IBM® DB2® Universal Database™

Installation and Configuration Supplement

Version 8.2

GC09-4837-01

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Part 1. Manually installing and configuring DB2 servers

Chapter 1. Manually Installing DB2 servers

Installing a DB2 product manually

It is recommended that you install DB2 products using the DB2 Setup wizard or by using a response file. The DB2 Setup wizard provides an easy-to-use graphical interface with installation help, user and group creation, protocol configuration, and instance creation.

A response file installation provides the same advantages, but without the means of a graphical interface. In addition, by using a response file you can take advantage of advanced configuration capabilities such as setting individual DBM configuration parameters or setting profile registry variables.

However, if you do not prefer these installation methods, then you can manually install DB2 products on UNIX-based operating systems using the **db2_install** script, or by using your UNIX-based operating system's native installation utility.

Prerequisites:

Refer to the installation documentation for the particular DB2 product you want to install. For example, if you want to install DB2 Enterprise Server Edition, then refer to the *Quick Beginnings for DB2 Servers* documentation to review installation prerequisites and other important setup information.

Restrictions:

You *cannot* manually install a DB2 product on Windows operating systems. DB2 products can be only installed on Windows operating systems using the DB2 Setup wizard or a response file.

Procedure:

Select a manual installation method:

- Install DB2 using the db2_install script. This method can be used to install on any of the supported UNIX-based operating systems.
- Install DB2 using SMIT (AIX)Install DB2 using SMIT (AIX)
- Install DB2 using rpm (Linux)
- Install DB2 using swinstall (HP-UX)
- Install DB2 using pkgadd (Solaris Operating Environment)

Related concepts:

- "Installation methods for DB2 UDB (Windows and UNIX)" in the *Quick Beginnings for DB2 Servers*

Related tasks:

- "Installing a DB2 product using the db2_install script (UNIX)" on page 4
- "Installing a DB2 product using SMIT (AIX)" on page 5
- "Installing a DB2 product using rpm (Linux)" on page 6
- "Installing a DB2 product using swinstall (HP-UX)" on page 7

- "Installing a DB2 product using pkgadd (Solaris Operating Environments)" on page 8
- "Setting up DB2 servers after manual installation" on page 11

Installing a DB2 product using the db2_install script (UNIX)

The db2_install script installs all of the components for a particular DB2 product on your UNIX-based operating system using its native installation utility. The db2_install script only installs support for English: help, messages, and tool interfaces are in English only.

Tasks such as user and instance creation and configuration that might otherwise be performed for you during an interactive installation (DB2 Setup wizard) or a response file installation will have to be performed after the product is installed.

Prerequisites:

Before you install a DB2 product using the db2_install script:

- You must have root authority.
- You should refer to the installation documentation for the particular DB2 product you want to install. For example, if you want to install DB2 Enterprise Server Edition, then refer to the *Quick Beginnings for DB2 Servers* documentation to review installation prerequisites and other important setup information.

Procedure:

To install a DB2 product using the db2_install script:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Enter the **./db2_install** command at the shell prompt to start the db2_install script. The db2_install script can be found in the `root` directory on your DB2 Version 8 product CD-ROM. The db2_install script prompts you for one of the following keywords (depending upon what DB2 product you are installing):

   DB2.EXP
   DB2 Express Edition or DB2 Express Edition processor option

   DB2.ESE
   DB2 Enterprise Server Edition

   DB2.WSE
   DB2 Workgroup Server Edition and DB2 Workgroup Server Unlimited Edition

   DB2.PE
   DB2 Personal Edition

   DB2.CONEE
   DB2 Connect Enterprise Edition, DB2 Connect Unlimited Edition, and DB2 Connect Application Server Edition.

   DB2.CONPE
   DB2 Connect Personal Edition

   DB2.ADMCL
   DB2 Administration Client

DB2.ADCL
DB2 Application Development Client

DB2.RTCL
DB2 Run-Time Client

DB2.DLM
DB2 Data Links Manager

DB2.GSE
DB2 Spatial Extender

DB2.WM
DB2 Warehouse Manager

DB2.QP
DB2 Query Patroller

DB2.CUBE
DB2 Cube Views

DB2.LSDC
DB2 Information Integrator Non-Relational Wrappers

DB2.RCON
DB2 Information Integrator Relational Wrappers

4. Enter the keyword for the product you want to install. If you specify more than one product keyword, separate the keywords by spaces.

The installation directory for DB2 software is on:

- `/usr/opt/db2_08_01` for AIX
- `/opt/IBM/db2/V8.1` for HP-UX, Linux, or Solaris Operating Environment

For the Solaris Operating Environment you have the option of specifying a different base directory for DB2. The default base directory for Solaris Operating Environment is `/opt`. If you choose to install DB2 to a different base directory, then links will be set for the default DB2 installation directory, `/opt/IBM/db2/V8.1`. Parts of the product are dependant upon the default installation directory. Creating links allows DB2 to physically exist on a base directory other than `/opt`.

Related tasks:

- "Mounting the CD-ROM (AIX)" in the *Quick Beginnings for DB2 Servers*
- "Mounting the CD-ROM (HP-UX)" in the *Quick Beginnings for DB2 Servers*
- "Mounting the CD-ROM (Linux)" in the *Quick Beginnings for DB2 Servers*
- "Setting up DB2 servers after manual installation" on page 11
- "Mounting the CD-ROM (Solaris Operating Environment)" in the *Quick Beginnings for DB2 Servers*

Installing a DB2 product using SMIT (AIX)

This task describes how to install a DB2 product using the System Management Interface Tool (SMIT) on AIX. Tasks such as user and instance creation and configuration that might otherwise be performed for you during an interactive installation (DB2 Setup wizard), or during a response file installation, must be performed after the product is installed.

Prerequisites:

Before you install DB2 on AIX using SMIT:

- You must have root authority.
- You should refer to the installation documentation for the particular DB2 product you want to install. For example, if you want to install DB2 Enterprise Server Edition, then refer to the *Quick Beginnings for DB2 Servers* documentation to review installation prerequisites and other important setup information.

Procedure:

To install a DB2 product using the SMIT on AIX:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Enter the **smit** command at the shell prompt. The smit GUI opens.
4. Under the **System Management** list, select **Software Installation and Maintenance** → **Install and Update Software** → **Install Software**.
5. In the ***INPUT device / directory for software** text field specify the input device or directory for the installation media, or click the **List** button to display all input devices or directories.
6. Select the mounted CD-ROM drive from the list. The input device or directory for the installation media will then appear in the ***INPUT device / directory for software** text field. Click **OK**.
7. In the ***SOFTWARE to install** text field specify the components that you want to install, or click the **List** button to display the installable software products. Click **OK**.

   Identify required, typical, and optional DB2 components for the product that you want to install. Each DB2 product CD-ROM provides a file that lists the components available for installation. The component list is in a file called `ComponentList.htm` and is located in the `/db2/plat` directory on your CD-ROM where *plat* is the platform that you are installing on.

When the installation is complete your DB2 software will be installed in the /usr/opt/db2_08_01 directory.

Related tasks:

- "Mounting the CD-ROM (AIX)" in the *Quick Beginnings for DB2 Servers*
- "Setting up DB2 servers after manual installation" on page 11

Installing a DB2 product using rpm (Linux)

This task describes how to install a DB2 product using the **rpm** command on Linux. Tasks such as user and instance creation and configuration that might otherwise be performed for you during an interactive installation (DB2 Setup wizard) or during a response file installation, must be performed after the product is installed.

Prerequisites:

Before you install a DB2 product for Linux using the **rpm** command:

- You must have root authority.
- You should refer to the installation documentation for the particular DB2 product you want to install. For example, if you want to install DB2 Enterprise

Server Edition, then refer to the *Quick Beginnings for DB2 Servers* documentation to review installation prerequisites and other important setup information.

Procedure:

To install a DB2 product on Linux using the **rpm** command:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Identify the components you want to install. Each DB2 product CD-ROM provides a file that lists the components available for installation. Use this list to identify required, typical, and optional DB2 components. The component list is in a file called `ComponentList.htm` and is located in the `/db2/plat` directory on your CD-ROM where *plat* is the platform that you are installing on.
4. Run the **rpm** command for each component you want to install:

   ```
   rpm -ivh component_name
   ```

   For example, if you want to install the Control Center, install the db2cc81-8.1.0-0.i386.rpm component by entering the following command:

   ```
   rpm -ivh IBM_db2cc81-8.1.0-0.i386.rpm
   ```

When the installation is complete your DB2 software will be installed in the /opt/IBM/db2/V8.1 directory.

Related tasks:

- "Mounting the CD-ROM (Linux)" in the *Quick Beginnings for DB2 Servers*
- "Setting up DB2 servers after manual installation" on page 11

Installing a DB2 product using swinstall (HP-UX)

This task describes how to install a DB2 product using the **swinstall** utility on HP-UX. Tasks such as user creation and configuration that might otherwise be performed for you during an interactive installation (DB2 Setup wizard), or during a response file installation, must be performed after the product is installed.

Prerequisites:

Before you install a DB2 product on HP-UX using the **swinstall** utility:

- You must have root authority.
- You should refer to the installation documentation for the particular DB2 product you want to install. For example, if you want to install DB2 Enterprise Server Edition, then refer to the *Quick Beginnings for DB2 Servers* documentation to review installation prerequisites and other important setup information.

Procedure:

To install a DB2 product on HP-UX using the **swinstall** utility:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Run the **swinstall** utility using the following command at the shell prompt:

   ```
   swinstall -x autoselect_dependencies=true
   ```

This command opens the **Software Selection** window and the **Specify Source** window. If necessary, change the host name in the **Source Host Name...** text field in the **Specify Source** window.

4. In the **Source Depot Path...** field enter `/cdrom/db2/hpux` where */cdrom* represents the CD-ROM mount directory.
5. Click **OK** to return to the **Software Selection** window.
6. The **Software Selection** window contains a list of available software to install. Identify the components you want to install. Each DB2 product CD-ROM provides a file that lists the components available for installation. Use this list to identify required, typical, and optional DB2 components. The component list is in a file called `ComponentList.htm` and is located in the `/db2` directory on your CD-ROM.
7. Select **Mark for Install** from the **Actions** menu to choose the components to be installed.
8. Select **OK** if the following message appears:

   ```
   In addition to the software you just marked, other software was
   automatically marked to resolve dependencies.  This message will
   not appear again.
   ```

9. Select **Install (analysis)** from the **Actions** menu to begin the product installation and to open the **Install Analysis** window.
10. Select **OK** in the **Install Analysis** window when the **Status** field displays a Ready message.
11. Select **Yes** in the Confirmation window to confirm that you want to install the software.

    View the Install window to read processing data while the software is being installed, until the **Status** field indicates Ready and the Note window opens. The **swinstall** program loads the file set, and runs the control scripts for the file set.
12. Select **Exit** from the **File** menu to exit from **swinstall**.

When the installation is complete your DB2 software will be installed in the /opt/IBM/db2/V8.1 directory.

Related tasks:

- "Mounting the CD-ROM (HP-UX)" in the *Quick Beginnings for DB2 Servers*
- "Setting up DB2 servers after manual installation" on page 11

Installing a DB2 product using pkgadd (Solaris Operating Environments)

This task describes how to install a DB2 product using the **pkgadd** utility on Solaris Operating Environments. Tasks such as user creation and configuration that might otherwise be performed for you during an interactive installation (DB2 Setup wizard), or during a response file installation, must be performed after the product is installed.

Prerequisites:

Before you install a DB2 product on Solaris Operating Environments using **pkgadd**:

- You must have root authority.

- You should refer to the installation documentation for the particular DB2 product you want to install. For example, if you want to install DB2 Enterprise Server Edition, then refer to the *Quick Beginnings for DB2 Servers* documentation to review installation prerequisites and other important setup information.

Procedure:

To install a DB2 product on Solaris Operating Environments using **pkgadd**:

1. Log in as a user with root authority.
2. Insert and mount the appropriate CD-ROM.
3. Identify components you want to install. Each DB2 product CD-ROM provides a file that lists the components available for installation. Use this list to identify required, typical, and optional DB2 components. The component list is in a file called `ComponentList.htm` and is located in the `/db2/plat` directory on your CD-ROM where *plat* is the platform that you are installing on.
4. Run the **pkgadd** command for each component you want to install:

   ```
   pkgadd component_name
   ```

   For example, if you want to install the Control Center, install the db2cc81 component by entering the following command:

   ```
   pkgadd db2cc81
   ```

When installation is complete your DB2 software will be installed in the /opt/IBM/db2/V8.1 directory.

Related tasks:

- "Installing a DB2 product using the db2_install script (UNIX)" on page 4
- "Setting up DB2 servers after manual installation" on page 11
- "Mounting the CD-ROM (Solaris Operating Environment)" in the *Quick Beginnings for DB2 Servers*

Chapter 2. Setting up DB2 servers after manual installation

Client-to-Server communication scenarios

The following table shows the communication protocols that can be used when connecting a DB2 client to a DB2 server. DB2 Workgroup Server Edition and DB2 Enterprise Server Edition can service requests from host or OS/400 clients.

Table 1. Client-to-Server communication scenarios

	AIX, HP-UX, Linux, and Solaris Operating Environment servers	Windows NT/Windows 2000/Windows XP/Windows Server 2003 servers
OS/400 V5R1 client	TCP/IP	TCP/IP
AIX, HP-UX, Linux, and Solaris Operating Environment clients	TCP/IP	TCP/IP
OS/390 or z/OS client	TCP/IP	TCP/IP
VM V6 client	TCP/IP	TCP/IP
VSE V7 online client	TCP/IP	TCP/IP
VM V7 client	TCP/IP	TCP/IP
Windows 98 and Windows ME clients	TCP/IP	NPIPE NetBIOS TCP/IP
Windows NT/Windows 2000 client	TCP/IP	NPIPE NetBIOS TCP/IP
Windows XP/Windows Server 2003 client	TCP/IP	NPIPE NetBIOS TCP/IP

Related tasks:

• "Setting up DB2 servers after manual installation" on page 11

Setting up DB2 servers after manual installation

This task provides steps for setting up a DB2 server after manual installation on UNIX operating systems. Manual installation using the db2_install script or your operating system's native installation utility only installs DB2 components. Configuration and setup tasks such as the ones listed below must be performed manually.

Procedure:

To set up a DB2 server after manual installation:

1. Create group and user IDs for a DB2 installation
2. Create a DB2 Administration Server (DAS)
3. Create an instance using db2icrtCreate an instance using **db2icrt**
4. Creating links for DB2 files (Optional)
5. Configuring TCP/IP communications for a DB2 instance
6. Update your product license key

If you plan to use DB2 tools such as the Task Center or the DB2 Administration Server scheduler functionality, it is recommended that you set up the DB2 tools catalog. The DB2 tools catalog contains metadata required for DB2 tools and the scheduler to function.

Related tasks:

- "Creating group and user IDs for a DB2 UDB installation (UNIX)" on page 12
- "Creating a DB2 Administration Server (DAS)" on page 13
- "Creating an instance using db2icrt" on page 14
- "Creating links for DB2 files" on page 15
- "Configuring TCP/IP communications on the client using the CLP" on page 18
- "Registering the DB2 product license key using the db2licm command" on page 116
- "Installing a DB2 product manually" on page 3
- "Tools catalog database and DAS scheduler setup and configuration" in the *Administration Guide: Implementation*

Creating group and user IDs for a DB2 UDB installation (UNIX)

Three users and groups are required to operate DB2. The user and group names used in the following instructions are documented in the table below. You may specify your own user and group names as long as they adhere to system naming rules and DB2 naming rules.

The user IDs you create will be required to complete subsequent setup tasks.

Table 2. Required users and groups

Required user	Example user name	Example group name
Instance owner	db2inst1	db2iadm1
Fenced user	db2fenc1	db2fadm1
DB2 administration server user	dasusr1	dasadm1

- The instance owner home directory is where the DB2 instance will be created.
- The fenced user is used to run user defined functions (UDFs) and stored procedures outside of the address space used by the DB2 database.
- The user ID for the *DB2 administration server user* is used to run the DB2 administration server on your system.

Prerequisites:

You must have root authority to create users and groups.

Procedure:

To create the required groups and user IDs for DB2:

1. Log in as a user with root authority.
2. Enter the appropriate commands for your operating system.

   Note: These command line examples do not contain passwords. They are examples only. You can use the *passwd username* parameter from the command line to set the password.

   AIX To create groups on AIX, enter the following commands:

   ```
   mkgroup id=999 db2iadm1
   mkgroup id=998 db2fadm1
   mkgroup id=997 dasadm1
   ```

Create users for each group:

```
mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1 home=/home/db2inst1
db2inst1

mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1 home=/home/db2fenc1
db2fenc1

mkuser id=1002 pgrp=dasadm1 groups=dasadm1 home=/home/dasusr1
dasusr1
```

HP-UX

To create groups on HP-UX, enter the following commands:

```
groupadd -g 999 db2iadm1
groupadd -g 998 db2fadm1
groupadd -g 997 dasadm1
```

Create users for each group:

```
useradd -g db2iadm1 -d /home/db2instl -m db2inst1
useradd -g db2fadm1 -d /home/db2fenc1 -m db2fenc1
useradd -g dbasgrp -d /home/dasusr1 -m dasusr1
```

Linux To create groups on Linux, enter the following commands:

```
groupadd -g 999 db2iadm1
groupadd -g 998 db2fadm1
groupadd -g 997 dasadm1
```

Create users for each group:

```
mkuser -u 1004 -g db2iadm1 -m -d /home/db2inst1 db2inst1
mkuser -u 1003 -g db2fadm1 -m -d /home/db2fenc1 db2fenc1
mkuser -u 1002 -g dasadm1 -m -d /home/dasusr1 dasusr1
```

Solaris Operating Environment

To create groups on Solaris Operating Environment, enter the following commands:

```
groupadd -g 999 db2iadm1
groupadd -g 998 db2fadm1
groupadd -g 997 dasadm1
```

Create users for each group:

```
useradd -g db2iadm1 -u 1004 -d /export/home/db2inst1 -m

db2inst1

useradd -g db2fadm1 -u 1003 -d /export/home/db2fenc1 -m

db2fenc1

useradd -g dasadm1 -u 1002 -d /export/home/dasusr1 -m

dasusr1
```

Related concepts:

- "General naming rules" in the *Administration Guide: Implementation*

Related tasks:

- "Installing a DB2 product manually" on page 3

Creating a DB2 Administration Server (DAS)

This task is part of the main task of *Manually installing DB2*.

The DB2 Administration Server (DAS) provides support services for DB2 tools such as the Control Center and Configuration Assistant.

Prerequisites:

- To create a DAS, you must have root authority.
- You have created a DAS user for DB2.

Procedure:

To create the DAS:

1. Log in as user with root authority.
2. Issue one of the following commands to create the DAS:
   - For AIX, enter:

     ```
     /usr/opt/db2_08_01/instance/dascrt -u DASuser
     ```

     For HP-UX, Solaris Operating Environments, or Linux, enter

     ```
     /opt/IBM/db2/V8.1/instance/dascrt -u DASuser
     ```

     –u For the **–u** parameter, specify the DAS user you created when creating users and groups for DB2.

Related concepts:

- "DB2 Administration Server" in the *Administration Guide: Implementation*

Related tasks:

- "Creating an instance using db2icrt" on page 14
- "Installing a DB2 product manually" on page 3

Creating an instance using db2icrt

This task is part of the main task of *Setting up a DB2 server after manual installation*.

A DB2 instance is an environment in which you store data and run applications. Use the **db2icrt** command to create an instance.

Prerequisites:

You must have root authority.

Procedure:

To create an instance using **db2icrt**:

1. Log in as user with root authority.
2. Run the **db2icrt** command. For example:

   ```
   DB2DIR/instance/db2icrt -a AuthType -u FencedID InstName
   ```

   DB2DIR
   is the DB2 installation directory.
   - On AIX, the DB2 installation directory is `/usr/opt/db2_08_01`
   - On all other UNIX-based operating systems, the installation directory is `/opt/IBM/db2/V8.1`

-a AuthType
Represents the authentication type for the instance. AuthType can be one of SERVER, CLIENT, DCS, SERVER_ENCRYPT, DCS_ENCRYPT. SERVER is the default. This parameter is optional.

-u FencedID
Represents the name of the user under which fenced user defined functions (UDFs) and fenced stored procedures will run. This flag is not required if you are creating an instance on a DB2 client. Specify the name of the fenced user you created.

InstName
Represents the name of instance. The name of the instance must be the same as the name of the instance owning user. Specify the name of the instance owning user you created. The instance will be created in the instance owning user's home directory.

For example, if you are using server authentication, your fenced user is db2fenc1, and your instance owning user is db2inst1, use the following command to create an instance on an AIX system:

```
/usr/opt/db2_08_01/instance/db2icrt -a server -u db2fenc1 db2inst1
```

After you create an instance you may want to configure notification for health monitoring. This task can be performed using the Health Center or CLP.

Related concepts:

- "Authentication methods for your server" in the *Administration Guide: Implementation*

Related tasks:

- "Installing a DB2 product manually" on page 3

Related reference:

- "db2icrt - Create Instance Command" in the *Command Reference*
- "health_mon - Health monitoring configuration parameter" in the *Administration Guide: Performance*

Creating links for DB2 files

You can create links for the DB2 files to the `/usr/lib` directory, and for the include files to the `/usr/include` directory for a particular version and release level of DB2.

You may want to create these links if you are developing or running applications and want to avoid having to specify the full path to the product libraries and include files.

This task is not required for normal DB2 operation.

Prerequisites:

You must be logged on as a user with root authority.

Restrictions:

The following restrictions apply:

- Creating links for one version of DB2 will render the other versions of DB2 non-functional. Links can be established for only one version of DB2 on a given system.
- If there are existing links to the /usr/lib and /usr/include directories from a previous version of DB2, they will automatically be removed.
- Links should not be created on systems where multiple versions of DB2 are intended to coexist.

Procedure:

To create links for DB2 files:

1. Log on as a user with root authority
2. Run the appropriate command for your operating system:

   AIX /usr/opt/db2_08_01/cfg/db2ln

   All other UNIX-based operating systems
   /opt/IBM/db2/V8.1/cfg/db2ln

If there are existing links to the /usr/lib and /usr/include directories from a previous version of DB2, they will automatically be removed by entering the **db2ln** command to create links for this version of DB2. If you want to re-establish the links to the libraries of the previous version, then you must execute the **db2rmln** command from your current version of DB2 before you execute the **db2ln** command from the previous version of DB2.

Related tasks:

- "Registering the DB2 product license key using the db2licm command" on page 116
- "Installing a DB2 product manually" on page 3

Chapter 3. Configuring client to server communications

Configuring client-to-server connections using the command line processor (CLP)

This task describes how to configure a connection from a DB2 client to a remote database server using the command line processor (CLP).

You can also configure a client to server connection using the Configuration Assistant.

Prerequisites:

Before you configure a client to server connection:

- Communications must be configured on the DB2 server and the DB2 client. Depending on your operating system, communications can be Named Pipes, NetBIOS, or TCP/IP.
- You must use one of the supported client to server connection scenarios. The connection scenarios outline which communication method or protocol can be used by which operating system.

Restrictions:

- DB2 UDB servers on Windows and UNIX no longer accept inbound client connections using APPC. DB2 clients can still connect to host systems using APPC if they have DB2 Connect installed.
- You cannot use NetBIOS to connect from a Windows client to a server running on a UNIX-based system.

Procedure:

To configure a client-to-server connection using the command line processor:

1. Identify and record the communication parameter values.
2. Configure the appropriate communication protocol on the client. No configuration is required for Named Pipes.
3. Catalog the database node from the DB2 client using one of the following methods. Your choice of method is based on the communications protocol setup on the system you want to catalog.
   - Catalog the TCP/IP node from the DB2 client.
   - Catalog the NetBIOS node from the DB2 client.
   - Catalog the Named Pipes node from the DB2 client.
4. Catalog the database on the DB2 client.
5. Test the client-to-server connection.

Related tasks:

- “Cataloging a TCP/IP node from the DB2 client” on page 21
- “Cataloging a NetBIOS node from the DB2 client” on page 27
- “Cataloging a Named Pipes node from the client” on page 29
- “Cataloging a database from a DB2 client using the CLP” on page 22

- "Testing the client-to-server connection using the CLP" on page 30
- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Configuring communication protocols for a local DB2 instance" on page 34
- "Configuring NetBIOS communications for a DB2 instance" on page 40
- "Configuring TCP/IP communications for a DB2 instance" on page 37
- "Configuring Named Pipes communications for a DB2 instance" on page 44
- "Configuring client-to-server connections using the Configuration Assistant (CA)" in the *Quick Beginnings for DB2 Servers*

Related reference:

- "Client-to-Server communication scenarios" on page 11

Configuring TCP/IP

Configuring TCP/IP communications on the client using the CLP

This task describes how to configure TCP/IP communications on the client using the CLP.

Prerequisites:

Ensure that TCP/IP is functional on the DB2 client. To establish a client to server connection, TCP/IP must also be functional on the DB2 server. To check TCP/IP functionality from the client to server, type **hostname** on the server machine, then ping that hostname from the client machine.

Procedure:

To configure TCP/IP communications on the DB2 client:

1. Resolve the server's host address.
2. Update the services file on the DB2 client.

Related tasks:

- "Resolving a server host address to configure a client to server connection" on page 20
- "Updating the services file on the client" on page 20
- "Configuring Named Pipes on the client using the CLP" on page 28
- "Configuring NetBIOS communications on the client using the CLP" on page 25

TCP/IP parameter values worksheet for configuring a client to server connection

As you proceed through the configuration steps, use the *Your Value* column in the following table to record the required values.

Table 3. TCP/IP parameter values worksheet

Parameter	Description	Sample Value	Your Value

Host name
• Hostname (*hostname*) or
• IP address (*ip_address*)
	Use the *hostname* or *ip_address* of the remote host.
	
	To resolve this parameter:
	• Enter the **hostname** command at the server to obtain the *hostname*.
	• Contact your network administrator to obtain the *ip_address* or enter the **ping** *hostname* command.
	• On UNIX systems, you can also use the *DB2DIR*/**bin/hostlookup** *hostname* command.
	
	where *DB2DIR* is the directory where DB2 is installed.
		`myserver`
		
		or
		
		`9.21.15.235`	

Service Name
• Connection Service name (*svcename*) or
• Port number/Protocol (*port_number/tcp*)
	Values Required in the `services` file.
	
	The Connection Service name is an arbitrary name that represents the connection port number (*port_number*) on the client.
	
	The port number must be the same as the port number that the *svcename* parameter maps to in the services file on the server system. (The *svcename* parameter is located in the database manager configuration file on the server instance.) This value must not be in use by any other applications, and must be unique within the services file.
	
	On UNIX platforms, this value generally must be 1024 or higher.
	
	Contact your database administrator for the values used to configure the server.
		`server1`
		
		or
		
		`3700/tcp`	

Node name (*node_name*)	A local alias, or nickname, that describes the node to which you are trying to connect. You can choose any name you want; however, all node name values within your local node directory must be unique.	`db2node`	

Related tasks:

- "Configuring TCP/IP communications on the client using the CLP" on page 18
- "Configuring client-to-server connections using the command line processor (CLP)" on page 17

Resolving a server host address to configure a client to server connection

The client will use the host address of the DB2 server to establish a connection. If your network has a name server, or if you plan to directly specify an IP address (*ip_address*) of the server, you can proceed to cataloging the TCP/IP node. If a domain name server does not exist on your network, you may directly specify a hostname that maps to the IP address (*ip_address*) of the server in the local `hosts` file.

If you are planning on supporting a UNIX client that is using Network Information Services (NIS), and you are not using a domain name server on your network, you must update the `hosts` file located on your NIS master server.

The following table lists the location of the local hosts file.

Table 4. Location of the local hosts file

Operating System	Directory
Windows 98/Windows ME	`windows`
Windows NT/Windows 2000/Windows XP/Windows Server 2003	`%SystemRoot%\system32\drivers\etc` where *%SystemRoot%* is a system defined environment variable
UNIX	`/etc`

Procedure:

Use a text editor to add an entry to the DB2 client's `hosts` file for the server's IP address. For example:

```
9.21.15.235     myserver   # IP address for myserver
```

where:

9.21.15.235
represents the *ip_address*

myserver
represents the *hostname*

represents a comment describing the entry

If the server is not in the same domain as the DB2 client, you must provide a fully qualified domain name such as `myserver.spifnet.ibm.com`, where `spifnet.ibm.com` represents the domain name.

Related tasks:

- "Updating the services file on the client" on page 20
- "Configuring client-to-server connections using the command line processor (CLP)" on page 17

Updating the services file on the client

If you are planning to catalog a TCP/IP node using a port number (*port_number*), you do not need to perform this task.

Prerequisites:

If you are using a UNIX client that uses Network Information Services (NIS), you must update the services file located on your NIS master server.

Procedure:

Using a text editor, add the Connection Service name and port number to the client's `services` file.

The following table lists the location of the services file.

Table 5. Location of the services file

Operating System	Directory
Windows 98/Windows ME	`windows`
Windows NT/Windows 2000/Windows XP/Windows Server 2003	`%SystemRoot%\system32\drivers\etc` where *%SystemRoot%* is a system defined environment variable
UNIX	`/etc`

For example:

```
server1  50000/tcp  # DB2 connection service port
```

where:

server1 represents the Connection Service name

50000 represents the connection port number (50000 is the default)

tcp represents the communication protocol that you are using

\# represents the beginning of a comment that describes the entry

Related tasks:

- "Cataloging a TCP/IP node from the DB2 client" on page 21

Cataloging a TCP/IP node from the DB2 client

Cataloging a TCP/IP node adds an entry to the DB2 client's node directory that describes the remote node. This entry specifies the chosen alias (*node_name*), the *hostname* (or *ip_address*), and the *svcename* (or *port_number*) that the client uses to access the remote host.

Prerequisites:

- You must have System Administrative (SYSADM) or System Controller (SYSCTRL) authority, or have the `catalog_noauth` option set to `ON`. You cannot catalog a node using root authority.

Procedure:

To catalog a TCP/IP node:

1. Log on to the system as a user with System Administrative (SYSADM) or System Controller (SYSCTRL) authority.
2. If you are using a UNIX client, set up the instance environment. Run the start-up script:

   For bash, Bourne or Korn shell

   ```
   . INSTHOME/sqllib/db2profile
   ```

For C shell

```
source INSTHOME/sqllib/db2cshrc
```

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

3. Start the DB2 command line processor. On Windows, issue the **db2cmd** command from a command prompt. On UNIX, issue the **db2** command from a command prompt.
4. Catalog the node by entering the following commands in the command line processor:

```
db2 => catalog tcpip node node_name remote hostname|ip_address
  server service_name|port_number [remote_instance instance_name]
  [system system_name] [ostype  os_type]

db2 => terminate
```

where:

- `node_name` represents a nickname you can set for the computer that has the database you want to catalog.
- `remote_instance` represents the name of the server instance on which the database resides.
- `system` represents the DB2 system name that is used to identify the server.
- `ostype` represents the operating system type of the server.

Notes:

a. The **terminate** command is needed to refresh the directory cache.
b. Although `remote_instance`, `system`, and `ostype` are optional, they are required for users who want to use the DB2 tools.
c. The *service_name* used on the client does not have to be the same as the one on the server. However, the port numbers that they map to *must* match.

Example:

To catalog a node that you want to call *db2node* on a remote server *myserver.ibm.com* that is using port number *50000*, you would enter the following from a **db2** prompt:

```
db2 => catalog tcpip node db2node remote myserver server 50000
DB20000I  The CATALOG TCPIP NODE command completed successfully.
DB21056W  Directory changes may not be effective until the directory cache is
refreshed.

db2 => terminate
DB20000I  The TERMINATE command completed successfully.
```

Related tasks:

- "Configuring TCP/IP communications on the client using the CLP" on page 18
- "Testing the client-to-server connection using the CLP" on page 30

Related reference:

- "CATALOG TCPIP NODE Command" in the *Command Reference*

Cataloging a database from a DB2 client using the CLP

This task describes how to catalog a database from a DB2 client using the DB2 command line processor (CLP).

Before a client application can access a remote database, the database must be cataloged on the client. When you create a database, the database is automatically cataloged on the server with a database alias that is the same as the database name, unless a different database alias was specified.

The information in the database directory, along with the information in the node directory (unless you are cataloging a local database where a node is not needed), is used on the DB2 client to establish a connection to the remote database.

Restrictions:

DB2 does not support using root authority to catalog a database.

Prerequisites:

- You require a valid DB2 user ID.
- You must have System Administrative (SYSADM) or System Controller (SYSCTRL) authority, or have the catalog_noauth option set to ON
- The following parameter values are applicable when cataloging a *remote* database:
  - Database name
  - Database alias
  - Node name
  - Authentication type (optional)
  - Comment (optional)

  Refer to the parameter values worksheet for cataloging a database for more information about these parameters and to record the values that you use.
- The following parameter values are applicable when cataloging a *local* database:
  - Database name
  - Drive
  - Database alias
  - Authentication type (optional)
  - Comment (optional)

  Local databases can be uncataloged and recataloged at any time.

Procedure:

To catalog a database on the client:

1. Log on to the system with a valid DB2 user ID.
2. Optional. Update the Your Value column in the Parameter values worksheet for cataloging a database.Parameter values worksheet for cataloging a database.
3. If you are using DB2 UDB on a UNIX platform, set up the instance environment. Run the start-up script:

   For bash, Bourne or Korn shell

   ```
   . INSTHOME/sqllib/db2profile
   ```

   For C shell

   ```
   source INSTHOME/sqllib/db2cshrc
   ```

   where: *INSTHOME* represents the home directory of the instance.

4. Start the DB2 command line processor. On Windows, issue the **db2cmd** command from a command prompt. On UNIX, issue the **db2** command from a command prompt.
5. Catalog the database by entering the following commands in the command line processor:

   ```
   db2 => catalog database database_name as database_alias at
      node node_name [ authentication auth_value ]
   ```

   where:

   - `database_name` represents the name of the database you want to catalog.
   - `database_alias` represents a local nickname for the database you want to catalog.
   - `node_name` represents a nickname you can set for the computer that has the database you want to catalog.
   - `auth_value` specifies the type of authentication that will take place when connecting to the database. This parameter defaults to the authentication type specified on the server. Specifying an authentication type can result in a performance benefit. SERVER, CLIENT, SERVER_ENCRYPT, and KERBEROS are the authentication value options.

Example:

To catalog a remote database called *sample* so that it has the local database alias *mysample*, on the node *db2node* using authentication *server*, enter the following commands:

```
db2 => catalog database sample as mysample at node db2node
       authentication server

db2 => terminate
```

Related tasks:

- "Testing the client-to-server connection using the CLP" on page 30

Related reference:

- "Parameter values worksheet for cataloging a database" on page 24
- "CATALOG DATABASE Command" in the *Command Reference*

Parameter values worksheet for cataloging a database

Use the following worksheet to record the parameter values required to catalog a database.

Table 6. Catalog database parameter values worksheet

Parameter	Description	Sample Value	Your Value
Database name (*database_name*)	When a database is created, the database alias is set to the database name unless otherwise specified. For example, when the `sample` database is created on the server, a database alias of `sample` is also created. The database name represents the remote database alias (on the server).	`sample`	

Table 6. Catalog database parameter values worksheet (continued)

Parameter	Description	Sample Value	Your Value
Database alias (*database_alias*)	An arbitrary local nickname that represents the remote database. If you do not provide one, the default is the same as the database name (*database_name*). Use this name when you connect to the database from a client.	`mysample`	
Authentication (*auth_value*)	The type of authentication required in your environment.	Server	
Node name (*node_name*)	The name of the node directory entry that describes where the database resides. Use the same value for node name (*node_name*) that you used to catalog the node.	`db2node`	

Related tasks:

- "Cataloging a database from a DB2 client using the CLP" on page 22
- "Testing the client-to-server connection using the CLP" on page 30
- "Configuring client-to-server connections using the command line processor (CLP)" on page 17

Configuring NetBIOS

Configuring NetBIOS communications on the client using the CLP

This task describes how to configure NetBIOS on the client using the DB2 command line processor (CLP). Perform this task if you want to configure a connection from a DB2 client to a DB2 server using NetBIOS. Connections can also be configured using the Configuration Assistant.

Prerequisites:

Ensure that NetBIOS is functional on the DB2 client. To establish a connection, NetBIOS must also be configured on the DB2 server.

Procedure:

To configure NetBIOS communications on the DB2 client:

1. Determine the logical adapter number used for the NetBIOS connection.
2. Update the database manager configuration file.

Related tasks:

- "Determining the logical adapter number of the client for the NetBIOS connection (Windows)" on page 26
- "Updating the database manager configuration file for a NetBIOS connection" on page 28
- "Configuring client-to-server connections using the Configuration Assistant (CA)" in the *Quick Beginnings for DB2 Servers*

Determining the logical adapter number of the client for the NetBIOS connection (Windows)

This task is part of the main task of *Configuring NetBIOS on the client using the CLP*

The logical adapter number of the client is required to configure a NetBIOS client to server connection using the CLP.

Restrictions:

This procedure is for Windows operating systems only.

Procedure:

To determine the logical adapter number for the NetBIOS connection:

1. From a command prompt, enter the **regedit** command to start the Registry Editor
2. Locate the NetBIOS adapter assignments by expanding the **HKEY_LOCAL_MACHINE** folder and locating the **Software/Microsoft/Rpc/NetBIOS** folder.
3. Double-click on the entry that begins with **ncacn_nb_nb***x*, where *x* can be 0, 1, 2... (normally you want to select the **nb0** adapter), to see that adapter number that is associated with the NetBIOS connection. Record the setting from the **Data value** field in **Edit DWORD Value** window.

   Note: Ensure that both ends of the connection are using the same emulation.

The next step in *Configuring NetBIOS on the client using the CLP* is to update the database manager configuration file.

Related reference:

- "NetBIOS parameter values worksheet" on page 26

NetBIOS parameter values worksheet

As you proceed through the configuration steps, use this worksheet to record the required values for configuring NetBIOS communications.

Table 7. NetBIOS parameter values worksheet

Parameter	Description	Sample Value	Your Value
Logical adapter number (*adapter_number*)	The local logical adapter that will be used for the NetBIOS connection.	`0`	
Workstation name (*nname*) - on the client	The NetBIOS name of the *client* workstation. *nname* is chosen by the user and must be unique among all NetBIOS nodes in the network. The maximum length of the *nname* is 8 characters.	`client1`	

Table 7. NetBIOS parameter values worksheet (continued)

Parameter	Description	Sample Value	Your Value
Workstation name (*nname*) - on the server	The NetBIOS name of the *server* workstation. The maximum length of the *nname* is 8 characters. This name can be found in the server's database manager configuration file.	`server1`	
Node name (*node_name*)	A local alias, or nickname, that describes the node to which you are trying to connect. You can choose any name you want, however, all node name values within your local node directory must be unique.	`db2node`	

Related tasks:

- "Configuring NetBIOS communications on the client using the CLP" on page 25
- "Configuring client-to-server connections using the command line processor (CLP)" on page 17

Cataloging a NetBIOS node from the DB2 client

Cataloging a NetBIOS node adds an entry to the client's node directory to describe the remote node. Use the chosen node alias (*node_name*) as the node entry name. This entry specifies the client's logical adapter number (*adapter_number*) and the server's Workstation name *(nname*) that the client will use to access the remote DB2 server.

Prerequisites:

- You must be able to log on to the system with a valid DB2 user ID. If you are adding a database to a system that has a DB2 server or DB2 Connect server product installed, log on to this system as a user with System Administrative (SYSADM) or System Controller (SYSCTRL) authority on the instance.
- For more information about identifying these parameter values, see the NetBIOS parameter values worksheet.

Procedure:

To catalog the NetBIOS node:

```
db2 => catalog netbios node node_name remote nname adapter adapter_number

db2 => terminate
```

For example, to catalog a remote database server *server1* on the node called *db2node*, using the logical adapter number *0*, use:

```
db2 => catalog netbios node db2node remote server1 adapter 0

db2 => terminate
```

Related tasks:

- "Configuring NetBIOS communications on the client using the CLP" on page 25

- "Cataloging a database from a DB2 client using the CLP" on page 22

Related reference:
- "NetBIOS parameter values worksheet" on page 26
- "CATALOG NETBIOS NODE Command" in the *Command Reference*

Updating the database manager configuration file for a NetBIOS connection

Updating the database manager configuration file is required to configure a NetBIOS client-to-server connection using the CLP.

Restrictions:

You must update the database manager configuration file with the *client's* workstation name (*nname*) parameter.

Procedure:

To update the database manger configuration file:
1. Log on to the system as a user with System Administrative (SYSADM) authority.
2. Update the database manager configuration file with the client's Workstation name (*nname*) parameter using the following commands in the command line processor:

   ```
   update database manager configuration using nname nname
   terminate
   ```

   For example, if the client's workstation name (*nname*) is `client1`, use:

   ```
   update database manager configuration using nname client1
   terminate
   ```

Related tasks:
- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Cataloging a NetBIOS node from the DB2 client" on page 27

Configuring Named Pipes

Configuring Named Pipes on the client using the CLP

This task describes how to configure Named Pipes on the DB2 client using the command line processor (CLP).

Prerequisites:

Before you configure Named Pipes on the client:
- Ensure that Named Pipes is available on the DB2 client. To establish a connection, Named Pipes must also be available on the DB2 server.
- You have identified the following parameter values:
  - Computer name (the computer name of the server)
  - Instance name (the name of the instance on the server to which you are connecting)

– Node name (local alias for the server node)

For more information about identifying these parameter values, see the Named Pipes parameter values worksheet.

Procedure:

To configure Named Pipes:

1. Catalog the Named Pipes node on the DB2 client
2. Catalog the database on the DB2 client

Related tasks:

- "Cataloging a Named Pipes node from the client" on page 29
- "Cataloging a database from a DB2 client using the CLP" on page 22

Related reference:

- "Named Pipes parameter values worksheet for configuring Named Pipes on the client" on page 29

Named Pipes parameter values worksheet for configuring Named Pipes on the client

Use the following worksheet to help identify the required parameter values for configuring Named Pipes communications.

Table 8. Named Pipes parameter values worksheet

Parameter	Description	Sample Value	Your Value
Computer name (*computer_name*)	The computer name of the server machine. On the server machine, to locate the value for this parameter, click on **Start** and select **Settings, Control Panel**. Double-click on the **Network** folder and select the **Identification** tab. Record the computer name.	`server1`	
Instance name (*instance_name*)	The name of the instance on the server to which you are connecting.	`db2`	
Node name (*node_name*)	A local alias, or nickname, that describes the node to which you are trying to connect. You can choose any name you want; however, all node name values within your local node directory must be unique.	`db2node`	

Related tasks:

- "Configuring Named Pipes on the client using the CLP" on page 28
- "Configuring client-to-server connections using the command line processor (CLP)" on page 17

Cataloging a Named Pipes node from the client

Cataloging a Named Pipes node adds an entry to the client's node directory to describe the remote node. This entry specifies the chosen alias (*node_name*), the

remote *server's* workstation name (*computer_name*), and the instance (*instance_name*) that the client will use to access the remote DB2 server.

Procedure:

To catalog a Named Pipes node on a DB2 client, type the following command in the command line processor (CLP):

```
db2 => db2 catalog npipe node node_name /
db2 => remote computer_name instance instance_name

db2 => terminate
```

Example:

To catalog a remote node called *db2node* that is located on a server called *server1* in the *db2* instance, use:

```
db2 => db2 catalog npipe node db2node remote server1 instance db2

db2 => terminate
```

Related reference:

- "CATALOG NAMED PIPE NODE Command" in the *Command Reference*
- "Named Pipes parameter values worksheet for configuring Named Pipes on the client" on page 29

Testing the client-to-server connection using the CLP

After cataloging the node and the database, you should connect to the database to test the connection.

Prerequisites:

- The database node and database must be cataloged before you can test the connection.
- The values for *userid* and *password* must be valid for the system on which they are authenticated. By default, authentication takes place on the server. Authentication is determined by the authentication parameter specified in the server's database manager configuration file. If the authentication configured on the client doesn't match or isn't compatible with what is configured on the server, you will receive an error.
- The database manager must be started with the correct protocol defined in DB2COMM. If it isn't started, then you can start the database manager by entering the **db2start** command on the database server.

Procedure:

To test the client to server connection:

1. If you are using DB2 on a UNIX platform, set up the instance environment. Run the start-up script:

   For bash, Bourne or Korn shell

   ```
   . INSTHOME/sqllib/db2profile
   ```

   For C shell

   ```
   source INSTHOME/sqllib/db2cshrc
   ```

where: *INSTHOME* represents the home directory of the instance.

2. Start the DB2 command line processor. On Windows, issue the **db2cmd** command from a command prompt. On UNIX, issue the **db2** command from a command prompt.
3. Type the following command on the client to connect to the remote database:

   ```
   db2 => connect to database_alias user userid
   ```

   For example, enter the following command:

   ```
   connect to mysample user jtris
   ```

   You will prompted to enter your password.

If the connection is successful, you receive a message showing the name of the database to which you have connected. A message similar to the following is given:

```
Database Connection Information
Database server = DB2/NT 8.1.0
SQL authorization ID = JTRIS
Local database alias = mysample
```

You can now work with the database. For example, to retrieve a list of all the table names listed in the system catalog table, enter the following SQL statement:

```
select tabname from syscat.tables
```

An implicit connection occurs when you issue an SQL statement followed by the **db2 terminate** command. To define a default database, run the **db2set db2dbdft = <dbname>** command. After running this command, you can, for example, run the **db2 select * from <table>** command without first connecting to a database. This command uses the value defined in **db2dbdft**. To connect to a database other than the default, you must use the CONNECT command to explicitly connect to the database of your choice.

When you are finished using the database connection, enter the **connect reset** command to end the database connection.

Related reference:

- "db2start - Start DB2 Command" in the *Command Reference*
- "db2set - DB2 Profile Registry Command" in the *Command Reference*

Chapter 4. Configuring DB2 server communications

Configuring DB2 server communications using the Control Center

Configuring communication protocols for a remote DB2 instance

This task describes how to configure communication protocols for a remote instance on your DB2 server using the Control Center. Communication protocols on the DB2 server must be configured in order for your DB2 server to accept inbound requests from remote DB2 clients.

Most protocols are automatically detected and configured when you set up DB2 using the DB2 Setup wizard. Perform this task if:

- You deselected a detected communication protocol when you set up DB2 using the DB2 Setup wizard.
- You added a communication protocol to your network since you set up DB2 using the DB2 Setup wizard.
- You are using a communication protocol that could not be detected by the DB2 Setup wizard.
- You installed DB2 manually on a UNIX-based system using the operating system's native installation tools.

Restrictions:

The following restrictions apply:

- You cannot use the Control Center to configure communication protocols for a partitioned DB2 server.
- Modifying an instance's communication protocol settings may require you to update the database connection catalogs on the client (reconfigure client-to-server communications).

Procedure:

To configure DB2 communication protocols for remote instances, perform the following steps:

1. Launch the Control Center.
2. If the system containing the remote instance you want is listed, click on the **[+]** sign beside the system name to get the Instances folder. Click on the **[+]** beside the Instances folder to get a list of the system's instances, then go to step 13. If the system containing the remote instance you want is listed, but the instance you want does not appear under that system, go to step 8.
3. If the system containing the remote instance that you want to configure is not listed, select the **Systems** folder, click on the right mouse button and select the **Add** option. The Add System window opens.
4. To add a system to the Control Center, you can do one of the following:
   - If the system name is empty, click on **Discover** to display a list of TCP/IP systems on the network. Select a system and press **OK**. The system information is populated on the Add System window.

- If the system name is filled, click on **Discover** to invoke a known discovery. If successful, the system information is populated on the Add System window.

  Note: Discovery will only work on remote TCP/IP systems.

5. Click **Apply** to add the system to the Control Center window.
6. Click **Close**.
7. Click on the **[+]** sign beside the system name you just added to get the Instances folder.
8. Select the **Instances** folder for the new system and click on the right mouse button.
9. Select the **Add** option. The Add Instance window opens.
10. Click **Discover** to obtain a list of available instances to display a list of remote instances on the system.
11. Select the instance that you want to add and click **OK**. The Add Instance window will be populated with the remote instance info.
12. Click **Close**.
13. Select the instance you want to configure and click on the right mouse button.
14. Select the **Setup communications** option from the pop-up menu. The Setup Communications window opens.
15. Use the Setup Communications window to configure communication protocols for the instance. Click on the **Help** push button for more information.
16. You must stop and start the instance for these changes to take effect:
    a. To stop an instance, select the instance, click on the right mouse button, and select the **Stop** option.
    b. To start an instance, select the instance, click on the right mouse button, and select the **Start** option.

Related tasks:

- "Configuring communication protocols for a local DB2 instance" on page 34
- "Configuring NetBIOS communications for a DB2 instance" on page 40
- "Configuring TCP/IP communications for a DB2 instance" on page 37
- "Configuring Named Pipes communications for a DB2 instance" on page 44

Related reference:

- "Client-to-Server communication scenarios" on page 11

Configuring communication protocols for a local DB2 instance

This task describes how to configure communication protocols for a local DB2 instance using the Control Center. Communication protocols on the DB2 server must be configured in order for your DB2 server to accept inbound requests from remote DB2 clients.

Most protocols are automatically detected and configured when you set up DB2 using the DB2 Setup wizard. Perform this task if:

- You deselected a detected communication protocol when you set up DB2 using the DB2 Setup wizard.

- You added a communication protocol to your network since you set up DB2 using the DB2 Setup wizard.
- You are using a communication protocol that could not be detected by the by the DB2 Setup wizard.
- You installed DB2 manually on a UNIX-based system using the operating system's native installation tools.

Communication protocols can also be configured using the Command Line Processor (CLP).

Restrictions:

The following restrictions apply:

- You cannot use the Control Center to configure communication protocols for a partitioned DB2 server.
- Modifying an instance's communication protocol settings may require you to update the database connection catalogs on the client (reconfigure client-to-server communications).

Procedure:

To configure communication protocols for local instances, perform the following steps:

1. Launch the Control Center.
2. Click on the **[+]** beside a system's name to get the instances folder.
3. Select either the Databases or Gateway Connections folder and click on the **[+]** beside the **Instances** folder to get a list of instances on a particular system.
4. Select the instance that you want to configure and click on the right mouse button.
5. Select the **Setup communications** option from the pop-up menu. The Setup communications window opens.
6. Use the Setup communications window to configure communication protocols for the instance that you selected. Invoke the online help by clicking **Help** or by pressing **F1**.
7. You must stop and start the instance for these changes to take effect.
   a. To stop the database manager instance, select the instance, click with the right mouse button and select the **Stop** option from the pop-up menu.
   b. To start the database manager instance, select the instance, click with the right mouse button and select the **Start** option from the pop-up menu.

Related tasks:

- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Configuring NetBIOS communications for a DB2 instance" on page 40
- "Configuring TCP/IP communications for a DB2 instance" on page 37
- "Configuring Named Pipes communications for a DB2 instance" on page 44

Related reference:

- "Client-to-Server communication scenarios" on page 11

DB2 server communications configuration using the Control Center

The Control Center is a graphical tool used to administer DB2® databases. The Control Center's setup communications function allows you to display the protocols and configuration parameters that a server instance is configured to use. It also allows you to modify the parameter values of a configured protocol, as well as add or delete protocols.

When you add support for a new protocol to the server system, the setup communications function detects and generates server instance parameter values for the new protocol. You can accept or modify these values before use. When you remove support for an existing protocol from the server system, the setup communications function detects the protocol that has been removed and disables its use by the server instance.

You can add a protocol that has not been detected, however, you must supply all of the parameter values required before you proceed.

The setup communications function can be used to maintain communications for both local and remote server instances, provided that an Administration Server is running on the server system.

Modifying instance communication settings that have been previously configured may require you to update the database connection catalogs on the client. You can do this by:

- Using the Configuration Assistant on the client. Select the database connection that you want to change. Under the **Selected** menu, select **Change database**. This will launch a Wizard that will help you with the changes.
- Using the command line processor on the client to uncatalog and recatalog the node, depending on the values changed on the server.

Related tasks:

- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Configuring communication protocols for a local DB2 instance" on page 34

Related reference:

- "Client-to-Server communication scenarios" on page 11

Configuring DB2 server communications using the Command Line Processor

Setting communication protocols for a DB2 instance

Setting communication protocols for a DB2 instance is part of the main tasks of:

- Configuring NetBIOS communications for a DB2 instance
- Configuring Named Pipes communications for a DB2 instance
- Configuring TCP/IP communications for a DB2 instance

The DB2COMM registry variable allows you to set communication protocols for the current DB2 instance. If the DB2COMM registry variable is undefined or set to null, no protocol connection managers are started when the database manager is started.

The DB2COMM registry variable can be set to any combination of the following keywords, separated by commas:

netbios
starts NetBIOS support

npipe starts NAMED PIPE support

tcpip starts TCP/IP support

Prerequisites:

You require `sysadm` authority.

Procedure:

To set the communication protocol(s) for the instance:

- Enter the **db2set DB2COMM** command from the DB2 command window:

  ```
  db2set DB2COMM=protocol_names
  ```

  For example, to set the database manager to start connection managers for the Named Pipes and TCP/IP communication protocols, enter the following command:

  ```
  db2set DB2COMM=npipe,tcpip
  db2stop
  db2start
  ```

Related reference:

- "db2start - Start DB2 Command" in the *Command Reference*
- "db2stop - Stop DB2 Command" in the *Command Reference*
- "db2set - DB2 Profile Registry Command" in the *Command Reference*
- "Client-to-Server communication scenarios" on page 11

Configuring DB2 server communications (TCP/IP)

Configuring TCP/IP communications for a DB2 instance

This task describes how to configure TCP/IP communications on your DB2 server using the DB2 Command Line Processor (CLP). Communication protocols on the DB2 server must be configured in order for your DB2 server to accept inbound requests from remote DB2 clients.

Most protocols are automatically detected and configured when you set up DB2 using the DB2 Setup wizard. Perform this task if:

- You deselected the TCP/IP communication protocol when you set up DB2 using the DB2 Setup wizard.
- You added the TCP/IP communication protocol to your network after you set up DB2 using the DB2 Setup wizard.
- The TCP/IP communication protocol was not detected by the DB2 Setup wizard.

- You installed DB2 manually on a UNIX-based system using the operating system's native installation tools.

Prerequisites:

Before you configure TCP/IP communications for a DB2 instance:

- Ensure that TCP/IP is functional on the DB2 server. TCP/IP must also be functional on the DB2 client to establish a connection.
- Identify either a Connection Service name *and* Connection Port, or just a Connection Port.

  Connection Service Name and Connection Port
  The name is used to update the Service name (*svcename*) parameter in the database manager configuration file at the server. When a Connection Service name is specified, the services file must be updated with the same Service name, a port number, and the protocol. The Service name is arbitrary but must be unique within the services file. A sample value for the service name could be `server1`. If you are using DB2 Enterprise Server Edition in a partitioned format, ensure that the port number does not conflict with the port numbers used by the Fast Communications Manager (FCM). The Connection port must be unique within the services file. A sample value for the port number and protocol could be `3700/tcp`.

  Connection Port
  The Service name (*svcename*) parameter in the database manger configuration file at the server can be updated with a port number. If this is the case, it is not necessary to update the services file. If you are using DB2 Enterprise Server Edition in a partitioned format, ensure that the port number does not conflict with the port numbers used by the Fast Communications Manager (FCM) or any other applications on the system. A sample value for the port number could be `3700`.

Procedure:

To configure TCP/IP communications for a DB2 instance:

1. Update the services file on the server.
2. Update the database manager configuration file on the server.
3. Set communication protocols.

Related tasks:

- "Updating the services file on the server for TCP/IP communications" on page 39
- "Updating the database manager configuration file on the server for TCP/IP communications" on page 39
- "Setting communication protocols for a DB2 instance" on page 36
- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Configuring communication protocols for a local DB2 instance" on page 34

Related reference:

- "Client-to-Server communication scenarios" on page 11

Updating the database manager configuration file on the server for TCP/IP communications

This task is part of the main task of *Configuring TCP/IP communications for a DB2 instance*.

You must update the database manager configuration file with the service name (*svcename*) parameter.

Procedure:

To update the database manger configuration file:

1. Log on to the system as a user with System Administrative (SYSADM) authority.
2. If you are using a UNIX server, set up the instance environment:
   ```
   . INSTHOME/sqllib/db2profile    (for Bash, Bourne or Korn shell)
   source INSTHOME/sqllib/db2cshrc (for C shell)
   ```
3. Start the DB2 command line processor (CLP).
4. Update the database manager configuration file with the Service name (*svcename*) parameter by entering the following commands:
   ```
   update database manager configuration using svcename
     [service_name|port_number]
   db2stop
   db2start
   ```
   If a service name is being specified, the *svcename* used must match the Connection Service name specified in the services file.

   For example, if the Connection Service name in the services file was entered as server1, enter the following commands:
   ```
   update database manager configuration using svcename server1|3100
   db2stop
   db2start
   ```
   After the database manager is stopped and started again, view the database manager configuration file to ensure that these changes have taken effect. View the database manager configuration file by entering the following command:
   ```
   get database manager configuration
   ```

Related reference:

- "db2start - Start DB2 Command" in the *Command Reference*
- "db2stop - Stop DB2 Command" in the *Command Reference*

Updating the services file on the server for TCP/IP communications

This task is part of the main task of *Configuring TCP/IP communications for a DB2 instance*.

The TCP/IP services file specifies the ports that server applications can listen on for client requests. If you specified a service name in the *svcename* field of the DBM configuration file, the services file must be updated with the service name to port number/protocol mapping. If you specified a port number in the *svcename* field of the DBM configuration file, the services file does *not* need to be updated.

Update the services file and specify the ports that you want the server to listen on for incoming client requests. The default location of the services file depends on the operating system:

UNIX /etc

Windows NT, Windows 2000, Windows XP, and Windows Server 2003
%SystemRoot%\system32\drivers\etc

Windows 98 and Window ME
\windows

Prerequisites:

If you are using Network Information Services (NIS) on your network (for UNIX servers only) you must update the `services` file located on your master server.

Procedure:

Using a text editor, add the Connection entry to the services file. For example:

```
server1  3700/tcp # DB2 connection service port
```

where:

server1
represents the connection service name

3700 represents the connection port number

tcp represents the communication protocol that you are using

Related tasks:

- "Configuring NetBIOS to start when the DB2 instance is started (Windows NT)" on page 42
- "Updating the database manager configuration file on the server for TCP/IP communications" on page 39

Configuring DB2 server communications (NetBIOS)

Configuring NetBIOS communications for a DB2 instance

This tasks describes how to configure NetBIOS communications for a DB2 instance using the DB2 command line processor (CLP). Communication protocols on the DB2 server must be configured in order for your DB2 server to accept inbound requests from remote DB2 clients.

Most protocols are automatically detected and configured when you set up DB2 using the DB2 Setup wizard. Perform this task if:

- You deselected the NetBIOS communication protocol when you set up DB2 using the DB2 Setup wizard.
- You added the NetBIOS communication protocol to your network after you set up DB2 using the DB2 Setup wizard.
- NetBIOS was not be detected by the by the DB2 Setup wizard.

Prerequisites:

To configure a NetBIOS connection between a DB2 client and DB2 server, ensure that:

- NetBIOS is functional on the server machine.
- You have identified the following parameter values:

  Adapter number (adapter_number)
  The local logical adapter that will be used for the NetBIOS connection. The server uses adapter 0 if this parameter is not configured.

  Workstation name (nname)
  The NetBIOS name of the server workstation. nname is a name, chosen by the user, which must be unique among all NetBIOS nodes in the network. If you are using DB2 Enterprise Server Edition in a partitioned configuration, ensure that the last 4 characters are unique among all NetBIOS nodes in the network.

Procedure:

To configure NetBIOS communications for a DB2 instance:

1. Set the communication protocol for the instance.
2. Configure the NetBIOS interface on the server.
3. Update the database manager configuration file on the server.
4. Windows NT only: Configure NetBIOS to autostart when the DB2 instance is started

Related tasks:

- "Setting communication protocols for a DB2 instance" on page 36
- "Configuring the NetBIOS interface to setup communications on the DB2 server" on page 41
- "Updating the database manager configuration file on the server for NetBIOS" on page 43
- "Configuring NetBIOS to start when the DB2 instance is started (Windows NT)" on page 42
- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Configuring communication protocols for a local DB2 instance" on page 34

Related reference:

- "Client-to-Server communication scenarios" on page 11

Configuring the NetBIOS interface to setup communications on the DB2 server

This task is part of the main task of *Configuring NetBIOS for a DB2 instance*.

Prerequisites:

DB2 uses registry parameters to control its use of the NetBIOS resources on the server. You must use the db2nbadapters registry parameter if you want to specify a value other than the default Logical adapter number 0. You can set the db2nbadapters parameter by entering the **db2set db2nbadapters=***adapter_number* command. The *adapter_number* can be a list of adapter numbers separated by commas.

Procedure:

To determine which value(s) can be used for the adapter number on the server:

1. Open the Windows Control Panel.
2. Double-click on the **Network** icon and select the Services tab.
3. Select the **NetBIOS Interface** icon from the Network Services window and click on the **Properties** push button.
4. Scroll through the network routes until you find the Logical adapter number and record it on your worksheet. If you do not want to change this adapter number, go to step 7.
5. To change the logical adapter number, select the associated LAN Number, and click on the **Edit** push button. Enter the new adapter number (or the value that you set for the db2nbadapters) registry variable.
6. Record the new adapter number on your worksheet.
7. Click **OK**.
8. Click Close. The Network Settings Change window opens.
9. Shutdown and reboot your system for these changes to take effect. Select the **Yes** push button to shutdown and reboot your system or select the **No** push button to shutdown and reboot your system at a later time.

Each adapter number must be uniquely associated with a network route. Windows NT, Windows 2000, Windows XP, and Windows Server 2003 have a built in checking facility that will not allow you to specify the same adapter number for different network routes. If a Network route already exists that is using the adapter number 0, assign a different number to that route. Approve the changes by clicking on **OK**.

The next step in configuring NetBIOS communications for a DB2 instance is to update the database manager configuration file.

Related tasks:

- "Updating the database manager configuration file on the server for NetBIOS" on page 43

Related reference:

- "db2set - DB2 Profile Registry Command" in the *Command Reference*

Configuring NetBIOS to start when the DB2 instance is started (Windows NT)

This task is part of the main task of *Configuring NetBIOS communications for a DB2 instance*.

If your NetBIOS protocol was configured when you installed the server (or the instance-owning machine on DB2 Enterprise Server Edition partitioned system), the setup program automatically created a NetBIOS dependency for the server. You will need to perform the steps in this task to manually create a dependency on NetBIOS for any new instances. The dependancy causes NetBIOS to start when the DB2 instance is started.

Procedure:

To configure NetBIOS to start when the DB2 instance is started:

1. Go to the x:\Program Files\IBM\SQLLIB\bin directory, where x: represents the drive on which the server was installed.
2. Enter the **db2depnb** command as follows:

   ```
   db2depnb instance_name
   ```

   where *instance_name* is the name of the instance that you want to create a dependency for.

This records a dependency on the startup order which causes NetBIOS to start before a DB2 instance starts.

If you remove the NetBIOS protocol from your network, you must remove the dependencies that were created during installation, and any dependencies that you created for additional instances. Failure to remove these dependencies may cause problems when running DB2 after the NetBIOS protocol has been removed from the network.

To remove a dependency, enter the **db2depnb** command as follows:

```
db2depnb instance_name /r
```

where *instance_name* is the name of the instance for which you are removing a dependency.

Related tasks:

- "Configuring the NetBIOS interface to setup communications on the DB2 server" on page 41
- "Updating the database manager configuration file on the server for NetBIOS" on page 43

Updating the database manager configuration file on the server for NetBIOS

This task is part of the main task of *Configuring NetBIOS communications for a DB2 instance*.

This task provides steps for updating the database manager configuration file with the *server's* workstation name (*nname*) parameter using the command line processor (CLP).

Prerequisites:

System Administrative (SYSADM) authority is required.

Procedure:

To update the database manager configuration file:

1. Log on to the system.
2. Update the database manager configuration file with the server's Workstation name (*nname*) parameter using the following commands in the command line processor:

   ```
   update database manager configuration using nname nname
   db2stop
   db2start
   ```

   For example, if the server's workstation name (*nname*) is `server1`, use:

```
update database manager configuration using nname server1
db2stop
db2start
```

After the database manager is stopped and started again, view the database manager configuration file to ensure that these changes have taken effect. View the database manager configuration file by entering the following command:

```
get database manager configuration
```

The next step in configuring NetBIOS communications for a DB2 instance is to configure NetBIOS to autostart when the DB2 instance is started. This next step is optional and only performed on Windows NT, Windows 2000, Windows XP, or Windows Server 2003.

Related tasks:

- "Configuring the NetBIOS interface to setup communications on the DB2 server" on page 41

Related reference:

- "db2start - Start DB2 Command" in the *Command Reference*
- "db2stop - Stop DB2 Command" in the *Command Reference*

Configuring DB2 server communications (Named Pipes)

Configuring Named Pipes communications for a DB2 instance

This task describes how to configure Named Pipes for a DB2 instance using the CLP.

Prerequisites:

Before you configure Named Pipes for a DB2 instance:

- Named Pipes must be functional on the server. To configure a connection, Named Pipes must also be functional on the DB2 client.

Procedure:

To configure Named Pipes communications for a DB2 instance, set the DB2COMM registry variable.

Related tasks:

- "Configuring communication protocols for a remote DB2 instance" on page 33
- "Configuring communication protocols for a local DB2 instance" on page 34

Related reference:

- "Client-to-Server communication scenarios" on page 11

Part 2. Response file installation

Chapter 5. Response files

Response file installation basics

Unlike the DB2® Setup wizard, a DB2 response file installation lets you install DB2 without any user input. This method is useful not only for large-scale deployments of DB2, but also for embedding the DB2 installation process transparently inside your customized installation and configuration procedure. A response files installation is performed by DB2 setup using user-generated response files.

A *response file* is an ASCII text file that contain setup and configuration information. It can be generated either with DB2 utilities or by manual editing. The setup and configuration data would have to be entered during an interactive installation, but with a response file, the installation can proceed without any intervention.

A response file specifies configuration and setup parameters such as the destination directory (Windows only) and the products and components to install. It can also be used to:

- Create instances
- Set up global DB2 registry variables
- Set up instance variables
- Set up instance database manager configuration settings

You can create a response file:

- By modifying one of the sample response files that are provided.
- Using the response file generator (Windows only).
- Using the DB2 Setup wizard to save the setup and configuration data.

Related concepts:

- "About the response file generator (Windows)" on page 58

Related reference:

- "Available sample response files (Windows and UNIX)" on page 63
- "Response file keywords (Windows and UNIX)" on page 64
- "DB2 Control Server response file keywords (Windows)" on page 68
- "db2rspgn - Response File Generator Command (Windows)" in the *Command Reference*

Response file considerations

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

- The response file format has changed from DB2® Version 7 to DB2 Version 8. As a result, there are version limitations as to where response files can be used. For example, any response file generated in DB2 Version 8 can only be used to install DB2 Version 8.1; it cannot be used to install DB2 Version 7. The opposite is also true, where response files generated in DB2 Version 7 cannot be used to install DB2 Version 8.

- You can save your settings in a response file during the installation in the **Select the installation action** panel of the DB2 Setup wizard. This option is only available during a Custom installation.
- You can use a response file generated during an installation only if you allow the installation process to complete. If you cancel the installation, or if the installation fails, the response file will not be created.
- If you use the response file generator (Windows only), you are creating the response file based on an existing installation. This method is recommended when you have a more complex configuration, one that you manually configured.
- If you are using the DB2 Setup wizard, you are creating a response file based on just the installation you are performing. This method is recommended if you have either a fairly simple configuration or if you want to create a response file that you plan to later customize.
- You can use a response file to install an identical configuration across every workstation on your network or to install multiple configurations of a DB2 product. You can then distribute this file to every workstation where you want this product to be installed.

Related concepts:

- "Response file installation basics" on page 47

Related tasks:

- "Installing DB2 products using Microsoft Systems Management Server (SMS)" on page 77
- "Response file installation of DB2 overview (UNIX)" on page 59
- "Response file installation of DB2 overview (Windows)" on page 53

Creating a response file using the DB2 Setup wizard

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

Prerequisites:

You can only create a response file using the DB2 Setup wizard if you are performing a Custom installation.

Procedure:

To create a response file using the DB2 Setup wizard:

1. From the DB2 Launchpad, select **Install Product**.
2. Select the product you want to install and click **Next** to launch the DB2 Setup wizard.
3. Click **Next**.
4. In the **Select the installation type** window, select the **Custom** option.
5. In the **Select the installation action** window, select the **Save your setting in a response file** option.
6. Proceed through the rest of the installation panels selecting the options you want.

7. In the **Start copying files and create response file** window, in the **Response file name** field type the path where you want the DB2 Setup wizard to place the generated response.
8. Click **Finish** to install.
9. When the installation has completed, the DB2 Setup wizard will have placed the generated response file in the path you specified.

For example, if you installed the DB2 Run-Time Client in English, Arabic, Japanese, Russian, and Traditional Chinese, the generated response file will look similar to the following:

```
PROD=RUNTIME_CLIENT
LIC_AGREEMENT=ACCEPT
FILE=C:\Program Files\IBM\SQLLIB\
INSTALL_TYPE=CUSTOM

COMP=BASE_CLIENT
COMP=SYSTEM_BIND_FILES
COMP=CLIENT_TOOLS
COMP=JDBC_SUPPORT
COMP=LDAP_EXPLOITATION
COMP=MDAC
COMP=ODBC_SUPPORT
COMP=OLE_DB_SUPPORT
COMP=SQLJ_SUPPORT
COMP=APPC_DB2_CLIENT_SUPPORT
COMP=NETBIOS_DB2_CLIENT_SUPPORT
COMP=NPIPE_DB2_CLIENT_SUPPORT
COMP=TCPIP_DB2_CLIENT_SUPPORT


LANG=EN
LANG=AR
LANG=JP
LANG=RU
LANG=TW


INSTANCE=DB2
DB2.NAME=DB2
DEFAULT_INSTANCE=DB2
DB2.TYPE=CLIENT
DB2_USERSGROUP_NAME=DB2USERS
DB2_ADMINGROUP_NAME=DB2ADMNS
```

The following is a DB2 Run-Time Client sample response file:

```
* Sample response file for IBM DB2 Run-Time Client
* -----------------------------------------------
*
* Comments are made by placing either a * or a # at the start of a line, or by
* placing ** or ## after the start of a line to comment out the rest of that
* line.
*
* For descriptions of DB2 registry variables, please see Appendix A in the
* "Administration Guide: Performance".
*
* For descriptions of configuration parameters, please see Chapter 13 in the
* "Administration Guide: Performance".
*
* For  introduction of performing a response file installation, please see
* Chapter 6 in the "DB2 Installation and Configuration Supplement".
*
* Do not uncomment selected components (the COMP keywords) unless you change
* the INSTALL_TYPE to CUSTOM.
```

```
| * ============================================================================
|
| * General Options
| * ---------------
| PROD                            = RUNTIME_CLIENT
| *LIC_AGREEMENT                   = DECLINE or ACCEPT (default=DECLINE)
| *FILE                            = C:\Program Files\IBM\SQLLIB
| *INSTALL_TYPE                    = TYPICAL, COMPACT, or CUSTOM (default=TYPICAL)
| *LANG                            = AR (default=Operating System Language)
| *LANG                            = BG (default=Operating System Language)
| *LANG                            = BR (default=Operating System Language)
| *LANG                            = CN (default=Operating System Language)
| *LANG                            = CZ (default=Operating System Language)
| *LANG                            = DE (default=Operating System Language)
| *LANG                            = DK (default=Operating System Language)
| *LANG                            = FI (default=Operating System Language)
| *LANG                            = FR (default=Operating System Language)
| *LANG                            = EL (default=Operating System Language)
| *LANG                            = EN (default=Operating System Language)
| *LANG                            = ES (default=Operating System Language)
| *LANG                            = HR (default=Operating System Language)
| *LANG                            = HU (default=Operating System Language)
| *LANG                            = IW (default=Operating System Language)
| *LANG                            = IT (default=Operating System Language)
| *LANG                            = JP (default=Operating System Language)
| *LANG                            = KR (default=Operating System Language)
| *LANG                            = NL (default=Operating System Language)
| *LANG                            = NO (default=Operating System Language)
| *LANG                            = PL (default=Operating System Language)
| *LANG                            = PT (default=Operating System Language)
| *LANG                            = RO (default=Operating System Language)
| *LANG                            = RU (default=Operating System Language)
| *LANG                            = SE (default=Operating System Language)
| *LANG                            = SL (default=Operating System Language)
| *LANG                            = SK (default=Operating System Language)
| *LANG                            = TR (default=Operating System Language)
| *LANG                            = TW (default=Operating System Language)
| *COMP                            = SYSTEM_BIND_FILES
| *COMP                            = MDAC
| *COMP                            = ODBC_SUPPORT
| *COMP                            = OLE_DB_SUPPORT
| *COMP                            = JDBC_SUPPORT
| *COMP                            = SQLJ_SUPPORT
| *COMP                            = LDAP_EXPLOITATION
| *COMP                            = CLIENT_TOOLS
| *COMP                            = TCPIP_DB2_CLIENT_SUPPORT
| *COMP                            = NETBIOS_DB2_CLIENT_SUPPORT
| *COMP                            = NPIPE_DB2_CLIENT_SUPPORT
| *COMP                            = APPC_DB2_CLIENT_SUPPORT
| *COMP                            = COMMAND_CENTER
| *CREATE_ICONS                    = YES or NO (default=YES)
| *AUTOSTART_CONFIG_ASSISTANT      = YES or NO (default=NO)
| *REBOOT                          = YES or NO (default=NO)
| *KILL_PROCESSES                  = YES or NO (default=NO)
|
|
|
| * Global DB2 Registry Variables
| * -----------------------------
| *DB2ACCOUNT                      = BLANK or char(199)
| *DB2BQTIME                       = BLANK or 1 - MAX
| *DB2BQTRY                        = BLANK or 0 - MAX
| *DB2CHKPTR                       = BLANK, ON or OFF
| *DB2CLIINIPATH                   = BLANK or char(260)
| *DB2CODEPAGE                     = BLANK or 0 - MAX
| *DB2COUNTRY                      = BLANK or 1 - 999
| *DB2DBDFT                        = BLANK or char(8)
```

```
*DB2DEFPREP                    = BLANK, ALL, YES or NO
*DB2DISCOVERYTIME              = BLANK or 20 - MAX
*DB2DMNBCKCTLR                 = BLANK, ? or char()
*DB2_ENABLE_LDAP               = BLANK, YES or NO
*DB2IQTIME                     = BLANK or 1 - MAX
*DB2JD_PORT_NUMBER             = BLANK or 1024-65536
*DB2JVIEW                      = BLANK, ON or OFF
*DB2LDAPHOST                   = BLANK or host name
*DB2LDAP_BASEDN                = BLANK or char()
*DB2LDAPCACHE                  = BLANK or char()
*DB2LDAP_CLIENT_PROVIDER       = BLANK, MICROSOFT or IBM
*DB2LOCK_TO_RB                 = BLANK or STATEMENT
*DB2NBDISCOVERRCVBUFS          = BLANK or 16 - MAX
*DB2NOEXITLIST                 = BLANK, ON or OFF
*DB2OPTIONS                    = BLANK or char(): -/+[a,c,e[c|s],n,o,p,s,t,v,w,x]
*                                and/or -[f,l,r,z]filename
*DB2RQTIME                     = BLANK or 1 - MAX
*DB2SORCVBUF                   = BLANK or 1024-65536
*DB2SOSNDBUF                   = BLANK or 1024-65536
*DB2_GRP_LOOKUP                = BLANK or char()


* General information for instance to be created
* --------------------------------------------
INSTANCE                       = DB2
DEFAULT_INSTANCE               = DB2
DB2.NAME                       = DB2
*DB2.TYPE                      = CLIENT


* Default Instance Client Import Profile file
* -----------------------------------------
*DB2.CLIENT_IMPORT_PROFILE     = filename


* Default Instance DBM CFG settings
* --------------------------------
*DB2.AUTHENTICATION            = CLIENT, DCS, DCS_ENCRYPT, SERVER, SERVER_ENCRYPT,
*                                KERBEROS(Windows 2000 only) or
*                                KRB_SERVER_ENCRYPT(Windows 2000 only)
*DB2.CATALOG_NOAUTH            = YES or NO
*DB2.DFT_CLIENT_COMM           = BLANK or APPC, NETBIOS, TCPIP, NPIPE
*DB2.DIAGLEVEL                 = 0 - 4
*DB2.DIAGPATH                  = BLANK or char(215)
*DB2.DIR_CACHE                 = YES or NO
*DB2.DIR_OBJ_NAME              = BLANK or char(255) (length of DIR_OBJ_NAME +
*                                DIR_PATH_NAME <    = 255)
*DB2.DIR_PATH_NAME             = BLANK or char(255) (length of DIR_OBJ_NAME +
*                                DIR_PATH_NAME <    = 255)
*DB2.DISCOVER                  = DISABLE, KNOWN or SEARCH
*DB2.DISCOVER_COMM             = BLANK or NETBIOS, TCPIP
*DB2.DRDA_HEAP_SZ              = 16 - 60000
*DB2.NNAME                     = BLANK or char(8)
*DB2.NOTIFYLEVEL               = 0 - 4
*DB2.ROUTE_OBJ_NAME            = BLANK or char(255) (length of SQL_DIR_NAME_SZ)
*DB2.RQRIOBLK                  = 4096 - 65535
*DB2.SYSADM_GROUP              = BLANK or char(30)
*DB2.SYSCTRL_GROUP             = BLANK or char(30)
*DB2.SYSMAINT_GROUP            = BLANK or char(30)
*DB2.TM_DATABASE               = BLANK or char(8)
*DB2.TP_MON_NAME               = BLANK or char(19)


* Default Instance DB2 Registry Variables
* --------------------------------------
*DB2.DB2ACCOUNT                = BLANK or char(199)
*DB2.DB2BQTIME                 = BLANK or 1 - MAX
```

```
*DB2.DB2BQTRY                  = BLANK or 0 - MAX
*DB2.DB2CHKPTR                 = BLANK, ON or OFF
*DB2.DB2CLIINIPATH             = BLANK or char(260)
*DB2.DB2CODEPAGE               = BLANK or 0 - MAX
*DB2.DB2COUNTRY                = BLANK or 1 - 999
*DB2.DB2DBDFT                  = BLANK or char(8)
*DB2.DB2DEFPREP                = BLANK, ALL, YES or NO
*DB2.DB2DISCOVERYTIME          = BLANK or 20 - MAX
*DB2.DB2DMNBCKCTLR             = BLANK, ? or char()
*DB2.DB2IQTIME                 = BLANK or 1 - MAX
*DB2.DB2JD_PORT_NUMBER         = BLANK or 1024-65536
*DB2.DB2JVIEW                  = BLANK, ON or OFF
*DB2.DB2LOCK_TO_RB             = BLANK or STATEMENT
*DB2.DB2NBDISCOVERRCVBUFS      = BLANK or 16 - MAX
*DB2.DB2NOEXITLIST             = BLANK, ON or OFF
*DB2.DB2OPTIONS                = BLANK or char(): -/+[a,c,e[c|s],n,o,p,s,t,v,w,x]
*                                 and/or -[f,l,r,z]filename
*DB2.DB2RQTIME                 = BLANK or 1 - MAX
*DB2.DB2SORCVBUF               = BLANK or 1024-65536
*DB2.DB2SOSNDBUF               = BLANK or 1024-65536
*DB2.DB2_GRP_LOOKUP            = BLANK or char()

* Information Center Server Information
* -------------------------
* These keywords are applicable to setting up information center server information.
* DB2_DOCHOST                   = host name (default=localhost)
* DB2_DOCPORT                   = 51000 - 65535

* Enhanced security settings
* ------------------------------------------------------
* DB2_EXTSECURITY               = YES or NO (default=YES)
* DB2_USERSGROUP_NAME           = char(30)  (Default=DB2USERS)
* DB2_ADMINGROUP_NAME           = char(30)  (default=DB2ADMNS)
```

Related concepts:

- "Response file installation basics" on page 47

Related tasks:

- "Response file installation of DB2 overview (UNIX)" on page 59
- "Response file installation of DB2 overview (Windows)" on page 53

Chapter 6. Response file installation (Windows)

Response file installation of DB2 overview (Windows)

This section describes how to perform a response file installation on Windows.

Prerequisites:

Before you begin the installation, ensure that:

- Your system meets all of the memory, hardware, and software requirements to install your DB2 product.
- You have all of the required user accounts to perform the installation.

Procedure:

To perform a response file installation of a DB2 product on a single machine:

1. Create and customize a response file from a sample response file.
2. Run the **setup -u** command specifying your customized response file. For example:

```
setup -u my.rsp
```

To perform a response file installation of a DB2 product on multiple machines:

1. Make the DB2 files available for an installation
2. Set up shared access to a directory
3. Create a response file using the sample response file
4. Install a DB2 product using a response file

Related tasks:

- "Making the DB2 files available for a response file installation (Windows)" on page 54
- "Setting up shared access to a directory (Windows)" on page 54
- "Creating and editing a response file (Windows)" on page 55
- "Installing a DB2 product using a response file (Windows)" on page 56
- "Installing DB2 products using Microsoft Systems Management Server (SMS)" on page 77

Related reference:

- "Installation requirements for DB2 servers (Windows)" in the *Quick Beginnings for DB2 Servers*
- "Required user accounts for installation of DB2 servers (Windows)" in the *Quick Beginnings for DB2 Servers*
- "Available sample response files (Windows and UNIX)" on page 63

Making the DB2 files available for a response file installation (Windows)

To make the DB2 files available for a response file installation, you must copy the required files from the CD-ROM to another drive.

Procedure:

To copy the required files from the product CD-ROM to another drive:

1. Insert the appropriate DB2 product CD-ROM into your CD-ROM drive.
2. Create a directory (for example, c:\db2prods).
3. Use the **cpysetup.bat** command to copy the DB2 installation files. This command is located in the *x:*\db2\windows\utilities directory, where *x:* represents your CD-ROM drive.

   The command syntax is as follows:

   ```
   cpysetup.bat directory
   ```

   where: *directory* indicates where the files will be copied.

Related tasks:

- "Setting up shared access to a directory (Windows)" on page 54

Setting up shared access to a directory (Windows)

This task allows you to grant your network workstations access to a directory on the installation server.

Procedure:

To set up shared access to a directory on the installation server:

1. Open Windows Explorer.
2. Select the directory on the installation server that you want to share. For example, c:\db2prods.
3. Select **File**—>**Properties** from the menu bar. The Properties window for the directory opens.
4. Select the **Sharing** tab.
5. Select the **Shared As** button.
6. In the **Share Name** field, type a share name. For example, db2nt.
7. To specify *Read access* for everyone:
   a. Click the **Permissions** push button. The Access Through Share Permissions window opens.
   b. Ensure that the **Everyone** option is selected in the **Name** box.
   c. Click the **Type of Access** drop down box and select the **Read** option.
   d. Click **OK**. You are returned to the Properties window of the directory for which you want to set up shared access.
   e. Click **OK**.

Related tasks:

- "Creating and editing a response file (Windows)" on page 55

- "Making the DB2 files available for a response file installation (Windows)" on page 54

Creating and editing a response file (Windows)

As you read this topic, one of the following scenarios should apply:

- You have already set up and configured your DB2 product and you want to distribute this exact configuration across your network using the response file generated by the response file generator. If this scenario applies to you, then skip this topic.
- You want to create a response file based on the sample response file (db2/*windows*/samples/db2exp.rsp).
- You had the DB2 Setup wizard create the response file based on your installation and want to make changes to it.

Procedure:

To create and edit a response file:

1. If you are using the sample response file, then make a copy of it and open it in a text editor. If you are using the response file created by the DB2 Setup wizard, open it in a text editor.
2. Customize the response file.

   To activate an item in the response file, remove the asterisk (*) to the left of the keyword. Then, replace the current setting to the right of the value with the new setting. The possible settings are listed to the right of the equal sign.

   Some product response files have mandatory keywords that you must provide values for. The mandatory keywords are documented in the comments of each response file.

   Keywords that are unique to installation are only specified in a response file during a response file installation.
3. Save the file on the shared network drive so that it is available to the installation server. If you have made any changes, save the file under a new file name to preserve the original sample response file. If you are installing directly from the CD-ROM, you should store the renamed response file on another drive.

For example, the following response file would install a DB2 Administration Client on the `c:\sqllib` directory, with the REBOOT and the catalog NO AUTHORIZATION options enabled.

Note: The COMP keywords will be effective only if the *Install_Type* is `CUSTOM`.

```
FILE                 = c:\sqllib
INSTALL_TYPE         = CUSTOM
PROD                 = ADMIN_CLIENT
REBOOT               = YES
INSTANCE             = DB2
DB2.NAME             = DB2
DB2.CATALOG_NOAUTH   = YES
```

If you specify the `DB2.CATALOG_NOAUTH=YES` keyword, users will not be required to have System Administrative (SYSADM) or System Controller (SYSCTRL) authority to catalog databases. `DB2.CATALOG_NOAUTH=YES` is the default setting with DB2 Client and DB2 Connect Personal Edition response files.

You should install DB2 products only on a drive which is local to the target workstation. Installing on a non-local drive can cause performance and availability problems.

Related tasks:

- "Installing a DB2 product using a response file (Windows)" on page 56
- "Setting up shared access to a directory (Windows)" on page 54

Related reference:

- "Available sample response files (Windows and UNIX)" on page 63
- "Response file keywords (Windows and UNIX)" on page 64

Installing a DB2 product using a response file (Windows)

Prerequisites:

Log on to the system on which you want to install the DB2 product with a user account that you want to use to perform the installation.

Procedure:

To perform an installation from the workstation where the DB2 product will be installed:

1. Connect to the shared directory of the network drive or CD-ROM drive containing the DB2 installation files by entering the following command from the command prompt:

   ```
   net use x: \\computer_name\directory_sharename /USER:domain\username
   ```

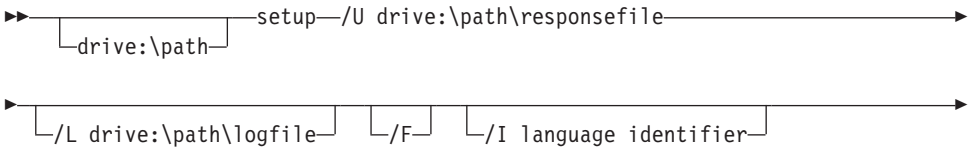
   where:

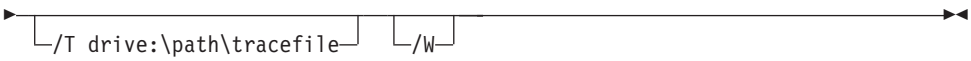
   - *x:* represents the shared directory on the local drive.
   - *computer_name* represents the computer name of the remote machine where the DB2 install files reside.
   - *directory_sharename* represents the share name of the directory on the network drive or CD-ROM drive where the DB2 installation files reside.
   - *domain* represents the domain where the account is defined.
   - *username* represents a user that has access to this system.

   For example, to use the remote `db2prods` directory, which was shared as `db2nt` and is located on the remote server `codesrv`, as the local `x:` drive, enter the following command:

   ```
   net use x: \\codesrv\db2nt
   ```

   Depending on how security is set up across your network, you may have to specify the */USER* parameter.
2. Run the setup program by issuing the following from a command prompt:





where:

/U Specifies the fully qualified response file name. If you change and rename the sample response file that is provided, make sure that this parameter matches the new name. This parameter is required.

/L Specifies the fully qualified log file name, where setup information and any errors occurring during setup are logged. This parameter is optional.

If you do not specify the log file's name, DB2 names it `db2.log`. The `db2.log` file is located in the `My Documents\db2log` folder.

/F Forces any DB2 processes to stop before installation. This parameter is optional.

/I Specifies the two-character country/region code that represents your language. If you do not specify the language, the setup program determines the system language, and launches the appropriate DB2 installation for that language. This parameter is optional.

/T Creates a file with installation trace information. This parameter is optional.

/W Specifies that the launching process for the installation will wait until the installation is finished before exiting. This parameter is optional.

For example, to install a DB2 Administration Client using a custom response file that you created called `admin.rsp` (located in the same directory as the DB2 install files), enter the following command:

```
x:\setup /U admin.rsp
```

If you are using a response file that was created using the response file generator, ensure that all the instance profiles are located in the same drive and directory as the response file that you specify.

3. Check the messages in the log file when the installation finishes.

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 Universal Database and DB2 related products.

Related concepts:

- "About the response file generator (Windows)" on page 58
- "DB2 Information Center" on page 128
- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Creating and editing a response file (Windows)" on page 55
- "Stopping DB2 processes during a response file installation (Windows)" on page 72
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" on page 134

Response file generator (Windows)

About the response file generator (Windows)

The response file generator utility, which is available on Windows® 32-bit and 64-bit operating systems, creates a response file from an existing installed and configured DB2® product. You can use the generated response file to recreate the exact setup on other machines.

For example, you could install and configure a DB2 Run-Time client to connect to various databases across your network. Once this DB2 client is installed and configured to access all the databases that your users have access to, you can run the response file generator to create a response file and a configuration profile for each DB2 instance.

The response file generator creates a response file for the installation and instance profiles for each instance that you specify. You can then use the response file to create identical clients across your network.

The response file generator also gives you the option to create the installation response file without an instance profile. This option allows you to create identical copies of your installed client without the configuration information.

Related tasks:

- "Response file installation of DB2 overview (Windows)" on page 53
- "Exporting and importing a profile" on page 70

Related reference:

- "db2rspgn - Response File Generator Command (Windows)" in the *Command Reference*

Chapter 7. Response file installation (UNIX)

Response file installation of DB2 overview (UNIX)

This task describes how to perform response file installations on UNIX. You can use the response file to install additional components or products after an initial installation.

Restrictions:

You should be aware of the following limitations when using the response files method to install DB2 on UNIX platforms:

- If you set any instance or global profile registry keywords to BLANK (the word ″BLANK″), that keyword is, in effect, deleted from the list of currently set keywords.
- Ensure that you have sufficient disk space prior to installing. Otherwise you may need to do some manual cleanup (such as removing RPMs that may be partially installed) if the installation fails.
- It is recommended that you install from a network file system rather than a CD-ROM drive if you are performing multiple installations. Installing from a network file system significantly decreases the amount of time it will take to perform the installation. If you are planning on installing multiple clients, you should set up a mounted file system on a code server to improve performance.

Prerequisites:

Before you begin the installation, ensure that:

- Your system meets all of the memory, hardware, and software requirements to install your DB2 product.
- For systems using NIS, you must set up all of the userids/groups before running the response file installation.

Procedure:

1. Mount your CD-ROM.
2. Create a response file using the sample response file
3. Install DB2 using a response file

Related tasks:

- “Creating a response file using the sample response file (UNIX)” on page 60
- “Installing DB2 using a response file (UNIX)” on page 61
- “Response file installation of DB2 overview (Windows)” on page 53

Related reference:

- “Installation requirements for DB2 servers (Windows)” in the *Quick Beginnings for DB2 Servers*

Creating a response file using the sample response file (UNIX)

At this point, one of the following scenarios apply:

- You want to create a response file based on the sample response file.
- You had the DB2 Setup wizard create the response file based on your installation and you want to make changes to it.

The DB2 CD-ROM includes a ready-to-use sample response file with default entries. The sample response files are located in

```
<cd-rom>/db2/platform/samples
```

where <cd-rom> represents the location of the installable version of DB2.

Sample response files are available for each DB2 product.

Procedure:

To create and edit a response file based on the sample response file:

1. Copy the sample response file to a local file system and edit it using the Response file keywords topic as a guide. Skip this step if you are using the response file created by the DB2 Setup wizard.
2. Customize the sample response file.

   To activate an item in the response file, remove the asterisk (*) to the left of the keyword. Then, replace the current setting to the right of the value with the new setting. The possible settings are listed to the right of the equal sign.

   Some product response files have mandatory keywords that you must provide values for. The mandatory keywords are documented in the comments of each response file.

   Keywords that are unique to installation are only specified in a response file during a response file installation.
3. Save the file on an exported file system available to everyone on the network.

If you are installing directly from the CD-ROM, you must store the renamed response file on another drive.

Note: You can specify the name of the instance owner in the response file. If this user does not already exist, DB2 will create this user on your system.

Related tasks:

- "Installing DB2 using a response file (UNIX)" on page 61

Related reference:

- "Available sample response files (Windows and UNIX)" on page 63
- "Response file keywords (Windows and UNIX)" on page 64

Installing DB2 using a response file (UNIX)

Prerequisites:

You need to be logged in as a user with root authority.

Procedure:

To perform a response file installation:

1. Enter the **db2setup** command as follows:

   ```
   <cd-rom>/db2setup -r <reponsefile_directory>/<reponse_file>
   ```

   where:

   - `<cd-rom>` represents the location of the DB2 installable image;
   - `<responsefile_directory>` represents the directory where the customized response file is located; and
   - `<response_file>` represents the name of the response file.

2. Check the messages in the log file when the installation finishes. The location of the log file is: `/tmp/db2setup.log`

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 Universal Database and DB2 related products.

Related concepts:

- "Response file considerations" on page 47
- "Response file installation basics" on page 47
- "DB2 Information Center" on page 128
- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)" on page 132

Related reference:

- "Response file keywords (Windows and UNIX)" on page 64

Chapter 8. Response file reference topics

Available sample response files (Windows and UNIX)

The DB2 CD-ROM includes ready-to-use sample response files with default entries.

The sample response files are located in:
`db2/platform/samples`

where *platform* refers to the appropriate hardware platform.

You can use the following sample response files to install DB2 products on supported workstations:

- DB2 Application Development Client – db2adcl.rsp
- DB2 Administration Client – db2admcl.rsp
- DB2 Connect Enterprise Edition – db2conee.rsp
- DB2 Connect Personal Edition – db2conpe.rsp
- DB2 Cube Views – db2cube.rsp
- DB2 Data Links Manager – db2dlm.rsp
- DB2 Enterprise Server Edition – db2ese.rsp (single partition)
- DB2 Enterprise Server Edition – db2eseio.rsp (instance owning multiple partition) (Windows)
- DB2 Enterprise Server Edition – db2esenn.rsp (new node multiple partition) (Windows)
- DB2 Personal Edition – db2pe.rsp
- DB2 Query Patroller – db2qp.rsp
- DB2 Run-Time Client – db2rtcl.rsp
- DB2 Spatial Extender Server – db2gse.rsp
- DB2 UDB Express Edition – db2exp.rsp
- DB2 Warehouse Manager – db2wm.rsp
- DB2 Workgroup Server Edition – db2wse.rsp
- Information Integrator Relational Wrappers – db2relc.rsp (Windows) or db2iirw.rsp (UNIX)
- Information Integrator Non-Relational Wrappers – db2lsdc.rsp (Windows) or and db2iinw.rsp (UNIX)

Related concepts:

- "Response file installation basics" on page 47

Related tasks:

- "Response file installation of DB2 overview (UNIX)" on page 59
- "Response file installation of DB2 overview (Windows)" on page 53

Related reference:

- "Response file keywords (Windows and UNIX)" on page 64
- "DB2 Control Server response file keywords (Windows)" on page 68

Response file keywords (Windows and UNIX)

This topic describes some of the keywords that you will specify when performing a response file installation. You can use the response file to install additional components or products after an initial install. The following response file keywords are explained in conjunction with the sample response file. The edited response file must then be copied to your shared network drive or network file system where it will be used by your installation server.

PROD Specifies the product that you want to install. The options are:

- `ADMINISTRATION_CLIENT` for the DB2 Administration Client
- `APPLICATION_DEVELOPMENT_CLIENT` for the DB2 Application Development Client
- `CONNECT_APPLICATION_SERVER_EDITION` for DB2 Connect Application Server Edition
- `CONNECT_ENTERPRISE_EDITION` for DB2 Connect Enterprise Edition
- `CONNECT_PERSONAL_EDITION` for DB2 Connect Personal Edition
- `CONNECT_UNLIMITED_EDITION` for DB2 Connect Unlimited Edition
- `CUBE_VIEWS` for DB2 Cube Views
- `DATA_LINKS_MANAGER` for DB2 Data Links Manager
- `DB2_HTML_DOCUMENTATION` for the DB2 HTML Documentation CD
- `ENTERPRISE_SERVER_EDITION` for DB2 Enterprise Server Edition
- `II_RELATIONAL_WRAPPERS` for Information Integrator Relational Wrappers
- `II_NONRELATIONAL_WRAPPERS` for Information Integrator Non-Relational Wrappers
- `PERSONAL_EDITION` for DB2 Personal Edition
- `QUERY_PATROLLER` for DB2 Query Patroller
- `RUNTIME_CLIENT` for the DB2 Run-Time Client
- `RUNTIME_CLIENT_LITE` for the DB2 Run-Time Client Lite
- `SPATIAL_EXTENDER` for DB2 Spatial Extender Server
- `WAREHOUSE_MANAGER` for DB2 Data Warehouse Manager
- `WAREHOUSE_MANAGER_CONNECTORS` for the DB2 Data Warehouse Manager Connectors
- `WORKGROUP_SERVER_EDITION` for DB2 Workgroup Server Edition

Note: You should not comment out the **PROD** keyword as you may have some missing components even with a successful response file installation.

FILE Windows platforms only. Specifies the destination directory for a DB2 product.

INSTALL_TYPE
Specifies the type of install.

The options are:

- COMPACT
- TYPICAL
- CUSTOM

A compact or typical install type will ignore any custom keywords (COMP).

TYPICAL_OPTION

A typical install contains function applicable for most users of the product. The TYPICAL options adds to this functionality by installing additional functionality that is typical for users installing either a data warehousing environment or a satellite environment. These options are only valid if the INSTALL_TYPE keyword is equal to TYPICAL. For example, remove the * (uncomment) from the following:

```
*TYPICAL_OPTION = DATA_WAREHOUSE
*TYPICAL_OPTION = SATELLITE_ADMIN
```

COMP

Specifies the components that you want to install. The setup program automatically installs components that are required for a product, and ignores requested components that are not available.

In a custom install, you must select components individually. This can be done by uncommenting the COMP keywords for the components that you want installed (this differs depending on the product). For example, to install the CA, remove the * (uncomment) from the following:

```
*COMP    = CONFIGURATION_ASSISTANT
```

Note: This keyword is ignored unless your **INSTALL_TYPE** is *CUSTOM*.

LANG

This refers to language selection keywords. You must uncomment any additional languages that you would like to install. The English language is mandatory and is always selected. For example, to install French, remove the * (uncomment) from the following:

```
*LANG=FR
```

REBOOT

Windows platforms only. Specifies whether to restart the system when the installation has completed.

KILL_PROCESSES

Windows platforms only. If you have an existing version of DB2 and it is running and this keyword is set to YES, it will terminate your running DB2 processes without prompt.

DB2 Administration Server settings

To enable any of the following DAS settings, remove the * (uncomment). This setting is applicable for both Windows and UNIX environments:

- On UNIX:

  ```
  *DAS_USERNAME = dasuser
  *DAS_PASSWORD = dasp
  *DAS_GID = 100
  *DAS_UID = 100
  *DAS_GROUP_NAME = dasgroup
  *DAS_SMTP_SERVER = jsmith.torolab.ibm.com
  ```

- On Windows:

  ```
  *DAS_USERNAME = dasuser
  *DAS_DOMAIN = domain
  *DAS_PASSWORD = dasp
  *DAS_SMTP_SERVER = jsmith.torolab.ibm.com
  ```

The options below specify where the DAS contact list will be kept. If the contact list is remote, then you must specify a username and password that has authority to add a contact to the system.

```
*DAS_CONTACT_LIST = LOCAL or REMOTE (DEFAULT = LOCAL)
*DAS_CONTACT_LIST_HOSTNAME = hostname
*DAS_CONTACT_LIST_USERNAME = username
*DAS_CONTACT_LIST_PASSWORD = password
```

Special instance specifications

All of these take instance sections not instance names. The instance section must exist in the response file.

- Windows:
  - DEFAULT_INSTANCE - This is the default instance.
  - CTLSRV_INSTANCE - This is the instance that is configured to act as the satellite control server.
- UNIX:
  - WAREHOUSE_INSTANCE - This keyword tells the installation which instance will be set up to use the Data Warehouse. The `IWH.environment` file will be updated with the name of the instance whose section appears here.

Instance specifications

You can use the response file to create as many instances as you want. To create a new instance you must specify an instance section using the INSTANCE keyword. Once this has been done, any keywords that contain the value specified in INSTANCE as a prefix belong to that instance.

The following are examples of instance specifications for both Windows and UNIX environments:

- On UNIX:

```
*INSTANCE=DB2_INSTANCE
*DB2_INSTANCE.NAME = db2inst1
*DB2_INSTANCE.TYPE = ESE
*DB2_INSTANCE.PASSWORD = PASSWORD
*DB2_INSTANCE.UID = 100
*DB2_INSTANCE.GID = 100
*DB2_INSTANCE.GROUP_NAME = db2grp1
*DB2_INSTANCE.HOME_DIRECTORY = /home/db2inst1
*DB2_INSTANCE.SVCENAME = db2cdb2inst1
*DB2_INSTANCE.PORT_NUMBER = 50000
*DB2_INSTANCE.FCM_PORT_NUMBER = 60000
*DB2_INSTANCE.MAX_LOGICAL_NODES = 4
*DB2_INSTANCE.AUTOSTART = YES
*DB2_INSTANCE.DB2COMM = TCPIP
*DB2_INSTANCE.WORDWIDTH = 32
*DB2_INSTANCE.FENCED_USERNAME = USERNAME
*DB2_INSTANCE.FENCED_PASSWORD = PASSWORD
*DB2_INSTANCE.FENCED_UID = 100
*DB2_INSTANCE.FENCED_GID = 100
*DB2_INSTANCE.FENCED_GROUP_NAME = db2grp1
*DB2_INSTANCE.FENCED_HOME_DIRECTORY =/home/db2inst1
```

- On Windows:

```
*INSTANCE = DB2_INSTANCE
*DB2_INSTANCE.NAME = db2inst1
*DB2_INSTANCE.TYPE = ESE
*DB2_INSTANCE.PASSWORD = PASSWORD
*DB2_INSTANCE.USERNAME = db2admin
*DB2_INSTANCE.SVCENAME = db2cdb2inst1
*DB2_INSTANCE.PORT_NUMBER = 50000
*DB2_INSTANCE.FCM_PORT_NUMBER = 60000
*DB2_INSTANCE.MAX_LOGICAL_NODES = 4
*DB2_INSTANCE.AUTOSTART = YES
*DB2_INSTANCE.DB2COMM = TCPIP, NETBIOS, NPIPE
```

Database Section

These keywords can be used to have the installation create or catalog a database on the machine that is being installed.

```
DATABASE = DATABASE_SECTION
DATABASE_SECTION.INSTANCE = DB2_INSTANCE
DATABASE_SECTION.DATABASE_NAME = TOOLSDB
DATABASE_SECTION.LOCATION = LOCAL
DATABASE_SECTION.ALIAS = TOOLSDB
DATABASE_SECTION.USERNAME = username
DATABASE_SECTION.PASSWORD = password

* these keywords are only used for REMOTE databases
    that are being cataloged
DATABASE_SECTION.SYSTEM_NAME = hostname
DATABASE_SECTION.SVCENAME = db2cdb2inst1
```

WAREHOUSE_CONTROL_DATABASE

The value for this keyword should be one of the database section keywords that were specified in the response file. For example:

```
*WAREHOUSE_CONTROL_DATABASE = DATABASE_SECTION
```

The database section that is specified with this keyword must specify the USERNAME and PASSWORD keywords.

WAREHOUSE_SCHEMA

For example, to set the warehouse schema, remove the * (uncomment) from the following:

```
*WAREHOUSE_SCHEMA = wm_schema
```

ICM_DATABASE

This keyword specifies the database to use to store the information catalog. The value for this keyword should be one of the database section keywords that were specified in the response file.

```
*ICM_DATABASE = DATABASE_SECTION
```

ICM_SCHEMA

To set the information catalog schema, remove the * (uncomment) from the following:

```
*ICM_SCHEMA = icm_schema
```

TOOLS_CATALOG_DATABASE

This keyword specifies the database to use to store the tools catalog. The value for this keyword should be one of the database section keywords that were specified in the response file.

```
*TOOLS_CATALOG_DATABASE = DATABASE_SECTION
```

TOOLS_CATALOG_SCHEMA

To set the tools catalog schema, remove the * (uncomment) from the following:

```
*TOOLS_CATALOG_SCHEMA = toolscat_schema
```

Contact Section

These keywords define a contact section that will be created by the installation process if it does not already exist. The Health notifications for the instance that is specified will be sent to this contact.

```
CONTACT = contact_section
contact_section.CONTACT_NAME = contact name
contact_section.INSTANCE = DB2_INSTANCE
contact_section.EMAIL = Email address
contact_section.PAGER = NO
```

Related concepts:

- "Response file installation basics" on page 47

Related reference:

- "Available sample response files (Windows and UNIX)" on page 63
- "DB2 Control Server response file keywords (Windows)" on page 68

DB2 Control Server response file keywords (Windows)

This topic describes some of the keywords that you will specify when performing a response file installation of the DB2 Control Server on Windows operating systems (Windows NT, Windows 2000, Windows XP, and Windows Server 2003). The DB2 Control Server provides administrative and status reporting support for satellites by using the satellite control database SATCTLDB. This database is automatically created when the Control Server component is installed.

These keywords can be used to specify the values of database manager configuration parameters and the values of the DB2 registry variables.

To install the Control Server, select the CONTROL_SERVER component (COMP=CONTROL_SERVER), which is only available on DB2 Enterprise Server Edition. You will also need to create an instance for your Control Server (INSTANCE=CTLSRV) and provide a name for that instance (CTLSRV.NAME=DB2CTLSV).

CTLSRV.AUTOSTART
Specifies whether or not to automatically start the DB2 Control Server instance (DB2CTLSV) each time the system is rebooted.

The default is YES, the DB2CTLSV instance starts automatically.

CTLSRV.SVCENAME
Specifies the DB2 Control Server instance, TCP/IP service name and can be used to override the default service name generated by the installation program. When used in conjunction with the CTLSRV.PORT_NUMBER keyword to override the default port number, you have complete control over the TCP/IP configuration for the DB2 Control Server instance.

CTLSRV.PORT_NUMBER
Specifies the DB2 Control Server instance, TCP/IP service name and can be used to override the default service name generated by the installation program. When used in conjunction with the CTLSRV.SVCENAME keyword to override the default port number, you have complete control over the TCP/IP configuration for the DB2 Control Server instance.

SATELITE_CONTROL_DATABASE
This keyword specifies the database you would like to use as the satellite Control Server. The value for this keyword should be one of the database section keywords that were specified in the response file:

```
*SATELITE_CONTROL_DATABASE = DATABASE_SECTION
```

Related concepts:

- "Response file installation basics" on page 47

Related tasks:

- "Creating a response file using the sample response file (UNIX)" on page 60

- "Creating and editing a response file (Windows)" on page 55

Related reference:
- "Available sample response files (Windows and UNIX)" on page 63

Response file installation error codes (Windows)

The following tables describe error return codes (primary and secondary) that may be encountered during a response file installation.

Table 9. Primary response file installation error codes

Error code value	Description
0	The action completed successfully.
1	The action returns a warning.
1603	A fatal error occurred during the installation.
3010	The installation is successful, however a reboot is required to complete the installation. This does not include installations where the ForceReboot action is run. This error code is not available on Windows Installer version 1.0.

Table 10. Secondary response file installation error codes

Error code value	Description
3	The path was not found.
5	Access was denied.
10	An environment error occurred.
13	The data is invalid.
87	One of the parameters was invalid.
1602	The installation was cancelled by the user.
1610	The configuration data is corrupt. Contact your support personnel.
1612	The installation source for this product is not available. Verify that the source exists and that you can access it.
1618	Another installation is already in progress. Complete that installation first before proceeding with this installation.
1622	There was an error opening the installation log file. Verify that the specified log file location exists and that it is writable.
1632	The **Temp** folder is either full or inaccessible. Verify that the **Temp** folder exists and that you can write to it.
1633	This installation package is not supported on this platform.
1638	Another version of this product is already installed. Installation of this version cannot continue.
1639	Invalid command line argument.

For more information regarding response file return codes, refer to the Microsoft Web site.

Related tasks:
- "Exporting and importing a profile" on page 70
- "Installing a DB2 product using a response file (Windows)" on page 56

Response file installation error codes (UNIX)

The following tables describe error return codes (primary and secondary) that may be encountered during a response file installation.

Table 11. Primary response file installation error codes

Error code value	Description
0	The action completed successfully.
1	The action returns a warning.
67	A fatal error occurred during the installation.
3010	The installation is successful, however a reboot is required to complete the installation.

Table 12. Secondary response file installation error codes

Error code value	Description
3	The path was not found.
5	Access was denied.
10	An environment error occurred.
13	The data is invalid.
87	One of the parameters was invalid.
66	The installation was cancelled by the user.
74	The configuration data is corrupt. Contact your support personnel.
76	The installation source for this product is not available. Verify that the source exists and that you can access it.
82	Another installation is already in progress. Complete that installation first before proceeding with this installation.
86	There was an error opening the installation log file. Verify that the specified log file location exists and that it is writable.
96	The **Temp** folder is either full or inaccessible. Verify that the **Temp** folder exists and that you can write to it.
97	This installation package is not supported on this platform.
102	Another version of this product is already installed. Installation of this version cannot continue.
103	Invalid command line argument.
143	The system does not have enough free space to continue with the installation.

Related tasks:

- "Exporting and importing a profile" on page 70
- "Installing DB2 using a response file (UNIX)" on page 61

Exporting and importing a profile

Procedure:

If you did not use a configuration profile when you installed your DB2 product using the response file that was created by the response file generator, you can enter the **db2cfexp** command to create a configuration profile. The **db2cfimp** command can then be used to import a configuration profile.

You can also use the CA to export and import a configuration profile.

Related concepts:

- "About the response file generator (Windows)" on page 58

Related reference:

- "db2cfimp - Connectivity Configuration Import Tool Command" in the *Command Reference*
- "db2cfexp - Connectivity Configuration Export Tool Command" in the *Command Reference*
- "db2rspgn - Response File Generator Command (Windows)" in the *Command Reference*

Response file installation using a batch file (Windows)

You can use a batch file to launch a response file installation.

Procedure:

To launch a response file installation using a batch file:

1. Edit or create your response file.
2. Create your batch file using a text editor. For example, create a batch file called `ese.bat` with the following content to install DB2 Enterpise Server Edition:

   ```
   c:\db2ese\setup /U c:\PROD_ESE.rsp
   echo %ERRORLEVEL%
   ```

   where `/U` specifies the location of the response file and `echo %ERRORLEVEL%` specifies that you want the batch process to display the installation return code.
3. Run the batch file, using the **ese.bat** command issued from a command prompt.

Related concepts:

- "Response file considerations" on page 47
- "Response file installation basics" on page 47

Related tasks:

- "Response file installation of DB2 overview (Windows)" on page 53

Related reference:

- "Response file installation error codes (Windows)" on page 69

Stopping DB2 processes during an interactive installation (Windows)

If any DB2 processes are running when the DB2 setup command is issued, the installation of DB2 cannot occur.

For example, during an interactive installation, the following message is issued: `DB2 is currently running and locked by the following process(es)`. The user is then prompted to stop the DB2 processes so that the installation can proceed.

You should exercise extreme caution when you stop active DB2 processes so that an installation can occur. The termination of a DB2 process can cause the loss of data. The following describes how to stop these processes.

Procedure:

To stop any running DB2 processes for an interactive installation, specify the **/F** option for the setup command. The **/F** option stops the running processes, and the message and prompt are not displayed.

In addition, DB2 services can be viewed in the Services Window to ensure that they have been stopped.

Note: It is recommended that you issue the **db2stop** command for each instance before installing to lessen the risk of data loss.

Related tasks:

- "Stopping DB2 processes during a response file installation (Windows)" on page 72

Related reference:

- "db2stop - Stop DB2 Command" in the *Command Reference*

Stopping DB2 processes during a response file installation (Windows)

If any DB2 processes are running when the DB2 setup command is issued, the installation of DB2 cannot occur. The user must stop the DB2 processes so that the installation can proceed. You should exercise extreme caution when you stop active DB2 processes so that an installation can occur. The termination of a DB2 process can cause the loss of data. The following describes how to stop these processes.

Restrictions:

The ability to specify that any running DB2 processes are stopped when the DB2 setup command is issued is available on Windows 32-bit and 64-bit operating systems only. This process is not a necessary step on UNIX to perform an installation.

Procedure:

For a response file installation, you can use either of the following methods to stop any active DB2 processes. If you specify either of these options, the active DB2 processes are stopped before the installation proceeds.

- Specify the **/F** option for the setup command. You can use this option along with the **/U**, **/L** and /I options that are already available.
- Set the KILL_PROCESSES keyword to `YES` (the default is `NO`).

Note: It is recommend that you issue the **db2stop** command for each instance before installing to lessen the risk of data loss.

Related tasks:

- "Installing DB2 using a response file (UNIX)" on page 61
- "Installing a DB2 product using a response file (Windows)" on page 56
- "Stopping DB2 processes during an interactive installation (Windows)" on page 71

Related reference:

- "db2stop - Stop DB2 Command" in the *Command Reference*

Part 3. Distributed installation using Microsoft Systems Management Server (SMS)

Chapter 9. Distributed installation using Microsoft Systems Management Server (SMS)

Installing DB2 products using Microsoft Systems Management Server (SMS)

With Microsoft Systems Management Server (SMS), you can install DB2 across a network, and set up the installation from a central location. An SMS install will minimize the amount of work the users will have to perform. This installation method is ideal if you want to roll out an installation on a large number of clients all based on the same setup.

Prerequisites:

You must have at least SMS Version 2.0 installed and configured on your network for both your SMS server and SMS workstation. Refer to *Microsoft's Systems Management Server Administrator's Guide* for your platform for more details on how to:

- Set up SMS (including setting up primary and secondary sites).
- Add clients to the SMS system.
- Set up inventory collection for clients.

Procedure:

To install DB2 products using SMS:

1. Import the DB2 install file into SMS
2. Create the SMS package on the SMS server
3. Distribute the DB2 installation package across your network

When you are using SMS, you have control over which response file you will use. You can have several different installation options, resulting in several different response files. When you configure the SMS install package, you can specify which response file to use.

Related tasks:

- "Importing the DB2 install file into SMS" on page 77
- "Creating the SMS package on the SMS server" on page 78
- "Distributing the DB2 installation package across your network" on page 79
- "Configuring db2cli.ini for a response file installation" on page 83
- "Configuring remote access to a server database" on page 82
- "Response file installation of DB2 overview (Windows)" on page 53
- "Exporting and importing a profile" on page 70

Importing the DB2 install file into SMS

Importing the DB2 install file into SMS is part of the larger task of installing DB2 products using SMS.

To set up a package through SMS, you will use the sample SMS package description (**db2.pdf**) file and your customized response file and instance profile. If you are using a response file that was created using the response file generator, you must ensure that all the instance profiles are located in the same drive and directory as the response file that you specify.

Procedure:

To import the DB2 install files into SMS:

1. Insert the appropriate CD-ROM into the drive.
2. Start the **Microsoft SMS Administrator**. The **Microsoft SMS Administrator Logon** window opens.
3. Enter your logon ID and password, and click **OK**. The **Open SMS** window opens.
4. Select the **Packages** window type and click **OK**. The **Packages** window opens
5. Select **File—>New** from the menu bar. The **Package Properties** window opens.
6. Click the **Import** push button. The **File Browser** opens. Find the `db2.pdf` file located in `x:\db2\common\`, where `x:` represents the CD-ROM drive.
7. Click **OK**.

Related tasks:

- "Creating the SMS package on the SMS server" on page 78
- "Response file installation of DB2 overview (Windows)" on page 53

Creating the SMS package on the SMS server

Creating the SMS package on the SMS server is part of the larger task of *Installing DB2 products using SMS*.

An *SMS package* is a bundle of information that you send from the SMS server to an SMS client. The package consists of a set of commands that can be run on the client workstation. These commands could be for system maintenance, changing client configuration parameters, or installing software.

Procedure:

To create an SMS package:

1. From the **Package Properties** window, click on the **Workstations** push button. The **Setup Package For Workstations** window opens, with the imported response file and instance profile ready to use.
2. In the **Source Directory** field, enter the name of the parent directory where you put the copied DB2 files. For example, `x:\db2prods`, where `x:` represents your CD-ROM drive.
3. Select the name of the product to install from the **Workstation Command Lines** window.
4. If you changed and renamed the sample response file, click on the **Properties** push button. The **Command Line Properties** window opens. Change the value of the **Command Line** parameter to match the new response file name and path. If you are using a response file that was created using the response file generator, ensure that all the instance profiles are located in the same drive and directory as the response file that you specify.
5. Click **OK**.

6. Click the **Close** push button.
7. Click **OK** to close the opened windows. The Packages window shows the name of the new SMS package.

Related tasks:

- "Distributing the DB2 installation package across your network" on page 79
- "Importing the DB2 install file into SMS" on page 77

Distributing the DB2 installation package across your network

Distributing the DB2 installation package across your network is part of the larger task of *Installing DB2 products using SMS*.

Now that you have created the package, you have three options:

- You can distribute your SMS package and then log on locally on the client workstation to run the package. This option requires that the user account used to perform the installation belongs to the *local Administrators* group where the account is defined.
- You can distribute your SMS package and then log on remotely on the client workstation to run the package. This option requires that the user account used to perform the installation belongs to the *Domain Admins* group.
- You can set up your SMS package with an auto-install feature.

Options 1 and 2 are available to you, but for a large number of installations option 3 is recommended, which will be our focus for this step.

Once sent to the client workstation, the SMS package will tell the client workstation what code to execute, and the location, on the SMS server, of that code.

Procedure:

To send the code to a client workstation:

1. Open the **Sites** window.
2. Open the **Packages** window.
3. In the **Packages** window, select the appropriate package and drag it onto the target client in the **Sites** window. The **Job Details** window opens. This window lists the package that will be sent to the client machine (Machine Path) and the command that will be executed at the workstation.
4. Select the **Run Workstation Command** check box and select the installation package that you want to use.
5. In the **Run Phase** box of the **Job Details** window, select the **Mandatory After** check box. A default mandatory date is set one week from the current date. Adjust the date as required.
6. Deselect the **Not Mandatory over Slow Link** check box. This feature is critical if you are installing across a large number of workstations. It is recommended that you stagger the installation to avoid overloading your server. For example, if you are considering an overnight install, then spread out the install time for a manageable amount of client workstation. For more information about completing the **Job Details** window, refer to *Microsoft's Systems Management Server Administrator's Guide* for your platform.

7. When the job specifications are complete, click **OK**. You are returned to the **Job Properties** window.
8. Add a comment that explains what the job will do. For example, `Install DB2 Run-Time Client.`
9. Click the **Schedule** push button and the **Job Schedule** window opens. This window will arrange a priority for this job. By default, the job is low priority and all other jobs will be executed first. It is recommended that you select medium or high priority. You can also select a time to start the job.
10. Click **OK** to close the **Job Schedule** window.
11. Click **OK**.

The job is created and the package is sent to the SMS client workstation.

To run the installation on the SMS client, perform the following steps:

1. On the target SMS client workstation, log on to the workstation with a user account that belongs to the *local Administrators* group where the account is defined. This level of authority is required because a system program install is being performed instead of a user program install.
2. Start the **Package Command Manager**. The **Package Command Manager** window opens.
3. When the SMS client workstation receives the packages from the SMS server, it is listed in the **Package Name** section of the window. Select the package and click on the **Execute** push button. The installation runs automatically.
4. Following installation, you must reboot the SMS client workstation before using DB2. **Important:** If you specified `REBOOT = YES` in your response file, the SMS client will reboot automatically.
5. Click **Start** and select **Programs—>SMS Client—>Package Command Manager** . The **Package Command Manager** window opens.
6. Click the **Executed Commands** folder and verify the execution of the package. Similarly, you can verify completion on the SMS server by checking the status of the job and ensuring that it has been changed to complete from pending or active.

On the SMS client, open the Package Command Manager again. When the package, which you created and sent to the client, appears under the Executed Commands folder, the installation has completed.

Related tasks:

- "Creating the SMS package on the SMS server" on page 78
- "Distributing DB2 Version 8 using Microsoft Systems Management Server (SMS)" on page 80

Distributing DB2 Version 8 using Microsoft Systems Management Server (SMS)

This section describes how to use the Microsoft Systems Management Server (SMS) to distribute DB2 Universal Database Version 8.

Prerequisites:

To distribute DB2 Version 8 using SMS, ensure that:

- your SMS environment has already been set up.

- your DB2 Version 8 install media is copied to a location where the contents of the install media can be edited.

Note: For information on how to set up your SMS environment, consult the documentation for that product.

Procedure:

To distribute DB2 Version 8 using SMS, perform the following:

1. Prepare the sample response file located on your DB2 install media for the type of DB2 installation that you want to perform. The sample response file is **db2*.rsp** and is located in the `db2\windows\samples` directory on your DB2 install media.
2. On an SMS Distribution Point computer in your SMS environment, open the SMS Administrator Console. Click on the **Site Database** drop down menu and right click on **Packages**.
3. Select **New** —> **Package From Definition**. The Create Package from Definition wizard opens.
4. Click **Next**. The Package Definition window opens. Browse for the desired package file from the `db2\windows\samples` directory located on your DB2 install media. The name of this file is in the form **db2*.pdf**. Click **Open**.
5. Select the appropriate package definition from the list displayed. Click **Next**. The Source Files window opens.
6. Select the **Create a compressed version of the source** radio button, and click **Next**. The Source Directory window opens.
7. Select the location type and directory of the DB2 install media, and click **Next**.
8. Click **Finish** to complete the creation of the SMS package.
9. From inside the SMS Administrator Console, open the **Site Database** drop down menu and select **Packages** —> **All Tasks** —> **Distribute Software**. The Distribute Software wizard opens.
10. Click **Next**. The Package window opens.
11. Select the **Distribute an existing package** radio button, and select the appropriate package from the list of packages shown. Click **Next**. The Distribute Points window opens. Select one or more distribution points for the package that you are planning to distribute.
12. Click **Next**. The Advertise a Program window opens.
13. Select the radio button indicating that you want to advertise the program to a collection, and select the program that you want to run from the list shown. Click **Next**. The Advertisement Target window opens.
14. Select either an existing collection of computers or a choose to create a new collection of computers where you want to advertise and install the selected program. Click **Next**. The Advertisement Name window opens.
15. Type in a name for the new advertisement and any comments that you want to add. Click **Next**. The Advertise to Subcollections window opens.
16. Specify where you want the relevant DB2 program to be run relative to the hierarchical setup of the SMS computers in your SMS environment. Click **Next**. The Advertisement Schedule window opens.
17. Select a date and time after which you want the DB2 program to be run on the collection of computers specified. You may also want to select a expiration time for the advertisement of the program. Click **Next**. The Assign Program window opens.

18. If you want the DB2 program to be a mandatory requirement on the computers in the specified collection, specify a date and time after which the program will automatically run. Click **Next**.
19. Click **Finish** to complete the Distribute Software wizard.

Related tasks:

- "Creating the SMS package on the SMS server" on page 78
- "Installing DB2 products using Microsoft Systems Management Server (SMS)" on page 77
- "Importing the DB2 install file into SMS" on page 77

Configuring remote access to a server database

Once you have installed your DB2 product, you can configure your product to access remote databases individually on each client workstation using the Configuration Assistant or the command line processor. DB2 uses the **CATALOG** command to catalog remote database access information:

- The **CATALOG NODE** command specifies the protocol information on how to connect to the host or to the server.
- The **CATALOG DATABASE** command catalogs the remote database name and assigns it a local alias.
- The **CATALOG DCS** command specifies that the remote database is a host or OS/400 database. (This command is only required for DB2 Connect Personal or Enterprise Editions).
- The **CATALOG ODBC DATA SOURCE** command registers the DB2 database with the ODBC driver manager as a data source.

Prerequisites:

If you plan to roll out multiple copies of DB2 clients with identical configurations, then you can create a batch file that will run your customized script.

For example, consider the following sample batch file, `myscript.bat`, used to run the script file:

```
@echo off
cls
db2cmd catmvs.bat
```

The `DB2CMD` command initializes the DB2 environment and the `catmvs.bat` file calls the batch job of the same name.

Here is a sample catalog script file, `catmvs.bat`, that could be used to add databases to a DB2 Connect Personal Edition workstation:

```
db2 catalog tcpip node tcptst1 remote mvshost server 446
db2 catalog database mvsdb at node tcptst1 authentication dcs
db2 catalog dcs database mvsdb as mvs_locator
db2 catalog system odbc data source mvsdb
db2 terminate
exit
```

Procedure:

You can either send these files to your client workstations manually or use SMS and have the script execute automatically after the installation and reboot have completed. To create another SMS package with the catalog script, perform the following steps:

1. Start the **SMS Administrator**. The **Open SMS** window opens.
2. Select the **Packages** window type and click **OK**. The **Packages** window opens.
3. Select **File—>New** from the menu bar. The **Package Properties** window opens.
4. Enter a name for your new package. For example, `batchpack`.
5. Enter a comment about the package. For example, `Package for batch file`.
6. Click on the **Workstations** push button. The **Setup Package for Workstations** window opens.
7. Enter the source directory. Ensure that the source directory is a location that both the server and the client have access to, and that contains the batch file that is to be run from the client workstation.
8. Under the **Workstation Command Lines** section, click on **New**. The **Command Line Properties** window opens.
9. Enter a command name.
10. Enter the command line.
11. Click the check box for the platforms that should be supported, under the **Supported Platforms** section.
12. Click **OK**.
13. Click **Close**.
14. Click **OK**.

Distribute this package in the same way as an installation package.

Related tasks:

- "Configuring db2cli.ini for a response file installation" on page 83
- "Installing DB2 products using Microsoft Systems Management Server (SMS)" on page 77
- "Distributing the DB2 installation package across your network" on page 79

Configuring db2cli.ini for a response file installation

The `db2cli.ini` file is an ASCII file which initializes the DB2 CLI configuration. This file is shipped to help you get started and can be found in the `x:\sqllib` directory, where `x:\sqllib` represents the install path for DB2.

Procedure:

If you need to use any specific CLI optimization values or CLI parameters, you can use your customized `db2cli.ini` file for your DB2 client workstations. To do so, copy your `db2cli.ini` file to the DB2 install directory (e.g. `c:\Program Files\IBM\SQLLIB`) on each DB2 client workstation.

Related tasks:

- "Configuring remote access to a server database" on page 82
- "Installing DB2 products using Microsoft Systems Management Server (SMS)" on page 77

Part 4. DB2 Web Applications

Chapter 10. Application server for DB2

Installing the application server for DB2

The application server for DB2 provides an embedded application server. This enables DB2-supplied Web applications to run without relying on an application server to be installed separately.

The application server for DB2 is available on one of two CDs:

- CD1 *DB2 Embedded Application Server and applications (XML registry, Web Administration tools and Java distributed debugger)* for Linux (x86, 32-bit) , Linux (iSeries and pSeries), Linux (S/390, zSeries), and Windows 32-bit.
- CD2 *DB2 Embedded Application Server and applications (XML registry, Web Administration tools and Java distributed debugger)* for AIX (32–bit), HP-UX, and Solaris Operating Environment.

The embedded application server is not supported on AIX 4.3.3.

Once the application server for DB2 is installed, you can start and stop it independent from DB2 using the **startServer** and **stopServer** commands in the *AppServer_install_path*/bin. The Web Administration Tools provided with DB2 can use the embedded application server.

Prerequisites:

Before you install the application server for DB2, ensure the following:

- DB2 ESE Version 8.2 or higher.
- At least one DB2 instance exists.

Restrictions:

The following restriction is for Red Hat Linux only.

The default Red Hat installation creates an association between the hostname of the machine and the loopback address, 127.0.0.1. In addition, the /etc/nsswitch.conf file is set up to use /etc/hosts before trying to look up the server using a name server (DNS). This loopback processing can hang utilities that start and stop a server, such as startServer.sh, even though the server might successfully start or stop.

Ensure that the host name is defined properly. The default configuration has localhost defined in the /etc/hosts file. The default /etc/nsswitch.conf looks only at the host file and not the DNS server.

To correct this problem, remove the 127.0.0.1 mapping to localhost in the /etc/hosts file, or, edit the name service configuration file /etc/nsswitch.conf to resolve the proper host name by using the name server. For example, remove the 127.0.0.1 mapping from the /etc/hosts file, which might look like this example:

```
# IP Address name of machine
n.n.n.n  hostname.domain.com
127.0.0.1 localhost
```

Otherwise, change the etc/nsswitch.conf file to search DNS before searching the hosts file. For example, hosts : dns files

Procedure:

To install the application server for DB2, perform the following:

1. Log on to the DB2 server as **root** on UNIX operating systems, or as a user with **Administrator** privileges on Windows operating systems.
2. For UNIX-based operating systems run the following command:

   ```
   . /db2instance_path/sqllib/db2profile
   ```

   where *db2instance_path* is where the DB2 instance was created.
3. Run the following command:

   ```
   db2appserverinstall
        -asroot absolute_path_for_App_Server_install
        -hostname hostname
   ```

   where *absolute_path_for_App_Server_install* is where you will install the application server for DB2 and *hostname* is the hostname of the machine.
4. If the installation succeeds, the following message will be returned:

   ```
   EAS001 installation successful.
   ```

   If the installation fails, an error message will be returned. All messages are written to a log file as follows:
   - On UNIX operating systems, the log file is located in `/tmp/easInstall.log`.
   - On Windows operating systems, the log file is located in `c:\%TEMP%\easInstall.log`.

Notes:

1. The default port used in the installation is **20000**. However, if you wish to use another port instead, edit the `UpdateExpressDB2Ports.bat` or the `UpdateExpressDB2Ports.sh` file with the port number that you wish to use and then run the **UpdateExpressPorts** command.
2. You must restart the application server for the port number change to take effect.
3. If you change the port values, remote administration will not be supported.

Once the application server for DB2 is installed, you can install DB2 Web Tools, enable the database for remote administration, or both. If you install DB2 Web Tools, you need to start the application server for DB2 locally. If you enable the application server for DB2, the application server starts automatically.

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 Universal Database and DB2 related products.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99

- "Uninstalling the application server for DB2" on page 95
- "Starting the application server for DB2 locally" on page 90
- "Stopping the application server for DB2 locally" on page 93
- "Enabling the application server for DB2" on page 89
- "Starting the application server for DB2 remotely" on page 91

Enabling the application server for DB2

After the application server for DB2 is installed, you can enable the database for remote administration.

A DB2 database must be enabled before you can use the remote administration features and perform remote operations through stored procedure calls.

Enabling the database does the following:

- connects to a specified database
- creates and populates metadata tables
- creates administration stored procedures
- updates the DBM CFG parameters, JDK_PATH, and JAVA_HEAP_SZ
- installs the DB2 Web Services Application.

Procedure:

To enable the application server for DB2 , perform the following:

1. Log on to the DB2 server as **root** on UNIX operating systems, or as a user with **Administrator** privileges on Windows operating systems.
2. For UNIX-based operating systems run the following command:

   ```
   . /db2instance_path/sqllib/db2profile
   ```

   where *db2instance_path* is where the DB2 instance was created.
3. Run one the following commands:
   - For UNIX operating systems:

     ```
     AppServer_install_path/bin/enable.sh
           -db db_alias
           -user db_user
           -password db_password
           -db2path path_to_sqllib
           -instance instance_name
           -easpath path_to_eas
           -fencedid fenced_userid
     ```

   - For Windows operating systems:

     ```
     AppServer_install_path\bin\enable
           -db db_alias
           -user db_user
           -password db_password
           -db2path path_to_sqllib
           -instance instance_name
           -easpath path_to_eas
     ```

     where:
     - *db_alias* is the alias of the database to be enabled.
     - *db_user* is the user id to use when connecting to the database.

- *db_password* is the password to use with the user id connecting to the database.
- *path_to_sqllib* is the path to the DB2 instance SQLLIB directory. This path is used to update DB2EAS with the required JAR files.
- *instance_name* is the name of a DB2 instance.
- *path_to_eas* is the path to the embedded application server.
- *fenced_userid* is the user id for the fenced user.

Once the application server for DB2 is enabled, the application server is started automatically.

Related tasks:

- "Installing the application server for DB2" on page 87
- "Automatically deploying DB2 Web Tools on the application server for DB2" on page 92

Starting the application server for DB2 locally

DB2 clients can start an application server for DB2 from either the native operating system command line or from the DB2 Command Line Processor window.

For systems with remote administration configured, the application server should be started using the fenced user ID.

Procedure:

To start the application server for DB2, perform the following:

1. Log on to the DB2 server as **root** on UNIX operating systems, or as a user with **Administrator** privileges on Windows operating systems.
2. Run one the following commands:
   - For UNIX operating systems:

     ```
     AppServer_install_path/bin/startServer.sh serverName
     ```

   - For Windows operating systems:

     ```
     AppServer_install_path\bin\startServer serverName
     ```

   where:
   - *AppServer_install_path* is the path where the application server for DB2 was installed.
   - *serverName* is the name of the application server for DB2.
3. Once the server has started successfully, the following message will be displayed:

   ```
   Server serverName open for e-business; process id is xxxx.
   ```

   If this message is not displayed, see the log. All messages are written to a log file as follows:
   - On UNIX operating systems, the log file is located in *AppServer_install_path*/logs/*serverName*/startServer.log .
   - On Windows operating systems, the log file is located in *AppServer_install_path*\logs*serverName*\startServer.log .

   where:

- *AppServer_install_path* is the path where the application server for DB2 was installed.
- *serverName* is the name of the application server for DB2.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Installing the application server for DB2" on page 87
- "Uninstalling the application server for DB2" on page 95
- "Stopping the application server for DB2 locally" on page 93

Starting the application server for DB2 remotely

DB2 clients can start an application server for DB2 from either the native operating system command line or from the DB2 Command Line Processor window.

Procedure:

To start the application server for DB2 remotely, perform the following:

1. You must already be connected to the enabled database with privileges, as defined by your Database Administrator, to run stored procedures. You must have the required privileges to execute the remote administration stored procedures and update the underlying metadata tables.
2. Run the following command:

   ```
   db2 "call db2eas.server('start',?,?)"
   ```

   where:

   - *?* is the output parameter message, used to return information such as error messages and warnings.
   - *?* is the output parameter return code, used to return an integer return code used in error checking in calling applications.
3. Once the server has started successfully, the output parameter values display. For example:

   ```
   Value of output parameters
   --------------------------
   Parameter Name : OUTMSG
   Parameter Value : Server started
   Parameter Name : OUTRC
   Parameter Value : 0
   Return Status = 0
   ```

Related tasks:

- "Automatically deploying DB2 Web Tools on the application server for DB2" on page 92

Automatically deploying DB2 Web Tools on the application server for DB2

DB2 Web Tools can be automatically deployed on the application server for DB2. The application server for DB2 provides an embedded application server within DB2 that enables DB2 web applications to run without relying on an application server to be installed separately. The application server for DB2 is available on one of two CDs:

- CD1 *DB2 Embedded Application Server and applications (XML registry, Web Administration tools and Java distributed debugger)* for Linux (x86, 32-bit) , Linux (iSeries and pSeries), Linux (S/390, zSeries), and Windows 32-bit.
- CD2 *DB2 Embedded Application Server and applications (XML registry, Web Administration tools and Java distributed debugger)* for AIX (32–bit), HP-UX, and Solaris Operating Environment.

The embedded application server is not supported on AIX 4.3.3.

Prerequisites:

Before you install the application server for DB2, ensure the following:

- That you are running DB2 ESE Version 8.2 or higher.
- At least one DB2 instance exists.

Procedure:

To automatically deploy DB2 Web Tools on the application server for DB2, perform the following:

1. Run one of the following commands:
   - For UNIX operating systems, change the directory to /bin (*<AS_root>/bin*), then run the following command:

     ```
     db2wa_deploy.sh -db2path db2path -instance instanceName
     ```

   - For Windows operating systems, change the directory to \bin (*<AS_root>\bin*), then run the following command:

     ```
     db2wa_deploy -db2path db2path -instance instanceName
     ```

   where:
   - *<AS_root>* is the installation path for the application server for DB2.
   - *db2path* is the installation path for DB2. The db2path can only be written using slashes rather than back slashes, even for Windows. For example, C:/Program Files/IBM/SQLLIB
   - *instanceName* is the DB2 instance name.

   For example:

   ```
   db2wa_deploy.sh -db2path /home/db2v8/sqlib -instance db2v8
   ```

2. Invoke the DB2 Web Tools enterprise application from a browser by entering the following:

   ```
   http://hostname:port_number/db2wa
   ```

   where:
   - *hostname* is the name of the DB2 server.
   - *port_number* is **20000** by default for HTTP connections, or **20010** for secure socket layer (SSL) connections, unless modified after the installation of the

application server. For the SSL connection, see
https://<*hostname*>:<*SSL_port_number*>/db2wa

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- Chapter 13, "Debugging DB2 Web Tools," on page 111

Stopping the application server for DB2 locally

DB2 clients can stop an application server for DB2 from either the native operating system command line or from the DB2 Command Line Processor window.

For systems with remote administration configured, the application server should be stopped using the fenced user ID.

Procedure:

To stop the application server for DB2, perform the following:

1. Log on to the DB2 server as **root** on UNIX operating systems, or as a user with **Administrator** privileges on Windows operating systems.
2. Run one the following commands:
   - For UNIX operating systems:

     AppServer_install_path/bin/stopServer.sh *serverName*
   - For Windows operating systems:

     AppServer_install_path\bin\stopServer *serverName*

   where:
   - *AppServer_install_path* is the path where the application server for DB2 was installed.
   - *serverName* is the name of the application server for DB2.

   Note: If global security for the application server for DB2 is enabled, a user ID and password are required to stop the server.
3. Once the server has stopped successfully, the following message will be returned:

   Server *serverName* stop completed.

   If this message is not displayed, see *AppServer_install_path*/logs/*serverName*/stopServer.log for details where:
   - *AppServer_install_path* is the path where the application server for DB2 was installed.
   - *serverName* is the name of the application server for DB2.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Installing the application server for DB2" on page 87
- "Uninstalling the application server for DB2" on page 95
- "Starting the application server for DB2 locally" on page 90
- "Automatically deploying DB2 Web Tools on the application server for DB2" on page 92
- "Uninstalling DB2 Web Tools from the application server for DB2" on page 94

Stopping the application server for DB2 remotely

DB2 clients can stop an application server for DB2 from either the native operating system command line or from the DB2 Command Line Processor window.

Procedure:

To stop the application server for DB2 remotely, perform the following:

1. You must already be connected to the enabled database with privileges, as defined by your Database Administrator, to run stored procedures. You must have the required privileges to execute the remote administration procedures and to update the underlying metadata tables.
2. Run the following command:

   ```
   db2 "call db2eas.server('stop',[user_id,password],?,?)"
   ```

   where:
   - *user_id* is only used if application server for DB2 Global Security is enabled (optional).
   - *password* is only used if application server for DB2 Global Security is enabled (optional).
   - *?* is the output parameter message, used to return information such as error messages and warnings.
   - *?* is the output parameter return code, used to return an integer return code used in error checking in calling applications.
3. Once the server has started successfully, the output parameter values display.

Related tasks:

- "Automatically deploying DB2 Web Tools on the application server for DB2" on page 92
- "Uninstalling DB2 Web Tools from the application server for DB2" on page 94

Uninstalling DB2 Web Tools from the application server for DB2

If the DB2 Web Tools are no longer required, they can be removed from your system.

Procedure:

To uninstall DB2 Web Tools from the application server for DB2, perform the following:

1. Log on to the DB2 server as **root** on UNIX operating systems, or as a user with **Administrator** privileges on Windows operating systems.

2. Run one the following commands:
   - For UNIX operating systems:
     AppServer_install_path/bin/db2wa_uninstall.sh
   - For Windows operating systems:
     AppServer_install_path\bin\db2wa_uninstall.bat

Related tasks:

- "Uninstalling the application server for DB2" on page 95
- "Stopping the application server for DB2 locally" on page 93
- "Stopping the application server for DB2 remotely" on page 94

Uninstalling the application server for DB2

If the application server is no longer required for DB2-supplied Web applications, it can be removed from your system after it has been installed.

Restrictions:

The application server's uninstall program references DB2, therefore it should be invoked prior to the uninstalling DB2.

Procedure:

To uninstall the application server for DB2, perform the following:

1. Log on to the DB2 server as **root** on UNIX operating systems, or as a user with **Administrator** privileges on Windows operating systems.
2. For UNIX-based operating systems run the following command:
   ./*db2instance_path*/sqllib/db2profile

   where *db2instance_path* is where the DB2 instance was created.
3. Run the following command:
   AppServer_install_path/bin/db2appserveruninstall

   where the *AppServer_install_path* is the path where the application server for DB2 was installed.

Uninstalling DB2 Web Services Application from the application server for DB2

The DB2 Web Services Application was automatically installed when the application server for DB2 was enabled.

To uninstall the DB2 Web Services Application, enter the following command:

```
db2 "call db2eas.uninstallapp('DB2WebServices',[user_id,password],?,?)"
```

where:

- *user_id* is the user required to log on to the application server when global security is enabled in the application server for DB2.
- *password* is required to log on to the application server when global security is enabled in the application server for DB2.
- *?* is the output parameter message, used to return information such as error messages and warnings.

- *?* is the output parameter return code, used to return an integer return code used in error checking in calling applications.

Once the DB2 Web Services Application has been uninstalled, if you need to re-install it at a later time, enter the following command:

```
db2 "call db2eas.installApp('DB2WebServices',[user_id,password],?,?)"
```

where:

- *user_id* is the user required to log on to the application server when global security is enabled in the application server for DB2.
- *password* is required to log on to the application server when global security is enabled in the application server for DB2.
- *?* is the output parameter message, used to return information such as error messages and warnings.
- *?* is the output parameter return code, used to return an integer return code used in error checking in calling applications.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Installing the application server for DB2" on page 87
- "Starting the application server for DB2 locally" on page 90
- "Stopping the application server for DB2 locally" on page 93

Chapter 11. DB2 Web Tools

DB2 Web Command Center

The DB2® Web Command Center is part of a suite of DB2 Web Tools (along with the DB2 Web Health Center) that allows remote administration for DB2 database servers. These tools run as web applications on a web application server to provide access to DB2 servers through web browsers.

The DB2 Web Command Center is based on a three-tier architecture. The first tier is the web client HTTP browser. The middle tier is an application server that hosts the business logic and set of applications. This middle tier provides the underlying mechanisms for the (HTTP/HTTPS) communication with the first tier (web client browser) and also the third tier (database or transaction server). This architecture implies the existence of a web (HTTP) server and a servlet container (defined by Sun™'s Servlet specifications). The combination of this type of server and servlet container is also known as a *servlet-enabled web server*, and constitutes the fundamental functionality of commercial application servers like BEA WebLogic or IBM® WebSphere®. As a result of the three tier architecture, the code would only need to be installed on the middle tier, assuming the existence of the client HTTP browser (first tier), and the DB2 server (third tier).

The DB2 Web Command Center implements many of the already existing features of the DB2 Command Center, however, it does not feature the SQLAssist and Visual Explain.

The DB2 Web Command Center is targeted for use with the HTTP clients (browsers) available on mobile laptops and notebooks, as well as web-enabled PDAs and Palm devices.

Related concepts:

- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Deploying DB2 Web Tools on WebLogic application servers" on page 103
- "Deploying DB2 Web Tools on other application servers" on page 105
- Chapter 13, "Debugging DB2 Web Tools," on page 111

DB2 Web Health Center

The DB2® Web Health Center is part of a suite of DB2 Web Tools (along with the DB2 Web Command Center) that allows remote administration for DB2 database servers. These tools run as web applications on a web application server to provide access to DB2 servers through web browsers.

The DB2 Web Health Center enables data relating to the health of a DB2 instance to be externalized to the web. This internal data is provided by a server-side health monitoring process. While the server-side process is supported only on UNIX® and Windows®, the DB2 Web Health Center can be accessed from any HTML 4.0 compliant web browser.

The primary function of this tool is to support the remote retrieval of the health monitoring data for the instance, database, and database objects and to provide recommended actions to counteract any problems that arise.

The health monitoring process will generate e-mail notifications of alerts or warnings or both. You should set a default contact (that is, email address) to send notifications to during installation. These notifications will include information on how to access the Web Health Center (WHC).

Related concepts:

- "DB2 Web Command Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Deploying DB2 Web Tools on WebLogic application servers" on page 103
- "Deploying DB2 Web Tools on other application servers" on page 105
- Chapter 13, "Debugging DB2 Web Tools," on page 111

Chapter 12. Deploying DB2 Web Tools on an application server

Recommended application server for deploying DB2 Web Tools

The recommended application server for deploying DB2 Web Tools is the embedded application server for DB2. The recommended method is to use the automated script that is provided.

To deploy DB2 Web Tools on the embedded application server for DB2, the following order is recommended:

1. Installing the application server for DB2
2. Starting the application server for DB2
3. Deploying automatically on the application server for DB2

Related tasks:

- "Installing the application server for DB2" on page 87
- "Starting the application server for DB2 locally" on page 90
- "Automatically deploying DB2 Web Tools on the application server for DB2" on page 92

Deploying DB2 Web Tools on WebSphere application servers

This task describes how to deploy and configure DB2 Web Tools (including the Web Command Center and the Web Health Center) on WebSphere 4.0. These tools run as web applications on a web server to provide access to DB2 servers through web browsers.

The DB2 Application Server (available from the *Java Application Development and Web Administration Tools Supplement for DB2* CD-ROM) provides an embedded application server within DB2 that enables DB2 web applications to run without relying on an application server to be installed separately.

Note: The DB2 Application Server provides automatic deployment of the DB2 Web Tools consistent with the procedure detailed below.

Prerequisites:

Before you install DB2 Web Tools on WebSphere, ensure that you have:

- IBM WebSphere 4.0 Application Server (or later). IBM WebSphere 4.0 can be installed using a DB2 Version 8 database as its administration server database (WAS40) after changing the prereq.properties file. The prereq.properties is in the same path with the Setup.exe that starts the IBM WebSphere 4.0 install and should be changed as follows:

  ```
  [WAS]: prereq_checker=0
  ```

  rather than:

  ```
  [WAS]: prereq_checker=1
  ```

This enables the verification to pass the database version check.

- IBM Version 8 DB2 Administration Client.
- A web browser that is compliant with HTML 4.0.

Note: DB2 Web Tools were tested using Netscape 4.x, Netscape 6.x, Netscape 7.x, Mozilla 1.x, Internet Explorer 5.x, Opera 6.x, Konqueror 3.x (Linux), and EudoraWeb 2.x (Palm OS). Use of certain web browsers that have not been tested may require an explicit reference to be added in the servlet configuration.

Restrictions:

The following restrictions apply to the DB2 Web Tools in a web environment:

1. It is recommended that a new virtual host and application server be created in the WebSphere Administrator's Console for use with the DB2 Web Tools enterprise application. If WebSphere contains a Default Server and a default_host that can be modified by changing the classpath, the creation of a new virtual host or application server is not required.
2. Multiple language and code page conversions between the middle tier and DB2 servers are not supported. Although the language for the server is what is displayed, some characters may appear incorrectly.
3. In order to see the health alerts for databases, table spaces, and table space containers in the Web Health Center, you need to ensure that the databases are cataloged on the web application server.
4. The use of the web browser buttons (**Stop**, **Back**, **History**) are not supported while using DB2 Web Tools.
5. If you are using Netscape Navigator 4 with DB2 Web Tools, your browser display may not properly refresh. If you experience this problem, you can refresh your display by minimizing the window and then bringing it back. You can also refresh the display by hiding the browser window under another window, and then bringing it to the foreground again.
6. To assign your own alias to any DB2 system, instance node, or database, you must explicitly catalog it on the application server using the DB2 Configuration Assistant or the DB2 Control Center.
7. During their first startup, the DB2 Web Tools will require a significantly longer time to initialize than for subsequent startups. Most of this wait is due to the automatic catalog process. If you do not want to use the automatic catalog functionality, you can shorten the wait time by turning the automatic cataloging off through the servlet configuration.

   Note: The servlet configuration parameters are available in the deployment descriptor file `web.xml`. The parameter names and default values are subject to change with each release. Application servers allow changes to these parameters by editing the `web.xml` file directly. Some application servers provide a graphical interface for editing.
8. The output (results) buffer has an absolute maximum size of 1MB when using a desktop or laptop browser, even if it is configured for more. In the case of PDA web browsers, the limit is 1KB.
9. On Windows and UNIX operating systems, the DB2 Web Tools automatically discover and catalog any systems on the same TCP/IP net as the application server. Systems on the same TCP/IP net have the same first three digits in their IP address. The tools try to catalog the DB2 system nodes using the original remote TCP/IP host name. If there is name duplication, the tools

assign a unique random name. You must explicitly catalog any other DB2 administration servers on the application server if you want them to be accessible. This includes any servers using TCP/IP that are not on the same TCP/IP net as the application server, as well as any servers that do not use TCP/IP.

10. On Windows and UNIX operating systems, the DB2 Web Tools attempt to automatically discover and catalog any DB2 instance nodes and databases that reside on cataloged DB2 systems. It is possible to configure a remote instance for multiple communication protocols, therefore, the catalog will contain a separate node entry for each protocol supported by an automatically cataloged instance. If there is name duplication, the tools assign a unique random name.

Procedure:

To install DB2 Web Tools on WebSphere application servers:

1. Prepare the DB2 Web Tools application server from the WebSphere Administrator's Console:
   a. Start the WebSphere Application Server and open the WebSphere Administrator's Console.
   b. Create a new virtual host by clicking **WebSphere Administrative Domain** and then **Virtual Hosts** in the right pane of the window.
   c. Select and right click **Virtual Hosts** and then choose **New**.
   d. Enter `db2tools_host` in the **Name** field and click **Add**.
   e. Under the **Host Aliases** heading, enter the value <*:9090> assuming that port `9090` is available, or use any other available TCPIP port.
   f. Create a new application server by clicking **WebSphere Administrative Domain**, and then expand the **Nodes** directory in the left pane of the window. You may use any name, just ensure that you remember it as you will have to recall it later in the setup procedure. Expand the applicable server names under the **Nodes** directory. Right click **Application Servers** and choose **New**. The values should be as follows:
      1) On the **General** tab, enter the value for the *Working directory* using the install directory for WebSphere/AppServer/bin. For example, `[...]\WebSphere\AppServer\bin` should be entered in the *Working directory* field if that is the install directory.
      2) On the **File**:
         - enter *Standard output* using the install directory for \WebSphere\AppServer/logs/DB2Tools_stdout.txt
         - enter *Standard error* using the install directory for \WebSphere\AppServer/logs/DB2Tools_stderr.txt

      Note: The remaining default values are acceptable for the setup procedure. However, after a successful deployment and run, you may modify the values if necessary.
2. Import DB2 Web Tools configuration from the DB2 command window:
   a. Extract from `db2wa.war` (using an unzip utility) the DB2 Web Tools configuration files:
      - `ImportDB2WebTools.xml`, and
      - `ImportDB2WebTools.bat`

      and place them in the `WebSphere\AppServer\bin` location.

Notes:

1) For deployment on Windows, the configuration files are located in the `web-inf` directory. For deployment on AIX, Linux or other Unix platforms, the files are located in the `web-inf\aix` directory.
2) The **ImportDB2WebTools.bat** should be extracted from the archive without its implicit folder path (by default, the archive contains it under `web-inf` directory). This can be achieved by checking off the **Use folder names** in the WinZip GUI, or by ensuring that the files are subsequently moved from `\bin\web-inf` into `\bin`.

b. Open a DB2 command window by clicking on **Start**—>**Programs**—>**IBM DB2**—>**Command Line Tools**—>**Command Window**. Change the directory to the `WebSphere\AppServer\bin` location.

c. Execute the following command:

```
ImportDB2WebTools.bat [server_name][application_server_name]
```

where `server_name` is the TCP/IP host name of the server, and `application_server_name` is the previously created name for the application server using the WebSphere Administrator's Console. Ensure that this command is executed before using the administration console.

Note: All script parameters are case sensitive. In case of mismatch, a new Application Server is going to be created.

d. Return to the WebSphere Administrator's Console.

3. Install the DB2 Web Tools enterprise application from the WebSphere Administrator's Console:

a. Under **WebSphere Administrative Domain**, right click **Enterprise Applications** and choose the **Install Enterprise Application** menu item. The **Install Enterprise Application Wizard** window opens.

b. Choose the **Install stand-alone module (*.war, *.jar)** radio button.

c. Browse and locate `SQLLIB\tools\web\db2wa.war` file (i.e. DB2 Web Tools set of web applications). The following values should be entered for application name and context root:

- Application name: `DB2 Web Tools`
- Context root: `/db2wa`

Note: `/db2wa` is the required name. The application will fail if this is not specified.

d. Click **Next** until **Select Virtual Host** appears and select the virtual host that was previously created or determined.

e. Click **Next** until **Select Server** appears and select the application that was previously created or determined. Click **Finish**.

f. Start the Application Server used for the DB2 Web Tools install. Ensure that the event messages reports the correct HTTP port that was chosen for the virtual host. For example,

```
Transport http is listening on port 9,090.
```

Note: If the port does not match, you may need to stop the application server and change the virtual host port to the value reported in the event message.

4. Stop and restart the WebSphere Application Server.
5. Invoke the DB2 Web Tools enterprise application from a browser by entering the following:

`http://localhost:port_number/db2wa`

where `localhost` is the node name used to create the new application server, and the `port number` is the value reported in the event message after the application server started.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebLogic application servers" on page 103
- "Deploying DB2 Web Tools on other application servers" on page 105
- Chapter 13, "Debugging DB2 Web Tools," on page 111
- "Automatically deploying DB2 Web Tools on the application server for DB2" on page 92

Deploying DB2 Web Tools on WebLogic application servers

This task describes how to deploy and configure DB2 Web Tools (including the Web Command Center and the Web Health Center) on BEA WebLogic 7.0. These tools run as web applications on a web server to provide access to DB2 servers through web browsers.

Prerequisites:

Before you install DB2 Web Tools on WebSphere, ensure that you have:

- BEA WebLogic 7.0 application server.
- IBM Version 8 DB2 Administration Client.
- A web browser that is compliant with HTML 4.0.

Note: DB2 Web Tools were tested using Netscape 4.x, Netscape 6.x, Netscape 7.x, Mozilla 1.x, Internet Explorer 5.x, Opera 6.x, Konqueror 3.x (Linux) and EudoraWeb 2.x (Palm OS). Use of certain web browsers that have not been tested may require an explicit reference to be added in the servlet configuration.

Restrictions:

The following restrictions apply to the DB2 Web Tools deployment:

1. Multiple language and code page conversions between the middle tier and DB2 servers are not supported. Although the language for the server is what is displayed, some characters may appear incorrectly.
2. In order to see the health alerts for databases, table spaces, and table space containers in the Web Health Center, you need to ensure that the databases are cataloged on the web application server.
3. The use of the web browser buttons (**Stop**, **Back**, **History**) are not supported while using DB2 Web Tools.
4. If you are using Netscape Navigator 4 with DB2 Web Tools, your browser display may not properly refresh. If you experience this problem, you can refresh your display by minimizing the window and then bringing it back. You

can also refresh the display by hiding the browser window under another window, and then bringing it to the foreground again.

5. To assign your own alias to any DB2 system, instance node, or database, you must explicitly catalog it on the application server using the DB2 Configuration Assistant or the DB2 Control Center.
6. During their first startup, the DB2 Web Tools will require a significantly longer time to initialize than for subsequent startups. Most of this wait is due to the automatic catalog process. If you do not want to use the automatic catalog functionality, you can shorten the wait time by turning the automatic cataloging off through the servlet configuration.

   Note: The servlet configuration parameters are available in the deployment descriptor file `web.xml`. The parameter names and default values are subject to change with each release. Some application servers may allow changes to these parameters, either through their interface or by editing the `web.xml` file directly.
7. The output (results) buffer has an absolute maximum size of 1MB when using a desktop or laptop browser, even if it is configured for more. In the case of PDA web browsers, the limit is 1KB.
8. On Windows and UNIX operating systems, the DB2 Web Tools automatically discover and catalog any systems on the same TCP/IP net as the application server. Systems on the same TCP/IP net have the same first three digits in their IP address. The tools try to catalog the DB2 system nodes using the original remote TCP/IP host name. If there is name duplication, the tools assign a unique random name. You must explicitly catalog any other DB2 administration servers on the application server if you want them to be accessible. This includes any servers using TCP/IP that are not on the same TCP/IP net as the application server, as well as any servers that do not use TCP/IP.
9. On Windows and UNIX operating systems, the DB2 Web Tools attempt to automatically discover and catalog any DB2 instance nodes and databases that reside on cataloged DB2 systems. It is possible to configure a remote instance for multiple communication protocols, therefore, the catalog will contain a separate node entry for each protocol supported by an automatically cataloged instance. If there is name duplication, the tools assign a unique random name.

Procedure:

To install DB2 Web Tools on WebLogic application servers:

1. Configure the JVM classpath for DB2 Web Tools into WebLogic application server by completing the following:
   a. Locate **startWLS.cmd** in the WebLogic install path `weblogic700\server\bin`. For example:

      ```
      D:\BEA\weblogic700\server\bin\
      ```

   b. Locate the following line:

      ```
      set CLASSPATH=%JAVA_HOME%\lib\tools.jar;
         %WL_HOME%\server\lib\weblogic_sp.jar;
         %WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
      ```

   c. Insert the following *after* the above line. Note that the `set CLASSPATH` line should be typed on a single text line without using the carriage return:

      ```
      set DB2PATH=DB2_install_path
      set CLASSPATH=%CLASSPATH%;%DB2PATH%\tools\web\webtools.jar;
         %DB2PATH%\tools\databean.jar;%DB2PATH%\tools\xalan.jar;
         %DB2PATH%\tools\xercesImpl.jar;%DB2PATH%\tools\xml-apis.jar;
      ```

```
%DB2PATH%\tools\db2das.jar;%DB2PATH%\tools\db2cmn.jar;
%DB2PATH%\tools\db2ca.jar;%DB2PATH%\tools\db2cc.jar;
%DB2PATH%\tools\db2hcapi.jar;%DB2PATH%\tools\db2ssmonapis.jar;
%DB2PATH%\java\Common.jar;%DB2PATH%\java\db2java.zip;
```

Notes:

1) The `set CLASSPATH` line must be entered as a single line without spaces and without carriage returns.
2) For Linux and UNIX operating systems, use a forward slash (/) instead of a back slash (\).

2. Deploy the DB2 Web Tools through the WebLogic administrative console by completing the following:
   a. Start the WebLogic administrative console.
   b. Click **domain**—>**deployments**—> **Web Applications** on the left hand pane of the window.
   c. Click on the **Configure a new Web Application** link to install DB2 Web Tools web application.
   d. Browse the listing of the file system to locate `Sqllib\tools\web\db2wa.war`.
   e. Click on **select** beside the `db2wa.war` file name.
   f. Choose from the list of available servers one to house DB2 Web Tools, select and click the arrow to move it to target servers.

      Note: Preserving the original name **db2wa** is mandatory, as DB2 Web Tools has it hardcoded.

   g. Click the**Configure and Deploy** button.
   h. Wait until the application server refreshes the deployment status of the web application on the selected server. If successful, it should show **Deployed=true**
3. Invoke the DB2 Web Tools web application which is located at:

   `http://`*`server_name`*`:`*`app_server_port_number`*`/db2wa`

   For example, `http://`*`server_name`*`:7001/db2wa`.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Deploying DB2 Web Tools on other application servers" on page 105
- Chapter 13, "Debugging DB2 Web Tools," on page 111

Deploying DB2 Web Tools on other application servers

This task describes how to deploy and configure DB2 Web Tools (including the Web Command Center and the Web Health Center) on other application servers such as Tomcat 4.0 and Macromedia JRun 4.0. These tools run as web applications on a web server to provide access to DB2 servers through web browsers.

Prerequisites:

Before you install DB2 Web Tools, ensure that you have:

- An application server, such as:
  - Tomcat 4.0 Servlet/JSP Container (http://jakarta.apache.org/tomcat/)
  - Macromedia JRun 4.0
- IBM Version 8 DB2 Administration Client.
- A web browser that is compliant with HTML 4.0.

Restrictions:

The following restrictions apply to the DB2 Web Tools deployment:

1. Multiple language and code page conversions between the middle tier and DB2 servers are not supported. Although the language for the server is what is displayed, some characters may appear incorrectly.
2. In order to see the health alerts for databases, table spaces, and table space containers in the Web Health Center, you need to ensure that the databases are cataloged on the web application server.
3. The use of the web browser buttons (**Stop**, **Back**, **History**) are not supported while using DB2 Web Tools.
4. If you are using Netscape Navigator 4 with DB2 Web Tools, your browser display may not properly refresh. If you experience this problem, you can refresh your display by minimizing the window and then bringing it back. You can also refresh the display by hiding the browser window under another window, and then bringing it to the foreground again.
5. To assign your own alias to any DB2 system, instance node, or database, you must explicitly catalog it on the application server using the DB2 Configuration Assistant or the DB2 Control Center.
6. During their first startup, the DB2 Web Tools will require a significantly longer time to initialize than for subsequent startups. Most of this wait is due to the automatic catalog process. If you do not want to use the automatic catalog functionality, you can shorten the wait time by turning the automatic cataloging off through the servlet configuration.

   Note: The servlet configuration parameters are available in the deployment descriptor file `web.xml`. The parameter names and default values are subject to change with each release. Some application servers may allow changes to these parameters, either through their interface or by editing the `web.xml` file directly.
7. The output (results) buffer has an absolute maximum size of 1MB when using a desktop or laptop browser, even if it is configured for more. In the case of PDA web browsers, the limit is 1KB.
8. On Windows and UNIX operating systems, the DB2 Web Tools automatically discover and catalog any systems on the same TCP/IP net as the application server. Systems on the same TCP/IP net have the same first three digits in their IP address. The tools try to catalog the DB2 system nodes using the original remote TCP/IP host name. If there is name duplication, the tools assign a unique random name. You must explicitly catalog any other DB2 administration servers on the application server if you want them to be accessible. This includes any servers using TCP/IP that are not on the same TCP/IP net as the application server, as well as any servers that do not use TCP/IP.
9. On Windows and UNIX operating systems, the DB2 Web Tools attempt to automatically discover and catalog any DB2 instance nodes and databases that reside on cataloged DB2 systems. It is possible to configure a remote instance for multiple communication protocols, therefore, the catalog will contain a

separate node entry for each protocol supported by an automatically cataloged instance. If there is name duplication, the tools assign a unique random name.

Procedure:

The following are the procedures for installing DB2 Web Tools using application servers such as Tomcat 4.0 or Macromedia JRun 4.0:

Tomcat 4.0

1. Prepare the Tomcat 4.0 configuration file (CLASSPATH) by completing the following:
   a. Create a new environment/system variable **CATALINA_HOME** to contain the path (root directory) to Tomcat 4.0. For example, `D:\jakarta-tomcat-4.0.3`.

      Note: This step is not mandatory on Windows operating systems, however, **step c** depends on this value to be set or the original path to be used.
   b. Confirm that the Tomcat Servlet/JSP Container is functional:
      1) Start Tomcat by running **startup.bat** from Tomcat's `bin` directory.
      2) Access the main web page **http://localhost:8080/** through a web browser.
      3) Shut down Tomcat by running **shutdown.bat** from Tomcat's `bin` directory or by closing the original command window where Tomcat was started.
   c. Change the **setclasspath.bat** configuration file located in the `bin` directory. Note that the `set CLASSPATH` line should be typed on a single text line without using the carriage return. For example, change the **setclasspath.bat** configuration file located in `D:\jakarta-tomcat-4.0.3\bin` by appending the following to the end of the file:

```
set CLASSPATH=%CLASSPATH%; %CATALINA_HOME%\common\lib\
   servlet.jar;%DB2PATH%\tools\web\webtools.jar;
   %DB2PATH%\tools\xalan.jar;%DB2PATH%\tools\xercesImpl.jar;
   %DB2PATH%\tools\xml-apis.jar;%DB2PATH%\tools\db2cmn.jar;
   %DB2PATH%\tools\db2das.jar;%DB2PATH%\tools\db2ca.jar;
   %DB2PATH%\tools\db2cc.jar;%DB2PATH%\tools\db2hcapi.jar;
   %DB2PATH%\tools\databean.jar;%DB2PATH%\tools\db2ssmonapis.jar;
   %DB2PATH%\java\Common.jar;%DB2PATH%\java\db2java.zip
```

      Notes:
      1) The `set CLASSPATH` line must be entered as a single line without spaces and without carriage returns.
      2) If you are using Tomcat 4.1.x, you cannot use reference variable %DB2PATH%. You must explicitly specify the path.
2. Deploy the DB2 Web Tools into the Tomcat Servlet/JSP Container by locating the DB2 Web Tools install path (i.e. `Sqllib\tools\web\db2wa.war`) and copying **db2wa.war** into Tomcat's deployment directory (i.e. Tomcat's webapps directory).
3. Invoke DB2 Web Tools on Tomcat Servlet/JSP Container by completing the following:
   a. Open a DB2 Command Window and change the directory to Tomcat's `bin` directory.
   b. Start Tomcat using **startup.bat** and confirm that a new directory (**db2wa**) has been added into the `webapps` directory.

Note: Running **startup.bat** from a command prompt window would not set DB2PATH. In order to enable that, the CLASSPATH line needs to be changed to explicitly reference the DB2 install path rather than the %DB2PATH% environment variable.

c. The DB2 Web Tools enterprise application is located at **http://localhost:8080/db2wa** and can be accessed with an HTML 4.0 compliant web browser.

JRun

1. Prepare a new application server for DB2 Web Tools by completing the following:

   Note: Creating a new application server is recommended, but not mandatory. For testing purposes, the default server may be used, and only the configuration of the JVM classpath and the deployment is required.

   a. Start the JRun Management Console and login as the administrator of the application server.
   b. Create a new application server using **Create New Server** located at the top right side of the main page. Do not change the host name selection from `localhost`.
   c. Enter the new server name (**DB2WebToolsServer**) and click on the JRun Server Directory. The value is automatically filled in.
   d. Click the **Create Server** button.
   e. Record the generated values or enter new values for:
      - JNDI Provider URL
      - Web Server Port Number. This would be the value to be used in the URL for the DB2 Web Tools (i.e. `http://localhost:`*`web_server_port_numer`*`/db2wa`)
      - Web Connector Proxy Port Number
   f. Click **update port numbers** if necessary and close the window.
2. Configure the JVM classpath for the application server by completing the following
   a. Select the newly created **DB2WebToolsServer** in the table of contents (left side panel) and select **Settings**, and then click **JVM Settings**
   b. Add a new entry in the **New Classpath** containing the following values after *`DB2_install_path`* is replaced by the explicit value on your system. Note that the following should be typed on a single text line without using the carriage return:

```
DB2_install_path\tools\web\webtools.jar;
DB2_install_path\tools\databean.jar;
DB2_install_path\tools\xalan.jar;
DB2_install_path\tools\xercesImpl.jar;
DB2_install_path\tools\xml-apis.jar;
DB2_install_path\tools\db2das.jar;
DB2_install_path\tools\db2cmn.jar;
DB2_install_path\tools\db2ca.jar;
DB2_install_path\tools\db2cc.jar;
DB2_install_path\tools\db2hcapi.jar;
DB2_install_path\tools\db2ssmonapis.jar;
DB2_install_path\java\Common.jar;
DB2_install_path\java\db2java.zip
```

3. Deploy DB2 Web Tools on the JRun application server by completing the following:
   a. Start the application server selected to host DB2 Web Tools web application (DB2WebToolsServer, default or any other except admin).
   b. Click **Web Applications** and then click **Add**.
   c. Browse the **Deployment File** section to select the `Sqllib\tools\web\db2wa.war` file in the DB2 install path.
   d. Click **Deploy** and confirm that the context path is `/db2wa`.
   e. Select the application server and confirm that the DB2 Web Tools application appears in the **Web Applications** section. Do *not* click on **Apply** on this page.
   f. Select the **Home** link from the upper left side panel of the main page.
   g. Restart the application server from **Home** view that contains the DB2 Web Tools (**DB2WebToolsServer**).
4. The DB2 Web Tools enterprise application is located at **http://localhost:web_server_port_numer/db2wa** and can be accessed with an HTML 4.0 compliant web browser.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Deploying DB2 Web Tools on WebLogic application servers" on page 103
- Chapter 13, "Debugging DB2 Web Tools," on page 111

Chapter 13. Debugging DB2 Web Tools

If you experience problems associated with the deployment of the DB2 Web Tools enterprise application, there are methods that you may use to debug the process.

Procedure:

WebSphere

Trace can be enabled for DB2 Web Tools on WebSphere using the following methods:

1. Modifying the deployment descriptor file `web.xml` located in the install directory for DB2 Web Tools

   ```
   \WebSphere\AppServer\installedApps\DB2_Web_Tools.ear
      \db2wa.war\WEB-INF
   ```

   By changing the value to **true**, the trace is enabled and the information is output to the log files. The application server must be restarted.
2. Use the WebSphere **Administrator's Console** and the **Application Assembly Tools** that are located in the Console's menu under **Tools**, to change the `SQLLIB\tools\web\db2wa_war.ear` file. The `trace.on` parameter (false by default, true to collect trace) can be modified. Locate the Initialization Parameters by clicking **Web Modules**—> **DB2 Web Tools**—> **Web Component**—>**Portal** —>**Initialization Parameters**. After saving the `db2wa_war.ear`, the enterprise application must be reinstalled and restarted.

The trace files are located in the install directory (`\WebSphere\AppServer\logs`). Depending on the method of installation, they can be located as follows:

1. If a new application server was set, the files containing the trace information are:
   - `DB2Tools_stdout.txt`. This file contains all the trace information generated by the WebSphere application server, as well as the trace information generated by the DB2 Web Tools code.
   - `DB2Tools_stderr.txt`. This file may contain stack dump information caused by unexpected exceptions generated generated at runtime by the WebSphere application server and DB2 Web Tools code.
2. If the default application server was used to install, the trace information can be found in the default log files:
   - Default_Server_stdout.log
   - Default_Server_stderr.log

WebLogic 7.0

To enable the DB2 Web Tools web application trace, modify the deployment descriptor file using the **Edit Web Application Deployment Descriptors** by completing the following:

1. Select the web application from the WebLogic administrative console navigation tree by clicking **domain** —> **deployments** —> **Web Applications**.
2. Click on the link **Edit Web Application Deployment Descriptors**.

3. Navigate to **Web Application Descriptor—>Servlets—>Portal—>Parameters** and select **trace.on** to be changed from the default value **false** to **true**.

All of the information generated in the application server and DB2 Web Tools is collected in the install path for:

```
\user_projects\domain\
   server_name\server_name.log
```

For example, `D:\BEA\`*user_projects*`\`*domain*`\`*server_name*`.log`

JRun 4.0

To enable DB2 Web Tools web application trace, modify the deployment descriptor file **web.xml** located in the JRun install path. For example:

```
D:\JRun\servers\WebDB2\SERVER-INF\temp\db2wa.war-560049872
  \WEB-INF\web.xml
```

However, trace information is collected when the **trace.on** value is **true**. The log contains all of the trace information generated by the application server and DB2 Web Tools.

For JRun, the trace information is located in the install path under the `logs` directory. The name of the file is *app_server_name*`-event.log`. For example, `D:\JRun\logs\DB2WebToolsServer-event.log`.

Tomcat 4.0

To enable trace information for DB2 Web Tools web module, the deployment descriptor **web.xml** needs to be located in the install path. For example:

```
D:\jakarta-tomcat-4.0.3\webapps\db2wa\WEB-INF\web.xml
```

The parameter is **trace.on** and the default value is **false**. However, trace information is collected when the **trace.on** value is **true**. Tomcat needs to be restarted for the value to be considered.

For Tomcat 4.0 the trace information can be located in the install directory for logs. The log file name is `localhost_log.`*time_stamp*`.txt` where *time_stamp* is the date of generation. For example, `localhost_log.2002-06-05.txt`. The log contains all of the trace information generated by the servlet container and DB2 Web Tools code.

Related concepts:

- "DB2 Web Command Center" on page 97
- "DB2 Web Health Center" on page 97

Related tasks:

- "Deploying DB2 Web Tools on WebSphere application servers" on page 99
- "Deploying DB2 Web Tools on WebLogic application servers" on page 103
- "Deploying DB2 Web Tools on other application servers" on page 105

Part 5. Reference

Chapter 14. DB2 product license files

DB2 product license files

The following list provides license file names for DB2 products. You must add the license file before using DB2.

db2ese.lic
DB2 Enterprise Server Edition

db2ese_dpf.lic
DB2 database partitioning feature (DPF).

db2exp.lic
DB2 UDB Express Edition

db2conee.lic
DB2 Connect Enterprise Edition.

db2conas.lic
DB2 Connect Application Server Edition

db2conpe.lic
DB2 Connect Personal Edition

db2conue.lic
DB2 Connect Unlimited Edition

db2dlm.lic
DB2 Data Links Manager

db2gse.lic
DB2 Spatial Extender.

db2gse_geo.lic
DB2 Geodetic Extender.

db2iiae.lic
DB2 Information Integrator Advanced Edition

db2iide.lic
DB2 Information Integrator Developer Edition

db2iire.lic
DB2 Information Integrator Replication Edition

db2iise.lic
DB2 Information Integrator Standard Edition

db2iiue.lic
DB2 Information Integrator Advanced Edition Unlimited

db2nse.lic
Net Search Extender

db2pe.lic
DB2 Personal Edition

db2wm.lic
DB2 Warehouse Manager

db2wse.lic
DB2 Workgroup Server Edition

db2wsue.lic
DB2 Workgroup Server Unlimited Edition

Related tasks:

- "Registering the DB2 product license key using the db2licm command" on page 116
- "Installing a DB2 product manually" on page 3

Registering the DB2 product license key using the db2licm command

The DB2 product uses the license key information contained in the nodelock file. The nodelock file is created or updated by running the **db2licm** command and specifying the license file for the DB2 product. Creating or updating the nodelock file is referred to as registering the DB2 product license key.

You must register the DB2 product license key by running the **db2licm** command on each computer where DB2 is installed.

Procedure:

To register your DB2 product license key using root authority:

1. Log in as a user with root authority.
2. Register the DB2 product license key with the appropriate command:

   ```
   /usr/opt/db2_08_01/adm/db2licm -a filename  on AIX
   /opt/IBM/db2/V8.1/adm/db2licm -a filename  for all
     other UNIX-based operating systems
   ```

   where *filename* is the full pathname and filename for the license file that corresponds to the product you have purchased. The license file is located in the `/db2/license` directory located at the root of your CD-ROM.

For example, on AIX, if the CD-ROM is mounted in the `/cdrom` directory and the name of the license file is db2dlm.lic, the command should be as follows:

```
/usr/opt/db2_08_01/adm/db2licm -a /cdrom/db2/license/db2dlm.lic
```

After running the **db2licm** command, the DB2 product license key information is contained in the nodelock file in the following directories:

- AIX: `/var/ifor`.
- HP-UX, Linux, or Solaris Operating Environment: `/var/lum`.
- Windows: `DB2PATH/sqllib/license`.

To register your DB2 product license key as the instance owner:

1. Create the instance environment and become the instance owner.
2. Register your DB2 product license with the appropriate command:
   - For UNIX operating systems:

     ```
     db2instance_path/adm/db2licm -a filename
     ```

   - For Windows operating systems:

     ```
     db2instance_path\adm\db2licm -a filename
     ```

where *db2instance_path* is where the DB2 instance was created and *filename* is the full pathname and filename for the license file that corresponds to the product you have purchased. The license file is located in the `/db2/license` directory located at the root of your CD-ROM.

Related tasks:

- "Registering your DB2 license key using the License Center" on page 117
- "Setting the DB2 license policy using the db2licm command" on page 118
- "Setting the DB2 license policy using the License Center" on page 119

Related reference:

- "DB2 product license files" on page 115

Registering your DB2 license key using the License Center

The DB2 product uses the license key information contained in the nodelock file. The nodelock file is created or updated using the License Center and specifying the license file for the DB2 product. Creating or updating the nodelock file is referred to as registering the DB2 product license key.

You must register the DB2 product license key on each computer where DB2 is installed.

Procedure:

To register your license key using the License Center:

1. Start the DB2 Control Center and select **License Center** from the **Tools** menu.
2. Select the system for which you are installing a license. The **Installed Products** field will display the name of the product that you have installed.
3. Select **Add** from the **License** menu.
4. In the Add License window, select the **From a file** radio button and select a license file:
   - On Windows servers: `x:\db2\license\`*`license_filename`*
   - On UNIX servers: `x:/db2/license/`*`license_filename`*

   where `x:` represents the CD-ROM drive containing DB2 product CD and *license_filename* for DB2 Universal Database products. For a list of DB2 product license files, see the related links.
5. Click **Apply** to add the license key.

After using the License Center, the DB2 product license key information is contained in the nodelock file in the following directories:

- AIX: `/var/ifor`.
- HP-UX, Linux, or Solaris Operating Environment: `/var/lum`.
- Windows: `DB2PATH/sqllib/license`.

Related tasks:

- "Registering the DB2 product license key using the db2licm command" on page 116
- "Setting the DB2 license policy using the db2licm command" on page 118
- "Setting the DB2 license policy using the License Center" on page 119

Related reference:

- "DB2 product license files" on page 115

Setting the DB2 license policy using the db2licm command

You can use the **db2licm** command to set your license policy instead of using the License Center.

When you use the db2licm command to set the license policy, you will need to enter the product identifier. To list the product identifier, use the **db2licm -l** command to list the product information. The product identifier is listed in the Product Identification field.

Procedure:

To set your license policy using the **db2licm** command, perform *one* of the following depending on the type of licenses that you purchased:

- If you purchased Connector licenses, enter the following commands (This example is for DB2 Information Integrator Replication Edition):

  ```
  db2licm -c db2ii concurrent
  db2licm -u db2ii N
  ```

  where *N* represents the number of connector licenses that you have purchased.
- If you purchased Concurrent User licenses, enter the following commands (This example is for DB2 UDB Workgroup Server Edition):

  ```
  db2licm -p db2wse concurrent
  db2licm -u db2wse N
  ```

  where *N* represents the number of concurrent user licenses that you have purchased.
- If you purchased Registered User licenses, enter the following command (This example is for DB2 UDB Enterprise Server Edition):

  ```
  db2licm -p db2ese registered
  ```
- If you purchased *both* Concurrent User and Registered User licenses, enter the following command (This example is for DB2 UDB Workgroup Server Edition):

  ```
  db2licm -p db2wse concurrent registered
  db2licm -u db2wse N
  ```

  where *N* represents the number of concurrent user licenses that you have purchased.

To enter the number of processor licenses that you have purchased using the **db2licm** command:

```
db2licm -n <product> <number of processors>
```

For example, to set your Enterprise Server Edition license to 5 processors, enter:

```
db2licm -n db2ese 5
```

Related tasks:

- "Registering the DB2 product license key using the db2licm command" on page 116
- "Registering your DB2 license key using the License Center" on page 117
- "Setting the DB2 license policy using the License Center" on page 119

Related reference:

- "db2licm - License Management Tool Command" in the *Command Reference*

Setting the DB2 license policy using the License Center

You can set your license policy using the License Center.

Procedure:

To set your license policy, perform the following depending on the type of licenses that you purchased:

1. In the License Center, select **Change** from the **License** menu.
2. In the Change License window, select the type of license that you have purchased:
   - If you purchased a Connector license, select **Connector** and enter the number of user licenses that you have purchased.
   - If you purchased a Concurrent Users license, select **Concurrent users** or **Concurrent DB2 Connect users** and enter the number of user licenses that you have purchased.
   - If you purchased a Registered Users license, select **Registered users** or **Registered DB2 Connect users** and click **OK** to close the Change License window and return to the License Center. Click on the **Users** tab and add every registered user ID for which you purchased a license.

There are also processor based licenses. You will also need to modify the number of processor licenses that you have bought:

1. In the License Center, select **Change** from the **License** menu.
2. In the Change License window, enter the number of processor licenses that you have.

Related tasks:

- "Registering the DB2 product license key using the db2licm command" on page 116
- "Registering your DB2 license key using the License Center" on page 117
- "Setting the DB2 license policy using the db2licm command" on page 118

Chapter 15. MultiFixPak installation

Installing multiple levels of DB2 using installAltFixPak (UNIX)

Version 8 for DB2 Universal Database Enterprise Server Edition (ESE) operating on UNIX-based operating systems now supports the coexistence of multiple levels of DB2. For example, DB2 ESE Version 8 release level code and DB2 ESE FixPak 1 or DB2 Version 8.1.2 level code can now be installed at the same time due to the fact that you can have another FixPak or modification level of DB2 installed in an alternate path from your current DB2 level.

The Regular FixPak or modification level is installed directly on top of the existing installation either in `/usr/opt/db2_08_01` or `/opt/IBM/db2/V8.1`. However, to install multiple levels of DB2, the FixPak or modification level is installed in a different location from the existing installation of Version 8 level code. The installation paths are as follows:

- `/usr/opt/db2_08_FPn` for AIX.
- `/opt/IBM/db2/V8.FPn` for all other UNIX operating systems.

where `n` refers to the FixPak or modification level.

Prerequisites:

Before you begin the installation, ensure that:

- You have root authority.
- You have a copy of the FixPak or modification level image that will be installed to an alternate path. DB2 FixPaks or modification levels can be downloaded from IBM's anonymous FTP server at ftp.software.ibm.com. Go to `ps/products/db2/fixes/%L/%P/` where `%L` is the appropriate locale (for example, english-us, spanish, german, etc.), and `%P` is the product name/version.

Restrictions:

The following restrictions apply to a multiple DB2 level installation:

- It is only available on DB2 Enterprise Server Edition for UNIX-based operating systems.
- You cannot install a regular FixPak or modification level on top of a FixPak or modification level that has been installed to an alternate path.
- If you are considering using a FixPak or modification level that has been installed in an alternate path in your production environment, note that there is currently no plan to support full FixPaks or modification levels on top of a FixPak or modification level that has been installed in an alternate path. This means that if you have an instance running against a FixPak or modification level that has been installed in an alternate path, and you want to apply fixes to it, you must do the following:
  1. Apply the necessary FixPak or modification level to the Version 8.1 installation path.
  2. Update your instance by running **db2iupdt** from the Version 8.1 installation path to move your instance environment from an alternate install path to the Version 8.1 installation path.

- Response file installations of are not supported at this time for FixPaks or modification levels that have been installed in an alternate path.
- A FixPak or modification level that has been installed in an alternate path is always installed to a predetermined path (but unique to each of the FixPak or modification level that have been installed in an alternate path), meaning that you cannot select a different path for installation.
- If you install a FixPak or modification level that has been installed in an alternate path without a copy of DB2, you will need to obtain the license key from the Version 8 release level media. You can then install the license by using the **db2licm** command.
- If you have a DAS running against a FixPak or a modification level installed to an alternate path, and you want to modify this DAS to run against the Version 8.1 code in the *DB2DIR*/instance directory, you need to do the following:
  1. Log in as *DASuser*, where *DASuser* is the user name of the DAS user created when you were creating users and groups for DB2.
  2. Run **db2admin stop**. Ensure that you issue this command before proceeding, or your DAS will be in an inconsistent state.
  3. As user with root authority, go to *DB2DIR*/instance, where *DB2DIR* represents /usr/opt/db2_08_01 on AIX, and /opt/IBM/db2/V8.1 on all other UNIX-based platforms.
  4. Run the **./dasupdt -D** command.

Procedure:

To install a FixPak or modification level to an alternate path:

1. Run the **installAltFixPak** utility located at the root directory of the FixPak or modification level image.
2. The install program checks to see if DB2 Version 8 is installed. If it detects an existing DB2 Version 8 installation, it will ask you if you wish to install the same filesets/packages from the FixPak or modification level.
   - If the answer is **yes**, then the installation program proceeds to install the same set of filesets/packages as are already installed.
   - If the answer is **no**, or if DB2 Version 8 was not detected in either `/usr/opt/db2_08_01` or `/opt/IBM/db2/V8.1`, then it starts **db2_install**.

Note: No licenses are shipped with the FixPak or modification level installed in an alternate path - licenses must be installed from the Version 8 release level media.

For further information regarding downloading and installing multiple DB2 levels, visit the IBM support site at
http://www.ibm.com/software/data/db2/udb/winos2unix/support.

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 Universal Database and DB2 related products.

Related concepts:

- "DB2 Information Center" on page 128
- "Multiple DB2 level installations" on page 123
- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Removing DB2 FixPaks" in the *Quick Beginnings for DB2 Servers*
- "Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)" on page 132

Multiple DB2 level installations

DB2® Universal Database FixPaks or modification levels provide updated code, fixes to code, and new features to existing DB2 installations. For all versions of DB2 prior to Version 8, FixPaks or modification levels only functioned as updates to an installed package or fileset. Essentially, this meant that the operating system installer would replace existing files with the updated ones provided within the FixPak or modification level.

Version 8 for DB2 Enterprise Server Edition (ESE) operating on UNIX®-based operating systems now supports the coexistence of multiple levels of DB2. For example, DB2 ESE Version 8 release level code and DB2 ESE FixPak 1 level code can now be installed at the same time. The Regular FixPak or modification level is installed directly on top of the existing installation either in `/usr/opt/db2_08_01` or `/opt/IBM/db2/V8.1`.

However, to install multiple levels of DB2, the FixPak or modification level is installed in an alternate location from the existing installation of Version 8 level code. The installation paths for FixPak or modification levels installed in an alternate path are as follows:

- `/usr/opt/db2_08_FPn` for AIX®
- `/opt/IBM/db2/V8.FPn` for all other UNIX operating systems

where `n` refers to the FixPak or modification level.

Notes:

1. You are not required to perform a multiple DB2 level installation if you do not feel it is necessary for your environment.
2. If you are considering using a FixPak or modification level that has been installed in an alternate path in your production environment, note that there is currently no plan to support full FixPaks or modification levels on top of a FixPak or modification level that has been installed in an alternate path. This means that if you have an instance running against a FixPak or modification level that has been installed in an alternate path, and you want to apply fixes to it, you must do the following:
   a. Apply the necessary FixPak or modification level to the Version 8.1 installation path.
   b. Update your instance by running **db2iupdt** from the Version 8.1 installation path to move your instance environment from an alternate install path to the Version 8.1 installation path.

Regular FixPak or modification level

- This FixPak or modification level is installed on top of the existing code, and behaves exactly as FixPaks have behaved.
- This type of FixPak or modification level should be used if you have been satisfied with the regular behavior of FixPaks or modification levels.

FixPak or modification level installed to an alternate path

- This FixPak or modification level is similar to a fully installable image except that it is installed in its own directory path.
- It has the same level of code as the regular FixPak or modification level.
- There is no GUI provided to install this type of FixPak or modification level, the installation is available from the command line only.
- A FixPak or modification level installed to an alternate path is not a licensed version of DB2, though it can be independently installed without DB2 Version 8 (licensed or not). If you install a FixPak or modification level installed to an alternate path without a copy of DB2, you will need to obtain the license key from the Version 8 release level media. You can then install the license by using the **db2licm** command.

Some benefits of having multiple levels of DB2 installed include the following:

- Production can run off a particular level of code without switching to a FixPak or modification level that has not been thoroughly tested.
- Multiple UNIX workstations are not needed to support more than one level of DB2 (at the same version).
- Different departments can have different fixes or test FixPaks or modification levels before moving to production.
- DB2 instance utilities are integrated with this feature.

For further information regarding downloading and installing multiple DB2 levels, visit the IBM® support site at http://www.ibm.com/software/data/db2/udb/winos2unix/support.

Related tasks:

- "Installing multiple levels of DB2 using installAltFixPak (UNIX)" on page 121
- "Removing DB2 FixPaks" in the *Quick Beginnings for DB2 Servers*

Part 6. Appendixes

Appendix A. DB2 Universal Database technical information

DB2 documentation and help

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

- DB2 Information Center
  - Topics
  - Help for DB2 tools
  - Sample programs
  - Tutorials
- Downloadable PDF files, PDF files on CD, and printed books
  - Guides
  - Reference manuals
- Command line help
  - Command help
  - Message help
  - SQL state help
- Installed source code
  - Sample programs

You can access additional DB2 Universal Database™ technical information such as technotes, white papers, and Redbooks™ online at ibm.com®. Access the DB2 Information Management software library site at www.ibm.com/software/data/pubs/.

DB2 documentation updates

IBM® may periodically make documentation FixPaks and other documentation updates to the DB2 Information Center available. If you access the DB2 Information Center at http://publib.boulder.ibm.com/infocenter/db2help/, you will always be viewing the most up-to-date information. If you have installed the DB2 Information Center locally, then you need to install any updates manually before you can view them. Documentation updates allow you to update the information that you installed from the *DB2 Information Center CD* when new information becomes available.

The Information Center is updated more frequently than either the PDF or the hardcopy books. To get the most current DB2 technical information, install the documentation updates as they become available or go to the DB2 Information Center at the www.ibm.com site.

Related concepts:

- "CLI sample programs" in the *CLI Guide and Reference, Volume 1*
- "Java sample programs" in the *Application Development Guide: Building and Running Applications*
- "DB2 Information Center" on page 128

Related tasks:

- "Invoking contextual help from a DB2 tool" on page 145

- "Updating the DB2 Information Center installed on your computer or intranet server" on page 137
- "Invoking message help from the command line processor" on page 146
- "Invoking command help from the command line processor" on page 146
- "Invoking SQL state help from the command line processor" on page 147

Related reference:

- "DB2 PDF and printed documentation" on page 139

DB2 Information Center

The DB2® Information Center gives you access to all of the information you need to take full advantage of DB2 family products, including DB2 Universal Database™, DB2 Connect™, DB2 Information Integrator and DB2 Query Patroller™. The DB2 Information Center also contains information for major DB2 features and components including replication, data warehousing, and the DB2 extenders.

The DB2 Information Center has the following features if you view it in Mozilla 1.0 or later or Microsoft® Internet Explorer 5.5 or later. Some features require you to enable support for JavaScript™:

Flexible installation options

You can choose to view the DB2 documentation using the option that best meets your needs:

- To effortlessly ensure that your documentation is always up to date, you can access all of your documentation directly from the DB2 Information Center hosted on the IBM® Web site at http://publib.boulder.ibm.com/infocenter/db2help/
- To minimize your update efforts and keep your network traffic within your intranet, you can install the DB2 documentation on a single server on your intranet
- To maximize your flexibility and reduce your dependence on network connections, you can install the DB2 documentation on your own computer

Search

You can search all of the topics in the DB2 Information Center by entering a search term in the **Search** text field. You can retrieve exact matches by enclosing terms in quotation marks, and you can refine your search with wildcard operators (*, ?) and Boolean operators (AND, NOT, OR).

Task-oriented table of contents

You can locate topics in the DB2 documentation from a single table of contents. The table of contents is organized primarily by the kind of tasks you may want to perform, but also includes entries for product overviews, goals, reference information, an index, and a glossary.

- Product overviews describe the relationship between the available products in the DB2 family, the features offered by each of those products, and up to date release information for each of these products.
- Goal categories such as installing, administering, and developing include topics that enable you to quickly complete tasks and develop a deeper understanding of the background information for completing those tasks.

- Reference topics provide detailed information about a subject, including statement and command syntax, message help, and configuration parameters.

Show current topic in table of contents
You can show where the current topic fits into the table of contents by clicking the **Refresh / Show Current Topic** button in the table of contents frame or by clicking the **Show in Table of Contents** button in the content frame. This feature is helpful if you have followed several links to related topics in several files or arrived at a topic from search results.

Index You can access all of the documentation from the index. The index is organized in alphabetical order by index term.

Glossary
You can use the glossary to look up definitions of terms used in the DB2 documentation. The glossary is organized in alphabetical order by glossary term.

Integrated localized information
The DB2 Information Center displays information in the preferred language set in your browser preferences. If a topic is not available in your preferred language, the DB2 Information Center displays the English version of that topic.

For iSeries™ technical information, refer to the IBM eServer™ iSeries information center at www.ibm.com/eserver/iseries/infocenter/.

Related concepts:

- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Updating the DB2 Information Center installed on your computer or intranet server" on page 137
- "Displaying topics in your preferred language in the DB2 Information Center" on page 138
- "Invoking the DB2 Information Center" on page 136
- "Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)" on page 132
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" on page 134

DB2 Information Center installation scenarios

Different working environments can pose different requirements for how to access DB2® information. The DB2 Information Center can be accessed on the IBM® Web site, on a server on your organization's network, or on a version installed on your computer. In all three cases, the documentation is contained in the DB2 Information Center, which is an architected web of topic-based information that you view with a browser. By default, DB2 products access the DB2 Information Center on the IBM Web site. However, if you want to access the DB2 Information Center on an intranet server or on your own computer, you must install the DB2 Information Center using the DB2 Information Center CD found in your product Media Pack. Refer to the summary of options for accessing DB2 documentation which follows, along with the three installation scenarios, to help determine which

method of accessing the DB2 Information Center works best for you and your work environment, and what installation issues you might need to consider.

Summary of options for accessing DB2 documentation:

The following table provides recommendations on which options are possible in your work environment for accessing the DB2 product documentation in the DB2 Information Center.

Internet access	Intranet access	Recommendation
Yes	Yes	Access the DB2 Information Center on the IBM Web site, or access the DB2 Information Center installed on an intranet server.
Yes	No	Access the DB2 Information Center on the IBM Web site.
No	Yes	Access the DB2 Information Center installed on an intranet server.
No	No	Access the DB2 Information Center on a local computer.

Scenario: Accessing the DB2 Information Center on your computer:

Tsu-Chen owns a factory in a small town that does not have a local ISP to provide him with Internet access. He purchased DB2 Universal Database™ to manage his inventory, his product orders, his banking account information, and his business expenses. Never having used a DB2 product before, Tsu-Chen needs to learn how to do so from the DB2 product documentation.

After installing DB2 Universal Database on his computer using the typical installation option, Tsu-Chen tries to access the DB2 documentation. However, his browser gives him an error message that the page he tried to open cannot be found. Tsu-Chen checks the installation manual for his DB2 product and discovers that he has to install the DB2 Information Center if he wants to access DB2 documentation on his computer. He finds the *DB2 Information Center CD* in the media pack and installs it.

From the application launcher for his operating system, Tsu-Chen now has access to the DB2 Information Center and can learn how to use his DB2 product to increase the success of his business.

Scenario: Accessing the DB2 Information Center on the IBM Web site:

Colin is an information technology consultant with a training firm. He specializes in database technology and SQL and gives seminars on these subjects to businesses all over North America using DB2 Universal Database. Part of Colin's seminars includes using DB2 documentation as a teaching tool. For example, while teaching courses on SQL, Colin uses the DB2 documentation on SQL as a way to teach basic and advanced syntax for database queries.

Most of the businesses at which Colin teaches have Internet access. This situation influenced Colin's decision to configure his mobile computer to access the DB2 Information Center on the IBM Web site when he installed the latest version of DB2 Universal Database. This configuration allows Colin to have online access to the latest DB2 documentation during his seminars.

However, sometimes while travelling Colin does not have Internet access. This posed a problem for him, especially when he needed to access to DB2 documentation to prepare for seminars. To avoid situations like this, Colin installed a copy of the DB2 Information Center on his mobile computer.

Colin enjoys the flexibility of always having a copy of DB2 documentation at his disposal. Using the **db2set** command, he can easily configure the registry variables on his mobile computer to access the DB2 Information Center on either the IBM Web site, or his mobile computer, depending on his situation.

Scenario: Accessing the DB2 Information Center on an intranet server:

Eva works as a senior database administrator for a life insurance company. Her administration responsibilities include installing and configuring the latest version of DB2 Universal Database on the company's UNIX® database servers. Her company recently informed its employees that, for security reasons, it would not provide them with Internet access at work. Because her company has a networked environment, Eva decides to install a copy of the DB2 Information Center on an intranet server so that all employees in the company who use the company's data warehouse on a regular basis (sales representatives, sales managers, and business analysts) have access to DB2 documentation.

Eva instructs her database team to install the latest version of DB2 Universal Database on all of the employee's computers using a response file, to ensure that each computer is configured to access the DB2 Information Center using the host name and the port number of the intranet server.

However, through a misunderstanding Migual, a junior database administrator on Eva's team, installs a copy of the DB2 Information Center on several of the employee computers, rather than configuring DB2 Universal Database to access the DB2 Information Center on the intranet server. To correct this situation Eva tells Migual to use the **db2set** command to change the DB2 Information Center registry variables (DB2_DOCHOST for the host name, and DB2_DOCPORT for the port number) on each of these computers. Now all of the appropriate computers on the network have access to the DB2 Information Center, and employees can find answers to their DB2 questions in the DB2 documentation.

Related concepts:

- "DB2 Information Center" on page 128

Related tasks:

- "Updating the DB2 Information Center installed on your computer or intranet server" on page 137
- "Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)" on page 132
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" on page 134

Related reference:

- "db2set - DB2 Profile Registry Command" in the *Command Reference*

Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)

DB2 product documentation can be accessed in three ways: on the IBM Web site, on an intranet server, or on a version installed on your computer. By default, DB2 products access DB2 documentation on the IBM Web site. If you want to access the DB2 documentation on an intranet server or on your own computer, you must install the documentation from the *DB2 Information Center CD*. Using the DB2 Setup wizard, you can define your installation preferences and install the DB2 Information Center on a computer that uses a UNIX operating system.

Prerequisites:

This section lists the hardware, operating system, software, and communication requirements for installing the DB2 Information Center on UNIX computers.

- **Hardware requirements**

  You require one of the following processors:
  - PowerPC (AIX)
  - HP 9000 (HP-UX)
  - Intel 32–bit (Linux)
  - Solaris UltraSPARC computers (Solaris Operating Environment)
- **Operating system requirements**

  You require one of the following operating systems:
  - IBM AIX 5.1 (on PowerPC)
  - HP-UX 11i (on HP 9000)
  - Red Hat Linux 8.0 (on Intel 32–bit)
  - SuSE Linux 8.1 (on Intel 32–bit)
  - Sun Solaris Version 8 (on Solaris Operating Environment UltraSPARC computers)

  Note: The DB2 Information Center runs on a subset of the UNIX operating systems on which DB2 clients are supported. It is therefore recommended that you either access the DB2 Information Center from the IBM Web site, or that you install and access the DB2 Information Center on an intranet server.
- **Software requirements**
  - The following browser is supported:
    - Mozilla Version 1.0 or greater
- The DB2 Setup wizard is a graphical installer. You must have an implementation of the X Window System software capable of rendering a graphical user interface for the DB2 Setup wizard to run on your computer. Before you can run the DB2 Setup wizard you must ensure that you have properly exported your display. For example, enter the following command at the command prompt:

  ```
  export DISPLAY=9.26.163.144:0.
  ```
- **Communication requirements**
  - TCP/IP

Procedure:

To install the DB2 Information Center using the DB2 Setup wizard:

1. Log on to the system.
2. Insert and mount the DB2 Information Center product CD on your system.
3. Change to the directory where the CD is mounted by entering the following command:

   ```
   cd /cd
   ```

   where */cd* represents the mount point of the CD.
4. Enter the **./db2setup** command to start the DB2 Setup wizard.
5. The IBM DB2 Setup Launchpad opens. To proceed directly to the installation of the DB2 Information Center, click **Install Product**. Online help is available to guide you through the remaining steps. To invoke the online help, click **Help**. You can click **Cancel** at any time to end the installation.
6. On the **Select the product you would like to install** page, click **Next**.
7. Click **Next** on the **Welcome to the DB2 Setup wizard** page. The DB2 Setup wizard will guide you through the program setup process.
8. To proceed with the installation, you must accept the license agreement. On the **License Agreement** page, select **I accept the terms in the license agreement** and click **Next**.
9. Select **Install DB2 Information Center on this computer** on the **Select the installation action** page. If you want to use a response file to install the DB2 Information Center on this or other computers at a later time, select **Save your settings in a response file**. Click **Next**.
10. Select the languages in which the DB2 Information Center will be installed on **Select the languages to install** page. Click **Next**.
11. Configure the DB2 Information Center for incoming communication on the **Specify the DB2 Information Center port** page. Click **Next** to continue the installation.
12. Review the installation choices you have made in the **Start copying files** page. To change any settings, click **Back**. Click **Install** to copy the DB2 Information Center files onto your computer.

You can also install the DB2 Information Center using a response file.

The installation logs `db2setup.his`, `db2setup.log`, and `db2setup.err` are located, by default, in the `/tmp` directory.

The `db2setup.log` file captures all DB2 product installation information, including errors. The `db2setup.his` file records all DB2 product installations on your computer. DB2 appends the `db2setup.log` file to the `db2setup.his` file. The `db2setup.err` file captures any error output that is returned by Java, for example, exceptions and trap information.

When the installation is complete, the DB2 Information Center will be installed in one of the following directories, depending upon your UNIX operating system:

- AIX: /usr/opt/db2_08_01
- HP-UX: /opt/IBM/db2/V8.1
- Linux: /opt/IBM/db2/V8.1
- Solaris Operating Environment: /opt/IBM/db2/V8.1

Related concepts:

- "DB2 Information Center" on page 128
- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Installing DB2 using a response file (UNIX)" on page 61
- "Updating the DB2 Information Center installed on your computer or intranet server" on page 137
- "Displaying topics in your preferred language in the DB2 Information Center" on page 138
- "Invoking the DB2 Information Center" on page 136
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" on page 134

Installing the DB2 Information Center using the DB2 Setup wizard (Windows)

DB2 product documentation can be accessed in three ways: on the IBM Web site, on an intranet server, or on a version installed on your computer. By default, DB2 products access DB2 documentation on the IBM Web site. If you want to access the DB2 documentation on an intranet server or on your own computer, you must install the DB2 documentation from the *DB2 Information Center CD*. Using the DB2 Setup wizard, you can define your installation preferences and install the DB2 Information Center on a computer that uses a Windows operating system.

Prerequisites:

This section lists the hardware, operating system, software, and communication requirements for installing the DB2 Information Center on Windows.

- **Hardware requirements**

  You require one of the following processors:

  – 32-bit computers: a Pentium or Pentium compatible CPU
- **Operating system requirements**

  You require one of the following operating systems:

  – Windows 2000

  – Windows XP

  Note: The DB2 Information Center runs on a subset of the Windows operating systems on which DB2 clients are supported. It is therefore recommended that you either access the DB2 Information Center on the IBM Web site, or that you install and access the DB2 Information Center on an intranet server.
- **Software requirements**

  – The following browsers are supported:

    - Mozilla 1.0 or greater

    - Internet Explorer Version 5.5 or 6.0 (Version 6.0 for Windows XP)
- **Communication requirements**

  – TCP/IP

Restrictions:

- You require an account with administrative privileges to install the DB2 Information Center.

Procedure:

To install the DB2 Information Center using the DB2 Setup wizard:

1. Log on to the system with the account that you have defined for the DB2 Information Center installation.
2. Insert the CD into the drive. If enabled, the auto-run feature starts the IBM DB2 Setup Launchpad.
3. The DB2 Setup wizard determines the system language and launches the setup program for that language. If you want to run the setup program in a language other than English, or the setup program fails to auto-start, you can start the DB2 Setup wizard manually.

   To start the DB2 Setup wizard manually:

   a. Click **Start** and select **Run**.
   b. In the **Open** field, type the following command:

      ```
      x:\setup.exe /i 2-letter language identifier
      ```

      where *x:* represents your CD drive, and *2-letter language identifier* represents the language in which the setup program will be run.
   c. Click **OK**.
4. The IBM DB2 Setup Launchpad opens. To proceed directly to the installation of the DB2 Information Center, click **Install Product**. Online help is available to guide you through the remaining steps. To invoke the online help, click **Help**. You can click **Cancel** at any time to end the installation.
5. On the **Select the product you would like to install** page, click **Next**.
6. Click **Next** on the **Welcome to the DB2 Setup wizard** page. The DB2 Setup wizard will guide you through the program setup process.
7. To proceed with the installation, you must accept the license agreement. On the **License Agreement** page, select **I accept the terms in the license agreement** and click **Next**.
8. Select **Install DB2 Information Center on this computer** on the **Select the installation action** page. If you want to use a response file to install the DB2 Information Center on this or other computers at a later time, select **Save your settings in a response file**. Click **Next**.
9. Select the languages in which the DB2 Information Center will be installed on **Select the languages to install** page. Click **Next**.
10. Configure the DB2 Information Center for incoming communication on the **Specify the DB2 Information Center port** page. Click **Next** to continue the installation.
11. Review the installation choices you have made in the **Start copying files** page. To change any settings, click **Back**. Click **Install** to copy the DB2 Information Center files onto your computer.

You can install the DB2 Information Center using a response file. You can also use the **db2rspgn** command to generate a response file based on an existing installation.

For information on errors encountered during installation, see the `db2.log` and `db2wi.log` files located in the `'My Documents'\DB2LOG\` directory. The location of the `'My Documents'` directory will depend on the settings on your computer.

The `db2wi.log` file captures the most recent DB2 installation information. The `db2.log` captures the history of DB2 product installations.

Related concepts:

- "DB2 Information Center" on page 128
- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Installing a DB2 product using a response file (Windows)" on page 56
- "Updating the DB2 Information Center installed on your computer or intranet server" on page 137
- "Displaying topics in your preferred language in the DB2 Information Center" on page 138
- "Invoking the DB2 Information Center" on page 136
- "Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)" on page 132

Related reference:

- "db2rspgn - Response File Generator Command (Windows)" in the *Command Reference*

Invoking the DB2 Information Center

The DB2 Information Center gives you access to all of the information that you need to use DB2 products for Linux, UNIX, and Windows operating systems such as DB2 Universal Database, DB2 Connect, DB2 Information Integrator, and DB2 Query Patroller.

You can invoke the DB2 Information Center from one of the following places:

- Computers on which a DB2 UDB client or server is installed
- An intranet server or local computer on which the DB2 Information Center installed
- The IBM Web site

Prerequisites:

Before you invoke the DB2 Information Center:

- *Optional*: Configure your browser to display topics in your preferred language
- *Optional*: Configure your DB2 client to use the DB2 Information Center installed on your computer or intranet server

Procedure:

To invoke the DB2 Information Center on a computer on which a DB2 UDB client or server is installed:

- From the Start Menu (Windows operating system): Click **Start → Programs → IBM DB2 → Information → Information Center**.
- From the command line prompt:
  - For Linux and UNIX operating systems, issue the **db2icdocs** command.
  - For the Windows operating system, issue the **db2icdocs.exe** command.

To open the DB2 Information Center installed on an intranet server or local computer in a Web browser:

- Open the Web page at http://<host-name>:<port-number>/, where <host-name> represents the host name and <port-number> represents the port number on which the DB2 Information Center is available.

To open the DB2 Information Center on the IBM Web site in a Web browser:

- Open the Web page at publib.boulder.ibm.com/infocenter/db2help/.

Related concepts:

- "DB2 Information Center" on page 128

Related tasks:

- "Displaying topics in your preferred language in the DB2 Information Center" on page 138
- "Invoking contextual help from a DB2 tool" on page 145
- "Updating the DB2 Information Center installed on your computer or intranet server" on page 137
- "Invoking message help from the command line processor" on page 146
- "Invoking command help from the command line processor" on page 146
- "Invoking SQL state help from the command line processor" on page 147

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

The DB2 Information Center available from http://publib.boulder.ibm.com/infocenter/db2help/ will be periodically updated with new or changed documentation. IBM may also make DB2 Information Center updates available to download and install on your computer or intranet server. Updating the DB2 Information Center does not update DB2 client or server products.

Prerequisites:

You must have access to a computer that is connected to the Internet.

Procedure:

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

1. Open the DB2 Information Center hosted on the IBM Web site at: http://publib.boulder.ibm.com/infocenter/db2help/
2. In the Downloads section of the welcome page under the Service and Support heading, click the **DB2 Universal Database documentation** link.
3. Determine if the version of your DB2 Information Center is out of date by comparing the latest refreshed documentation image level to the documentation level you have installed. The documentation level you have installed is listed on the DB2 Information Center welcome page.
4. If a more recent version of the DB2 Information Center is available, download the latest refreshed *DB2 Information Center* image applicable to your operating system.
5. To install the refreshed *DB2 Information Center* image, follow the instructions provided on the Web page.

Related concepts:

- "DB2 Information Center installation scenarios" on page 129

Related tasks:

- "Invoking the DB2 Information Center" on page 136
- "Installing the DB2 Information Center using the DB2 Setup wizard (UNIX)" on page 132
- "Installing the DB2 Information Center using the DB2 Setup wizard (Windows)" on page 134

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. Refresh the page to display the DB2 Information Center in your preferred language.

To display topics in your preferred language in the Mozilla browser:

1. In Mozilla, select the **Edit** —> **Preferences** —> **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. Refresh the page to display the DB2 Information Center in your preferred language.

Related concepts:

- "DB2 Information Center" on page 128

DB2 PDF and printed documentation

The following tables provide official book names, form numbers, and PDF file names. To order hardcopy books, you must know the official book name. To print a PDF file, you must know the PDF file name.

The DB2 documentation is categorized by the following headings:

- Core DB2 information
- Administration information
- Application development information
- Business intelligence information
- DB2 Connect information
- Getting started information
- Tutorial information
- Optional component information
- Release notes

The following tables describe, for each book in the DB2 library, the information needed to order the hard copy, or to print or view the PDF for that book. A full description of each of the books in the DB2 library is available from the IBM Publications Center at www.ibm.com/shop/publications/order

Core DB2 information

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, DB2 Warehouse Manager, or other DB2 products.

Table 13. Core DB2 information

Name	Form Number	PDF File Name
IBM DB2 Universal Database Command Reference	SC09-4828	db2n0x81
IBM DB2 Universal Database Glossary	No form number	db2t0x81
IBM DB2 Universal Database Message Reference, Volume 1	GC09-4840, not available in hardcopy	db2m1x81
IBM DB2 Universal Database Message Reference, Volume 2	GC09-4841, not available in hardcopy	db2m2x81
IBM DB2 Universal Database What's New	SC09-4848	db2q0x81

Administration information

The information in these books covers those topics required to effectively design, implement, and maintain DB2 databases, data warehouses, and federated systems.

Table 14. Administration information

Name	Form number	PDF file name
IBM DB2 Universal Database Administration Guide: Planning	SC09-4822	db2d1x81

Table 14. Administration information (continued)

Name	Form number	PDF file name
IBM DB2 Universal Database Administration Guide: Implementation	SC09-4820	db2d2x81
IBM DB2 Universal Database Administration Guide: Performance	SC09-4821	db2d3x81
IBM DB2 Universal Database Administrative API Reference	SC09-4824	db2b0x81
IBM DB2 Universal Database Data Movement Utilities Guide and Reference	SC09-4830	db2dmx81
IBM DB2 Universal Database Data Recovery and High Availability Guide and Reference	SC09-4831	db2hax81
IBM DB2 Universal Database Data Warehouse Center Administration Guide	SC27-1123	db2ddx81
IBM DB2 Universal Database SQL Reference, Volume 1	SC09-4844	db2s1x81
IBM DB2 Universal Database SQL Reference, Volume 2	SC09-4845	db2s2x81
IBM DB2 Universal Database System Monitor Guide and Reference	SC09-4847	db2f0x81

Application development information

The information in these books is of special interest to application developers or programmers working with DB2 Universal Database (DB2 UDB). You will find information about supported languages and compilers, as well as the documentation required to access DB2 UDB using the various supported programming interfaces, such as embedded SQL, ODBC, JDBC, SQLJ, and CLI. If you are using the DB2 Information Center, you can also access HTML versions of the source code for the sample programs.

Table 15. Application development information

Name	Form number	PDF file name
IBM DB2 Universal Database Application Development Guide: Building and Running Applications	SC09-4825	db2axx81
IBM DB2 Universal Database Application Development Guide: Programming Client Applications	SC09-4826	db2a1x81
IBM DB2 Universal Database Application Development Guide: Programming Server Applications	SC09-4827	db2a2x81
IBM DB2 Universal Database Call Level Interface Guide and Reference, Volume 1	SC09-4849	db2l1x81

Table 15. Application development information (continued)

Name	Form number	PDF file name
IBM DB2 Universal Database Call Level Interface Guide and Reference, Volume 2	SC09-4850	db2l2x81
IBM DB2 Universal Database Data Warehouse Center Application Integration Guide	SC27-1124	db2adx81
IBM DB2 XML Extender Administration and Programming	SC27-1234	db2sxx81

Business intelligence information

The information in these books describes how to use components that enhance the data warehousing and analytical capabilities of DB2 Universal Database.

Table 16. Business intelligence information

Name	Form number	PDF file name
IBM DB2 Warehouse Manager Standard Edition Information Catalog Center Administration Guide	SC27-1125	db2dix81
IBM DB2 Warehouse Manager Standard Edition Installation Guide	GC27-1122	db2idx81
IBM DB2 Warehouse Manager Standard Edition Managing ETI Solution Conversion Programs with DB2 Warehouse Manager	SC18-7727	iwhe1mstx80

DB2 Connect information

The information in this category describes how to access data on mainframe and midrange servers using DB2 Connect Enterprise Edition or DB2 Connect Personal Edition.

Table 17. DB2 Connect information

Name	Form number	PDF file name
IBM Connectivity Supplement	No form number	db2h1x81
IBM DB2 Connect Quick Beginnings for DB2 Connect Enterprise Edition	GC09-4833	db2c6x81
IBM DB2 Connect Quick Beginnings for DB2 Connect Personal Edition	GC09-4834	db2c1x81
IBM DB2 Connect User's Guide	SC09-4835	db2c0x81

Getting started information

The information in this category is useful when you are installing and configuring servers, clients, and other DB2 products.

Table 18. Getting started information

Name	Form number	PDF file name
IBM DB2 Universal Database Quick Beginnings for DB2 Clients	GC09-4832, not available in hardcopy	db2itx81
IBM DB2 Universal Database Quick Beginnings for DB2 Servers	GC09-4836	db2isx81
IBM DB2 Universal Database Quick Beginnings for DB2 Personal Edition	GC09-4838	db2i1x81
IBM DB2 Universal Database Installation and Configuration Supplement	GC09-4837, not available in hardcopy	db2iyx81
IBM DB2 Universal Database Quick Beginnings for DB2 Data Links Manager	GC09-4829	db2z6x81

Tutorial information

Tutorial information introduces DB2 features and teaches how to perform various tasks.

Table 19. Tutorial information

Name	Form number	PDF file name
Business Intelligence Tutorial: Introduction to the Data Warehouse	No form number	db2tux81
Business Intelligence Tutorial: Extended Lessons in Data Warehousing	No form number	db2tax81
Information Catalog Center Tutorial	No form number	db2aix81
Video Central for e-business Tutorial	No form number	db2twx81
Visual Explain Tutorial	No form number	db2tvx81

Optional component information

The information in this category describes how to work with optional DB2 components.

Table 20. Optional component information

Name	Form number	PDF file name
IBM DB2 Cube Views Guide and Reference	SC18–7298	db2aax81
IBM DB2 Query Patroller Guide: Installation, Administration and Usage Guide	GC09–7658	db2dwx81
IBM DB2 Spatial Extender and Geodetic Extender User's Guide and Reference	SC27-1226	db2sbx81

Table 20. Optional component information (continued)

Name	Form number	PDF file name
IBM DB2 Universal Database Data Links Manager Administration Guide and Reference	SC27-1221	db2z0x82
DB2 Net Search Extender Administration and User's Guide **Note:** HTML for this document is *not* installed from the HTML documentation CD.	SH12-6740	N/A

Release notes

The release notes provide additional information specific to your product's release and FixPak level. The release notes also provide summaries of the documentation updates incorporated in each release, update, and FixPak.

Table 21. Release notes

Name	Form number	PDF file name
DB2 Release Notes	See note.	See note.
DB2 Installation Notes	Available on product CD-ROM only.	Not available.

Note: The Release Notes are available in:

- XHTML and Text format, on the product CDs
- PDF format, on the PDF Documentation CD

In addition the portions of the Release Notes that discuss *Known Problems and Workarounds* and *Incompatibilities Between Releases* also appear in the DB2 Information Center.

To view the Release Notes in text format on UNIX-based platforms, see the `Release.Notes` file. This file is located in the `DB2DIR/Readme/%L` directory, where `%L` represents the locale name and `DB2DIR` represents:

- For AIX operating systems: `/usr/opt/db2_08_01`
- For all other UNIX-based operating systems: `/opt/IBM/db2/V8.1`

Related concepts:

- "DB2 documentation and help" on page 127

Related tasks:

- "Printing DB2 books from PDF files" on page 144
- "Ordering printed DB2 books" on page 144
- "Invoking contextual help from a DB2 tool" on page 145

Printing DB2 books from PDF files

You can print DB2 books from the PDF files on the *DB2 PDF Documentation* CD. Using Adobe Acrobat Reader, you can print either the entire book or a specific range of pages.

Prerequisites:

Ensure that you have Adobe Acrobat Reader installed. If you need to install Adobe Acrobat Reader, it is available from the Adobe Web site at www.adobe.com

Procedure:

To print a DB2 book from a PDF file:

1. Insert the *DB2 PDF Documentation* CD. On UNIX operating systems, mount the DB2 PDF Documentation CD. Refer to your *Quick Beginnings* book for details on how to mount a CD on UNIX operating systems.
2. Open index.htm. The file opens in a browser window.
3. Click on the title of the PDF you want to see. The PDF will open in Acrobat Reader.
4. Select **File → Print** to print any portions of the book that you want.

Related concepts:

- "DB2 Information Center" on page 128

Related tasks:

- "Mounting the CD-ROM (AIX)" in the *Quick Beginnings for DB2 Servers*
- "Mounting the CD-ROM (HP-UX)" in the *Quick Beginnings for DB2 Servers*
- "Mounting the CD-ROM (Linux)" in the *Quick Beginnings for DB2 Servers*
- "Ordering printed DB2 books" on page 144
- "Mounting the CD-ROM (Solaris Operating Environment)" in the *Quick Beginnings for DB2 Servers*

Related reference:

- "DB2 PDF and printed documentation" on page 139

Ordering printed DB2 books

If you prefer to use hardcopy books, you can order them in one of three ways.

Procedure:

Printed books can be ordered in some countries or regions. Check the IBM Publications website for your country or region to see if this service is available in your country or region. When the publications are available for ordering, you can:

- Contact your IBM authorized dealer or marketing representative. To find a local IBM representative, check the IBM Worldwide Directory of Contacts at www.ibm.com/planetwide
- Phone `1-800-879-2755` in the United States or `1-800-IBM-4YOU` in Canada.

- Visit the IBM Publications Center at http://www.ibm.com/shop/publications/order. The ability to order books from the IBM Publications Center may not be available in all countries.

At the time the DB2 product becomes available, the printed books are the same as those that are available in PDF format on the *DB2 PDF Documentation CD*. Content in the printed books that appears in the *DB2 Information Center CD* is also the same. However, there is some additional content available in DB2 Information Center CD that does not appear anywhere in the PDF books (for example, SQL Administration routines and HTML samples). Not all books available on the DB2 PDF Documentation CD are available for ordering in hardcopy.

Note: The DB2 Information Center is updated more frequently than either the PDF or the hardcopy books; install documentation updates as they become available or refer to the DB2 Information Center at http://publib.boulder.ibm.com/infocenter/db2help/ to get the most current information.

Related tasks:

- "Printing DB2 books from PDF files" on page 144

Related reference:

- "DB2 PDF and printed documentation" on page 139

Invoking contextual help from a DB2 tool

Contextual help provides information about the tasks or controls that are associated with a particular window, notebook, wizard, or advisor. Contextual help is available from DB2 administration and development tools that have graphical user interfaces. There are two types of contextual help:

- Help accessed through the **Help** button that is located on each window or notebook
- Infopops, which are pop-up information windows displayed when the mouse cursor is placed over a field or control, or when a field or control is selected in a window, notebook, wizard, or advisor and F1 is pressed.

The **Help** button gives you access to overview, prerequisite, and task information. The infopops describe the individual fields and controls.

Procedure:

To invoke contextual help:

- For window and notebook help, start one of the DB2 tools, then open any window or notebook. Click the **Help** button at the bottom right corner of the window or notebook to invoke the contextual help.

  You can also access the contextual help from the **Help** menu item at the top of each of the DB2 tools centers.

  Within wizards and advisors, click on the Task Overview link on the first page to view contextual help.
- For infopop help about individual controls on a window or notebook, click the control, then click **F1**. Pop-up information containing details about the control is displayed in a yellow window.

Note: To display infopops simply by holding the mouse cursor over a field or control, select the **Automatically display infopops** check box on the **Documentation** page of the Tool Settings notebook.

Similar to infopops, diagnosis pop-up information is another form of context-sensitive help; they contain data entry rules. Diagnosis pop-up information is displayed in a purple window that appears when data that is not valid or that is insufficient is entered. Diagnosis pop-up information can appear for:

- Compulsory fields.
- Fields whose data follows a precise format, such as a date field.

Related tasks:

- "Invoking the DB2 Information Center" on page 136
- "Invoking message help from the command line processor" on page 146
- "Invoking command help from the command line processor" on page 146
- "Invoking SQL state help from the command line processor" on page 147
- "How to use the DB2 UDB help: Common GUI help"

Invoking message help from the command line processor

Message help describes the cause of a message and describes any action you should take in response to the error.

Procedure:

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

```
? XXXnnnnn
```

where *XXXnnnnn* represents a valid message identifier.

For example, `? SQL30081` displays help about the SQL30081 message.

Related concepts:

- "Introduction to messages" in the *Message Reference Volume 1*

Related reference:

- "db2 - Command Line Processor Invocation Command" in the *Command Reference*

Invoking command help from the command line processor

Command help explains the syntax of commands in the command line processor.

Procedure:

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

```
? command
```

where *command* represents a keyword or the entire command.

For example, `? catalog` displays help for all of the CATALOG commands, while `? catalog database` displays help only for the CATALOG DATABASE command.

Related tasks:

- "Invoking contextual help from a DB2 tool" on page 145
- "Invoking the DB2 Information Center" on page 136
- "Invoking message help from the command line processor" on page 146
- "Invoking SQL state help from the command line processor" on page 147

Related reference:

- "db2 - Command Line Processor Invocation Command" in the *Command Reference*

Invoking SQL state help from the command line processor

DB2 Univerrsal Database 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 the DB2 Information Center" on page 136
- "Invoking message help from the command line processor" on page 146
- "Invoking command help from the command line processor" on page 146

DB2 tutorials

The DB2® tutorials help you learn about various aspects of DB2 Universal Database. The tutorials provide lessons with step-by-step instructions in the areas of developing applications, tuning SQL query performance, working with data warehouses, managing metadata, and developing Web services using DB2.

Before you begin:

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

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

DB2 Universal Database tutorials:

Click on a tutorial title in the following list to view that tutorial.

Business Intelligence Tutorial: Introduction to the Data Warehouse Center
Perform introductory data warehousing tasks using the Data Warehouse Center.

Business Intelligence Tutorial: Extended Lessons in Data Warehousing
Perform advanced data warehousing tasks using the Data Warehouse Center.

Information Catalog Center Tutorial
Create and manage an information catalog to locate and use metadata using the Information Catalog Center.

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

DB2 troubleshooting information

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

DB2 documentation
Troubleshooting information can be found throughout the DB2 Information Center, as well as throughout the PDF books that make up the DB2 library. You can refer to the "Support and troubleshooting" branch of the DB2 Information Center navigation tree (in the left pane of your browser window) to see a complete listing of the DB2 troubleshooting documentation.

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), FixPaks and the latest listing of internal DB2 error codes, 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/winos2unix/support

DB2 Problem Determination Tutorial Series
Refer to the DB2 Problem Determination Tutorial Series Web site to find information on how to quickly identify and resolve problems you might encounter while working with DB2 products. One tutorial introduces you to the DB2 problem determination facilities and tools available, and helps you decide when to use them. Other tutorials deal with related topics, such as "Database Engine Problem Determination", "Performance Problem Determination", and "Application Problem Determination".

See the full set of DB2 problem determination tutorials on the DB2 Technical Support site at http://www.ibm.com/software/data/support/pdm/db2tutorials.html

Related concepts:

- "DB2 Information Center" on page 128
- "Introduction to problem determination - DB2 Technical Support tutorial" in the *Troubleshooting Guide*

Accessibility

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully. The following list specifies the major accessibility features in DB2® Version 8 products:

- All DB2 functionality is available using the keyboard for navigation instead of the mouse. For more information, see "Keyboard input and navigation."
- You can customize the size and color of the fonts on DB2 user interfaces. For more information, see "Accessible display."
- DB2 products support accessibility applications that use the Java™ Accessibility API. For more information, see "Compatibility with assistive technologies" on page 150.
- DB2 documentation is provided in an accessible format. For more information, see "Accessible documentation" on page 150.

Keyboard input and navigation

Keyboard input

You can operate the DB2 tools using only the keyboard. You can use keys or key combinations to perform operations that can also be done using a mouse. Standard operating system keystrokes are used for standard operating system operations.

For more information about using keys or key combinations to perform operations, see Keyboard shortcuts and accelerators: Common GUI help.

Keyboard navigation

You can navigate the DB2 tools user interface using keys or key combinations.

For more information about using keys or key combinations to navigate the DB2 Tools, see Keyboard shortcuts and accelerators: Common GUI help.

Keyboard focus

In UNIX® operating systems, the area of the active window where your keystrokes will have an effect is highlighted.

Accessible display

The DB2 tools have features that improve accessibility for users with low vision or other visual impairments. These accessibility enhancements include support for customizable font properties.

Font settings

You can select the color, size, and font for the text in menus and dialog windows, using the Tools Settings notebook.

For more information about specifying font settings, see Changing the fonts for menus and text: Common GUI help.

Non-dependence on color

You do not need to distinguish between colors in order to use any of the functions in this product.

Compatibility with assistive technologies

The DB2 tools interfaces support the Java Accessibility API, which enables you to use screen readers and other assistive technologies with DB2 products.

Accessible documentation

Documentation for DB2 is provided in XHTML 1.0 format, which is viewable in most Web browsers. XHTML allows you to view documentation according to the display preferences set in your browser. It also allows you to use screen readers and other assistive technologies.

Syntax diagrams are provided in dotted decimal format. This format is available only if you are accessing the online documentation using a screen-reader.

Related concepts:

• "Dotted decimal syntax diagrams" on page 150

Dotted decimal syntax diagrams

Syntax diagrams are provided in dotted decimal format for users accessing the Information Center using a screen reader.

In dotted decimal format, each syntax element is written on a separate line. If two or more syntax elements are always present together (or always absent together), they can appear on the same line, because they can be considered as a single compound syntax element.

Each line starts with a dotted decimal number; for example, 3 or 3.1 or 3.1.1. To hear these numbers correctly, make sure that your screen reader is set to read out punctuation. All the syntax elements that have the same dotted decimal number (for example, all the syntax elements that have the number 3.1) are mutually exclusive alternatives. If you hear the lines 3.1 USERID and 3.1 SYSTEMID, you know that your syntax can include either USERID or SYSTEMID, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with dotted decimal number 3 is followed by a series of syntax elements with dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, it is preceded by the backslash (\) character. The * symbol can be used next to a dotted decimal number to indicate that the syntax element repeats. For example, syntax element *FILE with dotted decimal number 3 is given the format 3 * FILE. Format 3* FILE indicates that syntax element FILE repeats. Format 3* * FILE indicates that syntax element * FILE repeats.

Characters such as commas, which are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. These characters can appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line can also show another symbol giving information about the syntax elements. For example, the lines 5.1*, 5.1 LASTRUN, and 5.1 DELETE mean that if you use more than one of the

LASTRUN and DELETE syntax elements, the elements must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, this indicates a reference that is defined elsewhere. The string following the % symbol is the name of a syntax fragment rather than a literal. For example, the line 2.1 %OP1 means that you should refer to separate syntax fragment OP1.

The following words and symbols are used next to the dotted decimal numbers:

- ? means an optional syntax element. A dotted decimal number followed by the ? symbol indicates that all the syntax elements with a corresponding dotted decimal number, and any subordinate syntax elements, are optional. If there is only one syntax element with a dotted decimal number, the ? symbol is displayed on the same line as the syntax element, (for example 5? NOTIFY). If there is more than one syntax element with a dotted decimal number, the ? symbol is displayed on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines 5 ?, 5 NOTIFY, and 5 UPDATE, you know that syntax elements NOTIFY and UPDATE are optional; that is, you can choose one or none of them. The ? symbol is equivalent to a bypass line in a railroad diagram.
- ! means a default syntax element. A dotted decimal number followed by the ! symbol and a syntax element indicates that the syntax element is the default option for all syntax elements that share the same dotted decimal number. Only one of the syntax elements that share the same dotted decimal number can specify a ! symbol. For example, if you hear the lines 2? FILE, 2.1! (KEEP), and 2.1 (DELETE), you know that (KEEP) is the default option for the FILE keyword. In this example, if you include the FILE keyword but do not specify an option, default option KEEP will be applied. A default option also applies to the next higher dotted decimal number. In this example, if the FILE keyword is omitted, default FILE(KEEP) is used. However, if you hear the lines 2? FILE, 2.1, 2.1.1! (KEEP), and 2.1.1 (DELETE), the default option KEEP only applies to the next higher dotted decimal number, 2.1 (which does not have an associated keyword), and does not apply to 2? FILE. Nothing is used if the keyword FILE is omitted.
- * means a syntax element that can be repeated 0 or more times. A dotted decimal number followed by the * symbol indicates that this syntax element can be used zero or more times; that is, it is optional and can be repeated. For example, if you hear the line 5.1* data area, you know that you can include one data area, more than one data area, or no data area. If you hear the lines 3*, 3 HOST, and 3 STATE, you know that you can include HOST, STATE, both together, or nothing.

  Notes:

  1. If a dotted decimal number has an asterisk (*) next to it and there is only one item with that dotted decimal number, you can repeat that same item more than once.
  2. If a dotted decimal number has an asterisk next to it and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the previous example, you could write HOST STATE, but you could not write HOST HOST.
  3. The * symbol is equivalent to a loop-back line in a railroad syntax diagram.
- + means a syntax element that must be included one or more times. A dotted decimal number followed by the + symbol indicates that this syntax element must be included one or more times; that is, it must be included at least once

and can be repeated. For example, if you hear the line 6.1+ data area, you must include at least one data area. If you hear the lines 2+, 2 HOST, and 2 STATE, you know that you must include HOST, STATE, or both. Similar to the * symbol, the + symbol can only repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the * symbol, is equivalent to a loop-back line in a railroad syntax diagram.

Related concepts:

- "Accessibility" on page 149

Related tasks:

- "Contents : Common help"

Related reference:

- "How to read the syntax diagrams" in the *SQL Reference, Volume 2*

Common Criteria certification of DB2 Universal Database products

DB2 Universal Database is being evaluated for certification under the Common Criteria at evaluation assurance level 4 (EAL4). For more information about Common Criteria, see the Common Criteria web site at: http://niap.nist.gov/cc-scheme/.

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