NetBackup™ for MySQL Administrator's Guide

Windows and Linux

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VERITAS™

NetBackup™ for MySQL Administrator's Guide

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Chapter 1

Introduction to NetBackup for MySQL

This chapter includes the following topics:

- About NetBackup for MySQL
- Features of NetBackup for MySQL
- Prerequisites for NetBackup for MySQL
- Authenticating the MySQL environment password

About NetBackup for MySQL

NetBackup for MySQL Agent extends the capabilities of NetBackup to include backup and restore operations of MySQL databases. The agent supports MySQL version 5.5.5 and later.

NetBackup for MySQL Agent is available with the NetBackup client.

The agent also supports to:

- Validate the backup information.
- Query backups.
- Delete the backup information from the catalog files.
- Redirect restore to a client that is different from the client that originally performed the backup.

Note: Ensure that all NetBackup hosts are of the same NetBackup versions for successful backup and restore operations.

NetBackup for MySQL workflow

The agent communicates with the MySQL database to create a snapshot. The Volume Shadow Copy Services (VSS) for Microsoft Windows or Logical Volume Manager (LVM) for Linux, takes a snapshot of the database.

The agent then interacts with the NetBackup XBSA interface to update the server name, policy, and schedule type information. The NetBackup primary server connects to the NetBackup client to backup or retrieve the data that you want to protect. The agent mounts the snapshot, copies the file, and sends it to the NetBackup XBSA interface.

The NetBackup XBSA interface writes this data to the mounted media or disk storage that is managed by the NetBackup media server.

Features of NetBackup for MySQL

The Table 1-1 displays the features that are supported by the NetBackup for MySQL Agent.

Table 1-1 Features supported by NetBackup for MySQL Agent

Features	Description
Backup	The agent supports full instance backup of the MySQLdatabase.
Restore	The agent supports full instance restore of MySQL backups.
Redirected restore	The agent supports to restore MySQL backups to alternate NetBackup clients.

Prerequisites for NetBackup for MySQL

Verify the following prerequisites before you install the NetBackup for MySQL Agent:

- NetBackup is installed and operational on the primary server, media server, and the client.
- The MySQL database is installed and operational on the client.
- The MySQL instance is on the InnoDB storage engine.

Post-installation requirements for NetBackup

After you install the agent

- (Windows) Ensure that the user who is performing backups and restores has administrative privileges.
- (Linux) Ensure that the user who is performing backups and restores is a super user or has superuser privileges.
- (Linux) Symbolic link: If a symbolic link does not exists, create a symbolic link `libmysqlclient.so` and ensure that it points to `libmysqlclient.so.<n>`, where `n` is the MySQL client library version . You can create the symbolic link at your chosen directory.
  For example, if the MySQL client library version is 18, then the symbolic link `libmysqlclient.so` points to `libmysqlclient.so.18`.
  ```
  # ln -s /<mysql_lib_install_path>/libmysqlclient.so.18
  ibmysqlclient.so
  ```
- Set the following user privileges:

Table 1-2 User privileges

User	Privileges
Backup	LOCK TABLES, SELECT, FILE, RELOAD, SUPER, UPDATE, TRIGGER, SHOW, VIEW, EXECUTE, and EVENT.
Restore	CREATE, DROP, INDEX, SHUTDOWN, INSERT, ALTER, DELETE, UPDATE, TRIGGER, SUPER, and CREATE VIEW.

To set the user privileges, run the following commands:

```
GRANT SELECT, INSERT, UPDATE, CREATE, DROP, RELOAD, SHUTDOWN, FILE,
INDEX, ALTER, SUPER, LOCK TABLES, CREATE VIEW, SHOW VIEW, TRIGGER,
CREATE ROUTINE, DELETE, EVENT, ALTER ROUTINE ON *.* TO
'USER'@'localhost' IDENTIFIED BY 'PASSWORD'
```

For more information, see *MySQL Administration Guide*

Authenticating the MySQL environment password

Authenticating the MySQL environment password keeps you from specifying the password every time you run a backup. The `my.cnf` or the `my.ini` file stores the authentication credentials that the agent reads when it connects to the MySQL server. Make sure that you store the password in the MySQL environment variable.

The MySQL utility to encrypt the password lets you set, reset, and validate the password. The password encryption uses the port number to create a section name that corresponds to the instance to which the password belongs.

In MySQL v5.5.x, it reads the plain text authentication credentials from the MySQL configuration file `my.cnf`. To authenticate, under the client section, edit the `my.cnf`, or `my.ini` file to add the password. For example:

```
[client]
```

port=3306

password= type the password

In MySQL v5.6 and later, it reads the encrypted authentication credentials from the MySQL options `.mylogin.cnf` file.

To authenticate the password

1. (Windows) Run the following command:

   ```
   mysql_config_editor.exe set --port=<portnumber> --password
   ```

   For example, if the `portnumber` is 3306:

   ```
   mysql_config_editor.exe set --port=3306 --password
   ```

2. (Linux) Run the following command:

   ```
   mysql_config_editor set --port=<portnumber> --password
   ```

   For example, if the `portnumber` is 3306:

   ```
   mysql_config_editor set --port=3306 --password
   ```

3. To reset the password, run the command that applies to your operating system:

   - (Windows) `mysql_config_editor.exe reset`
   - (Linux) `mysql_config_editor reset`

4. To validate the password, run the command that applies to your operating system:

   - (Windows) `mysql_config_editor.exe print --all`
   - (Linux) `mysql_config_editor print --all`

Chapter 2

Configuring NetBackup for MySQL

This chapter includes the following topics:

- Configuring the NetBackup for MySQL backups with DataStore policies

Configuring the NetBackup for MySQL backups with DataStore policies

The agent supports the DataStore policies to define the attributes, schedules, clients list, and backup selections.

To configure MySQL database backups with DataStore policies

1. Log on to the primary server as an administrator (Windows) or root (Linux).
2. In the **NetBackup Administration Console**, expand **NetBackup Management**, and then click **Policies**.
3. In **All Policies** pane, right-click **Summary of All Policies**, and then click **New Policy**.
4. In **Add a New Policy** dialog box, enter a unique name for the policy.
5. In the **Change Policy** dialog box, select **Data Store Policy** from the **Policy Type** drop-down list.
6. From the **Policy Storage** list, select the **disk-based storage unit** for storage.

7 To select the schedule type, under the **Schedules** tab, click **OK** to select the **Application Backup** schedule type.

Note: The XBSA framework supports the **Application backup** schedule type only.

---

8 In the **Clients** tab, click **New**, and then type the name of the client that has the MySQL server.

9 In the **Add Client** screen, click **New**, and then in the **Client Name** field, type the name of the client.

10 In the **NetBackup Administration Console**, click **NetBackup Management** > **Policies** to view the policy in the existing policies list.

Chapter 3

NetBackup for MySQL backup and restore

This chapter includes the following topics:

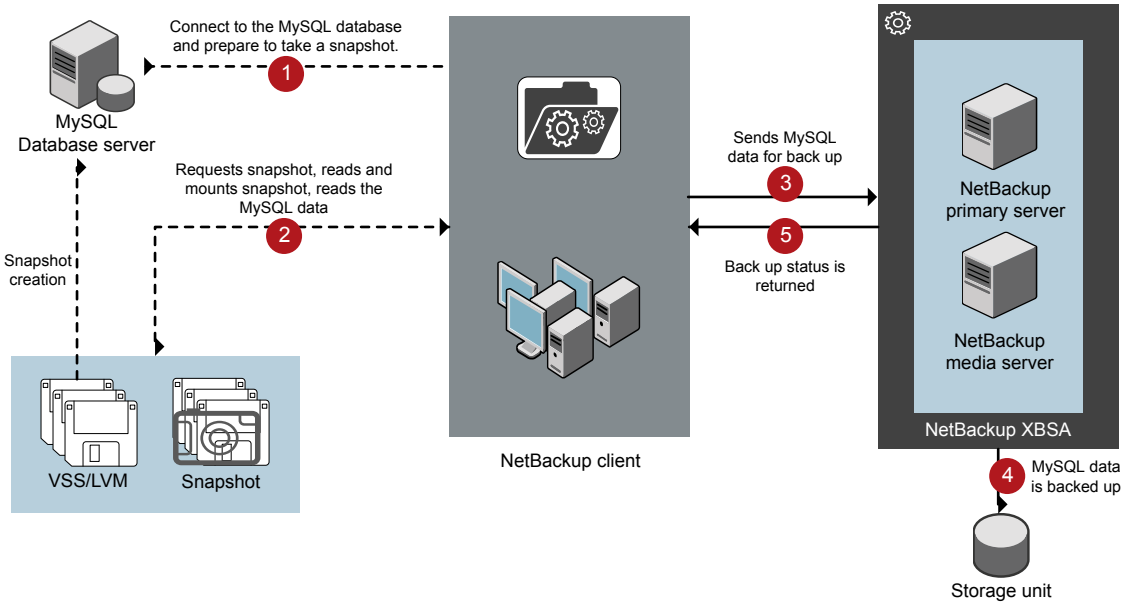
- About MySQL database backups
- Performing the MySQL backups
- Validating the backup information
- Querying the MySQL backups
- Deleting backup information from the NetBackup catalog
- About NetBackup for MySQL restores
- Performing the restores for MySQL databases
- Redirected restores
- Disaster recovery

About MySQL database backups

The `nbmysql` command initiates the backup operation using the `-S`, `-P`, `-s` and `-l` as required parameters. The parameter `-z` is the required parameter for LVM configured systems.

The parameter `-p` and `-u` are the optional parameters.

Figure 3-1 NetBackup for MySQL backup workflow



Performing the MySQL backups

This topic lists the prerequisites, describes the procedure to run MySQL backups, and the information to schedule the backup from the **NetBackup Administration Console**.

Prerequisites

Before you run the backup, ensure that you meet the following prerequisites.

- Ensure that the user has administrator (Windows) or root (Linux) access.
- (LVM users) Ensure that the MySQL data and logs directory reside on a single logical volume.
- Configure the **DataStore** policy from the **NetBackup Administration Console**.
- Add the database parameters and library path in the `nbmysql.conf` file.

- Verify that there is enough space for the snapshot in the volume group, and then set the snapshot size in `nbmysql.conf` file or by the command line.

  Note: Ensure that the sufficient free size is available for snapshot.

- Verify that the prerequisites and the post-installation requirements are met.
  For more information,
  For more information, See “Post-installation requirements for NetBackup ” on page 7.

To run backup

1. Run the following command:

```
nbmysql -o backup
-S primary_server_name
-P policy_name
-s schedule_name
-l mysql_lib_path
(Linux) -z snapshot_size
[-p database_server_port]
[-u database_username]
(Linux) [-b backup_type]
```

2. (Optional) Type the password, when the `nbmysql` command line prompts for the password.

Note: Ensure that the MySQL agent and NetBackup are of the same version for successful backup and restore operations.

Scheduling MySQL backups from NetBackup

You can schedule MySQL backups from **NetBackup Administration Console** using the **DataStore** policy to call a backup script.

For more information, https://www.veritas.com/support/en_US/article.100041374

Validating the backup information

After a successful MySQL backup, you can list the backups and verify the backup information using the following command:

```
nbmysql -o query
```

Querying the MySQL backups

The `nbmysql` query command lists the backup files according to the options that you specify. The parameter `-S` is the required parameter. Alternatively, you can use the `-C client_name` and `-P policy_name` options to define a different client and policy.

You can configure the parameters from the `nbmysql.conf` file or set the parameters using the `nbmysql` command.

For example, to query a backup from the client `ClientA`, run the following command:

```
nbmysql -o query -S primary_server_name [-C ClientA]
```

For example, to list backup files with the policy name `policy_name`, run the following command:

```
nbmysql -o query -S primary_server_name [-P policy_name]
```

For example, to query a backup from the client `Client A` with policy name `policy_name`, run the following command:

```
nbmysql -o query -S primary_server_name [-C ClientA] [-P policy_name]
```

Deleting backup information from the NetBackup catalog

The `nbmysql` delete command, removes the backup information from the catalog files but retains the backup files on the NetBackup media server.

The parameter `-S` is the required parameter. Alternatively you can use the `-i` option to delete a backup using its backup image name.

To delete the MySQL backup information

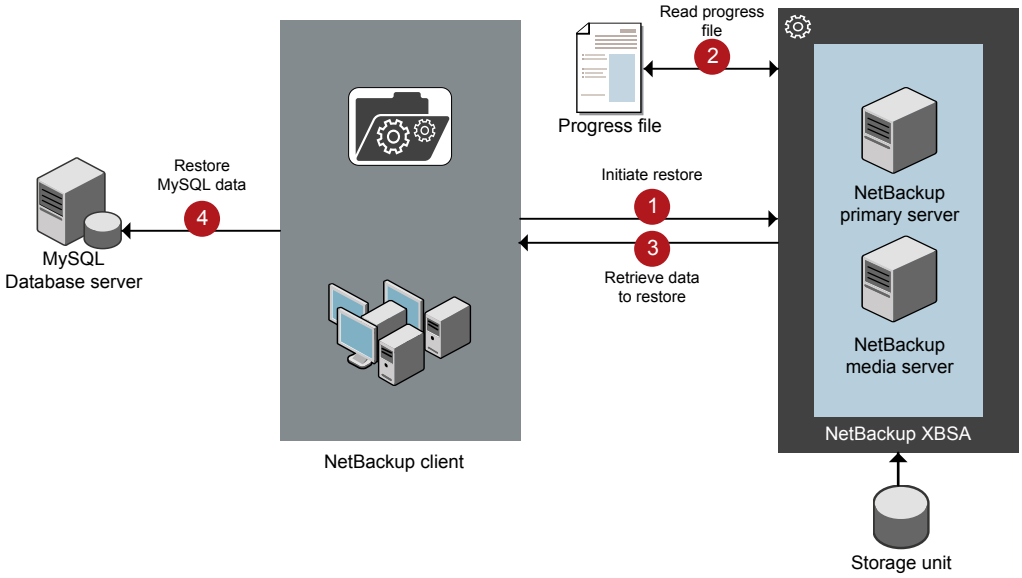
1. Configure the parameters on the command line.
2. Run the following command:

   ```
   nbmysql -o delete -S primary_server_name [-i copy_id].
   ```

About NetBackup for MySQL restores

When you initiate a restore, the NetBackup XBSA interface reads the progress files to receive the MySQL backup files to restore them to the target directory. Before you run a restore, ensure that the target directory is empty.

Figure 3-2 NetBackup for MySQL restore workflow



The parameter `-s`, `t`, and `-p` are required parameters. Alternatively, you can choose to restore using the optional values `-i` as the backup image name and `-c` to restore from a specified client name.

Note: The restore fails when the target directory is invalid or not empty. Ensure that you delete all contents of the target directory before you initiate the restore operation.

Performing the restores for MySQL databases

This topic lists the prerequisites and describes the procedure to restore the backups.

Prerequisites

Before you restore the backups, you must meet the following prerequisites:

- Ensure that the user has administrator (Windows) or root (Linux) access.

- Ensure that you restore the MySQL instance to an empty target directory.
- Ensure that the target directory is a valid instance directory.
- (Non-LVM) Ensure the MySQL services are running.

To restore the backups

1. Configure the parameters using the `nbmysql` command.

   For more information,

2. Verify that the MySQL services are running for Non-LVM restores.
3. Run the following command:

   ```
   nbmysql -o restore -S primary_server_name -t target_directory -p
   db_port [-i copy_id] [-C client_name] [-u db_user] [-H db_host]
   ```

Redirected restores

A redirected restores lets you restore backup files to a client different from the client that originally performed the backup. The new location can be a different host or a different file path using a different name for the redirected restore. To redirect a restore to a different host, include the destination client name in the `install_path\NetBackup\db\altnames` directory.

Performing redirected restores

To redirect a restore to a different host

1. Update the NetBackup client name as the host and the MySQL target directory as the directory where you want to redirect the restore.
2. On the NetBackup primary server, create an `altnames` directory for the host that you want to have permission to perform the redirected restore. For example, to give Host B permissions to restore from another host, create the following file:
   - (Windows) `install_path\NetBackup\db\altnames\HostB`
   - (Linux RHEL and SLES) `/usr/openv/netbackup/db/altnames/HostB`
3. In the `altnames` directory, add the names of the client(s) whose files the requesting client wants to restore. For example, if you want Host B to have permissions to redirect restores from Host A, add Host A to the Host B file.

Note: (Linux only) The NetBackup service user account must have ownership of the `altnames` directory and host files.

---

4 Run the following command:

```
nbmysql -o restore -S primary_server_name -t target_directory -p
db_port [-i copy_id] [-C client_name] [-u db_user] [-H db_host]
```

Note: For redirected restore, provide the source client name (client from which backup was taken) to the `-C` option.

5 After a successful redirected restore, undo the changes that you made on the primary server and the client.

To redirect a restore to a different file path

1 Run the following command:

```
nbmysql -o restore -S primary_server_name -t target_directory -p
db_port [-i copy_id] [-C client_name]
```

2 After a successful restore, make the following changes:

- (Linux) To change the ownership of the files and directories to MySQL, run the following command:

```
$chown -R mysql <data_dir>
$chgrp -R mysql <data_dir>
```

3 Copy the restore data to the data directory.

Disaster recovery

Disaster recovery is a plan to recover the data that can get lost in a disaster event. The NetBackup for MySQL Agent uses redirected restore as a disaster recovery strategy.

For more information, See “ Redirected restores ” on page 17.

Chapter 4

Troubleshooting for NetBackup for MySQL

This chapter includes the following topics:

- Troubleshooting errors for the NetBackup for MySQL Agent

Troubleshooting errors for the NetBackup for MySQL Agent

To troubleshoot the errors, you can refer to the NetBackup logs.

The NetBackup primary server logs are located at:

- `install_path\NetBackup\logs\bprd`
- `install_path\NetBackup\logs\bpcd`
- `install_path\NetBackup\logs\user_ops\dbext\logs`

The logs that are specific to NetBackup client are located at:

`install_path\netbackup\logs\nbmysql.log`

The logs that are specific to NetBackup XBSA is located at:

`<NetBackup_install_path>/netbackup/logs/exten_client`.

Preliminary steps

Verify the following, before you troubleshoot the problems:

- All the prerequisites are completed.
- All the computers have compatible operating system versions.
- The debug logs and reports are verified for errors.

Troubleshooting NetBackup problems

For troubleshooting NetBackup problems, refer to the *NetBackup Troubleshooting Guide* and the *NetBackup Commands Reference Guide*.

Troubleshooting NetBackup for MySQL operations

Table 4-1 Troubleshooting NetBackup for MySQL backups and restores

Problems	Description	Solution
The `nbmysql` backup fails with the following error: *An error has occurred during backup*	The `nbmysql` backup may fail for any of the following reasons: ■ The NetBackup media server or client runs on NetBackup 8.0 or earlier versions. ■ The check box for **Enable in secure communication with NetBackup8.0 and earlier hosts** is disabled. ■ The NetBackup host ID certificate that exists on the MySQL client is invalid.	For a successful backup, complete any of the following: ■ Upgrade the media server or client to use NetBackup 8.1 or later versions. ■ In **NetBackup Administration Console**, under **Security Management** > **Global Security Settings**, select the **Enable in secure communication with NetBackup 8.0 and earlier hosts** check box. ■ Verify the NetBackup host ID certificate. You can manually obtain the host ID certificate. For more information, see www.veritas.com/support/en_US/article.000127129
The `nbmysql` agent fails to initiate any operation.	The MySQL agent displays an error that is related to absence of the `I18N` file. You may encounter this problem when you launch the agent.	When the agent fails to initiate operations due to absence of the `I18N` file, copy the language file in the agent installer location and then run the operations.
The `nbmysql` backup fails with the following error: *Unable to load MySQL library*	You may encounter this problem when the library path is not provided in the `nbmysql` command using the `"-l"` switch or the library path is provided but it does not contain `libmysql.so` (Linux) or `libmysql.dll` (Windows).	Verify the following and then run the backup again: ■ Ensure that you provide the correct mysql library path, which contains the `libmysql.so` (Linux) or `libmysql.dll` (Windows) file. ■ (Linux) If `libmysql.so` is not available, create a symbolic link named `libmysql.so` that points to `libmysql.so.<n>`. ■ (Windows) If `libmysql.dll` is not available under bin directory of the mysql installation location, it may be available under lib directory.

Table 4-1 Troubleshooting NetBackup for MySQL backups and restores *(continued)*

Problems	Description	Solution
The `nbysql` backup fails with the following error message: *Unable to connect to the database*	The mysql backup fails when the `nbmysql` command is run with invalid database user name, port number, or password.	■ Provide the database user name using the `"-u"` switch of the `nbmysql` command. ■ Provide the database port number using the `"-portnum"` switch of `nbmysql` command. ■ Provide the database password using the `my.cnf` (Linux) or `my.ini` (Windows) file. See "Authenticating the MySQL environment password" on page 8.
The `nbmysql` backup fails with the following error: *Unable to load xbsa.dll*	The `nbmysql` backup fails if the environment variable path is not updated with NetBackup bin directory.	To run a MySQL backup successfully: ■ Update the environment variable path with `NetBackup_install_path/bin`.
The `nbmysql` backup fails with the following error: *XBSA initiation failed*	The `nbmysql` backup fails if required parameters are not specified on the command line.	To run the NetBackup backup successfully: ■ Configure the valid primary server name, policy name, schedule type from the command line. For more information, ■ Verify if there are communication errors between the agent and the NetBackup primary server. For more information see the *NetBackup Administrator's Guide Volume I*.

Table 4-1 Troubleshooting NetBackup for MySQL backups and restores *(continued)*

Problems	Description	Solution

The `nbmysql` backup on Linux (LVM), fails with the following error:
Error unmounting the snapshot-Device or resource busy
OR
Error removing the snapshot-mysqlsnap_<timestamp>
Note: <timestamp> is the LVM snapshot time.
	The `nbmysql` backup fails during an attempt to unmount the snapshot, the device, or when you remove the existing snapshots.	To unmount the snapshot:
		1 List all mounted file systems using the following command:
		`$ mount-l`
		2 If the snapshot still exists, create a mount directory using the following command:
		`$mount<mount_directory>`
		Note: This directory is created in `/mnt/<snapshot_name>`. The prefix names for snapshot are `mysqlsnap`.
		3 To remove the mount directory run the following command:
		`$rm -rf <mount_directory>`
		4 To remove the snapshot manually run the following command:
		`lvremove -f <volume_group>/<snapshot_name>`

Error messages after a successful backup:
<volume_group>/<snapshot_name> Read failure after 0 of 4096 at 29393616896: input or output error.
OR
<volume_group>/<snapshot_name>: read failure after 0 of 4096 at 4096: input or output error.
	The `nbmysql` backup gives these errors when the volume group contains the snapshots. You can list the snapshots and then remove them before you run the backup again.	To remove the snapshots:
		1 Run the following command to list the existing snapshots::
		`$lvs`
		The command displays the snapshot details.
		2 Run the following command to delete the snapshots:
		`$ lvremove -f <volume_group>/<snapshot_name>`

Table 4-1 Troubleshooting NetBackup for MySQL backups and restores *(continued)*

Problems	Description	Solution
The `nbmysql` backup fails with the following error: (Linux)*Error creating LVM snapshot*	The `nbmysql` backup may fail when the volume group does not have sufficient space for the snapshot.	To verify the space in the volume group: **1** Run the following command to view the volume group details: `$vgs` **2** Provide the appropriate snapshot size. Verify that the snapshot is equivalent to or more than the instance size.
(Windows)*VSS snapshot creation failed*	The `nbmysql` backup may fail when the user does not have the privileges to run the `nbmysql` operations.	Run `cmd.exe` in Administrator mode.
The `nbmysql` restore operation does not restore any data from the target NetBackup client.	The `nbmysql` restore fails if the NetBackup client name is not updated.	Add or update the NetBackup client name. For more information,
The `nbmysql` restore is unsuccessful when you trigger from the target client.	The `nbmysql` restore fails if the target directory is invalid or not empty for restores. The restore may also fail, when you initiate a redirected restore from the NetBackup target client instead of the NetBackup source client.	For a successful restore: ■ Verify that the target directory is a valid and empty. ■ Initiate the restore from the NetBackup source client.
Exception error during backups and restores.	The `nbmysql` restores and backups fail, if the disk space is not sufficient for the restore and backups.	Verify that the disk space is larger than the MySQL database and then initiate backups or restores. **Note:** Approximately 50% of space more than the MySQL database is required for restores and backups.

Table 4-1 Troubleshooting NetBackup for MySQL backups and restores *(continued)*

Problems	Description	Solution
Even after a successful restore, the MySQL services, failed to start.	The restore operation is successful, only when you restore the backup on a machine that has the same minor version of MySQL. For example, if you back up a file from MySQL version 5.5.x, then you must restore the file to a computer with MySQL version 5.5.x.	■ Verify that the MySQL version from the backed up data is same as the MySQL version on the computer where you want to restore the data.

Appendix A

The NetBackup for MySQL commands and conventions

This appendix includes the following topics:

- About NetBackup for MySQL commands
- About NetBackup for MySQL conventions

About NetBackup for MySQL commands

This section describes the commands, options, and parameters that are available to run the `nbmysql` operations. Each command contains a brief description, required parameters, and the optional parameters for the respective operations. The agent supports only those commands, options, and parameters that are mentioned in this document.

Note for the following:

- You must provide the parameters for the respective operations on the `nbmysql` command line.
- Set the operation type `-o` on the `nbmysql` command line.
- Set the other parameters and options for the respective operation on the `nbmysql` command line.
  The parameters on the command line take precedence over the `nbmysql.conf` file.

The NetBackup for MySQL command options

Table A-1 lists the options for `nbmysql` command.

Table A-1 The nbmysql command options

Options	Descriptions
-C	Configures the NetBackup client name for redirected restores.
-h	Displays the Help usage, when it is the only option on the `nbmysql` command line.
-id	Configures the specified backup using the backup image name.
-l	Configures the MySQL library directory.
-o	Configures the operation type (backup, restore, query, and delete).
-P	Configures the **DataStore** policy.
-p	Configures the database server port number that identifies the MySQL instance on which the backup or restore is performed.
-s	Configures the NetBackup schedule.
-S	Configures the NetBackup primary server name.
-t	Configures the target directory to restore the data.
-u	Configures the database user name.
-z	Configures the LVM snapshot size for Linux configured systems.
-b	Configures the backup type as LVM or non-LVM

About NetBackup for MySQL conventions

This document uses the following conventions to describe the commands that are specific to NetBackup for MySQL Agent.

Run the following commands in the command line interface to see the results:

- The `-help` command (`-h`) option prints a command-line usage message when it is the only option on the command line. For example,

  ```
  nbmysql -h
  ```

- Brackets [ ] indicate that the enclosed component of the command line is optional. Other parameters are required.

- Italics indicate that the information is user supplied. For example, you may provide the policy name and the schedule name for a backup operation.

  ```
  nbmysql -o backup -S primary_server_name -P policy_name -s schedule_name
  ```

Appendix B

The NetBackup for MySQL commands

This appendix includes the following topics:

- nbmysql -o backup
- nbmysql -o restore
- nbmysql -o query
- nbmysql -o delete

nbmysql -o backup

`nbmysql -o backup` – runs the backup from the NetBackup client.

SYNOPSIS

```
nbmysql -o backup

-S primary_server_name

-P policy_name

-s schedule_name

(Linux) -l mysql_library_path

[(Linux) -b backup_type auto, lvm, and nonlvm]

[(Linux) -d MySQL_install_directory

(LVM) -z snapshot_size

[-p database_server_port]

[-u  database_server_user]
```

Description

This command invokes the backup operation from the NetBackup client using the NetBackup **DataStore** policy name and the schedule type. The parameter `-S`, `-s` and `-P` are required parameters for Windows. The parameters `-l` and (LVM) `-z` are required parameters for Linux. The `-p` , `-u`, `-b`, `-d` are the optional parameters.

Note: In non-LVM deployments, do not set the snapshot size in the `-l` option.

On Linux systems, the directory path is `/usr/openv/netbackup/bin`

On Windows, the directory path is `install_path\NetBackup\bin`

Options

`-l` (Linux) Configures the MySQL library directory.

`-p` Configures the database port number that identifies the MySQL instance on which the backup is performed.

`-P` Configures the NetBackup **DataStore** policy name.

`-S` Configures the NetBackup server name.

`-s` Specifies the schedule name that you have configured for the **DataStore** policy.

`-u` Configures the database user name.

`-z` (LVM backups) Specifies the LVM snapshot size.

`-d` Configures the MySQL install directory path.

`-b` Configures the backup type as LVM or non-LVM.

nbmysql -o restore

`nbmysql -o restore` – restores the backup files from the NetBackup server.

SYNOPSIS

```
nbmysql -o restore
-S primary_server_name
-t target_directory
-p database_server_port
[-i copy_id]
[-C client_name]
```

Description

The `nbmysql` command restores the backup file using `-t`, `-S`, and `-p` as the required parameters. The `-i` and `-C` are optional parameters.

On Windows systems, the directory path to this command is `install_path\NetBackup\bin`

On Linux systems, the directory path to this command is `/usr/openv/netbackup/bin`

Options

`-C` Specifies the client name.

`-i` Specifies the backup image name.

`-p` Specifies the database server port.

`-S` Configures the NetBackup primary server.

`-t` Configures the target directory to restore the backup.

nbmysql -o query

`nbmysql -o query` – query the backups.

SYNOPSIS

`nbmysql -o query`

`-S` *`primary_server_name`*

`[-P` *`policy_name`*`]`

`[-C` *`client_name`*`]`

Description

The `nbmysql -o query` command gets the backup using `-S` as the required parameter and `-C` and `-P` as optional parameters

On Windows systems, the directory path to this command is `install_path\NetBackup\bin\`

On Linux systems, the directory path to this command is `/usr/openv/netbackup/bin/`

Options

`-C` Retrieves and lists all backups on the specified client name.

`-P` Retrieves and lists all backups with the specified policy name.

`-S` Configures the NetBackup primary server.

nbmysql -o delete

`nbmysql -o delete` – deletes the backup information from the NetBackup catalog files.

SYNOPSIS

`nbmysql -o delete`

`-S` *`primary_server_name`*

`-i` *`copy_id`*

Description

The `nbmysql-o delete` command deletes the backup images from the NetBackup catalog files, but retains the backups in the storage media.

The parameter `-S` and `-i` are the required parameters.

Options

`-i` Specifies the backup using the backup image name.

`-S` Configures the NetBackup primary server.

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