

# Symantec Enterprise Security Manager™ Modules for IBM DB2 Universal Databases User's Guide v2.0

Release for Symantec ESM 5.5, 6.x, and 6.5.x

For Windows, AIX, Solaris, Red Hat Linux



# Symantec Enterprise Security Manager Modules for IBM DB2 Universal Databases User's Guide

## Release 2.0

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# Introducing ESM Modules for IBM DB2 Universal Databases

This chapter includes the following topics:

- [Preparing for IBM DB2 module installation](#)
- [System requirements](#)
- [Installing the IBM DB2 module on Windows](#)
- [Silently installing the IBM DB2 module on Windows](#)
- [Installing the IBM DB2 module on Linux, Solaris, or AIX](#)
- [Silently installing the IBM DB2 module on Linux, Solaris, or AIX](#)
- [Configuring the IBM DB2 Remote module on Windows, Linux, Solaris, and AIX](#)
- [Silently configuring the IBM DB2 Remote module](#)
- [Configuring the IBM DB2 Audit Configuration and the IBM DB2 Fix Packs modules on Linux, Solaris, and AIX](#)
- [Silently configuring the IBM DB2 Audit Configuration and the IBM DB2 Fix Packs modules](#)
- [Creating a baseline snapshot](#)

## Preparing for IBM DB2 module installation

To install the IBM DB2 module, you need the following:

- CD-ROM access: At least one machine on your network must have a CD-ROM drive.
- Account privileges: You must have Administrator rights on each computer where you plan to install the module.
- Connection to the manager: Verify that the ESM Enterprise Console can connect to the ESM manager.
- Agent and manager: You must have an ESM agent running and registered to at least one ESM manager.
- ESM Security Update 12: You must have ESM SU12 installed on the same computer as your ESM manager.
- IBM DB2 client and server: You must have a IBM DB2 client application and IBM DB2 server installed on the same computer where you plan to install the ESM DB2 module.

---

**Note:** Symantec ESM Modules for IBM DB2 Universal Databases supports v8.1, v8.2, and, v9.1 databases.

---

### Minimum account privileges

For the IBM DB2 Remote module, the login accounts need minimum privileges to execute the following commands for performing ESM security checks on IBM DB2 Server:

- `select syscat.dbauth`
- `get database manager configuration`
- `get database configuration for <db>`

For the IBM DB2 Audit Configuration module that is installed on Linux, Solaris, or AIX, the login account that you specify during configuration must have the following authority:

- `sysadm`

---

**Note:** No specific privileges are required for the IBM DB2 Audit Configuration module to work on Windows.

---

# System requirements

[Table 1-1](#) lists the IBM DB2 operating systems on which the ESM application modules for IBM DB2 can be installed.

**Table 1-1** Operating systems for installing ESM application modules for IBM DB2

Supported IBM DB2 operating systems	Supported OS versions
Red Hat Enterprise Linux (32-bit)	4 and 5
Windows (32-bit)	2000 Server and 2003 Server
Sun Solaris Sparc	9 and 10
AIX (32-bit, 64-bit)	5.2
AIX (64-bit)	5.3

[Table 1-2](#) lists the IBM DB2 operating systems on which the IBM DB2 Remote module for Windows can report remotely.

**Table 1-2** Supported IBM DB2 operating systems for IBM DB2 Remote module

Supported IBM DB2 operating systems	Supported OS versions	Supported IBM DB2 versions
Red Hat Enterprise Linux (32-bit, 64-bit, and IA64-bit)	4 and 5	8.1, 8.2, and 9.1
AIX (64-bit)	5.2	8.1 and 8.2
AIX (64-bit)	5.3	9.1
Sun Solaris Sparc	9 and 10	9.1
Windows (32-bit)	Windows 2000 Server	8.1, 8.2, and 9.1
Windows (32-bit, 64-bit, and IA64-bit)	Windows 2003 Server	8.1, 8.2, and 9.1

[Table 1-3](#) lists the IBM DB2 operating systems on which the IBM DB2 Host based modules can report.

**Table 1-3** Supported IBM DB2 operating systems for Host based modules

Supported IBM DB2 operating systems	Supported OS versions	Supported IBM DB2 versions
Red Hat Enterprise Linux (32-bit)	4 and 5	8.1, 8.2, and 9.1
Sun Solaris Sparc (64-bit)	9 and 10	8.1, 8.2, and 9.1
AIX (32-bit, 64-bit)	5.2	8.1, 8.2, and 9.1
AIX (64-bit)	5.3	8.1, 8.2, and 9.1
Windows (32-bit)	Windows 2000 and 2003 Server	8.1, 8.2, and 9.1

# Installing the IBM DB2 module on Windows

You can install the IBM DB2 module using `esmdb2tpi.exe`.

The installation program does the following:

- Extracts and installs module executables and configuration (.m) files.
- Registers the .m and template files using the `register.exe` program on the agent.

## To run the installation program and register the files

- 1 From the CD, run  
`\\DATABASES\DB2\Modules\<<architecture>\esmdb2tpi.exe`.
- 2 Choose an option:
  - Option 1: to display the contents of the package.  
To install the module, rerun `esmdb2tpi.exe` and select option 2.
  - Option 2: to begin the installation.
- 3 Do you wish to register the template or .m files?
  - If the files are not registered with the manager, type Y.
  - If the files have already been registered, type N and skip to “To enable security checking for your IBM DB2 databases” on page 9.

---

**Note:** Register template and .m files only once for agents that use the same manager on the same operating system.

---

- 4 Enter the ESM manager that the agent is registered to. Typically, this is the name of the computer that the manager is installed on.
- 5 Enter the ESM access name (logon name) for the manager.
- 6 Enter the ESM password that is used to log on to the ESM manager.
- 7 Enter the network protocol that is used to contact the ESM manager.
- 8 Enter the port that is used to contact the ESM Manager. The default port is 5600.

- 9 Enter the name of the agent as it is registered to the ESM manager. Typically, this is the name of the computer that the agent is installed on.
- 10 Is this information correct?
  - If the displayed information is correct, type Y.  
The installation program lists files as they are extracted.
  - If the information is not correct, type N.  
The installation program begins again, allowing you to enter the correct information.

#### To enable security checking for your IBM DB2 databases

- 1 When the extraction is complete, you will be asked if you want to add configuration records to enable ESM security checking for your IBM DB2 databases.
  - To continue the installation and enable security checking for your databases, type Y.  
When you install the IBM DB2 module on Windows, the installation program automatically detects the existing IBM DB2 databases and displays them one at a time.
  - To end the installation without adding security checking, type N.
- 2 Would you like to add a configuration record for this database?
  - Type Y to add a configuration record for the database.
  - Type N to skip this database and go to the next database.
- 3 Enter the IBM DB2 database alias. Press Enter if you are satisfied with the detected alias.
- 4 Enter the IBM DB2 instance name.

---

**Note:** Specify the node name if the node name is different from the attached instance name. Open the IBM DB2 Command Center to find the node name.

---

- 5 Enter the User ID that is used to log on to the IBM DB2 database.
- 6 Enter the password that is used to log on to the IBM DB2 database.

- 7 Is this information correct?
- Type Y to save the configuration record and continue with the next detected database.
  - Type N to begin again with this database.

---

**Note:** The IBM DB2 User ID and password are encrypted when they are displayed for your approval.

---

- 8 Repeat steps 2-8 for each database that is detected.
- After you have created configuration records for each database, the program lists all of the configuration records and the following options:
- Option 1: to manually create a new configuration record for an undetected database.
  - Option 2: to modify or remove an existing configuration record.
  - Option 3: to finish the installation and exit the program.

---

**Note:** The encryption that is used to store the credentials in disk file is OpenSSL AES algorithm.

---

## Windows installation log

The following log is an example of an ESM Modules for IBM DB2 Universal Databases installed on Windows. Your log may look different, depending on how your manager and agents are configured.

```
Symantec Corporation tune-up/installation package
```

```
Options:
```

```
  1) Display the description and contents of the tune-up/  
installation package  
  2) Install the tune-up/installation package on your system  
  3) Quit
```

```
Enter option number [1]: 2
```

```
Installing package: "ESM modules for DB2" 2.0
```

```
Tuneup pack will overlay ESM modules for DB2 version 1.0 with  
version 2.0
```

```
This package includes the following templates and/or ".m" files:
```

```
File: C:\Program  
Files\Symantec\ESM\register\win2003\db2module_w.m.gz
```

Description: ESM db2module\_w.m module definition file

File: C:\Program  
Files\Symantec\ESM\register\win2003\i18n\db2module\_w.m.gz

Description: ESM i18n/db2module\_w.m module definition file

File: C:\Program  
Files\Symantec\ESM\register\win2003\db2auditconfig\_w.m.gz

Description: ESM db2auditconfig\_w.m module definition file

File: C:\Program  
Files\Symantec\ESM\register\win2003\i18n\db2auditconfig\_w.m.gz

Description: ESM i18n/db2auditconfig\_w.m module definition  
file

File: C:\Program  
Files\Symantec\ESM\register\win2003\db2patch\_w.m.gz

Description: ESM db2patch\_w.m module definition file

File: C:\Program  
Files\Symantec\ESM\register\win2003\i18n\db2patch\_w.m.gz

Description: ESM i18n/db2patch\_w.m module definition file

File: C:\Program  
Files\Symantec\ESM\template\win2003\patchdb2.wdb.gz

Description: ESM template file

Template or \*.m files need to be registered only once from the same  
type of agent with the same manager.

If you have already registered this package for other agents of the  
same type of operating system with the same manager, you can skip  
this step.

Do you wish to register the template or .m files [no]? yes

ESM manager that the agent is registered to: esmmanager

ESM access name to log on to the ESM manager [ESM]:

Enter the ESM password used to log on to the ESM manager.

Password: \*\*\*\*\*

Enter the network protocol used to contact the ESM manager.

1) IPX

2) TCP

Enter 1 or 2 [2]:

Enter the port used to contact the ESM manager [5600]:

Enter the name of the agent as it is registered to the ESM manager  
[esmagent]: esmagent

ESM Manager : esmmanager

ESM user name : ESM

Protocol : TCP

Port : 5600

ESM agent : esmagent

Is this information correct? [yes]

Extracting C:\Program Files\Symantec\ESM\bin\w3s-  
ix86\mtpkreg.exe.gz...

Extracting C:\Program Files\Symantec\ESM\bin\w3s-  
ix86\db2module.exe.gz...

Extracting C:\Program  
Files\Symantec\ESM\register\win2003\db2module\_w.m.gz...

Extracting C:\Program  
Files\Symantec\ESM\register\win2003\i18n\db2module\_w.m.gz.

..

Extracting C:\Program Files\Symantec\ESM\bin\w3s-  
ix86\db2auditconfig.exe.gz...

Extracting C:\Program  
Files\Symantec\ESM\register\win2003\db2auditconfig\_w.m.gz.

..

Extracting C:\Program  
Files\Symantec\ESM\register\win2003\i18n\db2auditconfig\_w.  
m.gz...

Extracting C:\Program Files\Symantec\ESM\bin\w3s-  
ix86\db2patch.exe.gz...

```
Extracting C:\Program
Files\Symantec\ESM\register\win2003\db2patch_w.m.gz...

Extracting C:\Program
Files\Symantec\ESM\register\win2003\i18n\db2patch_w.m.gz..
.

Extracting C:\Program
Files\Symantec\ESM\template\win2003\patchdb2.wdb.gz...

Extracting C:\Program Files\Symantec\ESM\bin\w3s-
ix86\DB2Collector.exe.gz...

Extracting C:\Program Files\Symantec\ESM\bin\w3s-
ix86\SnapshotCollector.exe.gz..
.

Extracting C:\Program Files\Symantec\ESM\bin\w3s-
ix86\db2module.rete.gz...

Extracting C:\Program Files\Symantec\ESM\bin\w3s-
ix86\DB2Setup.exe.gz...

Continue and add configuration records to enable ESM security
checking
for your DB2 database? [yes]
The ESM DB2 Module setup program has found the following database:

DB2 database alias : DB1

Would you like to add a configuration record for this database?
[yes]

DB2 database alias [DB1]:

DB2 instance name : inst1

User ID used to log on to the DB2 database: user

Enter the password used to log on to the DB2 database.
Password          : *****

Re-Enter password: *****

DB2 database alias : DB1
DB2 instance name  : inst1
DB2 database login : 18CD49D37CF43C5722D02BE1
```

Password : 7F664B1ADB0459D1AD652385

Is this information correct? [yes]

The ESM DB2 Module setup program has found the following database:

DB2 database alias : DB2

Would you like to add a configuration record for this database?  
[yes]

DB2 database alias [DB2]:

DB2 instance name : inst2

User ID used to log on to the DB2 database: user

Enter the password used to log on to the DB2 database.

Password : \*\*\*\*\*

Re-Enter password: \*\*\*\*\*

DB2 database alias : DB2

DB2 instance name : inst2

DB2 database login : 65FF4C60A30CE6DF316E5450

Password : 4C974DA71E66F68220199855

Is this information correct? [yes]

The ESM DB2 Module setup program has found the following database:

DB2 database alias : DB3

Would you like to add a configuration record for this database?  
[yes] no

\*\*\* Configuration records \*\*\*

DB2 database alias : DB1

DB2 instance name : inst1

DB2 database login : 5AE34D628B2715587FC993AE

Password : 417B4EA968EA0DB6403E9669

```
===   ===  
DB2 database alias : DB2  
DB2 instance name  : inst1  
DB2 database login : 28144FEF79CA248768F1373D  
Password           : 0EAD5136753B80A1673B7254  
    ***   ***   ***   ***  
  
Options:  
    1) Add a new configuration record  
    2) Modify/remove existing configuration records  
    3) Exit  
  
Enter option number [3]:  
  
Tune-up pack installation complete  
Re-registering modules/template files... Please wait...  
End of installation  
    Press <return> to exit ESM tuneup pack
```

## Silently installing the IBM DB2 module on Windows

You can silently install the IBM DB2 module on Windows operating systems by using `esmdb2tpi.exe`.

[Table 1-4](#) lists the command line options for silently installing the IBM DB2 module on Windows operating systems:

**Table 1-4** Options to silently install the IBM DB2 module on Windows

Option	Description
-i	Install this tune-up/third-party package.
-d	Display the description and contents of this tune-up/third-party package.
-U	Specify the ESM access record name.
-e	Don't execute the before and after executables (installation without configuration).
-P	Specify the ESM access record password.
-p	Specify the TCP port to use.

**Table 1-4** Options to silently install the IBM DB2 module on Windows

Option	Description
-m	Specify the ESM manager name.
-t	Connect to the ESM manager by using TCP.
-x	Connect to the ESM manager by using IPX (Windows only).
-g	Specify the ESM agent name to use for registration.
-K	Do not prompt for and do the re-registration of the agents.
-n	No return is required to exit the tune-up package (Windows only).
-N	Do not update the report content file on the manager.
-Y	Update the report content file on the manager.

For example,

```
esmdb2tpi.exe -it -m <Manager Name> -U <Username> -p <5600> -P
<password> -g <Agent Name> -e
```

## Installing the IBM DB2 module on Linux, Solaris, or AIX

Perform step 1 to 10 mentioned in the [Installing the IBM DB2 module on Windows](#) section. When the configuration is complete, you will be asked if you want to add configuration records to enable ESM security checking for your IBM DB2 instances.

### To enable security checking for your IBM DB2 instances

- When the extraction is complete, you will be asked if you want to add configuration records to enable ESM security checking for your IBM DB2.
  - Type Y to continue the installation and enable security checking for your instances.
  - Type N to end the installation without configuring any module. If you type Y, you can configure the IBM DB2 Remote module.

### To configure the IBM DB2 Remote module

- You will be asked if you want to Configure DB2 Remote module.
  - To continue configuration of IBM DB2 Remote module, type Y.
- Enter the IBM DB2 database alias.

- 3 Enter the IBM DB2 instance name.
- 4 Enter the User ID to log on to the IBM DB2 database.
- 5 Enter the password to log on to the IBM DB2 database.
- 6 Is this information correct?
  - Type Y to save the configuration record and continue with the next database.
  - Type N to begin again with the same instance.The IBM DB2 User ID and password are encrypted when they are displayed for your approval.
- 7 Repeat steps 1 - 6 to configure another database.

After you have created configuration records for each database, the program lists all of the configuration records and the following options:

  - Option 1: to create a new configuration record database.
  - Option 2: to modify or remove an existing configuration record.
  - Option 3: to finish the installation and exit the program.

---

**Note:** The encryption that is used to store the credentials in disk file is OpenSSL AES algorithm.

---

#### **To configure the IBM DB2 Audit Configuration and the IBM DB2 Fix Packs modules**

- 1 You will be asked if you want to Configure IBM DB2 Audit Configuration and the IBM DB2 Fix Packs module.
  - Type Y to continue the IBM DB2 Audit Configuration and IBM DB2 Fix Packs modules configuration.
  - Type N to end the installation without configuration.
- 2 Enter the IBM DB2 instance name.
- 3 Enter the user with SYSADM authority.
- 4 Is this information correct?
  - Type Y to save the configuration record and continue with the next instance.
  - Type N to begin again with the same instance.
- 5 Repeat steps 1- 4 for each IBM DB2 instance.
- 6 After you have created configuration records for each instance, the program lists all of the configuration records and the following options:
  - Option 1: to create a new configuration record for an instance.

- Option 2: to modify or remove an existing configuration record.
- Option 3: to finish the installation and exit the program.

## Linux, AIX, and Solaris installation log

The following log is an example of an ESM Modules for IBM DB2 Universal Databases installed on Linux, Solaris, or AIX. Your log may look different, depending on how your manager and agents are configured.

Symantec Corporation tune-up/installation package

### Options:

- 1) Display the description and contents of the tune-up/installation package
- 2) Install the tune-up/installation package on your system
- 3) Quit

Enter option number [1]: 2

Installing package: ESM modules for DB2 2.0

Tuneup pack will overlay ESM modules for DB2 version 1.0 with version 2.0

This package includes the following templates and/or ".m" files:

File: /esm/register/unix/db2auditconfig.m.gz  
Description: ESM DB2 Audit Configuration module definition file

File: /esm/register/unix/db2patch.m.gz  
Description: ESM DB2 Patch module definition file

File: /esm/register/unix/db2module.m.gz  
Description: ESM DB2 Remote module definition file

File: /esm/register/unix/i18n/db2auditconfig.m.gz  
Description: ESM DB2 Audit Configuration module definition file

File: /esm/register/unix/i18n/db2patch.m.gz  
Description: ESM DB2 Patch module definition file

```
File: /esm/register/unix/i18n/db2module.m.gz
Description:      ESM DB2 Remote module definition file
```

```
File: /esm/template/unix/patchdb2.wdb.gz
Description:      ESM template file
```

Template or \*.m files need to be registered only once from the same type of agent with the same manager.

If you have already registered this package for other agents of the same type of operating system with the same manager, you can skip this step.

Do you wish to register the template or .m files [no]? yes

ESM manager that the agent is registered to: esmmanager

ESM access name to log on to the ESM manager [ESM]: esm

Enter the ESM password used to log on to the ESM manager.

Password:

Enter the port used to contact the ESM manager [5600]:

Enter the name of the agent as it is registered to the ESM manager [esmagent]: esmagent

```
ESM Manager      : esmmanager
ESM user name    : ESM
Protocol         : TCP
Port             : 5600
ESM agent       : esmagent
```

Is this information correct? [yes]

Extracting /esm/bin/lnx-x86/mtpkreg.gz...

Extracting /esm/bin/lnx-x86/pushfiles.gz...

Extracting /esm/bin/lnx-x86/mergemanifest.gz...

```
Extracting /esm/bin/lnx-x86/db2auditconfig.gz...
Extracting /esm/bin/lnx-x86/db2patch.gz...
Extracting /esm/bin/lnx-x86/db2module.gz...
Extracting /esm/register/unix/db2auditconfig.m.gz...
Extracting /esm/register/unix/db2patch.m.gz...
Extracting /esm/register/unix/db2module.m.gz...
Extracting /esm/register/unix/i18n/db2auditconfig.m.gz...
Extracting /esm/register/unix/i18n/db2patch.m.gz...
Extracting /esm/register/unix/i18n/db2module.m.gz...
Extracting /esm/template/unix/patchdb2.wdb.gz...
Extracting /esm/bin/lnx-x86/db2setup.gz...
Extracting /esm/bin/lnx-x86/DB2Collector.gz...
Extracting /esm/bin/lnx-x86/SnapshotCollector.gz...
Extracting /esm/bin/lnx-x86/db2module.rete.gz...
Continue and add configuration records to enable ESM security
checking
for your DB2? [yes]
```

Configure DB2 Remote module? [yes] yes

DB2 database alias: DB1

DB2 instance name : inst1

User ID used to log on to the DB2 database: user

Enter the password used to log on to the DB2 database.

Password :

Re-Enter password:

DB2 database alias : DB1

DB2 instance name : inst1

DB2 database login : 7F225B1C17EB1E5E49984EC6

Password : 6606C4D31E215F4120668B7A

Is this information correct? [yes]

Would you like to add configuration record for another database?  
[yes]

DB2 database alias: DB2

DB2 instance name : inst2

User ID used to log on to the DB2 database: user

Enter the password used to log on to the DB2 database.

Password :

Re-Enter password:

DB2 database alias : DB2

DB2 instance name : inst2

DB2 database login : D95A39B167D552376D18408B

Password : 350CDFE52D0559AF74256E9D

Is this information correct? [yes]

Would you like to add configuration record for another database?  
[yes] no

\*\*\* Configuration records \*\*\*

DB2 database alias : DB1

DB2 instance name : inst1

DB2 database login : 12B363D54275F2B66814D52B

Password : 396CFC330C75B24EB3E160D3

=== ===

DB2 database alias : DB2

DB2 instance name : inst2

DB2 database login : 21CC565F98DDA8CC28929D64

Password : 48B6C8EC9FE0FACE85327CAF

\*\*\* \*\*\* \*\*\* \*\*\*

Options:

- 1) Add a new configuration record
- 2) Modify/remove existing configuration records
- 3) Exit

Enter option number [3]:

Configure DB2 Audit Configuration and DB2 Fix Packs modules?[yes]yes

Enter the instance name:inst1

Enter the user with SYSADM privileges:user

Instance Name :inst1

User with SYSADM privilege :user

Is this information correct? [yes]

Would you like to configure another instance? [yes] yes

Enter the instance name:inst2

Enter the user with SYSADM privileges:user

Instance Name :inst2

User with SYSADM privilege :user

Is this information correct? [yes]

Would you like to configure another instance? [yes] no

Configured Instance:

Instance Name :inst1

User with SYSADM privilege :user

Instance Name :inst2

User with SYSADM privilege :user

Options:

- 1) Add a new configuration record
- 2) Modify/remove existing configuration records
- 3) Exit

```
Enter option number [3]:
```

```
Tune-up pack installation complete  
Extracting /esm/config/su/65/manifest.xml.gz...  
Re-registering modules/template files... Please wait...  
  
End of installation.
```

## Silently installing the IBM DB2 module on Linux, Solaris, or AIX

You can silently install the IBM DB2 module on Linux, Solaris, or AIX operating systems by using `esmdb2.tpi`.

[Table 1-5](#) lists the command line options for silently installing the IBM DB2 module on Linux, Solaris, or AIX operating systems:

**Table 1-5** Options to silently install the IBM DB2 module on Linux, Solaris, or AIX

Option	Description
-i	Install this tune-up/third-party package.
-d	Display the description and contents of this tune-up/third-party package.
-U	Specify the ESM access record name.
-e	Don't execute the before and after executables (installation without configuration).
-P	Specify the ESM access record password.
-p	Specify the TCP port to use.
-m	Specify the ESM manager name.
-t	Connect to the ESM manager by using TCP.
-x	Connect to the ESM manager by using IPX (Windows only).
-g	Specify the ESM agent name to use for registration.
-K	Do not prompt for and do the re-registration of the agents.
-n	No return is required to exit the tune-up package (Windows only).
-N	Do not update the report content file on the manager.

**Table 1-5** Options to silently install the IBM DB2 module on Linux, Solaris, or AIX

Option	Description
-Y	Update the report content file on the manager.

For example,

```
esmdb2.tpi -it -m <Manager Name> -U <Username> -p <5600> -P <password> -g <Agent Name> -e
```

## Configuring the IBM DB2 Remote module on Windows, Linux, Solaris, and AIX

After installing the IBM DB2 module on Windows, Linux, Solaris, and AIX, you can edit the configuration records using the DB2Setup.exe. A configuration record is created for each database alias when you enable security checking during installation.

### Editing the configuration records

You can add, modify, or remove the IBM DB2 database instances that ESM includes in security checks by using the DB2Setup.exe program. By default, DB2Setup.exe is located in the \\<InstallDir>\ESM\bin\<platform>\ directory.

Run DB2Setup.exe on the IBM DB2 Remote modules that are installed on Windows, Linux, Solaris, or AIX with the following options:

**Table 1-6** Options for silently configuring the IBM DB2 Remote modules that are installed on Windows, Linux, Solaris, or AIX

To do this	Type
Display Help	DB2Setup -h
Create configuration records for detected DB2 databases.	DB2Setup -c
Add new configuration records for undetected DB2 databases.	DB2Setup -a
Modify or remove existing DB2 database configuration records.	DB2Setup -m
List existing DB2 database configuration records.	DB2Setup -l
Setup overwrites the default file with configuration records and writes it into -of file.	DB2Setup -c -of <filename>

**Table 1-6** Options for silently configuring the IBM DB2 Remote modules that are installed on Windows, Linux, Solaris, or AIX

To do this	Type
Setup reads from -if file and add a new record in the default file. The default file is \\Install directory\Symantec\ESM\config\DB2Module.dat.	DB2Setup -a -if <filename>
Setup reads from the default file and adds a new record in -of file. The default file is \\InstallDirectory\ESM\config\DB2Module.dat.	DB2Setup -a -of <filename>
Setup reads from -if file and add a new record in the -of file.	DB2Setup -a -if <filename>-of <filename>
Setup reads from -if file and add the modified records in the default file.	DB2Setup -m -if <filename>
Setup reads from the default file and add the modified records in the -of file.	DB2Setup -m -of <filename>
Setup reads from -if file and add the modified records in the -of file.	DB2Setup -m -if <filename>-of <filename>

## Silently configuring the IBM DB2 Remote module

You can silently configure the IBM DB2 Remote module by using the DB2Setup.exe.

Use the following option to configure the IBM DB2 Remote module silently on Linux, Solaris, or AIX:

**Table 1-7** Options for silent installation of the IBM DB2 Remote module

Options	Description
-q	Silently configure the DB2 Remote module.
-D	Specify the database name.
-I	Specify the instance name.
-U	Specify the username.
-P	Specify the password.

For example,

```
db2setup -q -D <database name> -I <instance name> -U <username> -P <password>
```

# Configuring the IBM DB2 Audit Configuration and the IBM DB2 Fix Packs modules on Linux, Solaris, and AIX

After installing the IBM DB2 Audit Configuration and Fix Packs modules on Linux, Solaris, and AIX, you can edit the configuration records using the DB2Setup.exe. A configuration record is created for each database alias when you enable security checking during installation.

## Editing the configuration records

You can add, modify, or remove the IBM DB2 database instances that ESM includes in security checks by using the DB2Setup.exe program. By default, DB2Setup.exe is located in the \\<InstallDir>\ESM\bin\<platform>\ directory.

Run DB2Setup.exe on the IBM DB2 Audit Configuration and the Fix Pack modules that are installed on Linux, Solaris, or AIX with the following options:

**Table 1-8** Editing configuration records for the Audit Configuration and Fix Packs modules

To do this	Type
Create configuration records for DB instance.	DB2Setup -H -c
Add new configuration record for DB2 instance.	DB2Setup -H -a
Modify existing DB2 instance configuration records.	DB2Setup -H -m
List existing DB2 instance configuration records.	DB2Setup -H -l
Specify a new input file for DB2 instance configuration records. The default file is \\ProgramFiles\Symantec\ESM\config\DB2ModulePath.dat.	DB2Setup -H -if <filename>
Specify a new output file for DB2 database configuration records. The default file is \\ProgramFiles\Symantec\ESM\config\DB2ModulePath.dat.	DB2Setup -H -of <filename>
Setup reads from -if file and add a new record in the default file. The default file is \\ProgramFiles\Symantec\ESM\config\DB2ModulePath.dat.	DB2Setup -a -if <filename>
Setup reads from the default file and adds a new record in -of file. The default file is \\ProgramFiles\Symantec\ESM\config\DB2ModulePath.dat.	DB2Setup -a -of <filename>

**Table 1-8** Editing configuration records for the Audit Configuration and Fix Packs modules

To do this	Type
Setup reads from -if file and add a new record in the -of file.	DB2Setup -a -if <filename>-of <filename>
Setup reads from -if file and add the modified records in the default file.	DB2Setup -m -if <filename>
Setup reads from the default file and add the modified records in the -of file.	DB2Setup -m -of <filename>
Setup reads from -if file and add the modified records in the -of file.	DB2Setup -m -if <filename>-of <filename>

## Silently configuring the IBM DB2 Audit Configuration and the IBM DB2 Fix Packs modules

You can silently configure the IBM DB2 Audit Configuration and the IBM DB2 Fix Packs modules by using the DB2Setup.exe.

Use the following option to configure the IBM DB2 module silently for the DB2 Audit Configuration and Fix Packs modules that are installed on Linux, Solaris, or AIX:

**Table 1-9** Options for silently configuring the IBM DB2 module for Audit Configuration and Fix Packs modules

-q -H	Silently configure the DB2 Audit Configuration module and the DB2 Fix Packs modules.
-N	Specify the host instance name.
-A	Specify the user having SYSADM authority.

For example,

**db2setup -q -H -N <instance name> -A <username>**

## Creating a baseline snapshot

To establish a baseline for IBM DB2 module security checks, create a new IBM DB2 remote policy with snapshot-related checks enabled. Running this policy creates

snapshots of current account information that you can update when you run checks for new, deleted, or modified information.

Run the module one time to create the snapshots, then rerun the module to detect changes between policy runs.

After running a policy, you can update the snapshots directly from messages in the Policy Run report by right-clicking on a modified, deleted, or new report message.



# Understanding the DB2 Audit Configuration module

This chapter includes the following topics:

- [About the DB2 Audit Configuration module](#)
- [Event Types](#)
- [Audit Database Events](#)
- [Audit Miscellaneous Events](#)

## About the DB2 Audit Configuration module

The DB2 Audit Configuration module reports the current audit configuration information and its status on the computer where the DB2 server is configured.

The DB2 Audit Configuration module is a host-based module. This module does not report on the DB2 remote servers.

The DB2 Audit Configuration module reports on DB2 instance in case of Red Hat Linux, AIX, or Solaris, and on DB2 Copy for Windows.

---

**Note:** If the ESM agent has only the DB2 Administration client installed, the module reports on the audit settings of the client.

---

DB2 Audit Configuration module lets you generate reports based on various events and event types.

### Auditing Enabled

The Auditing Enabled check reports whether auditing is enabled on the DB2 server.

**Table 2-1** Auditing Enabled message

Message Name	Title	Class
ESM_AUDIT_ACTIVE	DB2 Audit Status	4

### Event Types

The checks included in the Events Types group let you specify which types of events you want to audit. You can also specify whether only successful or failed events, or both, should be logged.

### Audit Failure Events

The Audit Failure Events check reports whether DB2 databases logs error events.

**Table 2-2** Audit Failure messages

Message Name	Title	Class
ESM_LOG_ERROR	Auditing Failure Events	4
ESM_LOG_ERROR_WARNING	Auditing Failure Events	4

## Audit Success Events

The Audit Success Events check reports whether DB2 databases logs success events.

**Table 2-3** Audit Success Events messages

Message Name	Title	Class
ESM_LOG_SUCCESS	Auditing Success Events	4
ESM_LOG_SUCCESS_WARNING	Audit Success events	4
ESM_LOG_SUCCESS_ENABLED_WARNING	Audit Success events	1

## Audit Database Events

The checks included in the Audit Database Events group verify which DB2 database events are audited.

## Auditing Related Events

The Auditing Related Events check reports whether DB2 databases logs audit events.

**Table 2-4** Audit Auditing Related Events messages

Message Name	Title	Class
ESM_LOG_AUDIT	Audit auditing related events	4
ESM_LOG_AUDIT_WARNING	Audit auditing related events	4

## Checking Events

The Checking Events check reports whether DB2 databases logs checking events.

**Table 2-5** Audit Checking Events messages

Message Name	Title	Class
ESM_LOG_CHECKING	Audit Checking events	4
ESM_LOG_CHECKING_WARNING	Audit Checking Events	4

## Object Maintenance Events

The Object Maintenance Events check reports whether DB2 databases logs Object Maintenance events.

**Table 2-6** Audit Object Maintenance Events messages

Message Name	Title	Class
ESM_LOG_OBJMAINT	Audit Object Maintenance events	4
ESM_LOG_OBJMAINT_WARNING	Audit Object Maintenance events	4

## Security Maintenance Events

The Security Maintenance Events check reports whether DB2 databases logs Security Maintenance events.

**Table 2-7** Audit Security Maintenance Events messages

Message Name	Title	Class
ESM_LOG_SECMAINT	Audit Security Maintenance events	4
ESM_LOG_SECMAINT_WARNING	Audit Security Maintenance events	4

## System Administrator Events

The System Administrator Events check reports whether DB2 databases logs System Administrator events.

**Table 2-8** Audit System Administrator Events messages

Message Name	Title	Class
ESM_LOG_SYSADM	Audit System Administrator events	4
ESM_LOG_SYSADM_WARNING	Audit System Administrator events	4

## Validate Events

The Validate Events check reports whether DB2 databases logs Validate events.

**Table 2-9** Audit Validate Events messages

Message Name	Title	Class
ESM_LOG_VALIDATE	Audit Validate events	4
ESM_LOG_VALIDATE_WARNING	Audit Validate events	4

## Context Events

The Context Events check reports whether DB2 databases logs Context events.

**Table 2-10** Audit Context Events messages

Message Name	Title	Class
ESM_LOG_CONTEXT	Audit context events	4
ESM_LOG_CONTEXT_WARNING	Audit Context events	4

## Error Handling Facility

The Error Handling Facility check reports whether DB2 databases have the audit facility parameter set to Audit. You have the option to specify whether audit facility errors are returned to the user (AUDIT) or ignored (NORMAL).

The Errortype parameter defines errors that either are returned to the user or are ignored. The following options are defined for the ERRORTYPE option:

**Audit** - Transactions succeed only if the appropriate audit record is written to the audit log.

**Normal** - Transactions succeed regardless of the audit status. The application continues with normal processing and programmatically defined termination.

**Table 2-11** Audit Facility For Error Handling message

Message Name	Title	Class
ESM_LOG_ERRORTYPE	Audit Facility For Error Handling	4

## Audit Miscellaneous Events

The checks included in the Audit Miscellaneous Events group verify which DB2 database miscellaneous events are audited.

## Instance Startup and Shutdown

The Instance Startup and Shutdown check reports whether DB2 databases log the startup and shutdown events of instances.

**Table 2-12** Audit Instance startup and shutdown messages

Message Name	Title	Class
ESM_LOG_INSTANCE_UP_DOWN	Audit Instance startup and shutdown	4
ESM_LOG_INSTANCE_UP_DOWN_WARNING	Audit Instance startup and shutdown	4

## Changes To Configuration Parameters

The Changes To Configuration Parameters check reports whether DB2 databases log the changes made to instance and database configuration parameters.

**Table 2-13** Audit changes to configuration parameters messages

Message Name	Title	Class
ESM_LOG_DB_DBM_CFG	Audit changes made to instance and database configuration parameters	4
ESM_LOG_DB_DBM_CFG_WARNING	Audit changes made to instance and database configuration parameters	4

## Database Activation and Deactivation

The Database Activation and Deactivation check reports whether DB2 databases log database activation and deactivation.

**Table 2-14** Audit database activation and deactivation messages

Message Name	Title	Class
ESM_LOG_DB_ACT_DEACT	Audit database activation and deactivation	4
ESM_LOG_DB_ACT_DEACT_WARNING	Audit database activation and deactivation	4

## Use of SYSADM, DBADM, SYSCTRL, and SYSMANT

The Use of SYSADM, DBADM, SYSCTRL, and SYSMANT check reports whether DB2 databases log the use of SYSADM, DBADM, SYSCTRL, and SYSMANT.

**Table 2-15** Audit use of SYSADM,DBADM,SYSCTRL,SYSMANT messages

Message Name	Title	Class
ESM_LOG_ADMINS	Audit Use of SYSADM,DBADM,SYSCTRL,SYSMANT	4
ESM_LOG_ADMINS_WARNING	Audit Use of SYSADM,DBADM,SYSCTRL,SYSMANT	4

## Attempted Access To Restricted Objects

The Attempted Access To Restricted Objects check reports whether DB2 databases log the attempted access to restricted objects defined by information owner.

**Table 2-16** Audit attempted access to restricted objects messages

Message Name	Title	Class
ESM_LOG_RESTRICTED_OBJ	Audit attempted access to restricted objects defined by Information owner	4
ESM_LOG_RESTRICTED_OBJ_WARNING	Audit attempted access to restricted objects defined by Information owner	4

## Access To Sensitive Objects and/or Tables

The Access To Sensitive Objects and/or Tables check reports whether DB2 databases log the access to sensitive Objects and/or Tables defined by Information owner.

**Table 2-17** Audit access to sensitive Objects and/or Tables messages

Message Name	Title	Class
ESM_LOG_SENSITIVE_OBJ	Audit access to sensitive Objects and/or Tables defined by Information owner	4

**Table 2-17** Audit access to sensitive Objects and/or Tables messages

Message Name	Title	Class
ESM_LOG_SENSITIVE_OBJ_WARNING	Audit access to sensitive Objects and/or Tables defined by Information owner	4

## Unsuccessful Connection Attempts

The Unsuccessful Connection Attempts check reports whether DB2 databases log the non-successful connection attempts from all users.

**Table 2-18** Audit non-successful connection attempts messages

Message Name	Title	Class
ESM_LOG_FAILED_CONN	Audit non-successful connection attempts from all users	4
ESM_LOG_FAILED_CONN_WARNING	Audit non-successful connection attempts from all users	4

## Administrative Functions Performed

The Administrative Functions Performed check reports whether DB2 databases log the administrative functions performed by all users against database permissions granted to accounts or groups.

**Table 2-19** Audit administrative functions performed messages

Message Name	Title	Class
ESM_LOG_ADMIN_FNS	Audit administrative functions performed by all users against database permissions granted to accounts or groups	4
ESM_LOG_ADMIN_FNS_WARNING	Audit administrative functions performed by all users against database permissions granted to accounts or groups	4

# Understanding the IBM DB2 Fix Packs module

This chapter includes the following topics:

- [About the IBM DB2 Fix Packs module](#)

## About the IBM DB2 Fix Packs module

This module reports if the current IBM DB2 level on the IBM DB2 server needs to be upgraded to the latest IBM DB2 fix pack.

The IBM DB2 Fix Packs module is a host-based module. The Fix Packs module does not report on the IBM DB2 remote servers.

The DB2 Audit Configuration module reports on DB2 instance in case of Red Hat Linux, AIX, or Solaris, and on DB2 Copy for Windows.

---

**Note:** If the ESM agent has only the DB2 Administration client installed, the module reports on the client.

---

## Template files

This check reports the information on the specific template files that are to be included for the checks. This check compares the existing IBM DB2 level on the

IBM DB2 server with the latest fix pack available in the template file and reports the difference.

**Table 3-1** Template files messages

Message	Name	Title Class
DB2_TEMPLATEFILE_MISSING	No template files specified	4
DB2_REQUIRED_FIXPACK	Required DB2 Fix Pack for your computer	4
DB2_CONFIG_ERR	Configuration Error	4

## Installed Fix Packs

This check reports the fix packs that are installed on the IBM DB2 server. This check also reports the details of the IBM DB2 level on the IBM DB2 server.

**Table 3-2** Installed Fix Pack messages

Message	Name	Title Class
DB2_INSTALLED_FIXPACK	Installed DB2 Fix Pack on your computer	0
DB2_CONFIG_ERR	Configuration Error	4

# Understanding the IBM DB2 Remote module

This chapter includes the following topics:

- [About the IBM DB2 Remote module](#)
- [Discovery mode](#)
- [System authorities](#)
- [Database privileges](#)

## About the IBM DB2 Remote module

The IBM DB2 Remote module includes checks that specify database aliases to be checked, examine authentication methods, and list the current DB2 version and operating system.

The IBM DB2 Remote module works as host-based on Linux, Solaris, and AIX, and network-based on Windows machines.

## IBM DB2 Database Aliases

Configuration records are created during the IBM DB2 Remote module installation to enable security checking for each of your databases. Also, you may have added new configuration records after installation using DB2Setup.exe. See [“Installing the IBM DB2 module on Windows”](#) on page 9.

By default, ESM examines every IBM DB2 database alias for which there exists a configuration record. Use the IBM DB2 Database Aliases option to specify included or excluded database aliases that you want to check. If the name list is empty, all databases are checked.

**To include one or more database aliases:**

- 1 Enter names in the name list.
- 2 Select Include.

**To exclude one or more database aliases:**

- 1 Enter names in the name list.
- 2 Select Exclude.

---

**Note:** ESM stores IBM DB2 database configuration records in the  
\\Program Files\Symantec\ESM\config\DB2Module.dat file.

---

## Authentication from the Server

This check examines the way users are authenticated. Your database is most secure if users are authenticated from the server side rather than the client side.

Use the Authorized Setting name list to specify the authorized authentication methods. The Authorized Setting name list includes by default the recommended authentication methods SERVER and SERVER\_ENCRYPT.

**Table 4-1** Authentication from the Server message

Message Name	Title	Class
INVALID_AUTHENTICATION_SETTING	Invalid DB2 Authentication setting	4

## DB2 Version and OS

This check reports the DB2 database version and operating system.

**Table 4-2** DB2 Version and OS message

Message Name	Title	Class
DB2_VERSION_OS	DB2 Version and OS	0

## Discovery mode

Discovery mode is a IBM DB2 feature that is used to gather information from IBM DB2 servers located on a network. The ESM Modules for IBM DB2 Universal Databases includes checks that verify if a server, instance, or database is running in discovery mode.

## Server Discovery Mode

This check examines the discovery mode setting for the IBM DB2 server.

Use the Server Discovery Mode name list to specify allowed the discovery mode action parameters. By default, the Server Discovery Mode name list contains DISABLE and KNOWN.

After running this check, the Policy Run report lists all discovery mode action parameters that are not in the name list.

**Table 4-3** Server Discovery Mode message

Message Name	Title	Class
SERVER_DIS_MODE	DB2 Server Discovery Mode	1

## Instance Discovery Mode

This check examines the discovery mode setting for IBM DB2 instances.

Use the Instance Discovery Mode name list to specify the allowed discovery mode action parameters. By default, the Instance Discovery Mode name list contains DISABLE.

After running this check, the Policy Run report lists all discovery mode action parameters that are not in the name list.

**Table 4-4** Instance Discovery Mode message

Message Name	Title	Class
INSTANCE_DIS_MODE	DB2 Instance Discovery Mode	1

## Database Discovery Mode

This check examines the discovery mode setting for IBM DB2 databases.

Use the Database Discovery Mode name list to specify the allowed discovery mode action parameters. By default, the Database Discovery Mode name list contains DISABLE.

After running this check, the Policy Run report lists all discovery mode action parameters that are not in the name list.

**Table 4-5** Database Discovery Mode message

Message Name	Title	Class
DATABASE_DIS_MODE	DB2 Database Discovery Mode	1

## System authorities

The IBM DB2 Remote module lets you to maintain lists of groups and users that have been granted IBM DB2 authorities. The checks create reports of unauthorized groups and users. The module also includes checks that report new, modified, and deleted groups and users that have been granted authorities.

### Unauthorized Group Set in System Administrator Authority

This check reports groups that have been granted the System Administrator Authority but that are not authorized to have it.

Use the Authorized Groups name list to exclude all groups that are authorized to have the System Administrator Authority.

After running this check, the Policy Run report lists groups that have the System Administrator Authority and that are not in the Authorized Groups name list.

**Table 4-6** Unauthorized System Administrator Authority message

Message Name	Title	Class
UNAUTH_SYSADM_GROUP	Unauthorized group set for System Administrator Authority	3

### Unauthorized Group Set in System Control Authority

This check reports groups that have been granted the System Control Authority but that are not authorized to have it.

Use the Authorized Groups name list to exclude all groups that are authorized to have the System Control Authority.

After running this check, the Policy Run report lists groups that have the System Control Authority and that are not in the Authorized Groups name list.

**Table 4-7** Unauthorized System Control Authority message

Message Name	Title	Class
UNAUTH_SYCTRL_GROUP	Unauthorized group set for System Control Authority	3

## Unauthorized Group Set in System Maintenance Authority

This check reports groups that have been granted the System Maintenance Authority but that are not authorized to have it.

Use the Authorized Groups name list to exclude all groups that are authorized to have the System Maintenance Authority.

After running this check, the Policy Run report lists groups that have the System Maintenance Authority and that are not in the Authorized Groups name list.

**Table 4-8** Unauthorized System Maintenance Authority message

Message Name	Title	Class
UNAUTH_SYSMMAINT_GROUP	Unauthorized group set for System Maintenance Authority	3

## Unauthorized Group/User in Database Administrator Authority

This check reports groups and users that have been granted the Database Administrator Authority but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the Database Administrator Authority.

After running this check, the Policy Run report lists groups and users that have the Database Administrator Authority and that are not in the Authorized Groups/Users name list.

**Table 4-9** Unauthorized Database Administrator Authority message

Message Name	Title	Class
UNAUTH_GROUPUSER_DBADMAUTH	Unauthorized group/user set for Database Administrator Authority	3

## New Group/User in Database Administrator Authority

This check reports groups and users that were granted the Database Administrator Authority since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-10** New Group/User in Database Administrator Authority message

Message Name	Title	Class
NEW_GROUPUSER_DBADMAUTH	New group/user set for Database Administrator Authority	2

If the detected user \or group is authorized to have this authority, update the snapshot. Revoke the authority if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in Database Administrator Authority

This check reports groups and users that had the Database Administrator Authority and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-11** Deleted Group/User in Database Administrator Authority message

Message Name	Title	Class
DEL_GROUPUSER_DBADMAUTH	Deleted group/user set for Database Administrator Authority	2

If the deletion is authorized, update the snapshot. Restore the authority if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in Database Administrator Authority

This check reports groups and users with Database Administrator Authority “grantor” or “granteetype” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the granteetype. For example, a message might read:

```
grantor changed to gwashington from fdouglas
```

Or a message might read:

```
granteetype changed to user from group
```

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-12** Modified Group/User in Database Administrator Authority message

Message Name	Title	Class
MOD_GROUPUSER_DBADMAUTH	Modified group/user set for Database Administrator Authority	2

If the modification is authorized, update the snapshot. Restore the authority if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Unauthorized Group/User in LOAD Authority

This check reports groups and users that were granted the LOAD Authority but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the LOAD Authority.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-13** Unauthorized LOAD Authority message

Message Name	Title	Class
UNAUTH_GROUPUSER_LOADAUTH	Unauthorized group/user set for LOAD Authority	3

## New Group/User in LOAD Authority

This check reports groups and users that were granted the LOAD Authority since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-14** New Group/User in LOAD Authority message

Message name	Title	Class
NEW_GROUPUER_LOADAUTH	New group/user set for LOAD Authority	2

If the detected user or group is authorized to have this authority, update the snapshot. Revoke the authority if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in LOAD Authority

This check reports groups and users that had the LOAD Authority and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-15** Deleted Group/User in LOAD Authority message

Message Name	Title	Class
DEL_GROUPUSER_LOADAUTH	Deleted group/user set for LOAD Authority	2

If the deletion is authorized, update the snapshot. Restore the authority if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in LOAD Authority

This check reports groups and users with LOAD Authority “grantor” or “granteetype” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the granteetype. For example, a message might read:

```
grantor changed to gwashington from fdouglas
```

Or a message might read:

```
granteetype changed to user from group
```

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-16** Modified Group/User in LOAD Authority message

Message Name	Title	Class
MOD_GROUPUSER_LOADAUTH	Modified group/user set for LOAD Authority	2

If the modification is authorized, update the snapshot. Restore the authority if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

# Database privileges

The IBM DB2 Remote module lets you maintain lists of groups and users that have IBM DB2 database privileges. The checks create reports of groups and users that are unauthorized to have these privileges. The module also includes checks that report groups and users that have newly been granted database privileges, that have privileges modified, that have privileges revoked, or that have been deleted since the last snapshot updates.

## Unauthorized Group/User in BINDADD Database Privilege

This check reports groups and users that have been granted the BINDADD Database Privilege but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the BINDADD Database Privilege.

After running this check, the Policy Run report lists groups and users that have the BINDADD Database Privilege and that are not in the Authorized Groups/Users name list.

**Table 4-17** Unauthorized BINDADD Database Privilege message

Message Name	Title	Class
UNAUTH_GROUPUSER_BINDADDAUTH	Unauthorized group/user set for BINDADD Database Privilege	3

## New Group/User in BINDADD Database Privilege

This check reports groups and users that were granted the BINDADD Database Privilege since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-18** New Group/User in BINDADD Database Privilege message

Message Name	Title	Class
NEW_GROUPUSER_BINDADDAUTH	New group/user set for BINDADD Database Privilege	2

If the detected user or group is authorized to have this privilege, update the snapshot. Revoke the privilege if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in BINDADD Database Privilege

This check reports groups and users that had the BINDADD Privilege and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-19** Deleted Group/User in BINDADD Privilege message

Message Name	Title	Class
DEL_GROUPUSER_BINDADDAUTH	Deleted group/user set for BINDADD Database Privilege	2

If the deletion is authorized, update the snapshot. Restore the privilege if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in BINDADD Database Privilege

This check reports groups and users with BINDADD Database Privilege “grantor” or “granteetype” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the granteetype. For example, a message might read:

```
grantor changed to gwashington from fdouglas
```

Or a message might read:

```
granteetype changed to user from group
```

**Table 4-20** Modified Group/User in BINDADD Database Privilege message

Message Name	Title	Class
MOD_GROUPUSER_BINDADDAUTH	Modified group/user set for BINDADD Database Privilege	2

If the modification is authorized, update the snapshot. Restore the privilege if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Unauthorized Group/User in CONNECT Database Privilege

This check reports groups and users that have been granted the CONNECT Database Privilege but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the CONNECT Database Privilege.

After running this check, the Policy Run report lists groups and users that have the CONNECT Database Privilege and that are not in the Authorized Groups/Users name list.

**Table 4-21** Unauthorized CONNECT Database Privilege message

Message Name	Title	Class
UNAUTH_GROUPUSER_CONNECTAUTH	Unauthorized group/user set for CONNECT Database Privilege	3

## New Group/User in CONNECT Database Privilege

This check reports groups and users that were granted the CONNECT Database Privilege since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-22** New Group/User in CONNECT Privilege message

Message Name	Title	Class
NEW_GROUPUSER_CONNECTAUTH	New group/user set for CONNECT Database Privilege	2

If the detected user or group is authorized to have this privilege, update the snapshot. Revoke the privilege if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in CONNECT Database Privilege

This check reports groups and users that had the CONNECT Database Privilege and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-23** Deleted Group/User in CONNECT Database Privilege message

Message Name	Title	Class
DEL_GROUPUSER_CONNECTAUTH	Deleted group/user set for CONNECT Database Privilege	2

If the deletion is authorized, update the snapshot. Restore the privilege if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in CONNECT Database Privilege

This check reports groups and users with CONNECT Database Privilege “grantor” or “granteetype” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the granteetype. For example, a message might read:

`grantor changed to gwashington from fdouglas`

Or a message might read:

`granteetype changed to user from group`

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-24** Modified Group/User in CONNECT Database Privilege message

Message Name	Title	Class
MOD_GROUPUSER_CONNECTAUTH	Modified group/user set for CONNECT Database Privilege	2

If the modification is authorized, update the snapshot. Restore the privilege if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Unauthorized Group/User in CREATETAB Database Privilege

This check reports groups and users that have been granted the CREATETAB Database Privilege but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the CREATETAB Database Privilege.

After running this check, the Policy Run report lists groups and users that have the CREATETAB Database Privilege and that are not in the Authorized Groups/Users name list.

**Table 4-25** Unauthorized CREATETAB Database Privilege message

Message Name	Title	Class
UNAUTH_GROUPUSER_CREATETABAUTH	Unauthorized group/user set for CREATETAB Database Privilege	3

## New Group/User in CREATETAB Database Privilege

This check reports groups and users that were granted the CREATETAB Database Privilege since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-26** New CREATETAB Database Privilege message

Message Name	Title	Class
NEW_GROUPUSER_CREATETABAUTH	New group/user set for CREATETAB Database Privilege	2

If the detected user or group is authorized to have this privilege, update the snapshot. Revoke the privilege if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in CREATETAB Database Privilege

This check reports groups and users that had the CREATETAB Database Privilege and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-27** Deleted Group/User in CREATETAB Database Privilege message

Message Name	Title	Class
DEL_GROUPUSER_CREATETABAUTH	Deleted group/user set for CREATETAB Database Privilege	2

If the deletion is authorized, update the snapshot. Restore the privilege if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in CREATETAB Database Privilege

This check reports groups and users with CREATETAB Database Privilege “grantor” or “grantee type” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the grantee type. For example, a message might read:

`grantor changed to gwashington from fdouglas`

Or a message might read:

`grantee type changed to user from group`

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-28** Modified Group/User in CREATETAB Database Privilege message

Message Name	Title	Class
MOD_GROUPUSER_CREATETABAUTH	Modified group/user set for CREATETAB Database Privilege	2

If the modification is authorized, update the snapshot. Restore the privilege if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Unauthorized Group/User in CREATE\_NOT\_FENCED Database Privilege

This check reports groups and users that have been granted the CREATE\_NOT\_FENCED Database Privilege but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the CREATE\_NOT\_FENCED Database Privilege.

After running this check, the Policy Run report lists groups and users that have the CREATE\_NOT\_FENCED Database Privilege and that are not in the Authorized Groups/Users name list.

**Table 4-29** Unauthorized CREATE\_NOT\_FENCED Privilege message

Message Name	Title	Class
UNAUTH_GROUPUSER_NOFENCEAUTH	Unauthorized group/user set for CREATE_NOT_FENCED Database Privilege	3

## New Group/User in CREATE\_NOT\_FENCED Database Privilege

This check reports groups and users that were granted the CREATE\_NOT\_FENCED Database Privilege since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-30** New CREATE\_NOT\_FENCED Database Privilege message

Message Name	Title	Class
NEW_GROUPUSER_NOFENCEAUTH	New group/user set for CREATE_NOT_FENCED Database Privilege	2

If the detected user or group is authorized to have this privilege, update the snapshot. Revoke the privilege if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in CREATE\_NOT\_FENCED Database Privilege

This check reports groups and users that had the CREATE\_NOT\_FENCED Database Privilege and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-31** Deleted CREATE\_NOT\_FENCED Database Privilege message

Message Name	Title	Class
DEL_GROUPUSER_NOFENCEAUTH	Deleted group/user set for CREATE_NOT_FENCED Database Privilege	2

If the deletion is authorized, update the snapshot. Restore the privilege if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in CREATE\_NOT\_FENCED Database Privilege

This check reports groups and users with CREATE\_NOT\_FENCED Database Privilege “grantor” or “granteetype” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the granteetype. For example, a message might read:

```
grantor changed to gWASHINGTON from fdouglas
```

Or a message might read:

```
granteetype changed to user from group
```

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-32** Modified CREATE\_NOT\_FENCED Database Privilege message

Message Name	Title	Class
MOD_GROUPUSER_NOFENCEAUTH	Modified group/user set for CREATE_NOT_FENCED Database Privilege	2

If the modification is authorized, update the snapshot. Restore the privilege if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Unauthorized Group/User in IMPLICIT\_SCHEMA Database Privilege

This check reports groups and users that have been granted the IMPLICIT\_SCHEMA Database Privilege but that are not authorized to have it.

Use the Authorized Groups/Users name list to exclude all groups and users that are authorized to have the IMPLICIT\_SCHEMA Database Privilege.

After running this check, the Policy Run report lists groups and users that have the IMPLICIT\_SCHEMA Database Privilege and that are not in the Authorized Groups/Users name list.

**Table 4-33** Unauthorized IMPLICIT\_SCHEMA Database Privilege message

Message Name	Title	Class
UNAUTH_GROUPUSER_IMPLSCHEMAAUTH	Unauthorized group/user set for IMPLICIT_SCHEMA Database Privilege	3

## New Group/User in IMPLICIT\_SCHEMA Database Privilege

This check reports groups and users that were granted the IMPLICIT\_SCHEMA Database Privilege since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-34** New IMPLICIT\_SCHEMA Database Privilege message

Message Name	Title	Class
NEW_GROUPUSER_IMPLSCHEMAAUTH	New group/user set for IMPLICIT_SCHEMA Database Privilege	2

If the detected user or group is authorized to have this privilege, update the snapshot. Revoke the privilege if the detected user or group is not authorized.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Deleted Group/User in IMPLICIT\_SCHEMA Database Privilege

This check reports groups and users that had the IMPLICIT\_SCHEMA Database Privilege and had it revoked or that were deleted since the last snapshot updates.

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-35** Deleted IMPLICIT\_SCHEMA Database Privilege message

Message Name	Title	Class
DEL_GROUPUSER_IMPLSCHEMAAUTH	Deleted group/user set for IMPLICIT_SCHEMA Database Privilege	2

If the deletion is authorized, update the snapshot. Restore the privilege if it should not have been deleted.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

## Modified Group/User in IMPLICIT\_SCHEMA Database Privilege

This check reports groups and users with IMPLICIT\_SCHEMA Database Privilege “grantor” or “granteetype” changes since the last snapshot updates.

The Policy Run reports changes to the grantor and the granteetype. For example, a message might read:

```
grantor changed to gwashington from fdouglas
```

Or a message might read:

```
granteetype changed to user from group
```

Run the module one time to create the snapshot, then rerun the module to detect changes between policy runs.

**Table 4-36** Modified IMPLICIT\_SCHEMA Database Privilege message

Message Name	Title	Class
MOD_GROUPUSER_IMPLSCHEMAAUTH	Modified group/user set for IMPLICIT_SCHEMA Database Privilege	2

If the modification is authorized, update the snapshot. Restore the privilege if it should not have been modified.

You can update the snapshot directly from the console grid by right-clicking on the Policy Run message.

# Troubleshooting

This chapter includes the following topics:

- [Encryption exception](#)
- [DB2 Remote module errors](#)

## Encryption exception

An error may display when you run a policy asking you to reconfigure the module.

[Table 5-1](#) lists the error message that is displayed and the solution for the error.

**Table 5-1** Encryption exception

Error	Solution
Encryption exception	<p>This error may occur if you have set SSLConfigure=0 after configuring the IBM DB2 module. Or, if you have renamed or deleted the AESConfigure.dat file.</p> <p>To solve this problem, you need to reconfigure the IBM DB2 module.</p> <p>If you want to generate logs for encryption, add Debugon=1 in the AESConfigDB2.dat file from esm\config folder. This generates DB2AESDebuglog.log in the esm\system\<platform&gt; folder.<="" p=""></platform&gt;></p>

## DB2 Remote module errors

You may encounter errors while running policies that may cause the policy to terminate unexpectedly or the user account to get locked.

[Table 5-2](#) lists the errors pertaining to DB2 Remote module and their solutions.

**Table 5-2** DB2 Remote module errors

Error	Solution
Policy terminates unexpectedly.	This behaviour is observed only on 6.5.0 linux agent.  To solve this problem, you need to upgrade DB2 agent to 6.5.2 or later.
User account gets locked after running a Policy run on DB2 Remote module on Windows.	This happens because for every check, the IBM DB2 module connects to the database and the user account gets locked based on the Windows Password policy.  To solve this problem, make sure the credentials supplied for each database is correct.