IBM Spectrum Control
Version 5.2.9

Quick Installation Guide

IBM

About this guide

IBM Spectrum Control™ manages storage infrastructure by centralizing, automating, and simplifying the management of complex and heterogeneous storage environments. Use this guide to complete the steps that are required to install these products, including planning for installation and configuration.

Who should read this guide

This publication is intended for administrators or users who are installing IBM Spectrum Control on a single server.

Administrators and installers should be familiar with the following topics:

- General procedures for installing software on Microsoft Windows, IBM® AIX®, and Linux.
- Storage Area Network (SAN) concepts
- IBM Spectrum Control concepts
- IBM DB2® Database for Linux, AIX, and Windows
- Simple Network Management Protocol (SNMP) concepts

Publications

A number of publications are provided with IBM Spectrum Control.

IBM Tivoli® Storage Productivity Center for Replication is no longer installed with IBM Spectrum Control. For current Tivoli Storage Productivity Center for Replication users who upgrade to IBM Spectrum Control, Tivoli Storage Productivity Center for Replication will remain available. See IBM Knowledge Center for any earlier versions of Tivoli Storage Productivity Center for Replication publications.

The following section describes how to access these publications online.

Accessing publications online

Publications for this product and other related products are available online.

Information about installing, configuring, upgrading, and uninstalling IBM Spectrum Control and related products is available online. Use Table 1 to view and download these publications. Translated documents are available for some products.

Table 1. Locations of publications for IBM Spectrum Control and related products

Product	Online location
IBM Spectrum Control	http://www.ibm.com/support/knowledgecenter/SS5R93/ In the navigation pane, click the release of IBM Spectrum Control that you want. To obtain PDF documents for a release of IBM Spectrum Control, click the release and then click **Printable documentation**.

Table 1. Locations of publications for IBM Spectrum Control and related products (continued)

Product	Online location
IBM DB2 Database for Linux, UNIX, and Windows	http://www.ibm.com/support/knowledgecenter/SSEPGG/welcome
Jazz™ for Service Management	http://www.ibm.com/support/knowledgecenter/SSEKCU/welcome
IBM WebSphere® Application Server Network Deployment	http://www.ibm.com/support/knowledgecenter/SSEQTP/mapfiles/product_welcome_was.html

Downloading publications

IBM publications are available in electronic format to be viewed or downloaded free of charge.

You can download IBM publications from ➡ http://www.ibm.com/support/knowledgecenter/.

Accessibility features for IBM Spectrum Control

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

To read about the accessibility features for IBM Spectrum Control, go to the product documentation at ➡ http://www.ibm.com/support/knowledgecenter/SS5R93_5.2.9/com.ibm.spectrum.sc.doc/fqz0_r_accessibility.html.

For more information about IBM's commitment to accessibility, see the IBM Human Ability and Accessibility Center website at http://www.ibm.com/able/.

Chapter 1. Planning

The following sections provide information to help plan your IBM Spectrum Control environment before you install the product.

In addition to IBM Spectrum Control, the product environment includes the following components:

DB2 IBM Spectrum Control stores the information that it collects about storage resources in a DB2 database.

> You must install DB2 before you install IBM Spectrum Control..

Cognos® BI Reporting (optional)
> Cognos Business Intelligence is an optional tool for producing reports from the data that is gathered by IBM Spectrum Control. The Cognos BI reporting tool is not required to produce report information. You can generate and view information that is related to your storage resources directly in the IBM Spectrum Control GUI.

> You can use the optional Cognos BI reporting tool to run, schedule, and deliver predefined and custom reports. These reports include information about storage capacity, assets, and performance of storage systems, switches, fabrics, servers, hypervisors, and their internal resources. You can create the reports in HTML, PDF, and other formats. You can also configure reports to save the report output to your local file system, and to send reports as email attachments.

Note: If you plan to use Cognos BI reports, you must install Jazz for Service Management Version 1.1.0.3 and Tivoli Common Reporting Version 3.1.0.2.

Hardware requirements

The IBM Spectrum Control server can require a large amount of memory, disk space, network bandwidth, and processor resources. In many cases, the server performs best when other applications are not installed on the same system.

These values are general recommendations to install IBM Spectrum Control:

Processor
> These are the recommended processor values:
> - Intel Xeon or greater, at least 4 processors at 2.5 GHz CPUs (Windows or Linux)
> - IBM POWER5 or later, at least 4 processors at 2.3 GHz CPUs (AIX)

Memory
> At least 8 GB of RAM

Disk Space
> These are the recommended disk space values:
> - 15 GB (Windows and Linux)
> - 22 GB (AIX)

For the latest information about the hardware and software requirements for IBM Spectrum Control, see the support matrix at ➥ http://www.ibm.com/support/docview.wss?uid=swg21386446.

Software requirements for LDAP servers

LDAP repositories, that are available on Windows, Linux and AIX operating systems, can be used with IBM Spectrum Control.

The IBM Spectrum Control installation program establishes a default authentication configuration using the federated repositories feature of the WebSphere Application Server. You can add an LDAP repository to this authentication configuration as a post-installation activity.

For information about the LDAP repositories that are supported, see one of the following WebSphere Application Server web pages. On the **Supported Software** tab, click **LDAP Servers**.

- For the Windows operating system: ➥ http://www-969.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=1227216762841&osPlatform=Windows

- For the AIX operating system: ➥ http://www-969.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=1227216762841&osPlatform=AIX

- For the Linux operating system: ➥ http://www-969.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=1227216762841&osPlatform=Linux

Requirements for Jazz for Service Management and Tivoli Common Reporting

If you plan to use Cognos Business Intelligence reports, you must install Jazz for Service Management Version 1.1.0.3 and IBM Tivoli Common Reporting Version 3.1.0.2.

For more information about the requirements to install Jazz for Service Management Version 1.1.0.3 and IBM Tivoli Common Reporting Version 3.1.0.2, go to the *Jazz for Service Management Detailed System Requirements* document at ➥ http://www.ibm.com/support/docview.wss?uid=swg27038732.

Attention: You must install Jazz for Service Management from the IBM Spectrum Control installation program. For more information about installing IBM Spectrum Control, see "Installing IBM Spectrum Control in a single-server environment" on page 18.

Chapter 2. Installing DB2

Before you install IBM Spectrum Control, you must install DB2 as the database repository. You can install DB2 on Linux, AIX, or Windows.

Verify that the target server meets the prerequisites for DB2. To verify the prerequisites, run the DB2 **db2prereqcheck** command on the server.

DB2 Version 10.5 Fix Pack 6 is shipped with IBM Spectrum Control and the installation instructions that are in this guide are for this version.

Although DB2 Version 10.5 Fix Pack 6 is provided with IBM Spectrum Control, you can use another version of DB2 that IBM Spectrum Control supports. For a list of DB2 versions that you can use with IBM Spectrum Control, go to ⮞ http://www.ibm.com/support/docview.wss?uid=swg27047043#Databases.

Installing DB2 on Windows

You can install DB2 on servers that run the Windows operating system.

Preparing to install DB2 on Windows

If you have an administrator user ID that you want to use to install DB2 and IBM Spectrum Control, this user ID must be a member of the DB2ADMNS and the Administrator groups.

When you install DB2, these groups are created:
* DB2ADMNS, which has all the required user rights that are assigned for administrative authority
* DB2USERS, which has user rights that are assigned to DB2 users

Assign users who need administrative authority to the DB2ADMNS group and DB2 users to the DB2USERS group. When you assign a user ID to either group, the user ID has all the user rights required for that group. You do not have to assign individual user rights to each user ID.

Important: The Windows Administrator user ID does not have the authority to create the IBM Spectrum Control database TPCDB. The DB2 administrator user ID that you need when you install IBM Spectrum Control must have DB2 administrative rights. The user ID that you need to install IBM Spectrum Control must be a member of the DB2ADMNS and Administrator groups. The DB2 user ID db2admin, which was created when you installed DB2, has the authority for IBM Spectrum Control. For valid DB2 user IDs and passwords, go the product documentation at ⮞ http://www-01.ibm.com/support/knowledgecenter/SSEPGG_10.1.0/com.ibm.db2.luw.admin.dbobj.doc/doc/c0007248.html?lang=en.

When you assign the Windows Administrator user ID to the DB2ADMNS group, this authority is active the next time the Administrator user ID logs in.

8.3 short file names

If DB2 is installed on a drive on which 8.3 file names are disabled, and the DB2 installation directory name has spaces in it, DB2 must be reinstalled on a drive that has 8.3 file names enabled, or in a directory that does not have spaces in the name.

To check the current 8.3 file name settings for a drive, in a DB2 command window, run the **'fsutil.exe behavior query disable8dot3'** command.

These are the values when you run the command:
- 0 = Create 8.3 short file names (default)
- 1 = Do not create 8.3 file names
- 2 = Set 8.3 file names on a per volume basis
- 3 = Disable 8.3 file names on all volumes, except the system volume

The registry state of NtfsDisable8dot3NameCreation is 0 , which means that 8.3 file names are enabled on all volumes.

To enable 8.3 file names on a global basis, run the **fsutil.exe behavior set disable8dot3 0** command.

Installing DB2 on Windows

You can install DB2 on Windows by using a graphic user interface (GUI) installation program.

Note: Windows platforms do not support systems that are configured only for IPv6. (Windows is enabled for IPv6 and IPv4.)

To install DB2 on a Windows operating system, complete the following steps:
1. Log on with a user ID that has Administrator authority on Windows.
2. Insert the DB2 product DVD into the DVD drive or use the extracted DB2 installation image. Windows Autorun starts the launchpad.

   If you are using Windows Autorun, the installation program should start in 15-30 seconds. If the installation program does not start, complete one of the following steps:
   - In a command prompt, to start the DB2 set up page, go to DVD-ROM*server_folder* or go to *web_image_extraction**server_folder* and run the **setup.exe** command.
   - In Windows Explorer, go to DVD-ROM*server_folder* or go to *web_image_extraction**server_folder*, and double-click the setup.exe file.

   Where *server_folder* in the preceding steps is the location of the DB2 installation program.
3. In the DB2 Setup Launchpad, click **Install a Product**.
4. Click **Install New** for **DB2 Version 10.5 Fix Pack 6 Workgroup, Enterprise and Advanced Editions**.
5. On the welcome page of the DB2 Setup program, click **Next**.
6. On the Software License Agreement page, review and accept the license agreement, and click **Next**.
7. On the Select the installation type page, click **Typical**, and click **Next**.

8. On the Select the installation, response file creation, or both page, select **Install DB2 Server Edition on this computer and save my settings in a response file**.

9. Enter a response file name or accept the default, and click **Next**.

10. On the Select the installation folder page, enter a directory or accept the default, and click **Next**.

11. On the Select the IBM SSH server installation folder and startup option page, enter a directory or accept the default, and click **Next**.

12. On the Set user information for the DB2 Administration Server page, enter the following user information:

    a. Leave the **Domain** field blank.

    b. In the **User name** field, type the DB2 user ID that you want to use or accept the default.

    c. In the **Password** field, type a password and confirm the password by typing it again in the **Confirm password** field.

13. Select the **Use the same account for the remaining DB2 services** check box and click **Next**.

14. On the Configure DB2 instances page, click **Next**.

15. On the Set up notifications page, clear the **Set up your DB2 server to send notifications** check box, and click **Next**.

16. On the Enable operating system security for DB2 objects page, accept the defaults, and click **Next**.

    The default is to enable operating system security.

    Note: If you installed DB2 before on this system, and the DB2ADMS group exists, when you click **Next**, the following message is displayed:

    ```
    Warning
    The group name "DB2ADMS" already exists
    in the system and will be granted complete
    access to the DB2 folders and objects through
    the operating system.
    Click OK to continue installation, or click
    Cancel to input another group name.
    ```

17. On the Start copying files and create response file page, review the current settings, and click **Finish**.

18. On the Setup is complete page, review the information, and click **Next**.

19. On the Install additional products page, do not install more products, click **Finish**. The setup program closes and DB2 First Steps interface opens.

20. Restart the system.

Installing DB2 on AIX or Linux

You can install DB2 as a root user or non-root user on an AIX or Linux operating system. To install DB2 as a non-root user, the user must have full sudo privileges on the target AIX or Linux server.

Preparing to install DB2 on AIX or Linux

Before you begin the installation of DB2, review the prerequisites.

Required DB2 users

To operate DB2 on AIX or Linux operating systems, the instance owner, the fenced user, and the DB2 administration server user are required. These users and groups are automatically created when DB2 is installed.

Table 2. DB2 Setup program default user and group names

Required user	Default user name	Default group name	Description
instance owner	db2inst1	db2iadm1	Created in the instance owner home directory. This user ID controls all DB2 processes and owns all file systems and devices that are used by the databases that are contained within the instance. The DB2 instance owner user is the user that you enter when you install IBM Spectrum Control.
fenced user	db2fenc1	db2fadm1	Used to run user-defined functions (UDFs) and stored procedures outside of the address space that is used by the DB2 database.
DB2 administration server user	dasusr1	dasadm1	Used to run the DB2 administration server on your system. Used by the DB2 GUI tools to complete administration tasks. This server does not contain databases, and there is only one administration server for each computer.

Note: For more information about valid DB2 user IDs and passwords, go the product documentation at ➡ http://www-01.ibm.com/support/knowledgecenter/ SSEPGG_10.1.0/com.ibm.db2.luw.admin.dbobj.doc/doc/c0007248.html?lang=en.

X Window System required for graphical installation

The X Window System is required on the AIX or Linux server to install DB2 by using the DB2 Setup program.

Prerequisites for installing as a non-root user

If you want to install DB2 as a non-root user, have your system administrator complete the following tasks on the target server before you begin the installation:

- If you are installing DB2 on an AIX server, install sudo on the server. The default AIX distribution does not include sudo. To get the sudo installation package, go to ➡ http://www.ibm.com/systems/power/software/aix/linux/toolbox/date.html. Find **sudo-*version*** in the **Package** column, and click **RPM** to download the package.
- Ensure that the non-root user has full sudo privileges on the server.
- Ensure that the following requirements are met to enable the installation of DB2 by using the Setup program:
  - The non-root user is able to use the X Window System on the target server and the X Window System `DISPLAY` environment variable is set correctly for the not-root user.
  - The `DISPLAY` environment variable is preserved in the sudo environment.
  - The root user has access to the X Window System display that is owned by the non-root user.

  These display requirements do not apply if you install DB2 in silent mode.
- If you are installing DB2 on an AIX server, ensure that the `ODMDIR` environment variable is preserved in the sudo environment.

Installing DB2 on AIX or Linux

You can install DB2 as a root user or non-root user on an AIX or Linux operating system by using the DB2 Setup program.

To install DB2 on an operating system such as UNIX or Linux, complete the following steps.

1. Log on to the target server as the root user or as a non-root user who has full sudo privileges.
2. If you are installing from a DVD, insert the DVD into the optical drive on the server and mount the DVD file system. If you are installing from an electronic image, use an extraction tool to extract the installation image files on the Linux server.
3. In a command shell, change the directory to the location of the DB2 installation program db2setup, and then enter one of the following commands:

   Root user

   `./db2setup`

   Non-root user

   `sudo ./db2setup`
4. In the DB2 Setup Launchpad, click **Install a Product**.
5. Click **Install New** for **DB2 Version 10.5 Fix Pack 6 Workgroup, Enterprise and Advanced Editions**.
6. On the welcome page of the DB2 Setup program, click **Next**.
7. On the Software License Agreement page, review and accept the license agreement, and click **Next**.
8. On the Select the installation type page, click **Typical**, and click **Next**.
9. On the Select the installation, response file creation, or both page, select **Install DB2 Server Edition on this computer and save my settings in a response file**.
10. Enter a response file name, or accept the default, and click **Next**.
11. On the Select the installation directory page, enter a directory or accept the default, and click **Next**.

12. On the Set user information for the DB2 Administration Server page, click **New user**, and enter the following information:
    - User name

      DB2 adds this user ID to the `dasadm1` group, and if this user ID does not exist, DB2 creates it.
    - Group name
    - Password
    - Home directory

    The DB2 Administration Server user is used to administer the DB2 database.
13. Select **Use default UID** and **Use default GID**, and click **Next**.
14. On the Set up a DB2 instance page, select **Create a DB2 instance**, and click **Next**.
15. On the Set up partitioning options for the DB2 instance page, click **Single partition instance**, and click **Next**.
16. On the Set user information for the DB2 instance owner page, select **New user**, and enter the following information:
    - User name

      DB2 adds this user ID to the `db2iadm1` group, and if this user ID does not exist, DB2 creates it.
    - Group name
    - Password
    - Home directory

    The DB2 instance owner user is the user that you enter when you install IBM Spectrum Control.
17. Select **Use default UID** and **Use default GID**, and click **Next**.
18. On the Set user information for the fenced user page, select **New user**, and enter the following information:
    - User name

      DB2 adds this user ID to the `db2fadm1` group, and if this user ID does not exist, DB2 creates it.
    - Group name
    - Password
    - Home directory

    The fenced user is used to run user-defined functions and stored procedures that are separate from the address space that is used by the DB2 database.
19. Select **Use default UID** and **Use default GID**, and click **Next**.
20. On the Set up notifications page, click **Do not set up your DB2 server to send notifications at this time**, and click **Next**.
21. On the Start copying files and create response file page, review the current settings, and click **Finish**.
22. On the Setup has completed successfully page, review the information, and click **Finish**.

To ensure that DB2 starts when the server starts, run the **db2iauto** command.

Root user

`DB2_installation_directory/bin/db2iauto -on DB2_instance_name`

Non-root user

```
sudo DB2_installation_directory/bin/db2iauto -on DB2_instance_name
```

Where *DB2_installation_directory* is the location of DB2 and *DB2_instance_name* is the instance that you created when you installed DB2. The default instance is name is db2inst1.

Installing DB2 on AIX by using the command line

You can install DB2 on an operating system such as AIX by using commands.

Ensure that you have:
- 2 - 3 GB of hard disk drive space for the DB2 installation `tar` file and extracted files.
- Chosen a file system with at least 30 GB for the IBM Spectrum Control repository.

To install DB2 on the AIX operating system by using the command line, complete the following steps.

1. Log in with a user ID that has root authority.
2. Do one of the following steps.
   - If you are not using a DVD, skip to step 5 and work from the directory where you have the DB2 source installation program.
   - If you are using a DVD, create a mount point that is called `/cdrom` by entering `mkdir /cdrom`.
3. Insert the DB2 DVD into the DVD drive and mount the file system at the mount point. On AIX, you can use the **crfs** command to add an entry to `/etc/filesystems` for the mount point.
4. Run the following commands,
   ```
   /usr/sbin/crfs -v cdrfs -p ro -d'cd0' -m'/cdrom' -A'no'
   mount /cdrom
   ```

   The **crfs** command must be run only one time for a mount point. For each DVD you insert after that, you can use **mount** and **umount**, for example, **mount /cdrom** and **umount /cdrom**.
5. Enter `cd /cdrom` and go to the directory where the DVD-ROM is mounted.
6. Install the DB2 Manager.
   a. Create a temporary directory (for example, `db2temp`) to hold the DB2 installer `tar` file and extracted files.
   b. Copy or download the DB2 installer into `db2temp`. The name of the file varies depending on the location from where the file is downloaded or copied and the language to which it is associated.
   c. Optional: If the DB2 installer file is compressed, use the appropriate extracting tool. For example, if the name of the file is `v10.5fp5_aix64_server.tar.gz`, enter **gunzip v10.5fp6_aix64_server.tar.gz**. In this example, `v10.5fp5_aix64_server.tar.gz` is displayed in the `db2temp` directory.
   d. Create an installation directory by entering, for example, `mkdir install`.
   e. Enter `cd install` to change to the new installation directory.
   f. Extract the DB2 installation file. For example, if the name of the installation file is `v10.5fp6_aix64_server.tar` , enter `tar xvf ../ v10.5fp5_aix64_server.tar`.

g. Enter `cd /db2temp/installer/ese/disk1` and go to the directory that contains the DB2 installation program `db2_install`.

h. Enter `./db2_install` to run the command-line installation program.

i. Select **DB2.ESE**. The `Installation Summary` is displayed, which indicates a successful installation. DB2 is installed in /opt/ibm/db2.

7. Create users and groups for use with DB2.

   a. Enter `mkgroup id=999 db2iadm1`.

   b. Enter `mkgroup id=998 db2fadm1`.

   c. Enter `mkgroup id=997 dasadm1`.

   d. Enter `mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1 home=/home/db2inst1 db2inst1`.

   e. Enter `mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1 home=/home/db2fenc1 db2fenc1`.

   f. Enter `mkuser id=1002 pgrp=dasadm1 groups=dasadm1 home=/home/dasusr1 dasusr1`.

   g. Verify the owner of the directories by entering `ls -ld /home/db2inst1`. The directory ownership is displayed as follows:

      - /home/db2inst1 shows group db2iadm1 and user db2inst1
      - /home/db2fenc1 shows group db2fadm1 and user db2fenc1
      - /home/dasusr1 shows group dasadm1 and user dasusr1

      If the directory ownership is not correct, run the following commands as appropriate:
      ```
      chown -R db2inst1:db2iadm1 /home/db2inst1
      chown -R db2fenc1:db2fadm1 /home/db2fenc1
      chown -R dasusr1:dasadm1 /home/dasusr1
      ```

   h. Enter `passwd db2inst1` *password*, where *password* represents the password you want to use for the DB2 instance.

   i. Enter `pwdadm -f NOCHECK db2inst1`.

   j. Enter `passwd db2fenc1` *password*, where *password* represents the password you want to use for the fenced user.

   k. Enter `pwdadm -f NOCHECK db2fenc1`.

   l. Enter `passwd dasusr1` *password*, where *password* represents the password you want to use for the DB2 administration server (DAS) user.

   m. Enter `pwdadm -f NOCHECK dasusr1`.

   n. Enter `chgroup users=db2inst1,root db2iadm1`.

8. Create a DB2 Administrative Server (DAS) and enter `/opt/db2/V10.5/instance/dascrt -u dasusr1`

9. Create a DB2 instance:

   a. Enter `/opt/db2/V10.5/instance/db2icrt -a server -u db2fenc1 db2inst1`

   b. Enter `. /home/db2inst1/sqllib/db2profile`.

10. Change the default location for database repositories. By default, this location is /home/db2inst1. /home is typically not large enough for database repositories.

11. To change the default location:

    a. Enter `db2 update dbm cfg using DFTDBPATH` *new_repository_path* `IMMEDIATE`, where *new_repository_path* represents the new location for the repository.

    b. Enter `chown -R db2inst1:db2iadm1` *new_repository_path* to assign ownership to db2inst1 and permission to anyone in db2iadm1(same as the ownership for /home/db2inst1.

12. Configure DB2 communication:
    a. Edit /etc/services and verify or add the following line at the end of the file: db2c_db2inst1 50000/tcp
    b. Enter db2 update dbm cfg using svcename db2c_db2inst1.
    c. Enter db2set. An example of the output is DB2COMM=tcpip.
13. In a command window, do the following to test your DB2 instance:
    a. Enter . /home/db2inst1/sqllib/db2profile to source the environment.
    b. Enter db2level to get information about the instance and DB2.
    c. Enter db2 create db test to create a test database.
    d. Enter db2 list db directory to list information about all the databases that are created for this instance.
    e. Enter db2 connect to test user db2inst1 using *password* to connect to the test database, where *password* is the password you defined in step 7 for the DB2 instance.
    f. Enter db2 disconnect test to disconnect from the test database.
    g. Enter db2 drop db test to drop the test database.

Installing DB2 on AIX 6.1 POWER7 Systems

You can install DB2 on AIX 6.1 POWER7® Systems.

Ensure that you run export JAVA_COMPILER=none from a command window. This command is necessary as a result of APAR IC63450.

To install DB2, complete the following steps:
1. Log on using a user ID with root authority.
2. Do one of the following actions.
   - If you are not using a CD, you can skip to step 5 and run **db2setup** from the directory where you have the DB2 source installation program.
   - If you are using the CD, enter, for example, mkdir /cdrom to create a mount point that is called /cdrom,
3. Insert the DB2 CD into the CD drive.

   On AIX, you can use the **crfs** command to add an entry to /etc/filesystems for the CD mount point.
4. Mount the CD file system at the wanted mount point.
5. Run the following commands:

   /usr/sbin/crfs -v cdrfs -p ro -d'cd0' -m'/cdrom' -A'no' mount /cdrom

   The **crfs** command must be run only one time for a specific mount point. For each CD or DVD you insert after that, you can use **mount** and **umount**, for example, mount /cdrom and umount /cdrom.
6. Enter cd /cdrom and change to the directory where the CD is mounted.
7. Run the following command from the installation image:

   ./db2_install

   Enter the necessary information.

   Note: If the following message is displayed,

   WARNING: A minor error occurred while installing

   check the installation log for errors. If you do not see any errors, ignore this warning message.

8. Create DB2 groups, users, and instances.

   a. For the DB2 groups, run the following commands.

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

   b. For the DB2 users, run the following commands.

```
mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1
  home=/home/db2inst1 db2inst1
 mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1
  home=/home/db2fenc1 db2fenc1
 mkuser id=1002 pgrp=dasadm1 groups=dasadm1
  home=/home/dasusr1 dasusr1
```

   c. Set the password for db2inst1, db2fenc1, and dasusr1 by running the following commands:

```
passwd db2inst1
 passwd db2fenc1
 passwd dasusr1
```

   d. Setting the new passwords might require that you log in one time to change the initial password.

```
login db2inst1
```

   Change the initial password and replace with a new password. Repeat this step for db2fenc1 and dasusr1 users.

   e. Create the db2inst1 instance by running the following command:

```
/opt/IBM/db2/V10.5/instance/db2icrt -a server -u db2fenc1 db2inst1
```

   f. Create the dasusr1 instance by running the following command:

```
/opt/IBM/db2/V10.5/instance/dascrt dasusr1
```

9. Assign a communication port for the DB2 instance in the /etc/services file.

   a. Select a name that is related to the instance name.

   b. Select a free port, for example, 50000. Add the following line to the /etc/services file:

```
db2inst1c 50000/tcp
```

10. Configure the communication port in the database manager configuration for the instance:

```
db2 update dbm cfg using SVCENAME db2inst1c
```

11. Enable TCP/IP for the instance:

```
db2set DB2COMM=TCPIP
```

Note: After you install DB2, edit the file /etc/group and add root to the db2iadm1 group. The db2iadm1 line in /etc/group looks similar to the following line.

```
db2iadm1:x:102:root
```

Chapter 3. Installing IBM Spectrum Control

The following information and instructions pertain to installing IBM Spectrum Control on a single server.

For information about installing IBM Spectrum Control in a multiple-server environment, go to the product documentation at ⇨ http://www.ibm.com/support/knowledgecenter/SS5R93_5.2.9/com.ibm.spectrum.sc.doc/fqz0_r_installing_tpc_multiple_server.html.

You can install IBM Spectrum Control in a single-server environment in one of the following ways:

- The installation program

  For information about installing IBM Spectrum Control by using the installation program, see "Installing IBM Spectrum Control in a single-server Windows environment" on page 18.

- The command line in silent mode

  For information about installing IBM Spectrum Control by using silent mode, go to the product documentation at ⇨ http://www.ibm.com/support/knowledgecenter/SS5R93_5.2.9/com.ibm.spectrum.sc.doc/fqz0_t_installing_tpc_silent_mode_single_server.html.

IBM Spectrum Control installation

You can install IBM Spectrum Control by using the installation program or the command-line in silent mode. Installing IBM Spectrum Control by using console mode is not supported.

Fully qualified host names

Some systems might be configured to return a short host name such as `server22`, instead of a fully qualified host name such as `server22.myorg.mycompany.com`. IBM Spectrum Control requires fully qualified host names, so you must install the product on a computer that has a fully qualified host name.

Installation methods

You can install IBM Spectrum Control by using the installation program or the command-line in silent mode. In silent mode, a command is provided with the values in a response file.

Use the installation program to install IBM Spectrum Control with minimal user interaction. Use the silent-mode installation if your system is running from a terminal that cannot display graphics.

Important: On UNIX operating systems (for example, AIX or Linux) you must have X Window System support to display the installation program graphical user interface (GUI).

Installation images

Installation files for the following components are provided with IBM Spectrum Control:

DB2

- DB2 for Windows (64-bit)
- DB2 for Linux (64-bit)
- DB2 for AIX (64-bit)

IBM Spectrum Control

- IBM Spectrum Control for AIX
- IBM Spectrum Control for Linux
- IBM Spectrum Control for Windows

In addition, installation files for the following optional agents are available with IBM Spectrum Control:

- IBM Spectrum Control Storage Resource agent for Windows
- IBM Spectrum Control Storage Resource agent for UNIX
- IBM Spectrum Control Monitoring Agent for IBM Tivoli Monitoring on Windows
- IBM Spectrum Control Monitoring Agent for IBM Tivoli Monitoring on UNIX

Jazz for Service Management and Tivoli Common Reporting (optional)

- Jazz for Service Management Version 1.1.0.3
- Tivoli Common Reporting Version 3.1.0.1
- Tivoli Common Reporting Version 3.1.0.2
- IBM WebSphere Application Server Version 8.5.0.1

Starting the installation programs

There are various methods to start the IBM Spectrum Control installation programs and on various operating systems.

Installation program methods

You can use these methods to start the installation programs:

Installation images
> If you are using electronic images, you must select an installation image and download and extract these images to a location with adequate disk space.

Storage Resource agent
> Contains the files to run local Storage Resource agent installations. You must download the file for the system on which you want the agent to be in.
>
> - The Storage Resource agent location and operating system file name is the same as the disk 1 image.
> - The Storage Resource agent image is in *DVD*/data/sra/ *operating_system_name*.
>
> The operating systems that are supported for the Storage Resource agents are listed in the following table.

Table 3. Operating system for Storage Resource agents.

Operating system	Operating system name
Windows	windows
AIX	aix_power
HP-UX	hp-ux_itanium
Linux x86	linux_ix86
Linux for Power Systems™ Servers	linux_power
Linux s390	linux_s390
Oracle Solaris	solaris_spark

Important:

- If you are using IBM Spectrum Control electronic installation images that are decompressed in a directory that has spaces in the name, IBM Spectrum Control does not install correctly.

  For example, if you have the following directory name:

  – On Windows operating systems:

  `C:\Spectrum Control\disk1\TPC`

  – On AIX and Linux operating systems:

  `/temp/Spectrum Control/disk1/TPC`

  IBM Spectrum Control does not install correctly.

  When you remove the spaces, and rename the directory, for example:

  – On Windows operating systems:

  `C:\SpectrumControl\disk1\TPC`

  – On AIX and Linux operating systems:

  `/temp/SpectrumControl/disk1/TPC`

  IBM Spectrum Control installs correctly.

- If you are using IBM Spectrum Control electronic installation images for Linux or AIX operating systems and you download the images to a directory, ensure that your folder name *does not* contain a `.` at the end of the folder name.

  For example, if you have a directory name

  `C:\SpectrumControl\disk1\TPC.`

  When you rename the folder and remove the `.` at the end of the name, for example:

  `C:\SpectrumControl\disk1\TPC.August3`

  IBM Spectrum Control installs correctly.

- If you are deploying the Storage Resource agent on the AIX or Linux operating system, you must use `root` as the user name.

Starting the installation program on the Windows operating system

To start the IBM Spectrum Control installation program by using an electronic image, complete the following steps.

1. Download the image into a directory.
2. Extract the image files.

3. At the command prompt, enter cd *source_installation_directory*\TPC and then enter **setup.bat**.

To start the IBM Spectrum Control installation program by using the disk 1 DVD, complete the following steps.

1. Open Windows Explorer and go to the IBM Spectrum Control DVD drive or directory.
2. In Windows Explorer, go to the TPC directory on the IBM Spectrum Control DVD.
3. Double-click the setup.bat file.

Starting the installation program on the Linux operating system

To start the IBM Spectrum Control installation program from the electronic image (disk 1), complete the following steps.

1. Enter the following to create a directory:

   mkdir /SpectrumControl

2. Download the image into the SpectrumControl directory.
3. Enter this command to extract the image files:

   tar -xzvf *filename*.tar.gz

4. Ensure that the user name that you plan to use as the IBM Spectrum Control common user is in the root group and the db2iadm1 group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is *db2inst1*.

   usermod -a -G root db2inst1
   usermod -a -G db2iadm1 db2inst1

5. Navigate to the /SpectrumControl/TPC directory by entering:

   cd /SpectrumControl/TPC

6. Set up your shell environment to point to the instance where the database repository is installed. Source the db2profile for the instance that you want. For example, if the DB2 instance is db2inst1, you can source the db2profile by entering:

   . /home/db2inst1/sqllib/db2profile

   Remember: There is a space between . and /home.

7. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

To start the IBM Spectrum Control installation program from the disk 1 DVD, complete the following steps:

1. At the command prompt, enter mkdir /cdrom to create a mount point.
2. Insert the DVD into the DVD drive.
3. Mount the DVD file system at the appropriate mount point. For example, to mount a DVD into a DVD drive known as /dev/cd0 at mount point /cdrom, enter the following command:

   mount -o ro /dev/cdrom /cdrom

4. Enter cd /cdrom to go to the directory where the DVD is mounted.
5. Ensure that the user name that you plan to use as the IBM Spectrum Control common user is in the root group and the db2iadm1 group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is db2inst1.

```
usermod -a -G root db2inst1
usermod -a -G db2iadm1 db2inst1
```

6. Navigate to the /cdrom/TPC directory by entering:

   `cd /cdrom/TPC`

7. Set up your shell environment to point to the instance where the database repository is installed. Source the db2profile for the instance that you want. For example, if the DB2 instance is db2inst1, you can source the db2profile by entering:

   `. /home/db2inst1/sqllib/db2profile`

   Remember: There is a space between **.** and /home.

8. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

   If the **setup.bin** command exits prematurely because the media (DVD) is not ready, run the **./setup.bin** command again until the installation program is displayed.

Starting the installation program on the AIX operating system

To start the IBM Spectrum Control installation program from the electronic image (disk 1), complete the following steps:

1. Enter the following to create a directory:

   `mkdir /SpectrumControl`

2. Download the image into the SpectrumControl directory.

3. Enter this command to extract the image files:

   `tar -xzvf filename.tar.gz`

4. Ensure that the user name that you plan to use as the IBM Spectrum Control common user is in the system group and the db2iadm1 group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is *db2inst1*.

   ```
   usermod -G system db2inst1
   usermod -G db2iadm1 db2inst1
   ```

5. Navigate to the /SpectrumControl/TPC directory by entering:

   `cd /SpectrumControl/TPC`

6. Set up your shell environment to point to the instance where the database repository is installed. Source the db2profile for the instance that you want. For example, if the DB2 instance is db2inst1, you can source the db2profile by entering:

   `. /home/db2inst1/sqllib/db2profile`

   Remember: There is a space between **.** and /home.

7. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

To start the IBM Spectrum Control installation program from the disk 1 DVD, complete the following steps:

1. Insert the DVD into the DVD drive and mount the DVD file system at the wanted mount point. On the AIX operating system, you can use the **crfs** command to add an entry to /etc/filesystems for the mount point. Enter the following commands:

   ```
   /usr/sbin/crfs -v cdrfs -p ro -d'cd0' -m'/cdrom' -A'no'
   mount /cdrom
   ```

The **crfs** command must be run once for a mount point. After that you can use **mount** and **umount** for each DVD you insert, for example, **mount /cdrom** and **umount /cdrom**.

2. Enter `cd /cdrom` to go to the directory where the DVD is mounted.

3. Ensure that the user name that you plan to use as the IBM Spectrum Control common user is in the `system` group and the `db2iadm1` group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is *db2inst1*.

```
usermod -G system db2inst1
usermod -G db2iadm1 db2inst1
```

4. Navigate to the `/cdrom/TPC` directory by entering:

```
cd /cdrom/TPC
```

5. Set up your shell environment to point to the instance where the database repository is installed. Source the `db2profile` for the instance that you want. For example, if the DB2 instance is `db2inst1`, you can source the `db2profile` by entering:

```
. /home/db2inst1/sqllib/db2profile
```

Remember: There is a space between `.` and `/home`.

6. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 5.

If the **setup.bin** command exits prematurely because the media (DVD) is not ready, run the **./setup.bin** command again until the installation program is displayed.

Installing IBM Spectrum Control in a single-server environment

Installing IBM Spectrum Control in a single-server environment is a simple process and can be completed successfully by most IBM Spectrum Control customers.

Installing IBM Spectrum Control in a single-server Windows environment

You can install IBM Spectrum Control by using the IBM Spectrum Control installation program.

1. Log on to the target server a user who as administrator privileges.

2. When you install IBM Spectrum Control, the TPCDB database is created in the location that you specify in the DB2 DFTDBPATH variable. To determine the current DFTDBPATH value, run the following command in a DB2 CLI window:

```
get dbm cfg
```

If you want to install this database in a location that is other than the default location, run the following command in a DB2 CLI window:

```
update dbm cfg using DFTDBPATH path
```

where *path* is the new value for the DFTDBPATH variable.

3. If you are installing from a DVD, insert the DVD into the optical drive on the server. If you are installing from an electronic image, use an extraction tool to extract the installation image files on the server.

If you plan to install Jazz for Service Management and Tivoli Common Reporting, ensure that the installation files for IBM Spectrum Control are in one directory and the installation files for Jazz for Service Management and Tivoli Common Reporting are in another directory.

4. In a command window, change the directory to the location of the IBM Spectrum Control installation files and enter the following command:

   `setup.bat`

5. Review the Welcome page and make one of the following decisions:
   - If Jazz for Service Management is installed on your computer, the Welcome page displays a green check mark. Click **Next** to proceed to the next page in the IBM Spectrum Control installation program and install IBM Spectrum Control with reports.
   - If Jazz for Service Management is not installed on your computer, the Welcome page displays an **Install Now** button.
   - If you do not want to install Jazz for Service Management on your computer, click **Next** to proceed to the next page in the IBM Spectrum Control installation program and install IBM Spectrum Control without reports.

6. If Jazz for Service Management is not installed, and you want to install it on your computer, you can install it now:
   a. On the Welcome page, click **Install Now**.
   b. On the Install Jazz for Service Management page, complete the following steps:
      1) Provide the location where the Jazz for Service Management and Tivoli Common Reporting installation files were extracted.

         For example, `c:\temp\jazzinstall`.
      2) If there is a port conflict, specify a new starting value for a 15-port range, and click the **Verify Port Availability** link to ensure that the port range is usable.
      3) Click **Install Now**.

      The IBM Spectrum Control installation program pauses and the Jazz for Service Management launchpad starts.
   c. When you exit the Jazz for Service Management launchpad, you are returned to the Install Jazz for Service Management page in the IBM Spectrum Control installation program. Click **OK**.
   d. If the installation of Jazz for Service Management was successful, you are returned to the Welcome page, which now displays a green check mark.

      If the installation of Jazz for Service Management was not successful, a message is displayed, and you can click one of the following options:
      - **Install Now**, which starts the Jazz for Service Management launchpad again.
      - **Continue**, which returns you to the Welcome page.
   e. On the Welcome page, click **Next**.
   f. On the Choose Installation Location and Type page, select **Single Server**, and click **Next**.

7. If the installation of Jazz for Service Management was successful and you clicked **Next** on the Welcome page to install IBM Spectrum Control with reports, on the Configure Jazz for Service Management and Tivoli Common Reporting page, enter the following information, and click **OK**:
   - The user name that is used to log on to the Jazz for Service Management WebSphere profile.
   - The password that is associated with the user name.
   - The path for the Jazz for Service Management installation directory.

Jazz for Service Management starts. After Jazz for Service Management starts, it might take some time before all components, including Tivoli Common Reporting, are running.

If the IBM Spectrum Control installation program is unable to communicate with Jazz for Service Management, you can select the **Install IBM Spectrum Control reports later** check box, click **OK**, and continue installing IBM Spectrum Control without reports. After you install IBM Spectrum Control without reports, and resolve any problems with Jazz for Service Management, start the IBM Spectrum Control installation program again to install IBM Spectrum Control reports.

Important: If the installation of Jazz for Service Management was not successful and you clicked **Next** on the Welcome page to install IBM Spectrum Control without reports, the Configure Jazz for Service Management and Tivoli Common Reporting page does not display.

8. Follow the prompts in the installation program to install IBM Spectrum Control.

If an error occurred during the IBM Spectrum Control installation process, review the IBM Spectrum Control installation log files to find details about the error.

Installing IBM Spectrum Control in a single-server AIX or Linux environment

You can install IBM Spectrum Control as a root user or non-root user on an AIX or Linux operating system by using the IBM Spectrum Control installation program. To install IBM Spectrum Control as a non-root user, the user must have full sudo privileges on the target AIX or Linux server.

Before you begin the installation, ensure that X Window System is installed on the target AIX or Linux server. The X Window System is required to install IBM Spectrum Control by using the installation program.

If you want to install IBM Spectrum Control as a non-root user, have your system administrator complete the following tasks on the target server before you begin the installation:

- If you are installing IBM Spectrum Control on an AIX server, install sudo on the server. The default AIX distribution does not include sudo. To get the sudo installation package, go to ↪ http://www.ibm.com/systems/power/software/aix/linux/toolbox/date.html. Find **sudo-*version*** in the **Package** column, and click **RPM** to download the package.
- Ensure that the non-root user has full sudo privileges on the server.
- If the sudo environment on the server uses the `secure_path` option, ensure that the following directories are included in the `secure_path` value for the non-root user who is installing IBM Spectrum Control:
  - *DB2_instance_owner_home_directory*/sqllib/bin (Example: /home/db2inst1/sqllib/bin)
  - *DB2_instance_owner_home_directory*/sqllib/adm (Example: /home/db2inst1/sqllib/adm)
  - *DB2_instance_owner_home_directory*/sqllib/misc (Example: /home/db2inst1/sqllib/misc)
- Ensure that the following requirements are met to enable the installation of IBM Spectrum Control by using the installation program:

- The non-root user is able to use the X Window System on the target server and the X Window System `DISPLAY` environment variable is set correctly for the not-root user.
  - The `DISPLAY` environment variable is preserved in the sudo environment.
  - The root user has access to the X Window System display that is owned by the non-root user.

  These display requirements do not apply if you install IBM Spectrum Control in silent mode.
- If you are installing IBM Spectrum Control on an AIX server, ensure that the `ODMDIR` environment variable is preserved in the sudo environment.

To install IBM Spectrum Control in a single-server environment, complete the following steps:

1. Log on to the target server as the root user or as a non-root user who has full sudo privileges.
2. If you logged on as a non-root user, run the following command in a command shell:

   ```
   sudo DB2_installation_directory/cfg/db2ln
   ```

   For example:

   ```
   sudo /opt/ibm/db2/V10.5/cfg/db2ln
   ```

3. When you install IBM Spectrum Control, the TPCDB database is created in the location that you specify in the DB2 `DFTDBPATH` variable. To determine the current `DFTDBPATH` value, run the following command in a DB2 CLI window:

   ```
   get dbm cfg
   ```

   If you want to install this database in a location that is other than the default location:

   a. Run the following command in a DB2 CLI window:

   ```
   update dbm cfg using DFTDBPATH path
   ```

   where *path* is the new value for the `DFTDBPATH` variable.

   b. Run the **db2stop** and **db2start** commands to stop and restart DB2.

4. If you are installing from a DVD, insert the DVD into the optical drive on the server and mount the DVD file system. If you are installing from an electronic image, use an extraction tool to extract the installation image files on the server.

   If you plan to install Jazz for Service Management and Tivoli Common Reporting, ensure that the installation files for IBM Spectrum Control are in one directory and the installation files for Jazz for Service Management and Tivoli Common Reporting are in another directory.

5. In a command shell, source the DB2 user profile `db2profile` for the DB2 instance owner. For example:

   ```
   . /home/db2inst1/sqllib/db2profile
   ```

6. In a command shell, change the directory to the location of the IBM Spectrum Control installation program `setup.bin`, and then enter the following command:

   Root user

   ```
   ./setup.bin
   ```

   Non-root user

   ```
   sudo -E ./setup.bin
   ```

7. Review the Welcome page and make one of the following decisions:
   - If Jazz for Service Management is installed on your computer, the Welcome page displays a green check mark. Click **Next** to proceed to the next page in the IBM Spectrum Control installation program and install IBM Spectrum Control with reports.
   - If Jazz for Service Management is not installed on your computer, the Welcome page displays an **Install Now** button.
   - If you do not want to install Jazz for Service Management on your computer, click **Next** to proceed to the next page in the IBM Spectrum Control installation program and install IBM Spectrum Control without reports.
8. If Jazz for Service Management is not installed, and you want to install it on your computer, you can install it now:
   a. On the Welcome page, click **Install Now**.
   b. On the Install Jazz for Service Management page, complete the following steps:
      1) Provide the location where the Jazz for Service Management and Tivoli Common Reporting installation files were extracted.

         For example, `/temp/jazzinstall`.
      2) If there is a port conflict, specify a new starting value for a 15-port range, and click the **Verify Port Availability** link to ensure that the port range is usable.
      3) Click **Install Now**.

      The IBM Spectrum Control installation program pauses and the Jazz for Service Management launchpad starts.
   c. When you exit the Jazz for Service Management launchpad, you are returned to the Install Jazz for Service Management page in the IBM Spectrum Control installation program. Click **OK**.
   d. If the installation of Jazz for Service Management was successful, you are returned to the Welcome page, which now displays a green check mark.

      If the installation of Jazz for Service Management was not successful, a message is displayed, and you can click one of the following options:
      - **Install Now**, which starts the Jazz for Service Management launchpad again.
      - **Continue**, which returns you to the Welcome page.
   e. On the Welcome page, click **Next**.
   f. On the Choose Installation Location and Type page, select **Single Server**, and click **Next**.
9. If the installation of Jazz for Service Management was successful and you clicked **Next** on the Welcome page to install IBM Spectrum Control with reports, on the Configure Jazz for Service Management and Tivoli Common Reporting page, enter the following information, and click **OK**:
   - The user name that is used to log on to the Jazz for Service Management WebSphere profile.
   - The password that is associated with the user name.
   - The path for the Jazz for Service Management installation directory.

   Jazz for Service Management starts. After Jazz for Service Management starts, it might take some time before all components, including Tivoli Common Reporting, are running.

If the IBM Spectrum Control installation program is unable to communicate with Jazz for Service Management, you can select the **Install IBM Spectrum Control reports later** check box, click **OK**, and continue installing IBM Spectrum Control without reports. After you install IBM Spectrum Control without reports, and resolve any problems with Jazz for Service Management, start the IBM Spectrum Control installation program again to install IBM Spectrum Control reports.

> **Important:** If the installation of Jazz for Service Management was not successful and you clicked **Next** on the Welcome page to install IBM Spectrum Control without reports, the Configure Jazz for Service Management and Tivoli Common Reporting page does not display.

10. Follow the prompts in the installation program to install IBM Spectrum Control.

If an error occurred during the IBM Spectrum Control installation process, review the IBM Spectrum Control installation log files to find details about the error.

Verifying the installation

After you install IBM Spectrum Control, verify whether the installation was successful by starting the IBM Spectrum Control GUI.

Before you start IBM Spectrum Control, ensure that you are using a supported web browser. For a list of the supported web browsers, go to ⬈ http://www.ibm.com/support/docview.wss?uid=swg27047043#browser.

1. On a server running the Windows operating system, click **Start** > **Programs** > **IBM Spectrum Control** > **Web-based GUI** to open a browser to the correct address. If you are not on a server running the Windows operating system, start a web browser and enter the following address in the address field:

   `https://`*`host_name:port`*`/srm`

   In the preceding address, specify the following values:

   host_name
   > The IBM Spectrum Control server. You can specify the host name as an IP address or a Domain Name System (DNS) name.

   port
   > The port number for IBM Spectrum Control. The default port number for connecting to IBM Spectrum Control by using the HTTPS protocol is 9569. However, this port number might be different for your site. For example, the port number might be different if the default port range was not accepted during installation. If the default port number does not work, ask your IBM Spectrum Control administrator for the correct port number.

   You might be redirected from the address that you enter to another address and port that provides secure access using the HTTPS protocol. This page is the IBM Spectrum Control logon page.

2. From the IBM Spectrum Control logon page, type your user name and password and click **Log in**. The web-based IBM Spectrum Control GUI opens in the browser.

3. Optional: If you installed Jazz for Service Management, click **Cognos** and select a menu item to verify that the reporting tool is available.

For more methods of verifying the installation, go to the product documentation at ➦ http://www.ibm.com/support/knowledgecenter/SS5R93_5.2.9/ com.ibm.spectrum.sc.doc/fqz0_t_verifying_installation.html.

Reinstalling the software if a failure occurs

If an installation failure occurs, you do not have to uninstall components that were successfully installed. IBM Spectrum Control provides an option to partially, or fully, roll back the installation.

A full rollback uninstalls all the components (even if they were installed successfully), and a partial rollback uninstalls only the components that were not successfully installed. The partial rollback option helps you resolve the problems that are causing the installation failure. After you resolve the problem, you can install the remaining components. For example, if the correct libraries were not installed for the Linux operating system, and the installation stops. You can install the correct libraries and resume the installation.

If you install IBM Spectrum Control on the Windows operating system and select **Full Rollback**, you must restart the server after the rollback is complete.

If you originally selected a partial rollback, but decided to completely uninstall, you must run the uninstallation program before you reinstall IBM Spectrum Control.

The following table shows the results from a partial rollback. The components are listed in the order in which they were installed.

Table 4. Results from a partial rollback

If an installation failure occurs when you install this component...	Partial rollback results are...
IBM Spectrum Control common files and Java™ Runtime Environment	There is no partial rollback. The installation program completes a full rollback.
Database repository	The database repository is uninstalled.
Data server	The Data server is uninstalled.
Embedded IBM WebSphere Application Server	The embedded WebSphere Application Server is uninstalled.
WebSphere Application Server Liberty profile	WebSphere Application Server Liberty profile is uninstalled.
Alert server	The Alert server is uninstalled.
Device server	The Device server is uninstalled.
Cognos BI reports	Cognos Business Intelligence reports are uninstalled.
IBM Spectrum Control GUI	The IBM Spectrum Control GUI is uninstalled.
CLI	The command-line interface is uninstalled.
Storage Resource agent	The Storage Resource agent is uninstalled.

Taking the first steps after installation

After IBM Spectrum Control is installed, configure it to monitor the resources in your environment.

Access the IBM Spectrum Control GUI
> To configure IBM Spectrum Control for your environment, access the GUI.
>
> For more information about how to start the GUI, see ⇨ Opening IBM Spectrum Control GUIs and CLIs at http://www.ibm.com/support/knowledgecenter/SS5R93_5.2.9/com.ibm.spectrum.sc.doc/fqz0_t_windows_start_tpc_apps.html.

To set up IBM Spectrum Control for monitoring and managing resources, complete the following tasks:

Add resources for monitoring

> You can add the following resources for monitoring:
> * Storage systems and CIM agents
> * Servers
> * Hypervisors
> * Switches
> * Fabrics
> * NetApp Filers

Configure the retention of data in the database repository
> Determine how long that IBM Spectrum Control stores data about the resources that are being monitored.

Configure alert notifications for conditions that are detected on monitored resources
> Determining when and how you are alerted to configuration and performance conditions within your storage environment is important to helping you maintain and administer storage resources. Many conditions can trigger alerts. You can set up IBM Spectrum Control so that it examines the data about your resources for the conditions that you specify.

Specify the users that can access the product and the functions that are available to them
> Assign roles to groups of users to determine which functions are available in IBM Spectrum Control. When a user ID is authenticated to IBM Spectrum Control through the GUI, CLI, or APIs, membership in an operating system or LDAP group determines the authorization level of the user.

Deploy Storage Resource agents to set up data features
> Deploy Storage Resource agents on servers to enable the data and policy-based management functions and to monitor the fabrics that are visible to the server.

Monitor and manage resources
> Access the IBM Spectrum Control GUI to monitor and manage your storage, including the following tasks:
> * Monitor the status of resources
> * View capacity and asset information about resources
> * Troubleshoot the performance of resources
> * Set performance thresholds and alerts

- View the relationships between resources
- Optimize storage
- Configure for the cloud and storage provisioning
- Generate detailed reports about resources
- Access the vSphere Web Client extension to manage your virtual environment

Remove the IBM Spectrum Control installation directory from the antivirus scan

Scans that are conducted by antivirus software cause more I/O write operations on the IBM Spectrum Control and server disk drives. For example, the antivirus software might be set to scan any file, record, or process that is written to or read. In this example, the scan would include logs, read/write operations for database records, and Java processes that are used by the product. The antivirus software might then complete write operations that are associated with these scans.

These additional operations can affect product performance and are visible in performance monitoring tools for the operating system on which the product is installed. For example, on the Windows operating system, the Reliability and Performance Monitor might show an unusually high number of active write operations for IBM Spectrum Control.

To improve performance, update your antivirus software so that it excludes the IBM Spectrum Control installation directory. To create an exception, see the documentation for your antivirus software.

For more information about these tasks and how to manage and monitor your resources with IBM Spectrum Control, go to the product documentation at:

http://www.ibm.com/support/knowledgecenter/SS5R93_5.2.9/com.ibm.spectrum.sc.doc/fqz0_c_wg_managing_resources.html.

Notices

This information was developed for products and services offered in the U.S.A. This material may be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
2Z4A/101
11400 Burnet Road
Austin, TX 78758
U.S.A

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE: This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these

programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Privacy policy considerations

IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user, or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM's Privacy Policy at http://www.ibm.com/privacy and IBM's Online Privacy Statement at http://www.ibm.com/privacy/details in the section entitled "Cookies, Web Beacons and Other Technologies," and the "IBM Software Products and Software-as-a-Service Privacy Statement" at http://www.ibm.com/software/info/product-privacy.

Trademarks

IBM, the IBM logo, and ibm.com® are trademarks or registered trademarks of International Business Machines Corporation, registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at http://www.ibm.com/legal/copytrade.shtml.

Intel, Intel logo, Intel Xeon, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Index

A
accessibility features
    for IBM Spectrum Control   iv

D
DB2
    installing on AIX   7, 9, 11
    installing on AIX or Linux   5
    installing on Linux   7
    installing on Windows   4
    preparing to install on AIX or
      Linux   6
    preparing to install on Windows   3

F
fully qualified host names
    host names
        fully qualified host names
          required   13
    required   13

H
hardware requirements   1

I
IBM Spectrum Control
    hardware requirements   1
    installing   13
installation
    reinstalling   24
installing
    DB2 on AIX   7, 9
    DB2 on AIX POWER7 Systems   11
    DB2 on Linux   7
    DB2 on Windows   4
    DB2, preparing for installation on AIX
      or Linux   6
    DB2, preparing for installation on
      Windows   3
    GUI   13
    Jazz for Service Management   2
    new installation   13
    single-server environment   18
    starting installation program   14
    verifying the installation   23

L
LDAP servers
    software requirements   2

S
SAN Volume Controller
    publications   iii
software requirements
    for LDAP servers   2

T
trademarks   29

IBM®

Product Number: 5725-F92, 5725-F93, 5725-G33, 5725-Y23, 5725-Y24

Printed in USA