BMC Change Manager
Installation Guide
for DB2® Universal Database

Supporting

BMC Change Manager version 5.0.10 for DB2 Universal Database

April 2010
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• order or download product documentation
• download products and maintenance
• report an issue or ask a question
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Before contacting BMC

Have the following information available so that Customer Support can begin working on your issue immediately:

• product information
  • product name
  • product version (release number)
  • license number and password (trial or permanent)

• operating system and environment information
  • machine type
  • operating system type, version, and service pack or other maintenance level such as PUT or PTF
  • system hardware configuration
  • serial numbers
  • related software (database, application, and communication) including type, version, and service pack or maintenance level

• sequence of events leading to the issue

• commands and options that you used

• messages received (and the time and date that you received them)
  • product error messages
  • messages from the operating system, such as file system full
  • messages from related software
License key and password information

If you have questions about your license key or password, contact BMC as follows:

- **(USA or Canada)** Contact the Order Services Password Team at 800 841 2031, or send an e-mail message to ContractsPasswordAdministration@bmc.com.

- **(Europe, the Middle East, and Africa)** Fax your questions to EMEA Contracts Administration at +31 20 354 8702, or send an e-mail message to password@bmc.com.

- **(Asia-Pacific)** Contact your BMC sales representative or your local BMC office.
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Preinstallation concepts and requirements

This chapter introduces concepts and definitions that you should understand before beginning the installation procedures. This information includes brief product descriptions, system requirements, and guidelines for performing product upgrades.

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Overview

This guide provides installation information for the BMC Change Manager product for DB2® Universal Database software (BMC Change Manager for DB2 UDB). BMC Change Manager for DB2 UDB supports RDBMS platforms in distributed systems environments.

BMC Change Manager for DB2 UDB forms an integrated environment for browsing, modifying, and manipulating database objects in a heterogeneous database and operating system environment.
With BMC Change Manager for DB2 UDB, database administrators (DBAs), system administrators, and developers can globally manage user applications and individual database objects. These products also streamline the process of managing changes to data structures across your entire business enterprise. Use BMC Change Manager for DB2 UDB to compare objects, sessions, or baselines, and perform synchronization, versioning, and recovery of your data structures.

Refer to the BMC Change Manager online Help for more information about the product.

**Product architecture**

Each BMC Change Manager for DB2 UDB product consists of two main components:

- the BMC Change Manager for DB2 UDB client, which is software that resides on the user’s personal computer and runs on Microsoft Windows

  The client provides a graphical front-end to the BMC Change Manager for DB2 UDB server.

- the BMC Change Manager for DB2 UDB server, which is software that runs on the host computer (UNIX® or Windows servers) and performs services for the client.

  The BMC Change Manager for DB2 UDB server includes the following subcomponents (also called servers). These subcomponents enable users to modify database objects that were created by commercially available database servers.

  - a *database access server*, which connects to a database server and enables the user to manipulate and modify database objects
  
  - a *scheduler server*, which schedules processes for execution

  - the BMC Change Manager for DB2 UDB License Server, which runs on the host computer (UNIX or Windows servers) and performs services for the client.

  This server enables users to generate reports for clients registered with the license server.

  Communications between the BMC Change Manager for DB2 UDB client and license server are accomplished through TCP/IP. One license server supports multiple clients.
The database access and scheduler servers are installed on the host where the database server resides (although remote installation is also an option). During the client setup, you select the database servers to which the client will connect. BMC Software recommends that you connect the client to the host on which both the database access server and a scheduler server reside.

Communications between the BMC Change Manager for DB2 UDB client and server are accomplished through TCP/IP. Both the client and server can support multiple database connections at one time, enabling a single client to connect to multiple databases or scheduler servers simultaneously. One database access server or scheduler server can also support multiple clients. This flexibility enables BMC Change Manager for DB2 UDB to adapt to the structure of any organization.

### System requirements and supported platforms

Table 1 provides system requirements and supported platforms information for the BMC Change Manager for DB2 UDB products.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Minimum requirements for full support</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>all supported UNIX® platforms</td>
<td>64 MB RAM (minimum)</td>
<td>Set aside 2 times the physical memory size for swap space (for 32 MB of RAM, set aside 64 MB of swap space). For each additional client connected to the server, add 1 MB of swap space.</td>
</tr>
<tr>
<td>all supported Windows platforms server:</td>
<td>64 MB RAM</td>
<td>Log on as an administrator to install the product. The user must have update rights to the installation directory and the aclhost.ini file (located in the Operating System/System32 directory).</td>
</tr>
<tr>
<td></td>
<td>200 MHz Pentium client:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>64 MB RAM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 MHz Pentium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VGA video (at least 600 X 800)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4X CD drive or higher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TCP/IP software (included with your Windows operating system)</td>
<td></td>
</tr>
<tr>
<td>operating system</td>
<td>IBM® AIX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sun® Solaris</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Red Hat Linux®</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 2000 with Service Pack 1</td>
<td></td>
</tr>
</tbody>
</table>
Domestic and International supported environments

The BMC Change Manager for DB2 UDB product for each RDBMS includes domestic and international versions, which are categorized as follows:

- U.S. English data (US7ASCII) using single byte

  Sorting is based on ASCII code page values.

- European data support, which includes support for extended character sets in any single-byte, left-to-right language and support for local date and time formats

  For support of Western European language character sets, you must set the client and the server to ANSI code page 1252.

- the ability to work with any supported locale language in all parts of the product, including meta objects such as filter names, session names, and catalog data

- support for the creation and management of any persistent object in the user’s native language

Table 2 provides information about the operating system (OS) platforms and database versions that offer support for U.S. English, Western European, and multibyte characters. Unless otherwise indicated, all database platform versions listed in “System requirements and supported platforms” on page 13 are supported.
Running multiple (concurrent) versions

BMC Change Manager for DB2 UDB supports multiple versions of the product running concurrently on the same system. For example, if you have one version of the BMC Change Manager for DB2 UDB product installed, you can install another version of BMC Change Manager for DB2 UDB on the same system. This allows you to administer current releases of DB2 UDB databases while continuing to maintain administration of earlier releases with the earlier product version.

The installation program will not overwrite an existing version of the BMC Change Manager for DB2 UDB client. If a version of the client is detected in the destination folder during the installation procedure, you are prompted to choose another destination location.

To enable concurrent versioning, the client and server version must match. If you are running multiple versions of the client, you must also run multiple versions of the server. Each version of the BMC Change Manager for DB2 UDB server and client must have different TCP/IP port numbers.

<table>
<thead>
<tr>
<th>Supported Server Platform</th>
<th>DB2 Universal Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM AIX</td>
<td>US</td>
</tr>
<tr>
<td></td>
<td>WE</td>
</tr>
<tr>
<td>Red Hat Linux</td>
<td>US</td>
</tr>
<tr>
<td></td>
<td>WE</td>
</tr>
<tr>
<td>Sun Solaris</td>
<td>US</td>
</tr>
<tr>
<td></td>
<td>WE</td>
</tr>
<tr>
<td>All supported Windows</td>
<td>US</td>
</tr>
<tr>
<td>platforms</td>
<td>WE</td>
</tr>
</tbody>
</table>

US = US English character set data (US7ASCII), which is single byte, is supported. Sorting is based on ASCII code page values.

WE = Western European character set data is supported.

MB = Multi-byte (Japanese) character set data is supported.
### Installation order

You must install and configure the components of the BMC Change Manager for DB2 UDB product in the following order:

1. Install the BMC Change Manager for DB2 UDB servers.
2. Configure and start the BMC Change Manager for DB2 UDB servers.
3. Install the BMC Change Manager for DB2 UDB license server.
4. Configure and start the BMC Change Manager for DB2 UDB license server.
5. Install the BMC Change Manager for DB2 UDB clients.
6. Register the clients with the BMC Change Manager for DB2 UDB license Server.
7. Start and configure the BMC Change Manager for DB2 UDB clients.

See Appendix A, “Installation scenarios,” on page 99 for examples of different types of installations.

### Uninstalling BMC Change Manager for DB2 UDB products

BMC Software recommends that you install the latest product version before you uninstall any earlier versions. This preserves some configuration settings such as connection profiles.

If you want to uninstall a product, consider the following information:

- To provide a more consistent means of uninstalling the BMC Change Manager for DB2 UDB products on a Windows host, use the Microsoft Windows Add/Remove Programs utility to uninstall the product.

- If you previously installed more than one RDBMS client at one time, the clients were treated as a set. If you uninstall any of the RDBMS clients in the set, the uninstall facility will remove all of the clients that were installed together.

To review the components in the installation set, in the Add/Remove Programs utility, find the BMC Change Manager for DB2 UDB Client v.r.mm item in the list of software to Install/Uninstall.
The procedure for a silent removal of the BMC Change Manager for DB2 UDB server requires that you use the Microsoft Windows uninstall function from the command line. Refer to “Uninstalling the server (command-line interface)” on page 74 for more information.

License information

In versions 4.2.20 and later, of BMC Change Manager for DB2 UDB, BMC no longer requires you to enter the license key and password or update a license key. You are bound by your license agreement to use only the licensed capacity that you purchased.

Where to go from here

You are now ready to begin the server installation procedure. Go to the chapter corresponding to the type of host computer that you plan to use:

<table>
<thead>
<tr>
<th>Type of Host</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIX</td>
<td>Chapter 2, “Installing servers on UNIX” on page 19</td>
</tr>
<tr>
<td>Windows NT</td>
<td>Chapter 5, “Installing, configuring, and starting servers on Microsoft Windows” on page 61</td>
</tr>
<tr>
<td>Windows 2000</td>
<td></td>
</tr>
</tbody>
</table>


Where to go from here
This chapter provides step-by-step instructions for installing the BMC Change Manager product for DB2® Universal Database servers on UNIX® host systems. Special installation situations are discussed at the end of the chapter.

Preparing to install the server

Before starting the installation, you must complete the preinstallation steps:

1. Choose a user ID to use when installing the server.

   BMC Software recommends that you use bmc as the account name.

   To create the user accounts, you must have root permission. Use the same account name on every host that will run the database access server, scheduler server, or any remote hosts that you use for installations.

2. Ensure that you have write authority on the file system on which you are installing the BMC Change Manager for DB2 UDB server. If you do not have write authority, the installation script presents an error message indicating that you cannot write to that directory.
Preparing to install the server

3 Obtain a new port service number so that the database access server can listen for client requests.

The default port number for all BMC Change Manager for DB2 UDB servers is 1313. The default port number for all BMC Change Manager for DB2 UDB license servers is 1414. The network administrator or system administrator might have to assign the port number.

The `/etc/services` file defines the port services for client requests. An entry for the default port number in the `/etc/services` file would appear as follows:

```
BMCTCP 1313/tcp
```

4 To ensure that the network is working properly, type `ping host_name`, where `host_name` is the name of the UNIX server on which you are installing the product.

---

**NOTE**

If the `ping` command returns an error message, a network problem exists. You can continue with the installation. However, you will have to resolve this issue before starting the BMC Change Manager for DB2 UDB server. Notify the system administrator of this problem immediately.

5 Ensure that you have permissions to load the software onto the UNIX server, as follows:

A Log on with the user ID you chose in Step 1.

B Move to the location where you are going to install the software:

```
cd location
```

---

**NOTE**

If you want to install a new version of the server and keep a previous version as well, create a new directory.

C Type `mkdir jobs` to create a default location for storing the BMC Change Manager for DB2 UDB jobs.

This command also ensures that you have the proper permissions to install the software. If you receive a message indicating that you do not have permissions, find a new location to install the software.
Preparing to install the server

6 Mount the CD as a filesystem.

A Obtain the password, device, and mount_point from the systems administrator.

NOTE
The jobs directory cannot be the same directory name that you specify for the executables. This restriction protects the installation directory and files. See “Setting server environment variables” on page 33 for details.

B Mount the CD using Table 3 as a guide in determining the mounting command that is correct for your operating system platform.

Table 3 Common UNIX mounting commands

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Mounting command</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM® AIX</td>
<td>mount -r -v cdrfs device mount_point</td>
</tr>
<tr>
<td>HP-UX</td>
<td>mount -F cdfs device mount_point</td>
</tr>
<tr>
<td></td>
<td>mount -r -t cdfs device mount_point</td>
</tr>
<tr>
<td>Red Hat Linux®</td>
<td>Use the following command if the CD does not auto mount:</td>
</tr>
<tr>
<td></td>
<td>mount /dev/cdrom</td>
</tr>
<tr>
<td></td>
<td>The mount point is specified in the /etc/fstab file.</td>
</tr>
<tr>
<td>Sun® Solaris</td>
<td>Auto mounts, look in /cdrom/cdrom0</td>
</tr>
</tbody>
</table>

Installing the server

Use this procedure to install the BMC Change Manager for DB2 UDB server and BMC Change Manager for DB2 UDB license server on a UNIX host.

1 Review all of the information listed in “Preparing to install the server” on page 19.

2 Insert the compact disc (CD) into the drive on the host where you are installing the BMC Change Manager for DB2 UDB server.

NOTE
The CD for the BMC Change Manager for DB2 UDB server contains the server and client files. Check your CD label to determine the correct media for your database type.
Preparing to install the server

3 Log on with the name you chose in step 1.

4 Run the installation script.

A Change to the directory server/unix under the CD mount point.

For example, if the CD is mounted under /cdrom, type the following command:

cd /cdrom/server/unix

**NOTE**
For some HP-UX versions that display directory and file names in uppercase, type cd /cdrom/SERVER/UNIX.

B Run the script by typing the following command:

./install.sh

**NOTE**
For some HP-UX versions that display directory and file names in uppercase, type /INSTALL.SH\;1.

5 The End User License Agreement is displayed. After reading this agreement, select the appropriate option.

6 Choose from the following options:

- If you want to keep a log of your installation, type y and then press Enter.
- If you do not want to keep an installation log, type n and then press Enter.

**NOTE**
Installation logs are placed in the /tmp/admin_log directory.

7 When the product installation menu appears, type 1 and then press Enter.

8 Select the packages to install as follows:
A Type a space-separated list of the numbers that correspond to each of the packages that you want to install, or press Enter to install the default packages (indicated in brackets).

B Type y to confirm that you want to install the packages listed and then press Enter.

9 Enter the server TCP/IP port number information as follows:

A Type the service port number, or press Enter to use the default service port number (1313).

B Type y to confirm the service port number and then press Enter.

10 Type the full path name to the directory where the BMC Change Manager for DB2 UDB server will be installed (using the displayed default, if possible), and then press Enter.

11 Verify your installation settings and then choose from the available options, as follows:

- To begin your installation, type y and then press Enter. Go to step 12.

- To cancel your installation, type n and then press Enter. The installation program terminates.

12 After the selected product files are extracted, you are prompted to specify a location for the port lockfiles for each selected platform. Lockfiles contain information about the running servers and their current state. By default, these files are placed in /tmp. BMC Software recommends that you specify a local location other than /tmp to store these files, especially if you periodically clean /tmp. See “Port and Instance lockfiles” on page 28 for details.

Choose from the following options:

- Type y and press Enter to specify a location for the lockfiles. When prompted, type in the fully-qualified path name for the location where the lockfiles will be located, and then press Enter.

- Type n and press Enter to accept the default location of /tmp. If you enter y, you need to specify a location for your lockfiles.

13 After each selected platform is initialized, press Enter to return to the main menu.
Preparing to install the server

The server installation is complete.

14 When the product installation menu appears, select the BMC Change Manager for DB2 UDB License Server, type 2, and then press Enter.

15 Type the server TCP/IP port number information, as follows:

- Type the service port number, or press Enter to use the default service port number (1414).
- Type y to confirm the service port number, and then press Enter.

NOTE
You might need to specify a value other than the default value (1414), based on your site requirements.

16 Type the full path name to the directory where the license server product will be installed (using the displayed default, if possible) and then press Enter.

17 Verify your installation settings, and then choose from the available options, as follows:

- To begin your installation, type y, press Enter, and proceed to step 18.
- To cancel your installation, type n and then press Enter.

18 After the license server is installed, press Enter to return to the main menu.

19 Type 99 to exit the installation. For instructions about configuring the server, proceed to Chapter 3.

Troubleshooting the server installation

If you receive any of the following messages during the server installation, take the necessary corrective action and then proceed with your installation.

0220 ERROR: Failure in recovering files.

Explanation: The script could not find all of the files on the CD to perform the installation.

User Response: Contact BMC Software Customer Support (as indicated on page 2) and request a new CD.
0260 ERROR: Unable to append to /tmp/bmcfile.1.

Explanation: The script could not write to /tmp because the file system was full, you do not have write permissions on it, or /tmp is remotely mounted.

User Response: Ensure whether enough disk space exists on the file system for the installation. If there is enough disk space, ensure that you have permissions to write to the /tmp directory. If you do not have the correct permissions, change permissions on /tmp so that you can proceed with the installation. If /tmp is remotely mounted, ensure that you can access the remote mount point.

Special installation situations

This section addresses special installation situations that can apply to users with UNIX hosts. The following topics are covered:

- “Transferring a server installation image” on page 25
- “Creating a central server location” on page 27

Transferring a server installation image

This section specifies how to install the BMC Change Manager for DB2 UDB server on a host that does not have a CD drive attached to it. If another host that has a CD drive is available to you and accessible through the network, you can specify that the installation script use this CD. You provide the host name and the device name.

If loading from a remote host is inconvenient, you can install the files on a host that has the correct type of drive, and then use tar and ftp commands to create and transfer an image of the installed files to the appropriate host. Remember that this procedure works only when both hosts are running the same operating system.

**NOTE**

Before starting this procedure, you must install the BMC Change Manager for DB2 UDB server on a host that has a CD drive.

1. Log on to the host that contains the CD drive.
2. Place the CD in the drive.
3. Install the BMC Change Manager for DB2 UDB server as described in “Installing the server” on page 21.
4 Archive the installation directory as follows (assuming the default of /usr/bmc):

```
# cd /usr
# tar -cf patroldb.tar ./bmc.
```

This step archives the installation directory under /usr with the file name patroldb.tar.

---

**WARNING**

Never transfer individual files. Instead, archive the installation directory and transfer the archive to the target host.

---

5 Transfer the archive file as follows:

A Log on to the remote host with `ftp` as user **bmc**.

B Type in the following series of commands. Replace *host_name* with the name of the target host on which you will install the product. Between commands, you may receive system messages that `ftp` generates.

```bash
#!/ /ftp
ftp> host_name
ftp> (supply user bmc and password when prompted)
ftp> binary
ftp> cd /usr
ftp> put patroldb.tar
ftp> bye
```

All of the required files have now been transferred to the specified directory.

6 Complete the pre-installation steps in “Preparing to install the server” on page 19.

7 Go to the target host, and extract the installation directory from the archive file.

A Log in as **bmc**.

B Change to the /usr directory:

```
cd /usr
```

C Type the following command:

```
# tar -xf patroldb.tar .
```

All of the required files have now been transferred to the specified directory.
8 To configure the server, proceed to “Server configuration” on page 42.

Creating a central server location

To simplify the administration of multiple servers in a network, you can create a central server location from which other servers can run the product. Using one location to store all of the executables and associated files per platform simplifies program maintenance.

1. Install the BMC Change Manager for DB2 UDB server on the central server.
2. From the remote server, use NFS to mount the installation directory of the central server.
3. Repeat step 2 for other remote servers.

Verifying installed and runtime files

The following tables indicate which directories and files are installed or generated on the server for UNIX hosts.

The server executables, server scripts, runtime libraries, configuration files and messages files are installed under the $BMC_HOME directory. (The default is /usr/bmc.) At runtime, the BMC_HOME environment variable specifies the path to these files.

Root location of the files for DB2 CMDB2/os/v.r.mm,

where

<table>
<thead>
<tr>
<th>os</th>
<th>Represents the operating system directory name</th>
</tr>
</thead>
<tbody>
<tr>
<td>v.r.mm</td>
<td>Represents the version, release number, and maintenance number</td>
</tr>
</tbody>
</table>

Table 4 gives the operating system directory names.

Table 4  Operating system directory names (UNIX host)

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Directory Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM AIX</td>
<td>aix</td>
</tr>
<tr>
<td>Red Hat Linux</td>
<td>linux</td>
</tr>
<tr>
<td>Sun Solaris</td>
<td>sol</td>
</tr>
</tbody>
</table>
Verifying installed and runtime files

The directories and files listed in Table 5 are installed under the $BMC_LOCAL directory, which is located in /usr/jobs or the location that you specified for BMC_LOCAL. These directories and files are created in the directory that BMC_LOCAL specifies at runtime.

Table 5  BMC_LOCAL directories and files (UNIX Host)

<table>
<thead>
<tr>
<th>Directories and files</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMCInstance</td>
<td>BMC_LOCAL lockfile</td>
</tr>
<tr>
<td>BMCserverlog</td>
<td>default DEBUG server log file (defaults only when patroldb -D is specified; see Table 12 on page 46 for details)</td>
</tr>
<tr>
<td>BMCschedlog</td>
<td>default DEBUG scheduler log file (defaults only when patroldb -D is specified; see Table 12 on page 46 for details)</td>
</tr>
<tr>
<td>job* directories</td>
<td>numbered directory for each job that you ran containing the BMC instance file</td>
</tr>
<tr>
<td>/job*/BMCjobinfo</td>
<td>persistent record of the current state</td>
</tr>
<tr>
<td>/job*/unld*</td>
<td>control files, unloaded data and log files, unload files containing a list of bad records</td>
</tr>
<tr>
<td>/job*/load*</td>
<td>control files, parameter files, load log files, load file containing a list of bad records</td>
</tr>
<tr>
<td>sch* directories</td>
<td>temporary numbered directory for each job that you schedule containing the BMCjobinfo. When the scheduled time occurs, sch* becomes job*.</td>
</tr>
<tr>
<td>/sch*/BMCjobinfo</td>
<td>persistent record of the current state</td>
</tr>
<tr>
<td>/tmp/patrolsd.portx</td>
<td>temporary server file containing connection information</td>
</tr>
<tr>
<td>(See “Port and Instance lockfiles.”)</td>
<td>These files also list values for all of the specified environment variables, as well as version information.</td>
</tr>
<tr>
<td>/tmp/patroljd.portx</td>
<td>temporary scheduler file</td>
</tr>
<tr>
<td>(See “Port and Instance lockfiles.”)</td>
<td></td>
</tr>
</tbody>
</table>

Port and Instance lockfiles

Port lockfiles contain information about the running servers and their current state. These lockfiles are accessed when you run a query or stop your server. Instance lockfiles contain information about an instance of the server running from BMC_LOCAL.

During server installation, you can specify a location other than the default (/tmp) to store the lockfiles. BMC Software recommends that you specify a location other than /tmp if you periodically clean /tmp.
If you do not specify a new location for the lockfiles during installation, you can do so later by editing the `patroldb.ini` file. The server determines where to place the lockfiles based on the location that is specified by the `LockDirectory` entry in the `[System Parameters]` section of the `patroldb.ini` file. If no `LockDirectory` entry exists, the server places the lockfiles in `/tmp`.

### Querying all servers on a single host

When running a query, you can obtain information about the servers running from your current BMC_HOME, or information about all the servers running on your computer. To set up your computer to query all servers located on your computer, perform the following steps:

1. For each server that you want to query, set the `LockDirectory` entry in the `[System Parameters]` section of the `$BMC_HOME/patroldb.ini` file to the same location.

2. Restart all servers to activate the change.

See “Starting, stopping, and querying the servers with patroldb” on page 45 for more information about starting the server and running queries.
Verifying installed and runtime files
Setting up the server environment on UNIX

This chapter provides step-by-step instructions for setting up the environment before you start the BMC Change Manager product for DB2® Universal Database server on UNIX® host computers.

Setting up the environment ................................................................. 31
  Setting database-specific environment variables .............................. 32
  Setting server environment variables ........................................... 33
  Enabling user authentication on the server side ............................... 39
  Enabling user authentication on the server side ................................ 39
Setting up the license server environment ....................................... 41
  Setting the BMC_LNCHOME environment variable .......................... 41
  Setting the BMC_LNCPORT Environment Variable ............................ 42
Server configuration ................................................................. 42
  Changing the server configuration settings ................................. 44

Setting up the environment

Before starting the BMC Change Manager for DB2 UDB license server, you must set the following environment variables:

- database-specific environment variable
- BMC_HOME to the directory where the BMC Change Manager server is installed
- BMC_LOCAL to the directory where the job files will be saved
- BMC_ARCHIVE to the directory where the Job files will be archived
- ML_LANG to the compatible locale of the BMC Change Manager for DB2 UDB client using the information found in Table 8 on page 38.

For example, if the client is installed on a Windows NT host using a Japanese character set, then set ML_LANG ja_JP.SJIS.
The following sections discuss these variables and other environment variables that can be set, based on your particular environment and the products that you will be using.

**NOTE**
To verify environment settings, you can run the `env` command from your UNIX shell prompt to display all current settings. You can also use the `echo [variable]` command statement to check the value of a specific variable.

### Setting database-specific environment variables

Before you start the server, you must set the PATH variable and database-specific environment variables for your database environment.

#### Setting up the DB2 Universal Database environment

**NOTE**
For information about setting environment variables in your DB2 UDB working environment, see your DB2 UDB product documentation.

1. Set the environment variable `INSTHOME` to the home directory of the instance owner.

   **EXAMPLE**
   ```bash
   export INSTHOME=/home/inst5
   ```

2. Within the current shell, run the `db2profile` script that is located in the DB2 UDB installation directory (for example, type `/home/inst2/sqlib/db2profile`). This script exports the DB2INSTANCE variable and updates the PATH variable.

   **NOTE**
   If this script is not available, manually set these variables. Set and export DB2INSTANCE to the name of the DB2 UDB instance to which you will connect. Then, ensure that your PATH variable includes the `INSTHOME/sqlib/bin`, `INSTHOME/sqlib/adm`, and `INSTHOME/sqlib/misc` directories.

3. Ensure that the following items belong to the same group:
   - `bmc` user account
   - DB2 UDB instance to which you are connecting
4 At the system prompt, enter `echo $PATH` and verify that the directory containing the DB2 UDB binaries is in the `bmc` user’s PATH.

5 Ensure that the DB2 UDB library (`libdb2.a` for AIX or `libdb2.so` for Solaris) is either in `/usr/lib` or the location to which the following environment variable points: `LIBPATH` for AIX or `LD_LIBRARY_PATH` for Sun Solaris.

--- EXAMPLE ---

For AIX: `export LIBPATH=/usr/lpp/db2_05_00/lib`

If you are configuring DB2 UDB for an EEE environment, the user id that is used to start up the service provider must have privileges given in the `.rhosts` file to `rsh` to all of the partitions of the DB2 UDB EEE databases.

6 Set up the BMC Change Manager for DB2 UDB environment variables as discussed in the next section.

--- Setting server environment variables ---

Before starting the server, you must set the following environment variables:

- `BMC_HOME`
- `BMC_LOCAL`

--- WARNING ---

Setting or resetting the ENV environment variable can produce unexpected results and is therefore not recommended. Setting this variable may change paths to various directories and runtime libraries. Consequently, the UNIX server may be unable to locate the libraries and job scheduler directories. All of the environment settings described in this chapter should be made within your shell-login script file.

--- NOTE ---

BMC Software provides preset environment variables in the product that are used to log debug information. For more information about these environment variables and about enabling debugging, see Appendix B, “Logging debug information (UNIX).”
Table 6 lists the default settings for environment variables and recommendations for setting these variables.

### Table 6  Environment variables default settings (UNIX Host)

<table>
<thead>
<tr>
<th>Environment variable</th>
<th>Default setting</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC_ARCHIVE</td>
<td>defaults to create the archive directory in the directory specified by the BMC_LOCAL environment variable</td>
<td>BMC Software recommends using the default setting.</td>
</tr>
<tr>
<td>BMC_HOME</td>
<td>defaults to /usr/bmc or the directory where patroldb was found (see “Root location of the files for DB2 CMDB2/os/v.r.mm,” on page 27 for more details)</td>
<td>Set this variable to the BMC Change Manager for DB2 UDB server installation directory for the current version or the version you want to run. See “Setting the BMC_ARCHIVE environment variable” on page 35 for details.</td>
</tr>
<tr>
<td>BMC_JOBLOAD</td>
<td>2</td>
<td>BMC Software recommends using the default setting. See “Setting the BMC_STORE environment variable” on page 38 for further information about setting the jobload variable.</td>
</tr>
<tr>
<td>BMC_LOCAL</td>
<td>defaults to /usr/bmc/CMUDB/os/v.r.mm/jobs or the local user directory where you start patroldb (see “Root location of the files for DB2 CMDB2/os/v.r.mm,” on page 27 for more details)</td>
<td>Set this variable to your local jobs directory for the current version or for the version where you want to run patroldb. See “Setting the BMC_LOCAL environment variable” on page 36 for details.</td>
</tr>
<tr>
<td>BMC_PORT</td>
<td>1313</td>
<td>BMC Software recommends using the default setting. See “Setting the BMC_PORT environment variable” on page 37 for further information about this variable.</td>
</tr>
<tr>
<td>BMC_STORE</td>
<td>location that is pointed to by BMC_LOCAL</td>
<td>See “Setting the BMC_STORE environment variable” on page 38 for further information.</td>
</tr>
<tr>
<td>ML_LANG</td>
<td>en_US.iso88591 (English)</td>
<td>See “Setting the ML_LANG environment variable” on page 38 if you need to change the language setting.</td>
</tr>
<tr>
<td>ML_ROOT</td>
<td>location pointed to by BMC_HOME</td>
<td>See “Setting the ML_ROOT environment variable” on page 38 if you need to change this variable.</td>
</tr>
</tbody>
</table>
Setting the BMC_ARCHIVE environment variable

The BMC_ARCHIVE variable specifies the directory where the archives directory will be located. If you do not specify a value for this variable, the archive directory will be created under the directory specified by the BMC_LOCAL environment variable.

**EXAMPLE**

```bash
echo export BMC_ARCHIVE=/home/tmp/
```

Setting the BMC_HOME environment variable

The BMC_HOME environment variable specifies the fully qualified path to the following components of the BMC Change Manager for DB2 UDB server:

- BMC Change Manager for DB2 UDB runtime libraries
- executable files
- server scripts and templates
- configuration files
- message files

Except for the configuration file, these files remain constant. You can mount BMC_HOME through NFS on any licensed server to share the executables, distributed scripts, and libraries.

BMC_HOME is used by patroldb (a command that is used to start, stop, and query a BMC Change Manager for DB2 UDB server), the BMC Change Manager for DB2 UDB server, and the scheduler processes to find the installed runtime libraries and other support files. The value of BMC_HOME is determined by patroldb based on its current path. You can override this value by exporting BMC_HOME.

Table 7 illustrates how to set the BMC_HOME environment variable for your operating system (OS). The `v.r.mm` variable in this table refers to the version, release number, and maintenance number.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Setting for BMC_HOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM AIX</td>
<td>export BMC_HOME=/usr/bmc/CMUDB/aix/v.r.mm</td>
</tr>
<tr>
<td>Linux</td>
<td>export BMC_HOME=/usr/bmc/CMUDB/linux/v.r.mm</td>
</tr>
<tr>
<td>Sun Solaris</td>
<td>export BMC_HOME=/usr/bmc/CMUDB/sol/v.r.mm</td>
</tr>
</tbody>
</table>
Setting up the environment

Setting the BMC_JOBLOAD environment variable

The BMC_JOBLOAD variable allows you to specify the number of jobs that can run simultaneously. The default value for BMC_JOBLOAD is two jobs and the minimum allowed value is one job. The overall total number of jobs or scheduled jobs running at any one time should not exceed 1000 jobs. Release from hold or delete no more than 100 jobs or scheduled jobs at a time.

When setting this value, consider the available resources and their usage. You probably should increase the value if your server performs satisfactorily while running more than two jobs simultaneously. You should use a lower value if your server has limited resources or you want to guarantee that resource usage stays low.

If the number of jobs in the job queue exceeds the value that you specify for BMC_JOBLOAD, the submitted jobs may go into a wait state. The waiting jobs are run in the order that they were submitted. A new job starts when the number of active jobs is less than the value specified for BMC_JOBLOAD.

To change this value, export BMC_JOBLOAD and restart the servers.

--- EXAMPLE ---
export BMC_JOBLOAD=5

Setting the BMC_LOCAL environment variable

The BMC_LOCAL environment variable specifies a directory that is managed by one instance of the BMC Change Manager for DB2 UDB scheduler, running as the user who started the server. This directory contains all scheduler-generated persistent files and job directories. Because the server uses these files and directories to track the creation, scheduling, and execution of users’ jobs, the number and contents of these items changes constantly.

For example, job directories are created only when clients schedule jobs, and the directories can be deleted by the clients. Because these directories are created with the same ownership as the running server and scheduler processes, the directories coexist in one directory that is defined by the BMC_LOCAL directory.

The directory that BMC_LOCAL defines has the following restrictions:

- The directory cannot be the same directory that you specify for BMC_HOME. This restriction protects the installation directory and files. If you attempt to set BMC_LOCAL to the same directory as BMC_HOME, patroldb displays an error and prompts you to provide another path.
In addition, patroldb ensures that BMC_LOCAL points to a directory that is writable by the user ID running patroldb. See “Starting, stopping, and querying the servers with patroldb” on page 45 for more information about patroldb.

The directory cannot be shared by any BMC Change Manager for DB2 UDB server processes. This restriction prevents file permission clashes when a second user tries to write to a file owned by another user. It also permits the logging of full paths to jobs, which makes the jobs easy to locate.

If not set in the environment, BMC_LOCAL defaults to the current directory when you start patroldb.

--- EXAMPLE ---

```bash
export BMC_LOCAL=/usr/bmc/CMUDB/aix/5.0.10/jobs
```

### Setting the BMC_PORT environment variable

The BMC_PORT variable enables you to specify additional instances of the BMC Change Manager for DB2 UDB server (as opposed to additional database instances). The default value for BMC_PORT is 1313. You should use this value unless you are loading multiple instances. In general, any port number less than 1024 is reserved and should not be specified.

Although the majority of sites do not need to use this variable, BMC_PORT is required for sites that are running an additional RDBMS (user bmc). Other sites may choose to implement multiple instances to force separate departmental environments (for improved control or monitoring) or to expand the resources available per instance.

--- NOTE ---

Before setting a port value for use with multiple instances, you should determine which ports are in use. Enter the following command to obtain a list of all the ports that are currently in use:

```
netstat -an | grep LISTEN
```

If you use BMC_PORT to invoke another instance of the BMC Change Manager for DB2 UDB server, be sure to choose a different local directory for the server files that the additional instance creates. Choosing a different directory prevents conflicts between the server files of the two instances.

For example, when started by user bmc, patroldb uses the BMC_LOCAL directory for all of the files that are generated at runtime and owned by user bmc.
Setting the BMC_STORE environment variable

The BMC_STORE environment variable allows you to specify a location for the change logs that are produced from baseline comparisons. If no value is specified, the change logs are copied to the location that is pointed to by the BMC_LOCAL environment variable (jobs directory). For information on running a server-side comparison, see the Change Manager online Help.

**EXAMPLE**

```bash
export BMC_STORE=/usr/bmc/CMUDB/sol/5.0.10/chglogs
```

Setting the ML_LANG environment variable

The ML_LANG environment variable sets the locale for the server. By default, the locale is `en_US.iso88591` (English). To change this variable, check the list of supported locales for your site (enter `patroldb locales` at the system prompt), and specify the new locale name.

**Table 8 ML_LANG values for client character sets**

<table>
<thead>
<tr>
<th>Language</th>
<th>Client character set</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>fr_FR.iso88591</td>
</tr>
<tr>
<td>German</td>
<td>de_DE.iso88591</td>
</tr>
<tr>
<td>Japanese</td>
<td>ja_JP.SJIS</td>
</tr>
<tr>
<td>Spanish</td>
<td>es_ES.iso88591</td>
</tr>
</tbody>
</table>

**EXAMPLE**

```bash
export ML_LANG=fr_FR.iso88591
```

Setting the ML_ROOT environment variable

The ML_ROOT environment variable specifies the fully qualified path to the directory where the MLS language libraries are located. If this variable is not specified, the default is the location pointed to by the BMC_HOME environment variable (home directory).

**EXAMPLE**

```bash
export ML_ROOT=/usr/bmc/CMUDB/aix/5.0.10
```
Enabling user authentication on the server side

You can optionally enable or disable user authentication of the OS on the server side. When you first install the server, authentication is disabled. To enable user authentication, complete the following steps before starting the BMC Change Manager for DB2 UDB server.

1. Change the Authentication parameter from 0 to 1 in the [Scheduler] section of the patroldb.ini file (located in the BMC_HOME directory).

   [Scheduler]
   Authentication=1

   When authentication is enabled, the server-side patrolcl command line utility requires the host user ID and password parameters.

2. Change the access mode of the BMC pdbauth command file (in the BMC_HOME directory) so that it can read UNIX password files.

   **NOTE**
   If you are running NIS (Sun Yellow Pages), you must perform step 2 only if you have local user accounts. Local user accounts are defined locally only to the host being accessed. Otherwise, pdbauth can authenticate NIS-managed host user access without modification.

   You can choose from several strategies to give the pdbauth command file read access to the OS password files. (Note that some UNIX systems have a shadow or security passwd file in addition to /etc/passwd.) Choose the following strategy that best fits your policies and procedures:

   - group ID strategy

   Use the UNIX set-group-ID mechanism to perform user authentication. Change the group ID of the pdbauth command file to the group ID of the OS password files. (Usually, the group ID is security.) Then, use the chmod command to set the file access mode for the set-group-ID as follows:

   chgrp security $BMC_HOME/pdbauth
   chmod 2555 $BMC_HOME/pdbauth
For users who want to start the BMC Change Manager for DB2 UDB server and are not the owner and are not in the group of \texttt{pdbauth}. The mode should be 2555.

- user ID strategy

Use the UNIX set-user-ID mechanism to perform user authentication. Change the user ID of the \texttt{pdbauth} command file to the user ID of the OS password files. (Usually, the user ID is \texttt{root}.) Then, use the \texttt{chmod} command to set the set-user-ID file access mode as follows:

\begin{verbatim}
chown root $BMC_HOME/pdbauth
chmod 4555 $BMC_HOME/pdbauth
\end{verbatim}

For users who want to start the BMC Change Manager for DB2 UDB server and are not the owner and are not in the group of \texttt{pdbauth}. The mode should be 4555.

\textbf{NOTE}

Do not start the BMC Change Manager for DB2 UDB servers under the UNIX root login or with a login that has security group access. Although these actions would allow proper user authentication, they would expose the server’s files and directories.

OS user authentication does not affect database login authentication. As always, the RDBMS handles user authentication when a user connects to a database in either of the following cases:

- through the BMC Change Manager for DB2 UDB client
- within a BMC Change Manager for DB2 UDB script

3 Allow or deny users access to the Job Scheduler. This step is optional, and this section is applicable only to Change Manager for DB2 Universal Database.

User Authorization is controlled by adding \texttt{allow_users} and \texttt{deny_users} parameters in the \texttt{[Scheduler]} section of the appropriate.ini file. You can add a list of host user IDs to each parameter as appropriate. User IDs should be separated by commas (for example: \texttt{allow_users=user1,user2,user3}). The keyword \texttt{ALL} is also supported in place of user IDs.

On UNIX, the parameter changes must be made to the patroldb.ini file in the database specific directory, such as /\texttt{usr/bmc/CMUDB/4.1.00/aix/UDB/patroldb.ini}.

On Windows NT and 2000, the parameter changes must be made to the dbadmin.ini file both in the common and database-specific directories.

For example, to allow user \texttt{jdoe} access and deny all other users, use the following syntax:
[Scheduler]
Authentication=1
allow_users=jdoe

The allow and deny requests operate on the following logic:

- Access is allowed for a user if the allow_users list contains ALL or the user's host user ID.
- Access is denied for a user if the deny_users lists contains ALL or the user's host user ID.
- Access is allowed for all users if no values are set for allow_users or deny_users.

On both UNIX and Windows, changes to the allow_users and deny_users parameter list are dynamic and take effect immediately. You do not have to stop the server and restart it.

Setting up the license server environment

Before starting the BMC Change Manager for DB2 UDB license server, you must set the following environment variables:

- **BMC_LNCHOME** to the directory where the BMC Change Manager license server is installed.
- **BMC_LNCPORT** to the port where the client can communicate with the license server.

Setting the BMC_LNCHOME environment variable

The **BMC_LNCHOME** environment variable specifies the fully qualified path to the following components of the BMC Change Manager for DB2 UDB license server:

- executable files
- server scripts and templates
- configuration files
- message files

Except for the configuration file, these files do not change. You can mount **BMC_LNCHOME** through NFS on any licensed server to share the executables and distributed scripts.
**BMC_LNCHOME** is used by `lncmanager` (a command that is used to start, stop, and query a BMC Change Manager for DB2 UDB License Server), the BMC Change Manager for DB2 UDB License Server, to find the installed support files. The value of **BMC_LNCHOME** is determined by `lncmanager` based on its current path. You can override this value by exporting **BMC_LNCHOME**.

Table 9 shows how to set the **BMC_LNCHOME** environment variable for your operating system. The `v.r.mm` variable in this table refers to the version, release number, and maintenance number.

**Table 9  BMC_LNCHOME default settings (UNIX Host)**

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Setting for BMC_HOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM® AIX</td>
<td>export BMC_LNCHOME=/usr/bmc/CMUDB/aix/v.r.mm/LicenseSrv</td>
</tr>
<tr>
<td>Linux®</td>
<td>export BMC_LNCHOME=/usr/bmc/CMUDB/linux/v.r.mm/LicenseSrv</td>
</tr>
<tr>
<td>Sun® Solaris</td>
<td>export BMC_LNCHOME=/usr/bmc/CMUDB/sol/v.r.mm/LicenseSrv</td>
</tr>
</tbody>
</table>

**Setting the BMC_LNCPORT Environment Variable**

The BMC_LNCPORT variable enables you to specify additional instances of the BMC Change Manager for DB2 UDB license server.

The default value for BMC_LNCPORT is 1414. In general, any port number less than 1024 is reserved and should not be specified.

**NOTE**

Before setting a port value for use, determine which ports are in use. Type the following command to obtain a list of all the ports that are currently in use: `netstat -an | grep LISTEN`.

**Server configuration**

By default, the configuration parameters are set up for you during server installation, and placed in the `patroldb.ini` file located in the `config` directory. You should not have to change any of these settings or add to them with the exception of the following:

- **max agents value** which sets the maximum number of concurrent sessions that the server can handle

- **authentication value ([Scheduler] section)** which turns authentication on (if set to 1), or off (if set to any value other than 1)
lock directory value ([System Parameters] section) which sets a location for the lockfiles

These files contain information about the running servers and their current state. See “Port and Instance lockfiles” on page 28 for details.

Job Notification email address information

During installation, BMC Change Manager inserts the following line in the [SystemParameters] section of the patroldb.ini file to enable e-mail job notification:

```
Mailer=/bin/mailx -s "$mail_subject" "$mail_address" <$mail_file
```

This line specifies the UNIX mail utility and contains the following variables whose values are sent from the BMC Change Manager client:

- The $mail_subject variable is the subject line of the e-mail.
- The $mail_address variable is the e-mail address of recipient.
- The $mail_file variable is the filename of the e-mail (use stdin if not specified).

The default settings are listed in Table 10 for your convenience. The database access server and scheduler server also use this configuration file to establish communication parameters.

**Table 10  Configuration file defaults (UNIX Host)**

<table>
<thead>
<tr>
<th>Installation Information</th>
<th>Example or Default Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>service (logical port name, port number)</td>
<td>database access 1313 (default)</td>
</tr>
<tr>
<td>virtual packet size</td>
<td>4096 (default)</td>
</tr>
<tr>
<td></td>
<td>Note: After the client is configured, this number will default to the value set on the client side. By default, the client side packet size is 8192.</td>
</tr>
<tr>
<td>access driver</td>
<td>acmrtm</td>
</tr>
<tr>
<td>protocol driver</td>
<td>acmtcp</td>
</tr>
<tr>
<td>max agents</td>
<td>16</td>
</tr>
<tr>
<td>Authentication</td>
<td>0 (off)</td>
</tr>
<tr>
<td>lock Directory</td>
<td>/tmp</td>
</tr>
<tr>
<td>Job Notification email address information</td>
<td>Mailer=/bin/mailx -s &quot;$mail_subject&quot; &quot;$mail_address&quot; &lt;$mail_file</td>
</tr>
</tbody>
</table>
Changing the server configuration settings

To modify the default values that are set during server installation, perform the following steps.

1. Change to the directory under which you installed the server files.

   Use the appropriate command if you installed the server files under the `bmc` user’s home directory.

   **NOTE**
   The variable `v.r.mm` represents the version and release number of the BMC Change Manager for DB2 UDB product that you installed. For example, if you installed version 5.0.10, the path for an installation in the default directory under the AIX operating system would be `/usr/bmc/CMUDB/aix/5.0.10`.

2. Make a backup copy of the `patroldb.ini` file.

3. Edit the `patroldb.ini` file to change the defaults.
Starting servers on UNIX hosts

The information contained in this chapter will assist you in starting your BMC Change Manager server components.

Starting, stopping, and querying the servers with patroldb

After installing the server files and setting up your environment, you can start, stop, and query a BMC Change Manager server process by using patroldb. The server processes inherit the same user and group IDs that belong to the user who invokes patroldb. Typically, user bmc starts the BMC Change Manager server. Table 11 provides database-specific startup considerations.
Starting, stopping, and querying the servers with patroldb

To start the BMC Change Manager server, in the directory that contains the BMC Change Manager server files, type `patroldb` from the command line.

If you do not specify any options, `patroldb` returns the syntax of the command. See Table 12 for descriptions of the `patroldb` options, arguments and actions.

<table>
<thead>
<tr>
<th>Database</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2 UDB</td>
<td>You must run <code>patroldb</code> as the DB2 instance owner or an ID with the same primary group ID as the DB2 IBM AIX instance to which you will connect. The server processes inherit the user and group IDs of the user who invokes <code>patroldb</code>.</td>
</tr>
<tr>
<td>DB2 UDB  (EEE)</td>
<td>The service provider must be running on the catalog node of the database (where the <code>CREATE DATABASE</code> command was issued).</td>
</tr>
</tbody>
</table>

To start the BMC Change Manager server, in the directory that contains the BMC Change Manager server files, type `patroldb` from the command line.

Table 11 Considerations when running patroldb (UNIX Host)

<table>
<thead>
<tr>
<th>Database</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2 UDB</td>
<td>You must run <code>patroldb</code> as the DB2 instance owner or an ID with the same primary group ID as the DB2 IBM AIX instance to which you will connect. The server processes inherit the user and group IDs of the user who invokes <code>patroldb</code>.</td>
</tr>
<tr>
<td>DB2 UDB  (EEE)</td>
<td>The service provider must be running on the catalog node of the database (where the <code>CREATE DATABASE</code> command was issued).</td>
</tr>
</tbody>
</table>

Table 12 patroldb Command-Line options (UNIX host) (Part 1 of 2)

<table>
<thead>
<tr>
<th>Options, Arguments, Actions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-a</td>
<td>run with host authentication enforced</td>
</tr>
<tr>
<td>-A</td>
<td>query all processes</td>
</tr>
<tr>
<td>-D</td>
<td>run in DEBUG mode (used to capture output in log files)</td>
</tr>
<tr>
<td>-G archive_age</td>
<td>specifies the age of the server archive in days</td>
</tr>
<tr>
<td>-H home_dir</td>
<td>specifies the BMC_HOME directory which contains runtime libraries, executable files, server scripts, and configuration files</td>
</tr>
<tr>
<td>-i</td>
<td>interactively prompts for RDBMS environment variables</td>
</tr>
<tr>
<td>-L local_dir</td>
<td>specifies the BMC_LOCAL directory which contains all scheduler-generated persistent files and job directories</td>
</tr>
<tr>
<td>-P port_number</td>
<td>specifies the BMC_PORT number (server listening socket) which is used primarily by those running an additional RDBMS</td>
</tr>
<tr>
<td>-R archive_dir</td>
<td>specifies the BMC_ARCHIVE directory where Jobs are archived</td>
</tr>
<tr>
<td>-S store_dir</td>
<td>specifies the BMC_STORE directory which specifies a location for the change logs produced from baseline comparisons</td>
</tr>
<tr>
<td>-t</td>
<td>terse (do not emit unnecessary warnings/messages)</td>
</tr>
<tr>
<td>-T archive_time</td>
<td>specifies the server hour of the archive</td>
</tr>
<tr>
<td>help</td>
<td>-h</td>
</tr>
<tr>
<td>locales</td>
<td>lists installed locales</td>
</tr>
<tr>
<td>query</td>
<td>on the specified port, queries the status of the processes</td>
</tr>
</tbody>
</table>
Starting, stopping, and querying the servers with patroldb

Table 13 illustrates the syntax of the patroldb command.

### Table 13  Examples of patroldb syntax (UNIX Host)

<table>
<thead>
<tr>
<th>Action</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>start the server</td>
<td>patroldb start</td>
</tr>
<tr>
<td>start the server in interactive mode, prompting for all settings</td>
<td>patroldb -i start</td>
</tr>
<tr>
<td>start the server in Debug mode for a specific instance</td>
<td>patroldb -DL /usr/bmc/CMUDB/aix/5.0.10/jobs2 -P 1413 start</td>
</tr>
<tr>
<td>obtain a list of locales for the specified server instance</td>
<td>patroldb locales</td>
</tr>
<tr>
<td>start a server with the archive job age set to a specific day and hour</td>
<td>patroldb -G7 -T0 start</td>
</tr>
<tr>
<td>specify a storage directory for the change logs</td>
<td>patroldb -S /usr/bmc/CMUDB/aix/5.0.10/clstore start</td>
</tr>
<tr>
<td>specify the archive directory for the Jobs files</td>
<td>patroldb -R /usr/bmc/CMUDB/aix/5.0.10/jobs/archive</td>
</tr>
<tr>
<td>query a specific instance of a server</td>
<td>patroldb -P 1413 query</td>
</tr>
<tr>
<td>query all servers</td>
<td>patroldb -A query</td>
</tr>
<tr>
<td>stop a specific server instance</td>
<td>patroldb -P 1413 stop</td>
</tr>
</tbody>
</table>

See the following sections for details on each patroldb option and argument.

**Starting the BMC Change Manager server**

To start a BMC Change Manager server, type the following command at the system prompt:

patroldb start
The BMC Change Manager server initializes and starts the server processes. The `patroldb` command reports any environment variables that are not set properly.

**Starting the server processes with host authentication**

**NOTE**
Before using this option, that the access mode of the BMC `pdbauth` command file is set so that it can read UNIX® password files. See “Enabling user authentication on the server side” on page 39 for more information.

To start a BMC Change Manager server with host authentication enforced, type the following command at the system prompt:

`patroldb -a start`

By default, authentication is disabled.

**Starting the BMC Change Manager server processes with debugging**

To start a BMC Change Manager server with debugging (which sets `BMC_TRACE="all:all"`), type the following command at the system prompt:

`patroldb -D start`

This command will start the server process and send all server errors to `$BMC_LOCAL/BMCserverlog`. All scheduler errors will be sent to `$BMC_LOCAL/BMCschedlog`. If the `-D` option is not specified, all output is sent to `/dev/null`.

**NOTE**
Running the server in debug mode can create very large log files, resulting in potential problems if the server directory has limited file space.

See Appendix B, “Logging debug information (UNIX)” for more information about running in debug mode.

**Starting the BMC Change Manager server processes interactively**

To start a BMC Change Manager server and receive prompts for setting all of the RDBMS environment variables, type the following command at the system prompt:
patroldb -i start

This command starts the server processes and provides a list of menu options for all environment variable paths, even if the variables are already set. The menu lists the environment paths by number. Enter a numeric value to identify which path you want to use, or specify a path that is not already listed in the menu.

The script subsequently identifies all available paths, providing possible path options for each environment variable. After you have specified all paths, patroldb initializes and runs the server processes.

Specifying environment variables from patroldb

When starting the server, you can change any of the following previously defined environment variables by using various command line options:

- BMC_ARCHIVE
- BMC_HOME
- BMC_LOCAL
- BMC_PORT
- BMC_STORE

Setting the working directory (BMC_ARCHIVE) from patroldb

To set or reset the directory where the Jobs files will be archived, type the following command at the system prompt:

patroldb -R directory_path

The variable directory_path represents the fully-qualified path to the location where you want to create the archive directory. If you do not specify this option, the directory will be created in the directory you specified for the BMC_LOCAL environment variable.

--- EXAMPLE ---

patroldb -R /usr/bmc/CMUDB/aix/5.0.10/jobs/archive
Starting, stopping, and querying the servers with patroldb

Setting the Home Directory (BMC_HOME) from patroldb

To reset BMC_HOME when starting the server, type the following command at the system prompt:

```
patroldb -H home_directory start
```

The `home_directory` variable represents the path to the following components of the BMC Change Manager server:

- runtime libraries
- executable files
- server scripts and templates
- configuration files

If you do not specify this option, `home_directory` defaults to the value of BMC_HOME environment variable.

--- EXAMPLE ---

```
patroldb -H /usr/bmc/CMUDB/aix/5.0.10 start
```

Setting the Local Directory (BMC_LOCAL) from patroldb

To set or reset BMC_LOCAL when starting the server, type the following command at the system prompt:

```
patroldb -L local_directory start
```

The `local_directory` variable represents the fully qualified path to the scheduler-generated persistent files and job directories. If you do not specify this option, BMC_LOCAL defaults to the current directory from which you started `patroldb`. If BMC_LOCAL is already set (and this option is not specified), `patroldb` uses the BMC_LOCAL value.

--- EXAMPLE ---

```
patroldb -L /usr/bmc/CMUDB/aix/5.0.10/jobs start
```

Setting the port number from patroldb (BMC_PORT)

To reset BMC_PORT when starting the server, type the following command at the system prompt:

```
patroldb -P port_number start
```
The `port_number` variable represents the number of the TCP/IP port. You can use this option to specify a server to start, query, reinitialize, or stop. If you did not specify this option, the port number defaults to the value of the environment variable `BMC_PORT`. If `BMC_PORT` is not set, the port number defaults to the value of `service` in the `[UnixTCP]` section of `patroldb.ini`.

This command is typically used by users who run additional RDBMSs. Specify a port number to start another BMC Change Manager server instance to service an additional RDBMS.

--- EXAMPLE ---
```
patroldb -P 1413 start
```

### Setting the Storage Directory (BMC_STORE) from patroldb

To set or reset BMC_STORE when starting the server, type the following command at the system prompt:

```
patroldb -S store_directory start
```

The `store_directory` variable represents the fully qualified path to a storage directory. If you do not specify this option, the change logs are copied to the location that is pointed to by the BMC_STORE environment variable. If BMC_STORE is not set, the change logs are copied to the local jobs directory.

--- EXAMPLE ---
```
patroldb -S /usr/bmc/CMUDB/aix/5.0.10/store start
```

### Stopping the server processes

To stop an instance of a BMC Change Manager server, first log in as `bmc` (or as the UNIX user that started the server processes, if not `bmc`) on the host where the server is running. Then, type the following command at the system prompt (where `port_number` is the port number of the server that you want to stop):

```
patroldb -P port_number stop
```
Listing the installed locales

To list the installed locales, type the following command at the system prompt:

`patroldb locales`

To change the locale, stop the server (`patroldb stop`), and specify the new locale by setting the ML_LANG variable.

--- EXAMPLE
export ML_LANG=fr_FR.iso88591.

Obtaining server status

To obtain status on a BMC Change Manager server, type the following command at the system prompt:

`patroldb query`

To obtain status on a particular instance of a server, include the port number argument and the action at the system prompt.

--- EXAMPLE
patroldb -P 1413 query

Obtaining a status listing of all servers

To obtain a status listing of all servers that are running (including the process ID (PID), connection time, and computer name), regardless of the user ID that owns the process, type the following command:

`patroldb -A query`
Obtaining command usage help for patroldb

To obtain a list of options for the patroldb script, type the following command at the system prompt:

`patroldb help`

or

`patroldb -h`

Starting the BMC Change Manager license server

To start a BMC Change Manager License Server, type the following command at the system prompt:

`lncmanager [-P <port_number>] start`

Starting the BMC Change Manager license server process with debugging

To start a BMC Change Manager License Server with debugging, type the following command at the system prompt:

`lncmanager -D start`

This command will start the server process and send all server errors to `BMCLNCServerlog`.

If the `-D` option is not specified, all output is sent to `/dev/null`.

Stopping the license server process

To stop an instance of a BMC Change Manager License Server, first log in as bmc (or as the UNIX user that started the server process, if not bmc) on the host where the server is running. Then, type the following command at the system prompt:
Incmanager stop

**Obtaining license server status**

To obtain the status of a BMC Change Manager License Server, type the following command at the system prompt:

Incmanager query

To obtain the status of a particular instance of a server, include the port number argument and the action at the system prompt.

Example:

Incmanager query

**Obtaining command usage help for Incmanager**

To obtain a list of options for the Incmanager script, type the following command at the system prompt:

Incmanager help

or

Incmanager -h

**Starting the server manually as user bmc**

You must manually start the server if either of the following conditions is true:

- You have stopped the BMC Change Manager server.
- You have not edited the system startup file to start the BMC Change Manager server whenever the host is restarted. See “Starting a BMC Change Manager server automatically” on page 57 for more information regarding the startup file.
The procedure for manually starting the server is based on the following assumptions:

- The BMC Change Manager server files are installed.
- The BMC_HOME environment variable is set to the installation directory.
- The directory that BMC_LOCAL will reference exists.
- The database-specific environment variables are set.

**To start the server manually**

1. Start the database server.

   If the database server is not running, the BMC Change Manager products cannot access the database.

2. As user `bmc`, log on to the host where the BMC Change Manager server will run.

   **NOTE**

   For the majority of installations, the administrator should start the server as user `bmc`. See Table 11 on page 46 for a list of restrictions.

3. Set the PATH and environment variables.

   See “Setting server environment variables” on page 33 for information on how to set these variables.

4. Start the BMC Change Manager server by using the following command:

   `$BMC_HOME/patroldb start`

5. Log off of the `bmc` account.

**Setting up and starting a second server instance**

Another user can run a second instance of the BMC Change Manager server on a system if the instance uses a different port number, and specifies a different local jobs directory. By creating multiple instances through unique port assignments, you can start `patroldb` as a different user.
To set up multiple server instances

1 Set the BMC_PORT value by using the `export` command.

For example, if you are already using port 1313 (the default), you may want to set up an additional port, 1413:

```bash
export BMC_PORT=1413
```

**NOTE**

Before setting a port value for use with multiple instances, you can determine which ports are in use. Enter the following command to obtain a list of all ports which are currently in use:

```bash
netstat -an | grep LISTEN
```

2 Set the BMC_LOCAL value by using the `export` command. For example:

```bash
export BMC_LOCAL=/home/user/bmc/cm/jobs
```

**NOTE**

Ensure that you set a unique local jobs directory that does not include $BMC_HOME.

3 Start the server by entering the following command:

```bash
$BMC_HOME/patroldb start
```

4 After you have installed the client, create a client host configuration with a new port (service) number that reflects the BMC_PORT value.

See the next section, “Configuring a second server instance,” for a procedure on configuring the host for the second server instance.

Configuring a second server instance

This section contains a procedure for configuring a second server instance. This procedure assumes that you have already installed the client. See Chapter 6, “Installing clients” for more information.

1 From Windows Explorer, open the BMC Change Manager v.r.mm program group.

2 Click the BMC Change Manager v.r.mm icon.
The BMC Change Manager window appears.

3 Enter the required information on the Connect dialog box and click Connect.

4 In the Connection Manager pane, right-click on the host icon.

5 Choose Copy from the drop-down menu.

6 Type the second server instance name on the Duplicate dialog and click OK.

7 Right-click the duplicated instance icon, and select Properties to open the corresponding Host Properties dialog box.

8 Click the Advanced tab.

9 Click the Change button at the lower left of the Host Properties dialog box.

10 In the Port box, change the value to the port number of the additional instance, and click OK.

**Starting a BMC Change Manager server automatically**

To automatically start the BMC Change Manager server when the host starts, you must modify your startup file to set the path and run the startup script for the BMC Change Manager server. The startup file directory contains all of the startup files. As Table 14 indicates, the path varies by operating system.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Startup File Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM® AIX</td>
<td>/etc</td>
</tr>
<tr>
<td>Linux®</td>
<td>/etc/init.d</td>
</tr>
<tr>
<td>Sun® Solaris</td>
<td>/etc/init.d</td>
</tr>
</tbody>
</table>

**NOTE**

The BMC Change Manager server cannot run jobs if the database server is not running. The startup file must start the database server before starting the BMC Change Manager server.
The following sections provide startup file examples that vary by operating system platform. These examples are based on the following assumptions:

- You are running a DB2 database server.
- You installed the BMC Change Manager product in the default directory `/usr/bmc`.
- User `bmc` can write to the directory `/usr/bmc/jobs`.
- `os/v.r.mm` represents the operating system and the version of the BMC Change Manager product that you are using.

**NOTE**
The default installation directory for BMC Change Manager products is `/usr/bmc/CMUDB`. However, you can specify an installation directory other than `/usr/bmc`. For example, if you specify `/usr/myserv`, the product is installed under `/usr/myserv/CMUDB`.

### Creating a startup file (IBM AIX)

If you are using IBM AIX, you need to update the `/etc/inittab` file. Add a line similar to the following line to the `inittab` file:

```bash
rcpatrol:2:wait:sh /etc/rc.patrol
```

Following is an example of a startup file (called `rc.patrol`):

```bash
# This is the job directory
export BMC_LOCAL=/usr/bmc/jobs
# This is the default directory
export BMC_HOME=/usr/bmc/<CMDB>/<os>/<v.r.mm>
# This is the port value
export BMC_PORT=1313
# This is the language directory
export ML_ROOT=$BMC_HOME
# This specifies the language used by the server
export ML_LANG=en_US.iso88591
# Start the Change Manager server
$BMC_HOME/patroldb start
```
Creating a startup file (all platforms except for IBM AIX)

1. Create a startup file (similar to the following example in which the startup file is named `patroldb`). This startup file example is valid for all platforms with the exception of IBM AIX.

```bash
#!/bin/ksh
# This is the job directory
export BMC_LOCAL=/usr/bmc/jobs
# This is the default directory
export BMC_HOME=/usr/bmc/<CMDB>/<os>/<v.r.mm>
# This is the port value
export BMC_PORT=1313
# This is the language directory
export ML_ROOT=$BMC_HOME
# This specifies the language used by the server
export ML_LANG=en_US.iso88591

case $1 in
  start)
    # Start the Change Manager server
    $BMC_HOME/patroldb start
  ;;
  stop)
    # Stop the Change Manager server
    $BMC_HOME/patroldb stop
  ;;
esac
```

2. Add a link to the startup directory.

Assuming a script name of `patroldb`, use Table 15 on page 59 to determine which command to enter to make the link.

**Table 15  Link commands for the startup file (UNIX Host)**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Action</th>
<th>Link Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux</td>
<td>Startup</td>
<td><code>ln -s /etc/rc5.d/S99patroldb /etc/init.d/patroldb</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ln -s /etc/rc3.d/S99patroldb /etc/init.d/patroldb</code></td>
</tr>
<tr>
<td></td>
<td>Shutdown</td>
<td><code>ln -s /etc/init.d/patroldb /etc/rc0.d/K00patroldb</code></td>
</tr>
<tr>
<td>Sun Solaris</td>
<td>Startup</td>
<td><code>ln -s /etc/init.d/patroldb /etc/rc2.d/S99patroldb</code></td>
</tr>
<tr>
<td></td>
<td>Shutdown</td>
<td><code>ln -s /etc/init.d/patroldb /etc/rc0.d/K00patroldb</code></td>
</tr>
</tbody>
</table>
In the directories `/etc/rc2.d`, `/etc/rc3.d`, `/etc/rc5.d`, and `/sbin/rc2.d` (shown in Table 15) the number indicates the run level. These directories are used when the system is started in multi-user mode. All of the scripts in this directory are run in alphabetical or numeric order.

The directory `/etc/rc0.d` or `/sbin/rc0.d` (shown in Table 15) is the location for the shutdown scripts that are required when the system is halted or restarted.

---

**Where to go from here**

You are now ready to begin the client installation procedure. Proceed to Chapter 6, “Installing clients” on page 77.
Chapter 5

Installing, configuring, and starting servers on Microsoft Windows

This chapter provides step-by-step instructions for installing, configuring, and starting the BMC Change Manager server on a Microsoft Windows server.

Overview
Replacing an earlier version
Preparing to install the server
Installing the server
Installing the server (GUI interface)
Installing the server (command-line interface)
Installing the server using distribution software
Configuring the server
Starting the server
Starting the server from Windows services
Starting the server using net start
Stopping the server
Stopping the server using Windows services
Stopping the server using net stop
Starting the license server
Starting the license server from Windows services
Starting the license server using net start
Stopping the license server
Stopping the license server using Windows services
Stopping the license server using net stop
Uninstalling the BMC Change Manager DB2 UDB server
Uninstalling the server using Add/Remove Programs
Uninstalling the server (command-line interface)
Verifying installed and runtime files
Where to go from here
For first-time installation of the BMC Change Manager server on your Windows system, follow the steps and recommendations in “Preparing to install the server” on page 63. If you have previously installed the Change Manager server and want to upgrade, you can simply install the current version to run on the same system with earlier versions. If you prefer to replace an earlier version with the current one, see the next section, “Replacing an earlier version.” Then, follow the steps and recommendations in “Preparing to install the server” on page 63.

If you want to install the BMC Change Manager server by using the same setup for each server and bypassing the GUI interface, follow the steps detailed in “Installing the server (command-line interface)” on page 66.

After you install the BMC Change Manager server, you may need to configure the server. For most installations, however, configuration is not necessary because your settings are automatically configured during the installation process. See “Configuring the server” on page 68 for details.

After you install and configure the BMC Change Manager server, see “Starting the server” on page 69. By default, the BMC Change Manager server and scheduler automatically start when you power up the Windows server system.

Replacing an earlier version

You do not have to replace an earlier version during an upgrade to the current version of BMC Change Manager. However, if you do not want to run multiple versions of the product or want to replace your current installation, perform the following steps before installing:

1 Finish running any scheduled jobs that are pending on your server.

2 Stop the current BMC Change Manager server and scheduler. If you do not stop the services prior to installation, you are prompted to stop them when you start the installation.

3 Uninstall your current BMC Change Manager server using the Windows Add/Remove Program Utility.

You are now ready to install the new BMC Change Manager server to any directory where the client is not currently installed.
Preparing to install the server

Follow these recommendations to prepare a Windows server for installation of the BMC Change Manager server:

- Ensure that the database you plan to use with the BMC Change Manager products is already installed and the version of the database is supported. See “System requirements and supported platforms” on page 13 for a list of supported databases.

- If you intend to install both the BMC Change Manager server and a client on a single Windows system, install them into different directories.

- If you are reinstalling the server or changing information about which databases you want to support, be sure to stop the server and scheduler before beginning the installation. If services are still running when you start the installation, you are prompted to shut them down either through the program or manually.

- Close down any applications before you begin installation.

Installing the server

You can install the server in the following ways:

- install the server using a GUI interface
- install the server through a command line interface (silent install)
- install the server using distributed systems software

See the following sections for details on installation procedures.

Installing the server (GUI interface)

For Windows servers, BMC Change Manager server files are provided on the CD, along with client files. Where possible, it is recommended that you use the displayed defaults.
NOTE
This procedure assumes that the hard drive is C and the CD drive is D. If you use different drives, substitute the correct letters. The installation program should launch automatically when you insert the CD into your CD drive. If the installation program does not launch automatically, double-click on d:\server\nt\setup.exe from Windows Explorer, and then skip to step 4.

1 Log in with a user name that is a member of the administrators group on the local computer.

2 Insert the BMC Change Manager product for DB2® Universal Database CD into the server’s CD drive.

   The installation program launches automatically.

3 From the displayed window, click on Server Install.

   The Welcome page of the server installation program appears.

4 Click Next to continue.

   NOTE
   Use the Next and Back buttons to navigate through the installation Setup program. To go back and undo a section, click Back. To continue, click Next.

5 On the User Information dialog box, enter your name and company name, then click Next.

6 On the Choose Destination Location dialog box, review the installation destination location. If you prefer a different location, click Browse and select an appropriate location. To accept the default location, click Next.

   NOTE
   If you intend to install both the BMC Change Manager server and a client on a single Windows system, install them into different directories.

7 On the Select Components dialog box, ensure that the Space Required does not exceed the Space Available. Click Next.

   - If the space required does exceed the space available, click Disk Space and select a new drive that contains the appropriate amount of space. The new drive location appears in the Destination Folder.
8 Enter configuration information about the job load, the TCP/IP port number, and the path for the job folder, as follows. Use the displayed default values if possible.

A In the **Job Load** box, specify the number of jobs that can run simultaneously. The default value is two jobs and the minimum allowed value is one job. The overall total number of jobs or scheduled jobs running at any one time should not exceed 2000 jobs. Release from hold or delete no more than 200 jobs or scheduled jobs at a time.

When setting this value, consider the available resources and their usage. You probably should increase the value if your server performs satisfactorily while running more than two jobs simultaneously. You should use a lower value if your server has limited resources or you want to guarantee that resource usage stays low.

B In the **Port Number** box, specify a TCP/IP port number on which the server listens for new connections.

C In the **Job Folder** box, specify a directory that contains all of the persistent files and job directories that the scheduler generates.

After you have completed entering the values for each of these fields, click **Next**.

9 From the Select Program Folder dialog box, accept the program folder name, type in a new folder name, or select a folder name from the drop-down list. Click **Next**.

10 When the Start Copying Files dialog box appears, verify that the displayed installation options are correct. Click **Next** to begin the installation, or click **Back** to change the installation options.

When the installation is complete, you are prompted to install the license server.

11 After you select to install the BMC Change Manager license server, the Welcome page of the license server installation program appears.

12 Click **Next** to continue.

13 On the Choose Destination Location dialog box, review the installation destination location. If you prefer a different location, click **Browse** and select an appropriate location. To accept the default location, click **Next**.

14 On the Select Components dialog box, ensure that the Space Required does not exceed the Space Available. Click **Next**.
If the space required does exceed the space available, click Disk Space and select a new drive that contains the appropriate amount of space. The new drive location appears in the Destination Folder.

15 In the Port Number box, specify a TCP/IP port number on which the server listens for new connections. Click Next.

16 From the Select Program Folder dialog box, accept the program folder name, type in a new folder name, or select a folder name from the drop-down list. Click Next.

17 When the Start Copying Files dialog box appears, verify that the displayed installation options are correct. Click Next to begin the installation, or click Back to change the installation options.

18 After you have restarted your computer, the next task is to configure the server. Proceed to “Configuring the server” on page 68.

Installing the server (command-line interface)

The setup command-line interface is provided as a consistent and faster means to install the server. To use the command-line interface, you must first edit the initialization file to make product selections and to specify directory locations for the files. After you complete this task, you can use this initialization file for every installation in your organization. This type of installation ensures that all users connected to a network install the same set of products by entering a single command.

1 Copy the server images to your hard drive or to a shared network drive. The server images are located in the server/nt directory.

2 In your copied image directory, find and modify the PDB_Install.ini file to make product and directory selections. When editing the file, specify 0 to disable a selection and specify 1 to enable a selection.

3 From a command prompt, run the command-line “silent” setup command, setup -s, located in the server images folder that you copied to your hard drive.

This command accepts several options:

```
setup -s -mfilename
```

-s indicates “silent” and -m indicates the MIF filename. The MIF file indicates the status of the installation (successful or unsuccessful).
4 Check the status of the installation to determine if it was successful. To do so, locate the MIF file that you specified in step 3.

An unsuccessful installation may be due to a shortage of disk space. If you did not specify a MIF file, check the pdba_out.trc file for specific warning or error messages associated with the installation.

5 Start the server as discussed in “Starting the server” on page 69.

**Installing the server using distribution software**

From your computer, distributed systems software allows you to update every workstation to which you have access with the latest version of the BMC Change Manager for DB2 UDB software. By using distributed systems software such as the Microsoft SMS product (or any other product that supports packages), you can install the BMC Change Manager server on every desktop in your organization to which you have access. When combined with the consistency of the command-line silent install, this means of product distribution provides a faster, more consistent approach to updating and distributing software.

1 Copy the server images to your hard drive or to a shared network drive. The server images are located in the server/nt directory.

**NOTE**

The order of these options is important. Specifying the -m option before the -s option will not invoke the MIF file. Also, you must not include a space between the -m option and the filename.

2 Modify the PDB_Install.ini file to make directory selections. When editing the file, specify 0 to disable a selection and specify 1 to enable a selection.

3 Run the distributed system software package at your site, making the necessary selections as requested. For example, using the Microsoft SMS product to distribute the installation, you should

- create an SMS package by using the setup.pdf file (included in the directory where you copied the BMC Change Manager server images)
Configure the server

Your settings are automatically configured during the installation process. For most installations, you can accept the default settings. These settings are stored in the Windows Registry, and the dbadmin.ini file, and can be edited through the Server Manager GUI. These default settings are listed in Table 16.

For best results, edit these settings only if directed by BMC Software Customer Support. If you need to change server settings, chose BMC Change Manager Server v.r.mm from the BMC Change Manager Server v.r.mm program group. Otherwise, skip to “Starting the server” on page 69.

NOTE
(Novell Netware only) Disable the logon validation feature of the Job Scheduler if you use any type of Novell Netware client on the Windows server on which the BMC Change Manager server is running. This requirement is due to an incompatibility on the Netware service provider. Examples of Netware clients are Microsoft Gateway Services for Netware and Client Services for Netware. To disable the logon validation, follow these steps:

1. Select the Change Manager Server v.r.mm for Database icon in the Change Manager Server v.r.mm program group.

2. Click the Options button.

3. From the Server Options tab, clear the Enable Authentication checkbox and click OK to update the initialization files.

4. Restart the server to activate the changes.

Table 16 Configuration file defaults (Windows server) (Part 1 of 2)

<table>
<thead>
<tr>
<th>Installation information</th>
<th>Default values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service (port number)</td>
<td>1313</td>
</tr>
<tr>
<td>Packet size</td>
<td>4096</td>
</tr>
<tr>
<td></td>
<td>Note: After the client is configured, this number will default to the value set on the client side. By default, the client side packet size is 8192.</td>
</tr>
<tr>
<td>Rcv timeout</td>
<td>120 sec</td>
</tr>
</tbody>
</table>
Starting the server

After installing and configuring the BMC Change Manager server on a Windows host, follow these steps to start the server.

1. From the Windows Start menu, select **BMC Change Manager for DB2 UDB Server v.r.mm => BMC Change Manager Server v.r.mm**.

   The BMC Change Manager for DB2 UDB Server dialog box appears.

2. Click the **Start** button to start the server.

Starting the server from Windows services

As an alternative to starting the server from the BMC Change Manager for DB2 UDB Server Manager dialog box, you can start the server from Windows services, using the following steps.

1. Access the **Services** window from


2. In the Services window, select either of the following depending on the database:

   - **BMC Change Manager for DB2 UDB Scheduler v.r.mm** for DB2 UDB installation.

---

**Table 16  Configuration file defaults (Windows server) (Part 2 of 2)**

<table>
<thead>
<tr>
<th>Installation information</th>
<th>Default values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx timeout</td>
<td>120 sec</td>
</tr>
<tr>
<td>Access Driver</td>
<td>acmrtm</td>
</tr>
<tr>
<td>Protocol Driver</td>
<td>acmtcp</td>
</tr>
<tr>
<td>Lan Adapter</td>
<td>0</td>
</tr>
<tr>
<td>Minimum sockets</td>
<td>8</td>
</tr>
<tr>
<td>Trace Server</td>
<td>100</td>
</tr>
<tr>
<td>Trace Agents</td>
<td>1</td>
</tr>
<tr>
<td>AutoStart</td>
<td>1</td>
</tr>
<tr>
<td>Authentication</td>
<td>0</td>
</tr>
</tbody>
</table>
Stopping the server

1 From the Windows desktop, select **BMC Change Manager for DB2 UDB Server v.r.mm => BMC Change Manager Server v.r.mm.**

The BMC Change Manager for DB2 UDB Server dialog box appears.

2 Click the **Stop** button to stop the server.

Starting the server using net start

Another alternative to starting the server from the BMC Change Manager for DB2 UDB Server Manager dialog box is to use the command prompt. Type the following:

```
net start “BMC Change Manager for DB2 UDB Scheduler <v.r.mm>” to start the scheduler

net start “BMC Change Manager for DB2 UDB Server <v.r.mm>” to start the server
```

The order in which you start the scheduler or server is unimportant.

NOTE

In some instances, problems may be encountered with the BMC Change Manager for DB2 UDB Scheduler v.r.mm when accessing network file systems. If you experience a problem using UNC paths to unload data, this may be the case. One way to resolve the problem, is to change the login account for the Scheduler service to a user account with the appropriate access permissions.

Double-click the service described above as per the installation (for example, **BMC Change Manager for DB2 UDB Scheduler v.r.mm DB2 UDB installation**) in the list of services. In the Properties dialog box, select **This Account** under **Log On As**, and browse to select an appropriate user account.
Stopping the server using Windows services

As an alternative to stopping the server from the BMC Change Manager for DB2 UDB Server Manager dialog box, you can stop the server from Windows services, using the following steps.

1. Access the Services window from
2. In the Services window, select BMC Change Manager for DB2 UDB Scheduler v.r.mm.
3. Click the Stop button to stop the scheduler.
4. In the Services window, select BMC Change Manager for DB2 UDB Server v.r.mm.
5. Stop the server.
6. Close the window.

Stopping the server using net stop

Another alternative to stopping the server from the BMC Change Manager for DB2 UDB Server dialog box is to use the command prompt. Type the following

   net stop “BMC Change Manager for DB2 UDB Scheduler <v.r.mm>” to stop the scheduler

   net stop “BMC Change Manager for DB2 UDB Server <v.r.mm>” to stop the server

The order in which you stop the scheduler or server is unimportant.

Starting the license server

After installing and configuring the BMC Change Manager server on a Windows host, use the following steps to start the license server:

1. From the Windows Start menu, select BMC Change Manager for DB2 UDB License Server => BMC Change Manager for DB2 UDB License Server.
   
   The BMC Change Manager for DB2 UDB License Server dialog box appears.
2 Click the **Start** button to start the server.

### Starting the license server from Windows services

As an alternative to starting the server from the BMC Change Manager for DB2 UDB License Server Manager dialog box, you can start the server from Windows services, using the following steps.

2. In the Services window, select **BMC Change Manager for DB2 UDB License Server**.
3. Click the **Start** button.
4. Close the window.

### Starting the license server using net start

Another alternative to starting the server from the BMC Change Manager for DB2 UDB License Server Manager dialog box is to type the following command at the command prompt:

```
net start “BMC Change Manager for DB2 UDB License Server” to start the license server
```

### Stopping the license server

1. From the Windows desktop, select **BMC Change Manager for DB2 UDB License Server** => **BMC Change Manager for DB2 UDB License Server**.

   The BMC Change Manager for DB2 UDB License Server dialog box appears.
2. Click the **Stop** button to stop the server.
Stopping the license server using Windows services

As an alternative to stopping the server from the BMC Change Manager for DB2 UDB License Server Manager dialog box, you can stop the server from Windows services, using the following steps.


2. In the Services window, select **BMC Change Manager for DB2 UDB License Server**.

3. Click the **Stop** button to stop the license server.

4. Close the window.

Stopping the license server using net stop

Another alternative to stopping the server from the BMC Change Manager for DB2 UDB License Server dialog box is to use the command prompt. Type the following `net stop “BMC Change Manager for DB2 UDB License Server”` to stop the license server.

**NOTE**
For uninstalling the license server, see the “Uninstalling the BMC Change Manager DB2 UDB server” on page 73.

Uninstalling the BMC Change Manager DB2 UDB server

You can uninstall the server using either of two methods:

- using the Windows Add/Remove Program utility
- using the command-line interface

**NOTE**
Before uninstalling the server, ensure that BMC Change Manager for DB2 UDB Server services are stopped.
Verifying installed and runtime files

Uninstalling the server using Add/Remove Programs

To uninstall the server, open Add/Remove Programs in the Control Panel. You can access the Control Panel in Windows through the Start menu (click on Settings).

In the Add/Remove Programs window, select BMC Change Manager for DB2 UDB Server v.r.mm and click the Remove button.

A confirmation message box is displayed when the uninstallation is finished, notifying you of any problems during the uninstallation.

Uninstalling the server (command-line interface)

To uninstall the server using the command-line interface, run the uninstall command from the \Winnt folder. The following example shows the command syntax, assuming that the uninstall command is located on C: and the server installation path is C:\Program Files\BMC Software\BMC Change Manager for DB2 UDB Server\v.r.mm:

`C:\Winnt\IsUninst.exe -y -a -f"C:\Program Files\BMC Software\BMC Change Manager for DB2 UDB Server\v.r.mm\PDBA\vrmm.isu"`

Verifying installed and runtime files

BMC Change Manager server installation creates the following directories:

/jobs
/UDB

The UDB directory contains BMC Change Manager Server executables and binaries, configuration and locale files specific to the UDB.

Table 17 lists the directories and files that are installed or generated in the Common and UDB directories.

Table 17  Executables installation directories (Windows server) (Part 1 of 2)

<table>
<thead>
<tr>
<th>Directories and files</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>*.dll</td>
<td>dynamically linked libraries</td>
</tr>
<tr>
<td>patroljd.exe</td>
<td>job scheduler</td>
</tr>
<tr>
<td>patrolex.exe</td>
<td>script executor</td>
</tr>
<tr>
<td>patroldb.exe</td>
<td>server manager</td>
</tr>
<tr>
<td>patrolan.exe</td>
<td>server-side analysis</td>
</tr>
</tbody>
</table>
Table 17  Executables installation directories (Windows server) (Part 2 of 2)

<table>
<thead>
<tr>
<th>Directories and files</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>patrolsd.exe</td>
<td>server process</td>
</tr>
<tr>
<td>patrolcl.exe</td>
<td>command-line scheduler</td>
</tr>
<tr>
<td>*.msl, _bsl, _tpl</td>
<td>runtime scripts</td>
</tr>
<tr>
<td>shakeout.bat</td>
<td>collects system information</td>
</tr>
<tr>
<td>\config *.ini</td>
<td>directory containing server configuration files in common, or UDB-specific configuration files</td>
</tr>
<tr>
<td>\charmaps</td>
<td>directory containing character maps</td>
</tr>
<tr>
<td>\iconv</td>
<td>directory containing code page conversion tables</td>
</tr>
<tr>
<td>\locale</td>
<td>directory for installed locales, function and format tables</td>
</tr>
<tr>
<td>\locale \locale_dirname</td>
<td>directory containing locale-specific messages and formats</td>
</tr>
<tr>
<td>\locale_dirname</td>
<td>directory containing message files (by default, this directory name is en_us.iso88591)</td>
</tr>
</tbody>
</table>

Table 18 lists the directories and files that are created in the jobs directory that you specified at runtime.

Table 18  Job directories (Windows server)

<table>
<thead>
<tr>
<th>Directories and files</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMCschedlog</td>
<td>scheduler log file</td>
</tr>
<tr>
<td>BMCserverlog</td>
<td>server log file</td>
</tr>
<tr>
<td>job* directories</td>
<td>numbered directory for each job that you run containing the files BMCjobentry and BMCschentry</td>
</tr>
<tr>
<td>job*\logfile</td>
<td>if present, contains checkpoint and error information from the script execution</td>
</tr>
<tr>
<td>job*\BMCjobinfo</td>
<td>persistent record of the jobs current state</td>
</tr>
<tr>
<td>\job*\ex*.ctl</td>
<td>control files generated for HPU utility.</td>
</tr>
<tr>
<td>\job*\tbl*</td>
<td>unloaded data contains a list of records</td>
</tr>
<tr>
<td>sch* directories</td>
<td>temporary numbered directory for each job that you schedule containing the files BMCschentry and BMCjobentry</td>
</tr>
<tr>
<td>\sch*\BMCjobinfo</td>
<td>persistent record of the jobs current state</td>
</tr>
</tbody>
</table>

Where to go from here

You are now ready to begin the client installation procedure Install a BMC Change Manager for DB2 UDB client. Proceed to Chapter 6, “Installing clients” on page 77
Where to go from here
Chapter 6  Installing clients

This chapter provides step-by-step instructions for installing clients. Before you can install clients, you must have installed and configured the BMC Change Manager product for DB2® Universal Database servers.

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  Verifying server networking .................................................. 78
Installing the client ................................................................. 79
  Installing a client to run locally .............................................. 80
  Copying the installation image to a network .............................. 82
  Installing the client onto a network drive ................................. 83
  Installing to a workstation that is connected to a network .......... 85
  Using the command-line interface to install a client ................. 86
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Maintaining the client ............................................................. 88
  Uninstalling a client (GUI) .................................................... 88
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  Reinstalling the product ..................................................... 89
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Where to go from here ............................................................ 90

Setting up the client

You need the following items to install the BMC Change Manager for DB2 UDB clients:

- the BMC Change Manager for DB2 UDB server configuration settings

You can obtain some of this information from the `patroldb.ini` file for each BMC Change Manager for DB2 UDB server that you have installed on a UNIX® host. For Windows servers, view the configuration settings by selecting **BMC Change Manager** for DB2 UDB Server *v.r.mm* from the **BMC Change Manager for DB2 UDB Server v.r.mm** program group.
Setting up the client

**WARNING**

If you make any modifications to the .ini files, you must do so by using the product, the installation program, or a utility that is shipped with the product. If you manually modify these files, BMC Software is not responsible for erroneous results.

- sufficient disk space on your client system

  See “License information” on page 17 for details.

- separate directories on which to install the client and the server if you plan to run the client and the server on the same system

- at least 6 MB of free space in the /temp directory

  If the TEMP environment variable is not defined, ensure that the drive containing your windows directory has at least 6 MB of free space. This space is used for the creation of temporary files during the installation process.

- close down any applications prior to installing the client

If you are installing the products onto a network drive, you need the following items:

- a network drive connection to the desired host
- the appropriate permissions to write the BMC Change Manager for DB2 UDB files to the network drive

To ensure that the network is configured properly, see “Verifying server networking,” in the next section.

**Verifying server networking**

To verify that your network is working properly, follow these steps:

1. From a DOS prompt, enter `ipconfig /all` (Windows).

   Your host name and IP address appear, as shown in the following example for Windows 2000:
2 From a DOS or command prompt, enter `ping server`, where `server` is the location of the BMC Change Manager for DB2 UDB server.

If the `ping` returns the message `Bad IP address server` or `Request timed out`, you can continue with the installation. However, you must resolve this network problem before you can use the product.

## Installing the client

To begin the installation, determine the installation type that is appropriate in your environment.

To meet the specific needs of your site, you can select from the types of client installations that are shown in Table 19.

### Table 19  Client installation options (Part 1 of 2)

<table>
<thead>
<tr>
<th>Installation Option</th>
<th>Description and Benefit</th>
<th>See Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>local install</td>
<td>installs the product to your local hard drive</td>
<td>“Installing a client to run locally” on page 80</td>
</tr>
<tr>
<td></td>
<td>This option is useful for a single-server installation. After the product is installed, the CD can be removed from the CD drive.</td>
<td></td>
</tr>
<tr>
<td>copy install image to network drive and then install the client to the local hard drive</td>
<td>copies an image of the installation from the CD to a shared network drive or resource from which other users can install the client to their local hard drive</td>
<td>“Copying the installation image to a network” on page 82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Installing the client from a network drive” on page 83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Installing a client to run locally” on page 80</td>
</tr>
</tbody>
</table>
Installing the client

This procedure allows you to install the client on your hard drive to run locally. To install the client on a network, see “Installing the client onto a network drive” on page 83.

**NOTE**

The following procedure assumes the use of a CD browser and that D will be the drive letter used for the CD drive. If you use a different letter, substitute the correct drive letter.

If you choose not to use the browser, you can start the BMC Change Manager for DB2 UDB product’s Setup program by double-clicking on \client\setup.exe from Windows Explorer. Then, skip to step 4.

1. Insert the appropriate BMC Change Manager for DB2 UDB product CD into the client workstation CD drive.

   The CD browser launches automatically.

2. Click Client Install.

   The Client Install menu expands, allowing you to choose from three installation options.

3. Choose the Local Install option.

   The Setup program for the Installation starts.

---

| Table 19  Client installation options (Part 2 of 2) |
|-----------|-----------------------------------------------|
| **Installation Option**                      | **Description and Benefit**                                                       | **See Section** |
| install to network drive and then run workstation installation | installs the product to a network drive  
To allow each client to use the installed product, each client must run the workstation installation (workstation.exe) from the network drive. | “Installing the client onto a network drive” on page 83  
“Installing to a workstation that is connected to a network” on page 85 |
| “silent” install from a command prompt        | installs the client from a command prompt with minimal user interaction             | “Using the command-line interface to install a client” on page 86 |
| install using distribution software           | installs the client to every workstation to which you have access without the need to leave your computer | “Installing the client using distribution software” on page 87 |

---

BMC Change Manager Installation Guide for DB2 Universal Database
4 Read the Welcome page, and click Next to continue.

**NOTE**
Use the Next and Back buttons to navigate through the Setup program. To go back and undo a selection, click Back. To continue, click Next.

5 On the User Information dialog box, enter your name and company name, then click Next.

6 On the Choose Destination Location dialog box, review the installation destination location. If you prefer a different location, click Browse and select an appropriate location. To accept the default location, click Next.

7 If an installed version of the BMC Change Manager for DB2 UDB product is detected in the destination location, the program lists the product detected and asks if you want to choose another destination directory.

- To keep your installed version and select another destination location, click Yes.

  You are returned to the Choose Destination Location dialog box where you can use the browse button to select another location.

- To install over the installed version, select No. Setup will overwrite the installed version if you select this option.

8 On the Select Components dialog box, ensure that the Space Required does not exceed the Space Available. Click Next.

- If the space required does exceed the space available, click Disk Space and select a new drive that contains the appropriate amount of space. The new drive location appears in the Destination Location.

9 When the Start Copying Files dialog box appears, verify that the displayed installation options are correct. Click Next to begin the installation, or click Back to change the installation options.

10 When the installation is complete, click Finish.

The next task is to start and configure the client. See Chapter 7, “Configuring and starting clients” on page 91 for details.
Copying the installation image to a network

If you want to provide full access to the files on the CD, you can copy the installation image from the CD to a shared network drive. This option allows anyone who wants to install the client on their local hard drive full access to the range of product offerings. After you copy the installation image to a network drive, follow the steps in “Installing the client from a network drive” on page 83.

NOTE

The following procedure assumes the use of a CD browser and that N is the drive letter for the network drive. If your network drive is mapped to another letter, substitute the correct drive letter.

If you choose not to use the browser, you can start the BMC Change Manager for DB2 UDB product’s Setup program by running d:\client\setup -i from a command prompt. Then, follow step 5.

1 Insert the BMC Change Manager for DB2 UDB product CD into the client’s host CD drive.

The CD browser launches automatically.

2 Click Client Install.

The Client Install menu expands, allowing you to choose from three installation options.

3 Choose the Copy Install Image option.

The Setup program for the Installation starts.

4 On the Choose Destination Location dialog box, review the installation destination location. If you prefer a different location, click Browse and select an appropriate location. To accept the default location, click Next.

When the installation is complete, an Information dialog box displays, indicating that you can notify those who share the network drive that they can install the product from the installation directory.

5 Click OK to complete the installation.

The next task is to install the product from the network. See “Installing the client from a network drive” on page 83.
Installing the client from a network drive

After the installation image is copied to a network drive, those who share the network drive can install the product from the installation directory. The following procedure uses N for the network drive. If your network drive is mapped to another letter, substitute the correct drive letter.

1 Start the BMC Change Manager for DB2 UDB Setup program.

   From Windows Explorer, click setup.exe from the location on the network where the BMC Change Manager for DB2 UDB installation files reside. Alternatively, click the Start button and then the Run button. Enter n:\install_dir\setup.exe in the Run dialog box.

   The Welcome page of the Setup program appears.

2 Refer to the instructions found in “Installing a client to run locally” on page 80, and beginning at step 4 on page 84, continue the installation procedure.

Installing the client onto a network drive

In a network installation, client files are installed from the CD to a network drive. This type of installation can be restrictive because those workstations that connect to the network drive only have access to those products and databases that are initially installed. After you install the CD on the network drive, run the workstation installation to set up client files for each workstation. See “Installing to a workstation that is connected to a network” on page 85 for details.

Before you begin

Before you begin your installation, ensure that Windows is running and that the host has a network drive to which the client can connect.

To Install the client onto a network drive

NOTE

The following procedure assumes the use of a CD browser and that D is the drive letter for the CD drive. If you use a different letter, substitute the correct drive letter.

If you choose not to use the browser, you can start the BMC Change Manager for DB2 UDB product’s Setup program by running d:\client\setup ADMIN from a command prompt. Then, skip to step 5.
1 Insert the BMC Change Manager for DB2 UDB product CD into the network’s CD drive.

The CD browser launches automatically.

2 Click **Client Install**.

The Client Install menu expands, allowing you to choose from three installation options.

3 Choose the **Install to Network** option.

The Setup program for the installation starts, and the Welcome page appears.

4 Read the Welcome page, and click **Next** to continue.

   **NOTE**

   Use the **Next** and **Back** buttons to navigate through the Setup program. To go back and undo a selection, click **Back**. To continue, click **Next**.

5 On the User Information dialog box, enter your name and company name, then click **Next**.

6 On the Choose Destination Location dialog box, review the installation destination location. If you prefer a different location, click **Browse** and select an appropriate location. To accept the default location, click **Next**.

7 If an installed version of the BMC Change Manager for DB2 UDB product is detected in the destination location, the program lists the product detected and asks if you want to choose another destination directory.

   - To keep your installed version and select another destination location, click **Yes**.
     
     You are returned to the Choose Destination Location dialog box where you can use the browse button to select another location.

   - To install over the installed version, click **No. Setup will overwrite the installed version if you select this option**.

8 On the Select Components dialog box, ensure that the Space Required does not exceed the Space Available. Click **Next**.

   - If the space required does exceed the space available, click **Disk Space** and select a new drive that contains the appropriate amount of space. The new drive location appears in the Destination Location.
When the Start Copying Files dialog box appears, verify that the installation options are correct. Click Next to begin the installation, or click Back to change the installation options.

When the installation is complete, an Information box displays, indicating that you should notify all client users that they should perform a workstation installation using workstation.exe to access the product. Refer to “Installing to a workstation that is connected to a network” on page 85 for details.

Click OK to complete the installation.

## Installing to a workstation that is connected to a network

You can run the product from a networked workstation if you install the BMC Change Manager server and license server on a host on the network and install the client files on a workstation that is connected to the network. You must first perform a client installation onto a network drive before you can install to a workstation that is connected to a network. See “Installing the client onto a network drive” on page 83.

### Before you begin

Ensure that Windows is running on the client and that the client has a network drive that is connected to the client where you performed a network installation of the BMC Change Manager for DB2 UDB product.

This procedure uses N for the network drive. If your network drive is mapped to another letter, substitute the correct drive letter.

### To Install the client on a workstation

Use the following steps to complete the installation.

**NOTE**

When installing to a workstation, you are limited to those products and databases that are installed on the network drive. If you require access to more than what is installed on the network, see your Systems Administrator.

1. Start the BMC Change Manager for DB2 UDB Workstation installation program by double-clicking n:\workstation.exe.

   The Setup program for the Installation starts and the Welcome page of the Setup program appears.

2. Read the Welcome page, and click Next to continue.
Installing the client

NOTE
Use the Next and Back buttons to navigate through the Setup program. To go back and undo a selection, click Back. To continue, click Next.

3 On the User Information dialog box, enter your name and company name, then click Next.

4 On the Choose Destination Location dialog box, review the installation destination location. If you prefer a different location, click Browse and select an appropriate location. To accept the default location, click Next.

5 When the installation is complete, click Finish.

6 The next task is to start and configure the client. Go to Chapter 7, “Configuring and starting clients” for details.

Using the command-line interface to install a client

The setup command-line interface is provided as a consistent and faster means to install the client. To use the command-line interface, you must first edit the initialization file to make product selections and to specify directory locations for the files. After you complete this task, you can use this initialization file for every installation in your organization. This type of installation ensures that all users connected to a network install the same set of products by entering a single command.

1 Copy the client images to your hard drive or to a shared network drive. The client images are located in the client directory.

2 Modify the PDB_Install.ini file to make product and directory selections. When editing the file, specify 0 to disable a selection and specify 1 to enable a selection. The only requirement when editing this file is that you must select a product in the [Selections] section.

3 From a command prompt, run the command-line “silent” setup command, setup -s, located in the client images folder that you copied to your hard drive.

This command accepts several options:

```
setup -s -m filename
```

-s indicates “silent” and -m indicates the MIF filename. The MIF file indicates the status of the installation (successful or unsuccessful).
4 Check the status of the installation to determine if it was successful. To do so, locate the MIF file that you specified in step 3.

An unsuccessful installation may be due to a shortage of disk space. If you did not specify a MIF file, check the pdba_out.trc file for specific warning or error messages associated with the installation.

5 Start and configure the client. Go to Chapter 7, “Configuring and starting clients” for details.

---

**Installing the client using distribution software**

From your computer, distributed systems software allows you to update every workstation to which you have access with the latest version of the BMC Change Manager for DB2 UDB software. By using distributed systems software such as the Microsoft SMS product (or any other product that supports packages), you can install the BMC Change Manager for DB2 UDB client on every desktop in your organization to which you have access. When combined with the consistency of the command-line silent installation, this means of product distribution provides a faster, more consistent approach to updating and distributing software.

1 Copy the client images to your hard drive or to a shared network drive. The client images are located in the **client** directory.

   **NOTE**
   
   Be sure to copy the client images to a directory that is different from the directory where you copied the server images.

2 Modify the **PDB_Install.ini** file to make product and directory selections. When editing the file, specify 0 to disable a selection and specify 1 to enable a selection. The only requirement when editing this file is that you must select a product in the [Selections] section.

3 Run your distributed system software package, making the necessary selections as requested. For example, using the Microsoft SMS product to distribute the installation, you should perform the following actions:
   - create an SMS package by using the **setup.pdf** file (included in the directory where you copied the BMC Change Manager for DB2 UDB client images)
Troubleshooting the client installation

- schedule an SMS job by using the package that was created using the setup.pdf file
- ensure that the client receives and runs the package

4 Start and configure the client. See Chapter 7, “Configuring and starting clients.”

Troubleshooting the client installation

If your client installation stops abnormally, you should delete any temporary directories and files that the installation process created before it terminated. The installation process creates the following temporary directory and files:

- istmp\x.dir (where x is a number)
- ins0433.-mp
- isz0433.-mp

If your TEMP environment variable is set, you can find these files in the \temp directory. Otherwise, look for them in the \windows directory.

Maintaining the client

For most installations, you can proceed directly to Chapter 7, “Configuring and starting clients” on page 91 At some point however, you may need to upgrade or change the client. The following sections discuss

- adding a product
- uninstalling a client
- reinstalling a product

Uninstalling a client (GUI)

To uninstall one or more of the BMC Change Manager for DB2 UDB products, use the Microsoft Windows “Add/Remove Programs” utility in the Control Panel folder (from the Start menu, choose Settings => Control Panel) and select the name of the BMC Change Manager for DB2 UDB component to remove.
Uninstalling a client (command-line interface)

You can also uninstall a client using the command-line interface. To uninstall using the command-line interface, run the uninstall command from the Winnt folder.

The following example shows the command syntax, assuming that the uninstall command is located on C: and the BMC Change Manager for DB2 UDB client installation path is C:\Program Files\BMC Software\BMC Change Manager for DB2 UDB Client:\

```
C:\Winnt\IsUninst.exe -y -a -f"C:\Program Files\BMC Software\BMC Change Manager for DB2 UDB Client\PDBAvrmmx.isu"
```

**NOTE**
For each RDBMS component that is installed independently, a PDBAvrmmx.isu file will exist. The PDBAvrmmx.isu file created each time the installation program runs is incremented by one. Run the above command inserting the appropriate PDBAvrmmx.isu file in the syntax.

Reinstalling the product

You can reinstall the product if you want to change the existing installation or if files in the product directories were deleted or corrupted.

Use the same installation instructions that you used for the previous installation. The program prompts you to confirm information that you provided during the previous installation.

**NOTE**
The disk space requirements in the release notes are for an initial installation. Disk space requirements for a reinstallation are reduced by the amount of disk space that you used for the initial installation.

If a warning message appears when reinstalling indicating that the client you are installing is already installed in that location, this may indicate that files from the previous installation could not be removed during an uninstall procedure. You can manually remove the files or choose another directory location for the installation.

After reinstalling the product, the next task is to configure the client. See Chapter 7, “Configuring and starting clients” on page 91
Verifying installed files

The directories and files that are listed in Table 20 are installed on the client. (The default is on the C drive.) During installation, you can specify a particular directory to which to install the BMC Change Manager for DB2 UDB product files. By default, this directory is Program Files\BMC Software\BMC Change Manager for DB2 UDB Client. These files are installed for the following supported operating systems:

- Microsoft Windows 2000
- Microsoft Windows XP
- Microsoft Windows Vista Ultimate

Table 20  Client installation directories

<table>
<thead>
<tr>
<th>Directories and files</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDB</td>
<td>UDB-specific directory containing the common, bin, config, and work directories</td>
</tr>
<tr>
<td>UDB\common</td>
<td>contains common utility files and associated help files</td>
</tr>
<tr>
<td>UDB\bin</td>
<td>contains executables, DLLs, library files, and help files</td>
</tr>
<tr>
<td>UDB\config</td>
<td>contains client configuration files</td>
</tr>
<tr>
<td>UDB\work</td>
<td>work directory</td>
</tr>
<tr>
<td>UDB\bin\charmaps</td>
<td>directory containing character maps</td>
</tr>
<tr>
<td>UDB\bin\icons</td>
<td>directory containing icons</td>
</tr>
<tr>
<td>UDB\bin\iconv</td>
<td>directory containing code page conversion tables</td>
</tr>
<tr>
<td>UDB\bin\locale</td>
<td>directory containing installed locales, function and format tables</td>
</tr>
<tr>
<td>UDB\bin\locale</td>
<td>directory containing help and message files</td>
</tr>
</tbody>
</table>

Where to go from here

You are now ready to begin the client configuration procedure and to start the client. Proceed to Chapter 7, “Configuring and starting clients” on page 91.
Configuring and starting clients

This chapter provides information about configuring clients. See the online Help for complete instructions on defining hosts and creating connection profiles.

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Starting the client ................................................................. 93
Stopping a client ................................................................. 94

Configuring the client

The first task after installing the server and the client is to start and register the client to the licensing server. To register the client, double-click the Change Manager v.r.mm for Database icon from the Change Manager Client v.r.mm Database program group. The Licensing Server dialog is prompted. Type the details and the client is launched. Now configure the client.

Configuration involves the following tasks:

■ define hosts or servers

A host or server is the UNIX® or Microsoft Windows system that performs the BMC Change Manager product for DB2® Universal Database server operations. Each host or server has both a BMC Change Manager for DB2 UDB server and at least one relational database management system (RDBMS) installed on it. Identifying an available host or server to the client is called defining a host or server.

You must define at least one host or server to use the BMC Change Manager for DB2 UDB products. You should define a separate host or server for each workstation or system that you want to use as a server for the BMC Change Manager for DB2 UDB products.
create connection profiles

When you start a connection, you use a connection profile to specify the details for that connection. For UNIX and Microsoft Windows systems, the connection profile specifies which BMC Change Manager for DB2 UDB host, database server, and database login or user ID to use during that connection.

If you plan to connect to different combinations of BMC Change Manager for DB2 UDB products, hosts, and databases, you should create a separate connection profile for each possible combination. The connection profile name must be unique even though multiple connections may use the same host.

**NOTE**

Client configuration is not necessarily a one-time activity. At some point in the future, you may need to modify your hosts or connection profiles. Use the Connection Manager any time that you need to add or change a host or connection profile.

See the Help for complete instructions on defining hosts and creating connection profiles.

**Configuration for Windows Terminal Server or CITRIX Server**

The product now enables multiple concurrent users to access a Change Manager client “workstation” installation by using their individual configuration profiles. This feature is useful for client applications running on a CITRIX server or a Windows NT Terminal Server.

To implement this feature, you must change the server’s registry, add a new registry key, and configure the users’ customized environments. The following changes to the workstation installation are required:

1. Modify the registry key INI-Path by changing the absolute path to the configuration directory into a dynamic path. Changing the absolute path into a dynamic path adds support for the variable %USERPROFILE% in the following registry key example.

   **Key location:**
   
   HKEY_LOCAL_MACHINE\SOFTWARE\BMC Software\Database Administration Client\DB2 Universal Database\<Version #>\INI-Path

   **Static path:**
   
   C:\Program Files\BMC Software\BMC Change Manager for DB2 UDB Client\UDB\config
Dynamic path:
%USERPROFILE%\DB2 Universal Database\config

When a user has the environment variable %USERPROFILE% set to point to their user's directory (for example, D:\users\johnsmith), the INI-Path registry key value is interpreted as D:\users\johnsmith\DB2 Universal Database\config. The new path points to the location of this user's configuration files, thereby customizing the client for this user.

2. Create the user's customized configuration environment.
   - Create the customized INI-Path directories for each user.
   - Copy all the files from the original INI-Path directory path into each customized INI-Path directory path.

3. Add a registry key to allow multiple concurrent users.
   Create a new registry key called $#@InstallFlags in HKEY_LOCAL_MACHINE\SOFTWARE\BMC Software\Database Administration Client\DB2 Universal Database\<Version #>.

   The new key must be a DWORD type with a value of 0x00000001. Adding this key disables the database toolbar of the BMC Change Manager client application and enables multiple, concurrent, customized access.

---

**Using the product**

After installing and configuring the client, you are ready to connect to a database and begin using the product. To start and stop the client, see the following sections. To use the product, see the BMC Change Manager online Help for more information.

**Starting the client**

To start the client, choose the BMC Change Manager for DB2 UDB v.r.mm for database application from the program group.

The BMC Change Manager for DB2 UDB window appears.

Use the online Help wizard to define the hosts or servers and create the connection profiles.
Stopping a client

Complete the following steps to stop a client:

1. Make the BMC Change Manager for DB2 UDB window active.
2. Click Exit on the File menu.
Setting up remote database access

This chapter provides information about connecting to databases on platforms where the BMC Change Manager product is not supported or is not installed.

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   Accessing a DB2 UDB database instance ......................... 95
   Connecting to a database server on an unsupported platform .... 96

Overview

For platforms where BMC Change Manager is not supported or is not installed, you can still connect to the relational database management system (RDBMS) server by using the native database protocol. When you connect using this protocol, you can manage database objects on an unsupported OS platform by establishing communication between the patroldb process on the supported host, the client, and the unsupported OS host. This communication is established using a communications protocol, such as SQL*Net.

Accessing a DB2 UDB database instance

To access a remote DB2® UDB database instance, you must perform the following steps, using TCP/IP as the communications protocol.

NOTE
Accessing a remote DB2 UDB EEE database instance is not supported.
1 Define a DB2 UDB service name and port number on the remote host as follows:

A Define a DB2 UDB service name in the /etc/services file on the remote instance’s host and the local host.

B Update the remote DATABASE MANAGER CONFIGURATION with the service name using db2 UPDATE DBM CFG USING SVCENAME service-name.

C Run db2set DB2COMM=tcpip so that the database manager listens for TCP/IP requests coming in on the service-name you specified in the previous step.

D Restart the DBM on the remote host.

NOTE
See the DB2 Installation and Operation Guide for more detailed information.

2 Define the DB2 UDB service and port on the local host.

3 Catalog the node name for the remote database in the local instance.

CATALOG TCPIP NODE node-name REMOTE remote-name SERVER service-name

NOTE
See the DB2 Command Reference for more detailed information.

4 Catalog the remote database as follows:

CATALOG DATABASE remote-name [AS local-alias] AT NODE node-name

5 Follow the steps in “Connecting to a database server on an unsupported platform” on page 96.

Connecting to a database server on an unsupported platform

To connect to a database server on an unsupported or remote platform, complete the following steps.

1 Click Connect.

2 In the Connect dialog box, select Database Connection in the Connection Type area.
3 Click **New** to open the Connection Wizard.

4 On the Welcome page of the wizard, click **Next**.

5 On the Select a Host page, complete one of the following actions:

   - In the **Hosts** box, select a host name and then click **Next**.

   - Click **Define New Host** to open the Host Wizard, in which you can enter the name of the host that is running the Change Manage server.

     After you define the host in Host Wizard, the host name appears in the **Host** box on the Select a Host page of the Connection Wizard. Select the host and click **Next**.

6 In the **Database** text box, enter the name of the remote database to which to connect.

7 If the **Database User ID** text box is empty, enter the login ID for the server to which you want to connect.

8 Click **Next**.

9 Enter a **Name** and **Description** for the connection, and click **Next**.

10 Click **Finish** to connect to the server and start the session.
Installation scenarios

This appendix provides examples of the following installation scenarios:

- performing a local installation
- performing a network installation
- performing a silent installation
- copying an installation image to the network
- using multiple database servers

For all of the scenarios, make the following assumptions:

- The client computer and server hosts meet the minimum resource requirements.
- All computers are on the same network and can access each other through TCP/IP.

**NOTE**

These scenarios are not installation instructions. They are provided to demonstrate general information about the order of procedures for installing BMC Change Manager product for DB2 UDB in an enterprise.

Performing a Local Installation

In this scenario, one user uses a BMC Change Manager DB2 UDB product with a database server that is running on host *emerald*.
Performing a Network Installation

1. Install and configure the BMC Change Manager DB2 UDB server on **emerald**.

2. Install the client component of the BMC Change Manager DB2 UDB product on the client computer.

   To complete this step, you would use the instructions in “Installing a client to run locally” on page 80.

3. Start the BMC Change Manager DB2 UDB client.

4. Configure the BMC Change Manager DB2 UDB client as follows:
   - A Use the Connection Manager to define hosts.
   - B Use the Connection Manager to create connection profiles.

Performing a Network Installation

In this scenario, three users use products that are connected to one database server that is running on host **diamond**. A network installation puts the client files on **ruby**. Each user’s client files are installed using **workstation.exe** located on network host computer **ruby**.

1. Install and configure the BMC Change Manager DB2 UDB server on **diamond**.

2. Using a local computer with a network drive connected to **ruby**, perform a network installation to put the BMC Change Manager DB2 UDB client files on **ruby**.
3 Install the BMC Change Manager DB2 UDB client on the first client computer (as explained in “Installing the client onto a network drive” on page 83).

A Connect a network drive to ruby from the client computer.

B Run workstation.exe from the directory on ruby where the BMC Change Manager DB2 UDB files are installed.

4 Start the BMC Change Manager DB2 UDB client.

5 Configure the first client computer as follows:

A Use the Connection Manager to define hosts.

B Use the Connection Manager to create connection profiles.

6 Repeat steps 3, 4, and 5 for the remaining two client computers.

Performing a silent installation

In this scenario, the installation process can be completed without any user interaction. The configuration file in setup folder contains the default values for various installation parameters. You can edit this file and change installation parameters such as the installation directory, server port number, and user details, as necessary.

A silent installation can be inistated using an operating system specific command, as shown in Table 21.

<table>
<thead>
<tr>
<th>Configuration file</th>
<th>UNIX</th>
<th>Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command used</td>
<td>CMUDB server</td>
<td>CMUDB server</td>
</tr>
<tr>
<td></td>
<td>License server</td>
<td>CMUDB client</td>
</tr>
<tr>
<td></td>
<td>Configuration file</td>
<td>License server</td>
</tr>
<tr>
<td></td>
<td>./install.sh -s &lt;</td>
<td>Setup.iss</td>
</tr>
<tr>
<td></td>
<td>PDB_Install.ini</td>
<td>PDB_Install.ini</td>
</tr>
<tr>
<td></td>
<td>./install.sh -s &lt;</td>
<td>PDB_Install.ini</td>
</tr>
<tr>
<td></td>
<td>PDB_Install_lncsrv.ini</td>
<td>PDB_Install.ini</td>
</tr>
<tr>
<td></td>
<td>PDB_Install_lncsrv.ini</td>
<td>PDB_Install.ini</td>
</tr>
<tr>
<td></td>
<td>Setup.exe -s</td>
<td>Setup.iss</td>
</tr>
</tbody>
</table>

Copying the Installation Image to a Network

In this scenario, three users use products that are connected to one database server that is running on host diamond. Copying the installation image to network drive ruby allows the client computers to install the product on their computers.
Using Multiple Database Servers

1 Install and configure the BMC Change Manager DB2 UDB server on diamond.

2 Using a local computer with a network drive connected to ruby, copy the installation image to ruby. See “Copying the installation image to a network” on page 82 for details.

3 Install the BMC Change Manager DB2 UDB client on the first client computer (as explained in “Installing a client to run locally” on page 80).

   A Connect a network drive to ruby from the client computer.

   B Run setup.exe from the directory on ruby where the BMC Change Manager DB2 UDB installation image was copied.

4 Start the BMC Change Manager DB2 UDB client.

5 Configure the first client computer as follows:

   A Use the Connection Manager to define hosts.

   B Use the Connection Manager to create connection profiles.

6 Repeat steps 3, 4, and 5 for the remaining two client computers.

Using Multiple Database Servers

In this scenario, one user uses products with two database servers. One of the servers runs on host sapphire and the other runs on host carnelian.
1 Install and configure a BMC Change Manager DB2 UDB server on sapphire.

2 Install and configure a BMC Change Manager DB2 UDB server on carnelian.

3 Install the BMC Change Manager DB2 UDB client on the client computer.

   To complete this step, you would use the instructions in “Installing a client to run locally” on page 80.

4 Start the BMC Change Manager DB2 UDB client.

5 Configure the BMC Change Manager DB2 UDB client, so that it can interact with both sapphire and carnelian:

   A Use the Connection Manager to define hosts.

      Your host list will have two entries, one for sapphire and one for carnelian.

   B Use the Connection Manager to create connection profiles.
Logging debug information (UNIX)

BMC Software provides a process in the BMC Change Manager server product for logging debug information. The debug information is used by BMC Software technical support to identify problems that occurred during server operations.

This process is invoked by starting the server in debug mode, using the following command:

```
patroldb -D start
```

**NOTE**

BMC Software recommends starting the server in debug mode only when instructed to do so by BMC Software technical support, or when experiencing problems or error messages during the server operations in advance of contacting technical support.

Starting in debug mode sets the following variables:

- BMC_TRACE
- BMC_SERVERLOG
- BMC_SCHEDLOG

Table 22 on page 105 describes the default settings for these variables.

<table>
<thead>
<tr>
<th>Table 22  Debug Environment Variables (Part 1 of 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC_TRACE</td>
</tr>
</tbody>
</table>
Setting the BMC_TRACE Environment Variable

Table 22  Debug Environment Variables (Part 2 of 2)

<table>
<thead>
<tr>
<th>BMC_SERVERLOG</th>
<th>defaults to BMCserverlog when starting in debug mode</th>
<th>See “Setting the BMC_SCHEDLOG and BMC_SERVERLOG Environment Variables” on page 107 for further information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC_SCHEDLOG</td>
<td>defaults to BMCschedlog when starting in debug mode</td>
<td>See “Setting the BMC_SCHEDLOG and BMC_SERVERLOG Environment Variables” on page 107 for further information.</td>
</tr>
</tbody>
</table>

Changing a debug environment variable can have unexpected results. For instance, setting the BMC_TRACE variable automatically activates debugging for each subsequent server session. Before attempting to reset a variable, review the information provided in the following sections and referenced in Table 22.

Setting the BMC_TRACE Environment Variable

The BMC_TRACE environment variable allows you to specify the types of messages you want to log during debugging. By default, if the server is started with the -D option (debug mode), tracing is set to “all” categories and “all” modules, server messages are stored in $BMC_LOCAL/BMCserverlog, and scheduler messages are stored in $BMC_LOCAL/BMCschedlog. In most cases, the default setting is sufficient and is recommended for debugging server operations.

If you want to adjust or limit the amount of tracing during a server session, use the following flags and options to set this variable. See Table 23 on page 107 for a brief description of each flag and option.

export BMC_TRACE="[trace_options] module(s):categor(ies)"

**NOTE**

Be aware that setting this variable automatically starts debugging with the specified options each time you subsequently start the server regardless of how you start the server (with or without the -D option).

Setting any option to all sets all of the possible options. A comma delimited combination of options applies a filter to debug messaging. The order in which you specify the options is important. The modules must be listed first before the categories.

In the following example, debugging is set so that the output of alosvp is not indented, and all function call stack functions, debug print statements, debug error statements and data variables and structures are printed.
Setting the BMC_SCHEDLOG and BMC_SERVERLOG Environment Variables

Setting the BMC_SCHEDLOG and BMC_SERVERLOG Environment Variables specify the paths to the scheduler log file and server log file. If the paths are not fully-qualified, they are assumed to be relative to BMC_HOME. If not set in the environment and the -D option is specified on the patroldb command line, the scheduler log information is sent to BMCschedlog and the server log information is sent to BMCserverlog in the BMC_LOCAL directory. If the -D option is not specified and BMC_SERVERLOG and BMC_SCHEDLOG are not set, output is sent to /dev/null.

You do not need to set these variables unless you change the locations of the BMCschedlog and BMCserverlog files or want to use a different log file to capture debug information.

---

**EXAMPLE**

```
export BMC_TRACE="noindent alo:all"
```

---

Table 23 BMC_TRACE Parameter Options (UNIX Host)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>trace_options</td>
<td>noderef</td>
<td>do not dereference pointer values</td>
</tr>
<tr>
<td></td>
<td>noindent</td>
<td>do not indent tracing output</td>
</tr>
<tr>
<td></td>
<td>nomodule</td>
<td>do not print the current module</td>
</tr>
<tr>
<td></td>
<td>nopid</td>
<td>do not print the current process ID</td>
</tr>
<tr>
<td></td>
<td>notime</td>
<td>do not print timing information</td>
</tr>
<tr>
<td>module</td>
<td>ald</td>
<td>aldsvp (Universal Database)</td>
</tr>
<tr>
<td></td>
<td>all</td>
<td>include all modules</td>
</tr>
<tr>
<td></td>
<td>exe</td>
<td>executable</td>
</tr>
<tr>
<td></td>
<td>jzs</td>
<td>jzssvp (scheduler SVP)</td>
</tr>
<tr>
<td></td>
<td>misc</td>
<td>miscellaneous</td>
</tr>
<tr>
<td></td>
<td>oms</td>
<td>acmoms</td>
</tr>
<tr>
<td></td>
<td>rtm</td>
<td>acmrtm</td>
</tr>
<tr>
<td></td>
<td>tcp</td>
<td>acmtcp</td>
</tr>
<tr>
<td>categories</td>
<td>all</td>
<td>include all categories</td>
</tr>
<tr>
<td></td>
<td>dump</td>
<td>prints data variables and structures</td>
</tr>
<tr>
<td></td>
<td>error</td>
<td>prints debug error statements</td>
</tr>
<tr>
<td></td>
<td>print</td>
<td>prints debug print statements</td>
</tr>
<tr>
<td></td>
<td>stack</td>
<td>prints function call stack information</td>
</tr>
</tbody>
</table>
Setting the BMC_SCHEDLOG and BMC_SERVERLOG Environment Variables

Following is an example of the command line syntax for setting these variables.

--- EXAMPLE ---
export BMC_SCHEDLOG=/usr/bmc/CMU DB/aix/5.0.10/jobs/mysch.log
export BMC_SERVERLOG=/usr/bmc/CMU DB/aix/5.0.10/jobs/mysrv.log
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