you want to run the setup program in a different language, or the setup program failed to auto-start, you can run the DB2 Setup wizard manually.
5. The DB2 Launchpad opens. From this window, you can view the installation prerequisites and the release notes, or you can proceed directly to the installation.

6. Once you have initiated the installation, proceed by following the setup program's prompts. Online help is available to guide you through the remaining steps. Click **Help** to invoke the online help. You can click **Cancel** at any time to end the installation.

A log file stores general information and error messages resulting from the install and uninstall activities. The file name of the log follows the format DB2-*<Product Abbreviation>*-*<Date Time>*.log, such as DB2-CPE-10-06-2006_17_23_42.log. By default, the log file is located in the My Documents\DB2LOG directory.

To invoke the DB2 Setup wizard manually:
1. Click **Start** and select the **Run** option.
2. In the **Open** field, enter the following command:

       x:\setup /i *language*

   where:
   - *x:* represents your CD drive
   - *language* represents the territory code for your language (for example, EN for English).
3. Click **OK**.

If you want your DB2 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 DB2 database systems and DB2 related products.

Related concepts:
- "Non-Administrator installation of DB2 Connect (Windows)" on page 20
- Chapter 3, "Typical steps required to install and configure DB2 Connect Personal Edition," on page 9
- "DB2 installation methods" in *Quick Beginnings for DB2 Servers*
- "DB2 Information Center installation options" in *Quick Beginnings for DB2 Servers*

Related tasks:
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" in *Quick Beginnings for DB2 Servers*

Related reference:
- "setup - Install DB2 command" in *Command Reference*
- "Installation requirements for DB2 Connect Personal Edition (Windows)" on page 13
- "Disk and memory requirements" on page 13

Non-Administrator installation of DB2 Connect (Windows)

For a non-Administrator's installation, the account you are logged on as must belong to Power Users group.

Some information about DB2 Connect that must appear in the registry must be entered in the HKEY_CURRENT_USER folder in the registry. Although many items will be stored under the HKEY_LOCAL_MACHINE folder in the registry for non-Administrator installations of DB2 Connect, the environment settings must be changed in HKEY_CURRENT_USER.

System shortcuts must be changed to user shortcuts for the non-Administrator install. Moreover, since services are required to install any of the DB2 Connect products, but cannot be created without administrative authority, services that would be automatically started are run as processes when a non-administrator installs.

The following are installation situations you might encounter in an environment where both administrator and non-administrator installations exist:

- A non-Administrator has installed DB2 Connect, and then an Administrator attempts to install DB2 Connect on the same system. The Administrator will get a message that the product is already installed. The Administrator does have the authority to uninstall and reinstall the product to get around this issue.
- A non-administrator has installed DB2 Connect, and then a second non-Administrator attempts to install DB2 Connect on the same system. In this scenario, the installation will fail, and return an error message that the user must be an Administrator to install the product.
- An Administrator has installed DB2 Connect, and then a non-Administrator attempts to install DB2 Connect on the same system. In this scenario, the install will fail, and return an error message that the user must be an Administrator to install the product. An Administrator always has the authority to uninstall or reinstall.

Related tasks:

- "Installing a DB2 Connect server product (Windows)" in *Quick Beginnings for DB2 Connect Servers*
- "Installing DB2 Connect Personal Edition (Windows)" on page 19

Installing DB2 Connect Personal Edition (Linux)

It is recommended that you use the DB2 Setup wizard to install DB2 Connect Personal Edition on Linux. The DB2 Setup wizard is a Java-based installation tool that automates the installation and configuration of DB2 products. If you prefer not to use this wizard, you can install a DB2 product manually using the db2_install script.

Prerequisites:

Before beginning your installation:

- Ensure that your system meets the following requirements:
  - Hardware, distribution, and software requirements
  - Disk and memory requirements
- You require root authority to perform the installation.
- The DB2 product CD must be mounted on your system.

Procedure:

To install DB2 Connect Personal Edition on Linux:

1. Log on to the system as a user with root authority.
2. If you have a computer with a DB2 client installed, you can activate DB2 Connect Personal Edition by registering your DB2 Connect Personal Edition licence to that computer. To install DB2 Connect Personal Edition by running the setup program, follow the remaining steps.

3. Change to the directory where the CD is mounted by entering the following command:

```
cd /mnt/cdrom
```

where */mnt/cdrom* represents the mount point of the CD.

4. Enter the **./db2setup** command to start the DB2 Setup wizard. You must have X windows running to launch the graphical installer. After a few moments, the IBM DB2 Setup Launchpad opens. From this window, you can view the installation prerequisites and the release notes or you can proceed directly to the installation.

Once you have initiated the installation, proceed through the DB2 Setup wizard installation panels and make your selections. Installation help is available to guide you through the DB2 Setup wizard. Click **Help** to invoke the online help. You can click **Cancel** at any time to end the installation. DB2 files will only be copied to you system once you have clicked **Finish** on the last DB2 Setup wizard installation panel.

The installation of DB2 Connect Personal Edition is complete. The default installation path is `/opt/ibm/db2/V9.1`.

If you want your DB2 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 DB2 database systems and DB2 related products.

Related concepts:
- Chapter 3, "Typical steps required to install and configure DB2 Connect Personal Edition," on page 9
- "DB2 installation methods" in *Quick Beginnings for DB2 Servers*
- "DB2 Information Center installation options" in *Quick Beginnings for DB2 Servers*

Related tasks:
- "Installing the DB2 Information Center using the DB2 Setup wizard (Linux)" in *Quick Beginnings for DB2 Servers*
- "Mounting the CD-ROM (Linux)" in *Quick Beginnings for DB2 Servers*

Related reference:
- "Availability of Asian fonts (Linux)" in *Administration Guide: Planning*
- "Installation requirements for DB2 Connect Personal Edition (Linux)" on page 15
- "Disk and memory requirements" on page 13

Chapter 7. ID management

Adding your user ID to the DB2ADMNS and DB2USERS user groups (Windows)

After successfully completing a DB2 installation, you now have to add users to the DB2ADMNS or the DB2USERS groups to give them access to your DB2 product. The DB2 installer creates two new groups. You can either use a new name or accept the default names. The default group names are DB2ADMNS and DB2USERS.

Prerequisites:
- You must have installed a DB2 product.
- You must have selected the Enable operating system security check box on the Enable operating system security for DB2 object panel during the installation of your DB2 product.

Procedure:

To add users to the appropriate group:
1. Launch the **Computer Management** tool. Click **Start** and **Select -> Settings -> Control Panel -> Administrative Tools -> Computer Management**.
2. Select **Local Users and Groups**.
3. Select **Users**.
4. Select the user you want to add.
5. Click **Properties**.
6. Click the **Member Of** tab.
7. Click **Add**.
8. Select the appropriate group.
9. Click **OK**.

If you did the install and chose not to enable the new security feature you can still do so post-install by running the **db2extsec.exe** command.

Once you enable this security feature using the **db2extsec.exe** command, you have two options for backing out:
1. Run the **db2extsec.exe** command again immediately WITHOUT making any additional changes to the system. If there have been any changes at all made to the system you must use option 2.
2. Add the Everyone group to the DB2ADMNS and DB2USERS groups.

Related concepts:
- "Extended Windows security using DB2ADMNS and DB2USERS groups" in *Administration Guide: Implementation*

Related reference:
- "Required user accounts for installation of DB2 server products (Windows)" in *Quick Beginnings for DB2 Servers*

- "db2extsec - Set permissions for DB2 objects command" in *Command Reference*

Part 3. Preparing host and iSeries databases for DB2 Connect communications

These topics describe the steps required to configure host and iSeries database servers to accept connections from DB2 Connect workstations. These steps must be performed by users who have the necessary system privileges and special expertise, such as your network, system, or DB2 administrator.

For more information on configuring host and iSeries database servers, refer to the DB2 for z/OS installation documentation, available at:

`http://www.ibm.com/software/data/db2/zos/v8books.html`

Also refer to the Distributed Database Programming information available at:

`http://publib.boulder.ibm.com/infocenter/iseries/v5r4/index.jsp?topic=`
`/ddp/rbal1kickoff.htm`

The sample values used in this section match those used elsewhere in this book. When you follow the instructions provided you *must* substitute your own values for elements such as network name and mode name.

Chapter 8. Preparing DB2 for OS/390 and z/OS databases for DB2 Connect communications

Preparing DB2 Universal Database for OS/390 and z/OS for connections from DB2 Connect

This topic provides instructions for establishing TCP/IP network connections between DB2 Connect and DB2 Universal Database for z/OS and OS/390.

If you anticipate that DB2 for OS/390 or z/OS will participate in a multisite update transaction (two-phase commit) then refer to the *Enabling Multisite Updates using the Control Center* topic.

Procedure:

To prepare DB2 Universal Database for z/OS and OS/390 to receive connection requests from DB2 Connect, you need to configure your protocol by:
- Configuring TCP/IP for DB2 Universal Database for OS/390 and z/OS
- Configuring DB2 Universal Database for OS/390 and z/OS

Related tasks:
- "Configuring TCP/IP for DB2 Universal Database for OS/390 and z/OS" on page 27
- "Configuring DB2 Universal Database for OS/390 and z/OS" on page 30
- "Enabling Multisite Updates using the Control Center" in *DB2 Connect User's Guide*

Configuring TCP/IP for DB2 Universal Database for OS/390 and z/OS

This topic describes how to configure TCP/IP communications between your DB2 Connect workstation and DB2 UDB for OS/390 and z/OS Version 7 or later. The instructions assume the following conditions:
- You are connecting to a single host database via TCP/IP. Multiple host connections will be handled in exactly the same way, although the *port number* and *service number* required in each case might be different.
- The target database resides on DB2 UDB for OS/390 and z/OS Version 7 or later.
- All the necessary software prerequisites are installed.
- DB2 clients have been set up as required.

Collecting information:

Before you can use DB2 Connect over a TCP/IP connection, you must collect information about both the host database server and the DB2 Connect server. For each host server that you are connecting to via TCP/IP, you must have the following information:
- The location of the TCP/IP `services` and `hosts` files at the DB2 Connect workstation:

On UNIX and Linux

    /etc/

On Windows XP and Windows Server 2003

    Usually *%SystemRoot%*\system32\drivers\etc\, where *%SystemRoot%* represents the Windows install path directory.

You might want to add the host information to a *domain name server* to avoid maintaining this file on multiple systems.

- The locations of the equivalent files at the target DB2 Universal Database for z/OS and OS/390 host.
- The TCP/IP *port number* defined to DB2 Universal Database for z/OS and OS/390.

    Note: The associated *service name* information is not exchanged between the DB2 Connect workstation and DB2 Universal Database for z/OS and OS/390.
Port number 446 has been registered as the default for communication from a DB2 Connect workstation.

- The TCP/IP addresses and host names for both the host and the DB2 Connect workstation.
- The LOCATION NAME of the DB2 for OS/390 database server.
- The user ID and password to be used when issuing CONNECT requests to the database at the host or iSeries server.

Refer to your local network administrator and your DB2 for OS/390 and z/OS administrator for help getting this information. Use the tables that follow as a worksheet to plan *each* TCP/IP connection between DB2 Connect and a host database server.

Table 1. User Information

Ref.	Description	Sample Value	Your Value
TCP-1	User name	A.D.B.User	
TCP-2	Contact info	(123)-456-7890	
TCP-5	User ID	ADBUSER	
TCP-6	Database type	db2390	
TCP-7	Connection type (must be TCPIP).	TCPIP	TCPIP

Table 2. Network Elements at the Host

Ref.	Description	Sample Value	Your Value
TCP-8	Host name	MVSHOST	
TCP-9	Host IP address	9.21.152.100	
TCP-10	Service name	db2inst1c	
TCP-11	Port number	446	446
TCP-12	LOCATION NAME	NEW_YORK3	
TCP-13	User ID		
TCP-14	Password		

Notes:

1. To obtain the host's IP address TCP-9 , enter at the host:

```
TSO NETSTAT HOME
```

2. To obtain the port number `TCP-11` , look for `DSNL004I` in the DB2 master address space or system log.

Table 3. Network Elements at the DB2 Connect Workstation

Ref.	Description	Sample Value	Your Value
`TCP-18`	Host name	mcook02	
`TCP-19`	IP address	9.21.27.179	
`TCP-20`	Service name	db2inst1c	
`TCP-21`	Port number	446	446

Table 4. DB2 Directory Entries at the DB2 Connect Workstation

Ref.	Description	Sample Value	Your Value
`TCP-30`	Node name	MVSIPNOD	
`TCP-31`	Database name	nyc3	
`TCP-32`	Database alias	mvsipdb1	
`TCP-33`	DCS database name	nyc3	

Configuring the TCP/IP connection:

Use these steps in this section to complete the configuration and make the connection.

Complete the worksheet:

Complete a copy of the worksheet example for each TCP/IP host:
1. Fill in the values to be used for the host name and IP address of the DB2 Universal Database for z/OS and OS/390 host (TCP-8 and TCP-9).
2. Fill in the values to be used for the host name and IP address of the DB2 Connect workstation (TCP-18 and TCP-19).
3. Determine the service name or port number to be used for the connection (TCP-10 or TCP-20, or TCP-11 or TCP-21).
4. Determine the LOCATION NAME of the DB2 for OS/390 and z/OS database server to which you want to connect.
5. Determine the values to be used for user ID and PASSWORD when connecting to the host database.

Update the DB2 Universal Database for z/OS and OS/390 host:

At your zSeries server:
1. Verify the host address or the host name.
2. Verify the port number or the service name.
3. Update the services file with the correct port number and service name if necessary.
4. Update the hosts file (or the Domain Name Server used by the DB2 Universal Database for z/OS and OS/390 system) with the host name and IP address of the DB2 Connect workstation if necessary.
5. Ensure the new definitions are active before attempting to test the connection. Refer to your host network administrator or change control staff if necessary.
6. Check with the DB2 Universal Database for z/OS and OS/390 administrator that you have a valid user ID, password, and database *LOCATION NAME*.

7. PING the DB2 Connect server, using the correct port number if that option is supported by TCP/IP on the host system. For example:

```
ping remote_host_name -p port_number
```

> **Note:** DB2 Connect does not support the PING command when issued from a Version 7 client through a Version 9 gateway to the host.

Support for your zSeries or OS/390 server is available at http://www.ibm.com/servers/eserver/support/zseries/

Related tasks:

- "Configuring a connection to host and iSeries database servers using the CLP" on page 39
- "Configuring a connection to host or iSeries database servers using the CA (Linux and Windows)" on page 37
- "Preparing DB2 Universal Database for OS/390 and z/OS for connections from DB2 Connect" on page 27

Configuring DB2 Universal Database for OS/390 and z/OS

Before you can use DB2 Connect, your DB2 Universal Database for z/OS and OS/390 Administrator must configure DB2 Universal Database for z/OS and OS/390 to permit connections from DB2 Connect workstations. This section indicates the *minimum* updates required to permit a DB2 Connect client to make a connection to the DB2 Universal Database for z/OS and OS/390 database server. For more detailed examples, refer to the DB2 for z/OS installation documentation:

- Version 7 documentation is available at http://www.ibm.com/software/data/db2/zos/v7books.html
- Version 8 documentation is available at http://www.ibm.com/software/data/db2/zos/v8books.html

Recommended maintenance level:

For DB2 UDB for OS/390 and z/OS Version 7, apply the fixes for APARs PQ50016, PQ50017 and PK05198.

See also http://www.ibm.com/servers/eserver/zseries/zos/servicetst/ for the latest Consolidated Service Test.

Related tasks:

- "Configuring TCP/IP for DB2 Universal Database for OS/390 and z/OS" on page 27

Chapter 9. Preparing DB2 UDB for iSeries databases for DB2 Connect communications

Preparing DB2 Universal Database for iSeries for connections from DB2 Connect

DB2 Connect gives remote system applications access to data on your DB2 UDB for iSeries system.

Procedure:

To set up the connection, you need to know the following:

1. The local network name. You can get this information by entering DSPNETA.

2. The local adapter address. You can get this information by entering the WRKLIND command in one of the following ways:

   WRKLIND (*elan)
   > Lists Ethernet adapters

   WRKLIND (*trlan)
   > Lists token ring adapters

   WRKLIND (*all)
   > Lists all adapters

3. The hostname. You can get this information by entering DSPNETA.

4. The TCP/IP port or service name. The default is X'07'6DB (X'07F6C4C2'). The default is always used by DB2 UDB for iSeries. If entering a hexadecimal number is not convenient, an alias is QCNTEDDM.

5. The relational database name. You can get this information by entering DSPRDBDIRE. This will display a list. The line containing *LOCAL in the Remote Location column identifies the RDBNAME which must be defined to the client. If there is no *LOCAL entry, you can add one, or use the system name obtained from the DSPNETA command on the server.

   Here is an example:

```
                     Display Relational Database Directory Entries

 Position to  . . . . . .

 Type options, press Enter.
    5=Display details   6=Print details

                Relational                     Remote
 Option         Database                        Location Text


       _        _____

       _        DLHX                            RCHAS2FA

       _        JORMT2FA                        JORMT2FA

       _        JORMT4FD                        JORMT4FD

       _        JOSNAR7B                        RCHASR7B

       _        RCHASR7B                        *LOCAL

       _        RCHASR7C                        RCHASR7C

       _        R7BDH3SNA                       RCH2PDH3

       _        RCHASDH3                        RCHASDH3
```

When you have obtained these parameters from your iSeries server, enter your
values into the worksheet that follows:

Table 5. Configuration parameters from iSeries

Item	Parameter	Example	Your value
A-1	Local network name	SPIFNET	
A-2	Local adapter address	400009451902	
A-4	Hostname	SYD2101A	
A-5	TCP/IP port or service name	X'07F6C4C2'(default)	
A-6	Relational database name	NEW_YORK3	

For more information, refer to the "DRDA Considerations" section of the *DB2
Server for VSE & VM SQL Reference* (SC09-2989).

Related tasks:

Chapter 10. Preparing DB2 for VM & VSE databases for DB2 Connect communications

Preparing DB2 for VSE & VM for connections from DB2 Connect

For information about how to set up DB2 Server for VSE & VM as an application server, refer to the "DRDA Considerations" section of the *DB2 Server for VSE & VM SQL Reference* (SC09-2989) .

Part 4. Configuring access to host and iSeries databases

After DB2 Connect is installed and the database server is configured to accept communications, you need to establish and fine-tune the connection between the two systems. This section describes how to use the Configuration Assistant (CA) or the DB2 command line processor (CLP) to find, connect, and bind to a database server.

Who Should Read This Section

- Network or system administrators
- Technical personnel installing and configuring a DB2 Connect system

Chapter 11. Using the Configuration Assistant

Configuring a connection to host or iSeries database servers using the CA (Linux and Windows)

This task describes how to connect to a remote database host or iSeries database server from your DB2 Connect workstation using the Configuration Assistant (CA). The CA is a DB2 GUI tool that can be used to configure database connections and other database settings.

Note: In previous releases, the DB2 Administration Tools, such as the CA, were supported on all platforms. As of Version 9, the DB2 Administration Tools are supported only on Windows x86, Windows x64 (AMD64/EM64T), Linux on x86, and Linux on AMD64/EM64T. For all platforms, you can use the DB2 command line processor (CLP) to configuring a connection to a host or iSeries database server.

Your DB2 Connect workstation can be either:

A DB2 client
The DB2 client can connect indirectly to host or iSeries databases through a DB2 Connect server product.

DB2 Connect Personal Edition
You can connect directly to host or iSeries databases using DB2 Connect Personal Edition. You can also connect through a DB2 Connect server product.

Prerequisites:
- The Configuration Assistant must be installed on your DB2 Connect workstation. The Configuration Assistant is available as part of the DB2 client.
- The remote server must be configured to accept inbound client requests. By default, the server installation program detects and configures most protocols on the server for inbound client connections.

Procedure:

The following methods can be used to configure a connection to a database using the CA (refer to the Related tasks at the end of this topic):
- Connecting to a database using a client profile
- Connecting to a database manually using the CA

Related tasks:
- "Configuring a connection to host and iSeries database servers using the CLP" on page 39
- "Configuring a database connection manually using the Configuration Assistant" on page 56
- "Configuring database connections using a client profile with the Configuration Assistant" in *Quick Beginnings for DB2 Clients*
- "Testing a database connection using the Configuration Assistant" on page 57

Chapter 12. Using the CLP

Configuring a connection to host and iSeries database servers using the CLP

You can manually configure your TCP/IP connection between a DB2 Connect server and a host or iSeries database using the DB2 command line processor (CLP).

Prerequisites:

Before you manually configure a TCP/IP connection between DB2 Connect and a host or iSeries database server, ensure that:

- TCP/IP is functional on the DB2 Connect server and host or iSeries system.
- You have identified the following parameter values:
  - Hostname (*hostname*) or IP address (*ip_address*)
  - Connection Service name (*svcename*) or Port number/Protocol (*port_number/tcp*)
  - Target database name (*target_dbname*)
  - Local database name (*local_dcsname*)
  - Node name (*node_name*)

Procedure:

To manually configure TCP/IP communications between your DB2 Connect server and a host or iSeries database:

1. Configure TCP/IP on the DB2 Connect server.
2. Catalog the TCP/IP node.
3. Catalog the host or iSeries database as a Database Connection Service (DCS) database.
4. Catalog the host or iSeries database.
5. Bind utilities and applications to the host or iSeries database server.
6. Test the host or iSeries connection.

Note: Due to the characteristics of the TCP/IP protocol, TCP/IP might not be immediately notified of a partner's failure on another host or iSeries. As a result, a client application accessing a remote DB2 server using TCP/IP, or the corresponding agent at the server, might sometimes appear to be hung. The TCP/IP SO_KEEPALIVE socket option is used to detect when there has been a failure and the TCP/IP connection has been broken.

Related tasks:

- Chapter 14, "Binding database utilities on DB2 Connect," on page 45
- "Configuring a connection to host or iSeries database servers using the CA (Linux and Windows)" on page 37
- "Configuring TCP/IP for DB2 Universal Database for OS/390 and z/OS" on page 27

Related reference:

- "CATALOG DATABASE command" in *Command Reference*
- "CATALOG DCS DATABASE command" in *Command Reference*
- "CATALOG TCPIP/TCPIP4/TCPIP6 NODE command" in *Command Reference*
- "CONNECT (Type 1) statement" in *SQL Reference, Volume 2*

Part 5. Using DB2 Connect

Chapter 13. Running your own applications

You can build and run DB2 applications with a DB2 client installed.

Various types of applications can access DB2 databases:
- Applications developed using the DB2 client that include embedded SQL, APIs, stored procedures, user-defined functions or calls to the DB2 CLI
- ODBC applications
- JDBC applications and applets
- Net.Data® macros containing HTML and SQL

On Windows operating systems, the following can also access DB2 databases:
- ActiveX Data Objects (ADO) implemented in Microsoft Visual Basic and Microsoft Visual C++
- Remote Data Objects (RDO) implemented in Microsoft Visual Basic
- Object Linking and Embedding (OLE) Automation Routines (UDFs and Stored Procedures)
- Object Linking and Embedding Database (OLE DB) table functions

An application on a DB2 client can access a remote database without knowing its physical location. The DB2 client determines the location of the database, manages the transmission of the requests to the database server, and returns the results.

To run a database client application:
1. Ensure the server is configured and running.
2. On the DB2 server, ensure that the database manager is started on the database server to which the application program is connecting. If it is not, you must issue the **db2start** command at the server before starting the application.
3. Ensure that you can connect to the database that the application uses.
4. Bind the utilities and the applications to the database.
5. Run the application program.

Related concepts:
- "Supported database application programming interfaces" in *Getting Started with Database Application Development*

Related tasks:
- "Setting up the CLI environment" in *Call Level Interface Guide and Reference, Volume 1*
- "Setting up the UNIX ODBC environment" in *Call Level Interface Guide and Reference, Volume 1*
- "Setting up the Windows CLI environment" in *Call Level Interface Guide and Reference, Volume 1*

Related reference:
- "DB2 Client support for database application development" on page 7

DB2 9 BETA

Chapter 14. Binding database utilities on DB2 Connect

You must bind the database utilities (import, export, reorg, the Command Line Processor) and DB2 CLI bind files to each database before they can be used with that database. In a network environment, if you are using multiple clients that run on different operating systems or are at different versions or service levels of DB2, you must bind the utilities once for each operating system and DB2-version combination.

Binding a utility creates a *package*, which is an object that includes all of the information that is needed to process specific SQL statements from a single source file.

The bind files are grouped together in different `.lst` files in the `bnd` directory, under the installation directory (typically `sqllib` for Windows). Each file is specific to a server.

Procedure:

Binding to host or iSeries databases

To bind the utilities and applications to the host or iSeries database server, connect to the host or iSeries server and use the following example as a template:

```
connect to dbalias user userid using password
bind path/bnd/@ddcsmvs.lst blocking all sqlerror continue
        messages mvs.msg grant public
connect reset
```

where *path* corresponds to the *DB2PATH* registry value.

Binding to DB2 databases

How you bind the database utilities to a database depends on your workstation's operating system:

- Using the Configuration Assistant:
    1. Start the Configuration Assistant (CA).
    2. Select the database to which you want to bind the utilities.
    3. Right click and select **Bind**.
    4. Select the utility or files to bind.
    5. Add any desired bind options.
    6. Enter a user ID and password to connect to the database. The user ID must have the authority to bind new packages against the database. Click **Bind**.
- Use the command line processor:
    1. Change to the `bnd` directory, which is `x:\sqllib\bnd`, where x: represents the drive where you installed DB2.
    2. To connect to the database, enter the following commands in the Command Center or the Command Line Processor:
       ```
       connect to database_alias
       ```
       where *database_alias* represents the alias of the database to which you want to connect.

3. Enter the following commands in the Command Center or the Command Line Processor:

```
"bind @db2ubind.lst messages bind.msg grant public"
"bind @db2cli.lst messages clibind.msg grant public"
```

In this example, bind.msg and clibind.msg are the output message files, and EXECUTE and BINDADD privileges are granted to *public*.

4. Reset the connection to the database by entering the following command:

```
connect reset
```

Notes:

1. The db2ubind.lst file contains the list of bind (.bnd) files required to create the packages for the database utilities. The db2cli.lst file contains the list of bind (.bnd) files required to create packages for the DB2 CLI and the DB2 ODBC driver.

2. Binding might take a few minutes to complete.

3. If you have BINDADD authority, the first time you use the DB2 CLI or ODBC driver, the DB2 CLI packages will be bound automatically. If the applications that you are using require binding to the database, you can use the Configuration Assistant's Bind facility, or the command line processor, to perform the bind action.

Related reference:

- "BIND command" in *Command Reference*
- "DB2 CLI bind files and package names" in *Call Level Interface Guide and Reference, Volume 1*

Chapter 15. Further reading

For further reading, please refer to the *DB2 Connect User's Guide*, which covers topics such as:

- Distributed Relational Database Architecture (DRDA)
- DB2 Connect scenarios
- Updating database directories
- Security
- Binding applications and utilities
- Multisite updates
- SQLCODE mapping
- Database system monitor
- Performance
- Connection pooling
- Connection concentrator
- DB2 Connect Sysplex support
- Connecting with WebSphere® Information Integrator

For 3-tier environments where host data is accessed from clients, you can find information about installing and configuring DB2 clients in the *Quick Beginnings for DB2 clients* book.

Part 6. Reference

Chapter 16. Uninstalling DB2 Connect

Uninstalling your DB2 product (Windows)

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

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

Procedure:

To remove your DB2 product from Windows:

1. Drop all databases. You can drop databases using the Control Center or **drop database** command. If you drop your databases, all of your data will be gone.
2. Stop all DB2 processes and services. This can be done through the Windows Services panel or by issuing the **db2stop** command. If DB2 services and processes are not stopped before attempting to remove your DB2 product, you will receive a warning containing a list of processes and services that are holding DB2 DLLs in memory.
3. You have two options for removing your DB2 product:

   Add/Remove Programs

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

   db2unins command

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

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

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

Related tasks:

- "Uninstalling your DB2 product (Linux and UNIX)" on page 52
- "Uninstalling a DB2 product using a response file (Windows)" in *Installation and Configuration Supplement*
- "Changing the Default DB2 copy after installation (Windows)" in *Administration Guide: Implementation*

Related reference:
- "db2swtch - Switch default DB2 copy command" in *Command Reference*
- "db2unins - Uninstall DB2 database product command" in *Command Reference*
- "DROP DATABASE command" in *Command Reference*

Uninstalling your DB2 product (Linux and UNIX)

This task provides steps for removing a DB2 product from your Linux or UNIX operating system. This task is not required to install a new version of a DB2 product. Each version of a DB2 product on Linux or UNIX has a different installation path and can therefore coexist on the same computer.

Procedure:

To remove your DB2 product:
1. Optional: Drop all databases. You can drop databases using the Control Center or the **drop database** command. Database files remain intact on your file systems when you drop an instance without dropping databases first.
2. Stop the DB2 Administration Server.
3. Remove the Administration Server.
4. Stop DB2 instances.
5. Remove DB2 instances.
6. Remove DB2 products.

Related concepts:
- "DB2 Administration Server" in *Administration Guide: Implementation*

Related tasks:
- "Stopping the DB2 administration server (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*
- "Removing the DB2 administration server (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*
- "Stopping DB2 instances (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*
- "Removing DB2 instances (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*
- "Removing DB2 products using the db2_deinstall or doce_deinstall command (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*
- "Uninstalling your DB2 product (Windows)" on page 51

Related reference:
- "DROP DATABASE command" in *Command Reference*

Part 7. Appendixes

Appendix A. Configuring and testing database connections using the Configuration Assistant

Configuring a database connection by searching the network using the Configuration Assistant

You can use the Configuration Assistant (CA) to search a network for databases.

Prerequisites:

Before you configure a database connection by searching the network:
- Ensure that you have a valid DB2 user ID.
- If you are configuring a connection from a system that has a DB2 Server or DB2 Connect server product installed, ensure that you have a user ID with SYSADM or SYSCTRL authority for the instance.

Restrictions:

The search method feature may be unable to detect a remote system if:
- The DB2 Administration Server (DAS) is not running on the remote system.
- The search times out. By default, the search will scan the network for 1 second; this may not be long enough to detect the remote system. You can set the DB2DISCOVERYTIME registry variable to specify a longer period of time.
- The network that the search is running on is configured so that the search does not reach the remote system desired.

The following points apply to cases where you want to explicitly configure an IPv6 address on a network that supports IPv6:
- The system must be listed under **Known Systems**.
- Only the Configuration Assistant Advanced View supports explicitly configure an IPv6 connection.

Procedure:

To configure a database connection by searching the network:
1. Log on to the system with a valid DB2 user ID.
2. Start the CA. The CA can be started from the Start menu on Windows or using the **db2ca** command on both Windows and UNIX systems.
3. On the CA menu bar, under **Selected**, choose **Add Database Using Wizard**. The **Add Database** Wizard opens.
4. Select the **Search the network** radio button and click **Next**.
5. Double-click on the folder beside **Known Systems** to list all the systems known to your client or double-click on the folder beside **Other Systems** to list all the systems on the network.

   If no systems are listed, you can click **Add System** to specify one. Once you add a system, it will appear in the **Known Systems** list.
6. Expand the entries for the system you are interested in until you see the database you want to add. Select the database. Click **Next**.

7. Type a local database alias name in the **Database alias** field and optionally type a comment that describes this database in the **Comment** field.

8. If you are planning to use ODBC, register this database as an ODBC data source. ODBC must be installed to perform this operation.

9. Click **Finish**. You can now use the database you added. Click **Close** to exit the CA.

Related concepts:

- "Client-to-server communications configuration overview" in *Quick Beginnings for DB2 Clients*

Related tasks:

- "Configuring a database connection manually using the Configuration Assistant" on page 56
- "Testing a database connection using the Configuration Assistant" on page 57

Configuring a database connection manually using the Configuration Assistant

If you have the information for the database you want to connect to and the server upon which it resides, you can manually enter all of the configuration information. This method is analogous to entering commands using the command line processor, however, the parameters are presented graphically.

Prerequisites:

Before you configure a connection to a database manually using the Configuration Assistant (CA):

- Ensure that you have a valid DB2 user ID for the database you want to connect to.
- If you are configuring a connection from a system that has a DB2 server or DB2 Connect server product installed, ensure that you have a user ID with SYSADM or SYSCTRL authority for the database manager instance.

Procedure:

To configure a connection to a database manually using the CA:

1. Log on to the system with a valid DB2 user ID.
2. Start the CA. The CA can be started from the Start menu on Windows or using the **db2ca** command.
3. On the CA menu bar, under **Selected**, choose **Add Database Using Wizard**.
4. Select the **Manually configure a connection to a database** radio button and click **Next**.
5. If you are using Lightweight Directory Access Protocol (LDAP), select the radio button that corresponds to the location where you want DB2 directories to be maintained. Click **Next**.
6. Select the radio button that corresponds to the protocol that you want to use from the **Protocol** list. (Note: While APPC, APPN, or NetBIOS might still appear as options, they are no longer supported.)

   If DB2 Connect is installed on your system and you select TCP/IP, you have the option to select **The database physically resides on a host or OS/400®**

system. If you select this check box, you have the option of selecting the type of connection that you want to make to the host or OS/400 database:

- To make a connection through a DB2 Connect gateway, select the **Connect to the server via the gateway** radio button.
- To make a direct connection, select the **Connect directly to the server** radio button.

Click **Next**.

7. Type the required communication protocol parameters and click **Next**.
8. Type the database alias name of the remote database that you want to add in the **Database name** field and a local database alias name in the **Database alias** field.

   If you are adding a host or OS/400 database, type the location name for an OS/390 or z/OS database, the RDB name for an OS/400 database, or the DBNAME for a VSE or VM database in the **Database name** field. Optionally, you can add a comment that describes this database in the **Comment**.

   Click **Next**.
9. If you are planning to use ODBC, register this database as an ODBC data source. Ensure that ODBC is installed before performing this operation. Click **Next**.
10. In the **Specify the node options** window, select the operating system, and type the remote instance name for the database system you want to connect to.
11. In the **Specify the system options** window, ensure that system name, host name, and operating system are correct. The information on this panel is used to configure the administration node. You can optionally enter a comment. Click **Next**.
12. In the **Specify the security options** window, specify the security option that will be used for authentication.
13. Click **Finish**. You can now use this database. Select the **Exit** menu action to close the CA.

Related concepts:

- "Client-to-server communications configuration overview" in *Quick Beginnings for DB2 Clients*

Related tasks:

- "Testing a database connection using the Configuration Assistant" on page 57

Testing a database connection using the Configuration Assistant

Your database connection should be tested after you configure it.

Procedure:

To test a database connection:

1. Start the **Configuration Assistant**.
2. Highlight the database in the details view and select **Test Connection** from the **Selected** menu. The Test Connection window opens.
3. Select one or more types of connection that you would like to test (**CLI** is the default). You can test more than one type at the same time. Enter a valid user

ID and password for the remote database and click **Test Connection**. If the connection is successful, a message confirming the connection appears on the Results page.

If the connection test failed, you will receive a help message. To change any settings you may have incorrectly specified, select the database in the details view and select **Change Database** from the **Selected** menu item.

Related concepts:

- "Client-to-server communications configuration overview" in *Quick Beginnings for DB2 Clients*

Related tasks:

- "Configuring a database connection by searching the network using the Configuration Assistant" on page 55
- "Configuring a database connection manually using the Configuration Assistant" on page 56

Appendix B. Language Support

Changing the DB2 interface language (Windows)

The interface language of DB2 is the language that appears in messages, help, and graphical tool interfaces. When installing DB2, you have the option of installing support for one or more languages. If, at some time after installation, you want to change the interface language for DB2 to one of the other installed interface languages, use the steps outlined in this task.

Do not confuse languages supported by DB2 with languages supported by the DB2 interface. Languages supported by DB2, that is, languages that *data* can exist in, are a superset of languages supported by the DB2 interface.

Prerequisites:

The DB2 interface language you want to use must be installed on your system. DB2 interface languages are selected and installed when you install DB2 using the DB2 Setup wizard. If you change the interface language of DB2 to a supported interface language that has not been installed, the DB2 interface language will default to the operating system language first, and if that is not supported, English.

Procedure:

Changing the interface language for DB2 on Windows requires that you change the default language setting for your Windows operating system.

To change the DB2 interface language on Windows:
1. Through the Control Panel on your Windows operating system, select **Regional Options**.
2. In the Regional Options dialog window, change the default language setting for the system to the language in which you want to interface with DB2.

Refer to your operating system help for additional information about changing the default system language.

Related tasks:
- "Displaying topics in your preferred language in the DB2 Information Center" on page 70

Related reference:
- "Supported DB2 interface languages" on page 61
- "Supported territory codes and code pages" in *Administration Guide: Planning*

Changing the DB2 interface language (Linux and UNIX)

The interface language of the DB2 product is the language that appears in messages, help, and graphical tool interfaces. When installing your DB2 product, you have the option of installing support for one or more languages. If, at some time after installation, you want to change the interface language to one of the other installed interface languages, use the steps outlined in this task.

Do not confuse languages supported by the DB2 product with languages supported by the DB2 interface. Languages supported by the DB2 product, that is, languages that *data* can exist in, are a superset of languages supported by the DB2 interface.

Prerequisites:

Support for the DB2 interface language you want to use must be installed on your system. DB2 interface language support is selected and installed when you install DB2 using the DB2 Setup wizard. If you change the interface language of the DB2 product to a supported interface language that has not been installed, the DB2 interface language will default to the operating system language first, and if that is not supported, English.

DB2 interface language support is selected and installed when you install your DB2 product using the DB2 Setup wizard or by using the National Language Package.

Procedure:

To check which public locales are available in your system, run the **$ locale -a** command.

To change the DB2 interface language, set the LANG environment variable to the desired locale.

For bourne (sh), korn (ksh), and bash shells:

```
LANG=<locale>
export LANG
```

For C shell:

```
setenv LANG <locale>
```

For example, to interface with the DB2 product in French, you must have the French language support installed and you must set the LANG environment variable to a French locale, for example, fr_FR.

Related tasks:
- "Displaying topics in your preferred language in the DB2 Information Center" on page 70

Related reference:
- "Supported DB2 interface languages" on page 61
- "Supported territory codes and code pages" in *Administration Guide: Planning*

Supported DB2 interface languages

DB2 language support for DB2 interfaces can be categorized into server group languages and client group languages. Server group languages will translate most messages, help, and DB2 graphical interface elements. Client group languages will translate the DB2 Runtime Client component, which will include most messages and certain help documentation.

Server group languages include: Brazilian Portuguese, Czech, Danish, Finnish, French, German, Italian, Japanese, Korean, Norwegian, Polish, Russian, Simplified Chinese, Spanish, Swedish, and Traditional Chinese.

Client group languages include: Arabic, Bulgarian, Croatian, Dutch, Greek, Hebrew, Hungarian, Portuguese, Romanian, Slovak, Slovenian, and Turkish.

Do not confuse languages supported by the DB2 product with languages supported by the DB2 interface. Languages supported by DB2 product that is, languages that *data* can exist in, are a superset of languages supported by the DB2 interface.

Related tasks:
- "Changing the DB2 interface language (Linux and UNIX)" on page 60
- "Changing the DB2 interface language (Windows)" on page 59
- "Capturing error and diagnostic information during migration" in *Migration Guide*

Related reference:
- "Conversion table files for euro-enabled code pages" in *Administration Guide: Planning*
- "Conversion tables for code pages 923 and 924" in *Administration Guide: Planning*
- "National language versions" in *Administration Guide: Planning*
- "Supported territory codes and code pages" in *Administration Guide: Planning*

Language identifiers for running the DB2 Setup wizard in another language

If you want to run the DB2 Setup wizard in a language different from the default language on your computer, you can start the DB2 Setup wizard manually, specifying a language identifier. The language must be available on the platform where you are running the installation.

Table 6. Language identifiers

Language	Language identifier
Arabic (available on Windows only)	ar
Brazilian Portuguese	br
Bulgarian	bg
Chinese, Simplified	cn
Chinese, Traditional	tw
Croatian	hr
Czech	cz

Table 6. Language identifiers (continued)

Language	Language identifier
Danish	dk
Dutch	nl
English	en
Finnish	fi
French	fr
German	de
Greek	el
Hungarian	hu
Italian	it
Japanese	jp
Korean	kr
Norwegian	no
Polish	pl
Portuguese	pt
Romanian	ro
Russian	ru
Slovak	sk
Slovenian	sl
Spanish	es
Swedish	se
Turkish	tr

Related reference:
- "Displaying the db2setup command in your national language" in *Quick Beginnings for DB2 Servers*

Conversion of character data

When character data is transferred between machines, it must be converted to a form that the receiving machine can use.

For example, when data is transferred between a DB2 Connect server and a host or iSeries database server, it is usually converted from a server code page to a host CCSID, and vice versa. If the two machines use different code pages or CCSIDs, code points are mapped from one code page or CCSID to the other. This conversion is always performed at the receiver.

Character data sent *to* a database consists of SQL statements and input data. Character data sent *from* a database consists of output data. Output data that is interpreted as bit data is not converted. For example, data from a column declared with the FOR BIT DATA clause. Otherwise, all input and output character data is converted if the two machines have different code pages or CCSIDs.

For example, if DB2 Connect is used to access data, the following happens:
1. DB2 Connect sends an SQL statement and input data to OS/390 or z/OS.

2. DB2 Universal Database for z/OS and OS/390 converts the data to the host server's code page and then processes the data.
3. DB2 Universal Database for z/OS and OS/390 sends the result back to the DB2 Connect server.
4. DB2 Connect converts the result to the code page of the user's environment.

Refer to the Supported territory codes and code pages topic in the National language support appendix of the *Administration Guide: Planning* for the supported conversions between code pages on the DB2 Connect server and CCSIDs on the host or iSeries server.

For bidirectional languages, a number of special "BiDi CCSIDS" have been defined by IBM and are supported by DB2 Connect.

If the bidirectional attributes of the database server are different from those of the client you can use these special CCSIDS to manage the difference.

Related concepts:
- "Character-conversion guidelines" in *Administration Guide: Planning*

Related reference:
- "Supported territory codes and code pages" in *Administration Guide: Planning*

Appendix C. DB2 Database technical information

Overview of the DB2 technical information

DB2 technical information is available through the following tools and methods:
- DB2 Information Center
  - Topics
  - Help for DB2 tools
  - Sample programs
  - Tutorials
- DB2 books
  - PDF files (downloadable)
  - PDF files (from the DB2 PDF CD)
  - printed books
- Command line help
  - Command help
  - Message help
- Sample programs

IBM periodically makes documentation updates available. If you access the online version on the DB2 Information Center at ibm.com®, you do not need to install documentation updates because this version is kept up-to-date by IBM. If you have installed the DB2 Information Center, it is recommended that you install the documentation updates. Documentation updates allow you to update the information that you installed from the *DB2 Information Center CD* or downloaded from Passport Advantage as new information becomes available.

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

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

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We value your feedback on the DB2 documentation. If you have suggestions for how we can improve the DB2 documentation, send an e-mail 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 e-mail 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.

Related concepts:
- "Features of the DB2 Information Center" in *Online DB2 Information Center*
- "Sample files" in *Samples Topics*

Related tasks:
- "Invoking command help from the command line processor" in *Command Reference*
- "Invoking message help from the command line processor" in *Command Reference*
- "Updating the DB2 Information Center installed on your computer or intranet server" on page 71

Related reference:
- "DB2 technical library in PDF format" on page 66

DB2 technical library in PDF format

The following tables describe the DB2 library available from the IBM Publications Center at www.ibm.com/shop/publications/order.

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

The information in these books is fundamental to all DB2 users; you will find this information useful whether you are a programmer, a database administrator, or someone who works with DB2 Connect or other DB2 products.

Table 7. DB2 technical information

Name	Form Number	Available in print
Administration Guide: Implementation	SC10-4221	Yes
Administration Guide: Planning	SC10-4223	Yes
Administrative API Reference	SC10-4231	Yes
Administrative SQL Routines and Views	SC10-4293	No
Call Level Interface Guide and Reference, Volume 1	SC10-4224	Yes
Call Level Interface Guide and Reference, Volume 2	SC10-4225	Yes
Command Reference	SC10-4226	No
Data Movement Utilities Guide and Reference	SC10-4227	Yes
Data Recovery and High Availability Guide and Reference	SC10-4228	Yes
Developing ADO.NET and OLE DB Applications	SC10-4230	Yes
Developing Embedded SQL Applications	SC10-4232	Yes
Developing SQL and External Routines	SC10-4373	No

Table 7. DB2 technical information (continued)

Name	Form Number	Available in print
Developing Java Applications	SC10-4233	Yes
Developing Perl and PHP Applications	SC10-4234	No
Getting Started with Database Application Development	SC10-4252	Yes
Getting started with DB2 installation and administration on Linux and Windows	GC10-4247	Yes
Message Reference Volume 1	SC10-4238	No
Message Reference Volume 2	SC10-4239	No
Migration Guide	GC10-4237	Yes
Net Search Extender Administration and User's Guide **Note:** HTML for this document is not installed from the HTML documentation CD.	SH12-6842	Yes
Performance Guide	SC10-4222	Yes
Query Patroller Administration and User's Guide	GC10-4241	Yes
Quick Beginnings for DB2 Clients	GC10-4242	No
Quick Beginnings for DB2 Servers	GC10-4246	Yes
Spatial Extender and Geodetic Data Management Feature User's Guide and Reference	SC18-9749	Yes
SQL Guide	SC10-4248	Yes
SQL Reference, Volume 1	SC10-4249	Yes
SQL Reference, Volume 2	SC10-4250	Yes
System Monitor Guide and Reference	SC10-4251	Yes
Troubleshooting Guide	GC10-4240	No
Visual Explain Tutorial	SC10-4319	No
What's New	SC10-4253	Yes
XML Extender Administration and Programming	SC18-9750	Yes
XML Guide	SC10-4254	Yes
XQuery Reference	SC18-9796	Yes

Table 8. DB2 Connect-specific technical information

Name	Form Number	Available in print
DB2 Connect User's Guide	SC10-4229	Yes
Quick Beginnings for DB2 Connect Personal Edition	GC10-4244	Yes

Table 8. DB2 Connect-specific technical information (continued)

Name	Form Number	Available in print
Quick Beginnings for DB2 Connect Servers	GC10-4243	Yes

Table 9. WebSphere Information Integration technical information

Name	Form Number	Available in print
WebSphere Information Integration: Administration Guide for Federated Systems	SC19-1001	Yes
WebSphere Information Integration: ASNCLP Program Reference for Replication and Event Publishing	SC19-1000	Yes
WebSphere Information Integration: Configuration Guide for Federated Data Sources	SC19-1034	No
WebSphere Information Integration: SQL Replication Guide and Reference	SC19-1002	Yes

Note: The DB2 Release Notes provide additional information specific to your product's release and fix pack level. For more information, see the related links.

Related concepts:
- "Overview of the DB2 technical information" on page 65
- "About the Release Notes" in *Release notes*

Related tasks:
- "Ordering printed DB2 books" on page 68

Ordering printed DB2 books

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

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

Note: The most up-to-date and complete DB2 documentation is maintained in the DB2 Information Center at http://publib.boulder.ibm.com/infocenter/ db2help/.

Procedure:

To order printed DB2 books:

- To find out whether you can order printed DB2 books online in your country or region, check the IBM Publications Center at http://www.ibm.com/shop/publications/order. You must select a country, region, or language to access publication ordering information and then follow the ordering instructions for your location.
- To order printed DB2 books from your local IBM representative:
  - Locate the contact information for your local representative from one of the following Web sites:
    - The IBM directory of world wide contacts at www.ibm.com/planetwide
    - The IBM Publications Web site at http://www.ibm.com/shop/publications/order. You will need to select your country, region, or language to the access appropriate publications home page for your location. From this page, follow the "About this site" link.
  - When you call, specify that you want to order a DB2 publication.
  - Provide your representative with the titles and form numbers of the books that you want to order.

Related concepts:
- "Overview of the DB2 technical information" on page 65

Related reference:
- "DB2 technical library in PDF format" on page 66

Displaying SQL state help from the command line processor

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

Procedure:

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

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

where *sqlstate* represents a valid five-digit SQL state and *class code* represents the first two digits of the SQL state.

For example, ? 08003 displays help for the 08003 SQL state, and ? 08 displays help for the 08 class code.

Related tasks:
- "Invoking command help from the command line processor" in *Command Reference*
- "Invoking message help from the command line processor" in *Command Reference*

Accessing different versions of the DB2 Information Center

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

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

Related tasks:

- "Updating the DB2 Information Center installed on your computer or intranet
  server" on page 71

Displaying topics in your preferred language in the DB2 Information Center

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

Procedure:

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

1. In Internet Explorer, click the **Tools** —> **Internet Options** —> **Languages...**
   button. The Language Preferences window opens.
2. Ensure your preferred language is specified as the first entry in the list of
   languages.
   - To add a new language to the list, click the **Add...** button.

     Note: Adding a language does not guarantee that the computer has the fonts
     required to display the topics in the preferred language.
   - To move a language to the top of the list, select the language and click the
     Move Up button until the language is first in the list of languages.
3. Clear the browser cache and then refresh the page to display the DB2
   Information Center in your preferred language.

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

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

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

Related concepts:

- "Overview of the DB2 technical information" on page 65

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

If you have a locally-installed DB2 Information Center, updated topics can be available for download. The 'Last updated' value found at the bottom of most topics indicates the current level for that topic.

To determine if there is an update available for the entire DB2 Information Center, look for the 'Last updated' value on the Information Center home page. Compare the value in your locally installed home page to the latest value which is available on the IBM hosted Information Center home page. If they are the same, you have the latest documentation level and no update is required. If the are not the same, you should update your locally-installed Information Center.

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

1. Stop the DB2 Information Center on your computer, and restart the Information Center in stand-alone mode. Running the Information Center in stand-alone mode prevents other users on your network from accessing the Information Center, and allows you to download and apply updates.

2. Use the Update feature to determine if update packages are available from IBM. If update packages are available, use the Update feature to download the packages. (The Update feature is only available in stand-alone mode.)

3. Stop the stand-alone Information Center, and restart the DB2 Information Center service on your computer.

Procedure:

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

1. Stop the DB2 Information Center service.

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

     `/etc/init.d/db2icdv9 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 `C:\Program Files\IBM\DB2 Information Center\Version 9` directory.

     c. Run the `help_start.bat` file using the fully qualified path for the DB2 Information Center:

        `<DB2 Information Center dir>\doc\bin\help_start.bat`

   - On Linux:

     a. Navigate to the path where the Information Center is installed. By default, the DB2 Information Center is installed in the `/opt/ibm/db2ic/V9` directory.

     b. Run the `help_start.sh` file using the fully qualified path for the DB2 Information Center:

        `<DB2 Information Center dir>/doc/bin/help_start`

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

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

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

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

6. Stop the stand-alone Information Center.
   - On Windows, run the `help_end.bat` file using the fully qualified path for the DB2 Information Center:
     ```
     <DB2 Information Center dir>\doc\bin\help_end.bat
     ```
   - On Linux, run the `help_end.sh` file using the fully qualified path for the DB2 Information Center:
     ```
     <DB2 Information Center dir>/doc/bin/help_end
     ```

7. Restart the DB2 Information Center service.
   - On Windows, click **Start → Control Panel → Administrative Tools → Services**. Then right-click on **DB2 Information Center** service and select **Start**.
   - On Linux, enter the following command:
     ```
     /etc/init.d/db2icdv9 start
     ```

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

Related concepts:

- "DB2 Information Center installation options" in *Quick Beginnings for DB2 Servers*

Related tasks:

- "Installing the DB2 Information Center using the DB2 Setup wizard (Linux)" in *Quick Beginnings for DB2 Servers*
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" in *Quick Beginnings for DB2 Servers*

DB2 Visual Explain tutorial

The DB2 Visual Explain tutorial helps you learn about analyzing, optimizing, and tuning SQL statements for better performance. Lessons provide step-by-step instructions.

Before you begin:

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

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

DB2 Visual Explain tutorial:

To view the tutorial, click on the title.

Visual Explain Tutorial
      Analyze, optimize, and tune SQL statements for better performance using Visual Explain.

Related concepts:

- "Visual Explain overview" in *Administration Guide: Implementation*

DB2 troubleshooting information

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

DB2 documentation

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

DB2 Technical Support Web site

Refer to the DB2 Technical Support Web site if you are experiencing problems and want help finding possible causes and solutions. The Technical Support site has links to the latest DB2 publications, TechNotes, Authorized Program Analysis Reports (APARs or bug fixes), fix packs, and other resources. You can search through this knowledge base to find possible solutions to your problems.

Access the DB2 Technical Support Web site at http://www.ibm.com/ software/data/db2/udb/support.html

Related concepts:

- "Introduction to problem determination" in *Troubleshooting Guide*
- "Overview of the DB2 technical information" on page 65

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