

FromDual Backup and Recovery Manager (**brman**) User Guide

You can find this document as PDF [here](#).

1. About

The FromDual Backup and Recovery Manager for MariaDB and MySQL (**brman**) is an application to ease the use of the various MariaDB/MySQL backup tools. The Problem with MariaDB/MySQL backup tools is, that they have many options and thus are over-complicated and errors are easy made.

brman has the intention to make backups for MariaDB/MySQL easier and technically correct. This means it should per default not allow non-consistent backups or complain if some functions or parameters are used in the wrong way to guarantee proper backups.

In addition it has added some nice features which are missing in standard MariaDB/MySQL backup tools or which are only known from Enterprise backup solutions.

1.1. Where to download **brman**

The FromDual Backup and Recovery Manager for MariaDB and MySQL (**brman**) can be downloaded from our [website](#).

1.2. What **brman** users say about

Ow! Nice! FromDual Backup Manager is a very nice tool! Congratulations for FromDual! I made a shell script for catalog and maintained backups by **xtrabackup**, but **brman** is the best!

Xtrabackup + brman!!!!

— Mathias Brem DBA@DBAOnline on LinkedIn

1.3. What is supported by **brman**?

FromDual Backup and Recovery Manager supports:

- Supported Operating Systems: Linux. Other UNIX like Operating Systems like BSD or MacOSX may work or not. Windows most probably does NOT work.
- Supported Linux Distributions: Red Hat/Rocky Linux 8 and 9 (other Red Hat derivatives may work), Debian 11 - 12, Ubuntu LTS: 20.04, 22.04 and 24.04, SUSE 12 and 15 probably work. Other Linux distributions we do NOT know.

- MariaDB 10.5 to 11.4, MySQL/Percona Server 5.7 and 8.0 are supported. We could not test MySQL 8.4 yet.
- MariaDB Backup, Percona Xtrabackup and MySQL Enterprise Backup are supported.

2. Backup and Recovery Manager Installation Guide

2.1. Introduction

The FromDual Backup and Recovery Manager (**brman**) for MariaDB and MySQL is an easy to use CLI application for creating MariaDB and MySQL backups.

Its main purpose is to ease the many difficult ways of doing MariaDB and MySQL backups.

Fromdual **brman** is written in PHP and works best on Linux systems. Other UNIX like systems may work as well.

2.2. Adding FromDual DEB repository

Adding the FromDual DEB/APT repository as described [here](#). Then install **brman** with the following command:

2.3. Debian



2.3.1. Install **brman** on Debian 11 (Bullseye) and Debian 12 (bookworm)

```
apt install brman
```

For ease of use add the following line to your shell profile (e.g. `~/.bashrc`):

```
export PATH=${PATH}:/opt/brman/bin  
brman --version
```

2.4. Ubuntu



2.4.1. Install **brman** on Ubuntu 20.04 LTS (Focal Fossa), Ubuntu 22.04 (Jammy Jellyfish) and Ubuntu 24.04 (Noble Numbat)

```
apt install brman
```

For ease of use add the following line to your shell profile (e.g. `~/.bashrc`):

```
export PATH=${PATH}:/opt/brman/bin  
brman --version
```

2.5. Adding FromDual RPM repository

Adding the FromDual RPM repository as described [here](#). Then install **brman** with the following command:

2.6. Red Hat / Rocky Linux / AlmaLinux



2.6.1. Install **brman** on Red Hat 8 and 9 / Rocky Linux 8 and 9 / AlmaLinux 8 and 9

We did not test yet if PHP 8.0 or 7.3 and older also works. Please try it out and let us know your results...

```
dnf install https://rpms.remirepo.net/enterprise/remi-release-<8 or 9>.rpm  
dnf update  
dnf install brman php83-php-pecl-yaml
```

For ease of use add the following line to your shell profile (e.g. `~/.bashrc`):

```
export PATH=${PATH}:/opt/brman/bin  
brman --version
```

2.7. Installation of **brman** from a binary tar ball

Download FromDual Backup and Recovery Manager for MariaDB and MySQL from [here](#).

```
export RELEASE=2.3.0
cd /tmp
wget https://support.fromdual.com/admin/download/brman-${RELEASE}.tar.gz

tar -C /opt -xf brman-${RELEASE}.tar.gz
ln -s /opt/brman-${RELEASE} /opt/brman
```

For ease of use add the following line to your shell profile (e.g. `~/.bashrc`):

```
export PATH=${PATH}:/opt/brman/bin
brman --version
```

2.8. Creating a **brman** database user

For convenience we recommend the **brman** user as follows:

```
CREATE USER 'brman'@'127.0.0.1' IDENTIFIED BY '<a_secret_password>';
GRANT ALL ON *.* TO 'brman'@'127.0.0.1';
```

If you want to do the backup also from remote machines (logical backup only) you can use `'%'` or an IP address or an IP range for the host part.

The minimal required privileges for full logical backup are:

```
GRANT SHOW DATABASES, EVENT on *.* TO 'brman'@'127.0.0.1';
GRANT SELECT on *.* TO 'brman'@'127.0.0.1';
GRANT SHOW VIEW on mysql.user TO 'brman'@'127.0.0.1';
```

Additionally for a full physical backup the following privileges are required:

```
GRANT RELOAD, PROCESS, CONNECTION ADMIN on *.* TO 'brman'@'127.0.0.1';
```

2.9. Upgrading **brman**

Upgrading **brman** is typically quite easy:

```
INST_DIR=${HOME}/product
VERSION=9.9.9
```

```
shell> cd ${INST_DIR}
shell> tar xf /download/brman-${VERSION}.tar.gz
shell> rm -f brman
shell> ln -s brman-${VERSION} brman
```

If you were installing brman via your distribution package manager the following command is sufficient:

```
shell> apt upgrade brman # On DEB based systems
shell> dnf upgrade brman # On RPM based systems
```

For further details see the specific [release notes](#).

3. FromDual Backup Manager (**bman**)

3.1. Where can **bman** help you

The intention of **bman** is to assist you in bigger MariaDB/MySQL set-ups where you have to follow some backup policies and where you need a serious backup concept.

3.2. **bman** example

To give you an impression of the power of the FromDual Backup Manager (**bman**) let us have a look at a little example:

```
shell> bman --target=brman:secret@192.168.1.42 --type=full --mode=logical
--policy=daily \
--no-compress --backupdir=/mnt/slowdisk \
--archive --archivedestination=file:///mnt/nfsmount
```

With this backup method we do a **logical full backup** (`mysqldump` is triggered in the background). The backup is stored in the location for backups with the **daily policy** and is NOT compressed to speed up the backup by saving CPU power AND because the backup device is a de-duplicating drive. Then the backup is archived to and NFS mount.

3.3. Backup types

To achieve this we have defined different backup types:

Table 1. Backup types

Type	Description
full	Do a full logical or physical backup (<code>mysqldump/mysqlbackup/mariadb-backup/xtrabackup</code>) of all schemas.
binlog	Do a binary log backup.
config	Do configuration file backup (<code>my.cnf</code>).
structure	Do a structure backup (no data).
cleanup	Do a clean-up of backups older than n days.
schema	Do backup of one or more schemas (together or separated).
privilege	Do a privilege backup (<code>SHOW GRANTS FOR</code>).

A backup type is specified with the option `--type=<backup_type>`.

3.3.1. Binlog Backup

Binary Log Backup currently is only supported locally.

3.4. Backup modes

A backup can either be logical or physical. A logical backup is typically what you do with `mysqldump`. A physical backup is typically a physical file copy without looking into the data. That is what for example `mariadb-backup` does.

The backup mode is specified with the option `--mode=<backup_mode>`. The following backup modes are available:

Table 2. Backup modes

Mode	Description
logical	Do a logical backup (<code>mysqldump</code>). This is the default.
physical	Do a physical backup (<code>mysqlbackup/mariadb-backup/xtrabackup</code>).

3.5. Backup policies

Further we have introduced different backup policies. Policies are there to distinguish how different backups should be treated.

The following backup policies exist:

Table 3. Backup policies

Policy	Description
daily	Directory to store daily backups.
weekly	Directory to store weekly backups.

Policy	Description
monthly	Directory to store monthly backups.
quarterly	Directory to store quarterly backups.
yearly	Directory to store yearly backups.
binlog	Directory to store binary log backups.

For example you could plan to do a daily MariaDB/MySQL backup with binary logs with a retention policy of 7 days. But once a week you want to do a weekly backup consisting of a full backup, a configuration backup and a structure dump. But this weekly backup you want to keep for 6 months. And because of legal reasons you want to do a yearly backup with a retention policy of 10 years.

A backup policy is specified with the `--policy=<backup_policy>` option. This leads us to the retention time:

3.6. Options

The retention time which should be applied to a specific backup policy you can specify with the option `--retention=<period_in_days>`. The retention option means that a backup is not deleted before this amount of days when you run a clean-up job with `bman`.

Let us do an example:

```
shell> bman --type=cleanup --policy=daily --retention=30
```

This means that all backups in the daily policy should be deleted when they are older than 30 days.

3.7. Target

With the `--target` option you specify the connect string to the database to backup. This database can be located either local (all backup types can be used) or remote (only client/server backup types can be used (`mysqldump`)).

A target looks as follows: `user:password@host:port` (similar to URI specification) whereas you can omit password and port.

3.8. Backup location, archiving, compressing and clean-up

The `--backupdir` option controls the location of the backup files. The policy folders (`daily`, `weekly`, `monthly`, `quarterly` and `yearly`) are automatically created under the `--backupdir` location. If you have a second layer of backup stores (also called archive stores for example tapes or slow backup drives or de-duplicated drives or NFS drives) you can use the `--archive` option to copy your backup files to this second layer storage which is specified with the `--archivedestination` option. For faster restores it is recommended to always keep one or two generations of backups on your fast local drive. If you

want to remove (clean-up) the backed up files from the `--backupdir` destination after the archive job has completed use the `--cleanup` option. If you want to remove (clean-up) the archived files from the archive location (`--archivedestination`) use the option `--archive` in combination with `--type=cleanup`. If you want to omit to compress backups, either to save time or because your location uses de-duplicated drives you can use the `--no-compress` option.

3.9. Per schema backup

Especially for shared hosting companies (or multi tenant applications) a full database backup is typically not the right backup strategy because a restore of one specific customer (= schema) is very complicated. For this case we have the `--per-schema` option. `bman` will do a backup of the whole database schema by schema. Keep in mind: This breaks consistency among schemas!

Sometimes you want to do a schema backup only for some specific schemas for this you can use the `--schema` option. This option allows you to specify schemas to backup or not to backup. `--schema=+a,+b` means backup schema a and b. `--schema=-a,-b` means backup all schemas except a and b. The second variant is less error prone because you do not forget to backup a new schema.

3.10. Instance name

MariaDB/MySQL does not know the concept of naming an instance (`mysqld`). But for bigger environments it could be useful to uniquely name each instance. For this purpose we have introduced the option `--instance-name=<give_it_a_name>`. This instance name should be unique within your whole company. But we do not enforce it atm. The instance name is used to name backup files and later to identify the backup history of an instance in our backup catalog and to allow us to track the files for restore.

3.11. `bman` configuration file

Specifying everything on the command line is cumbersome. Thus `bman` considers a configuration file specified with the `--config=<config_file>` option. A `bman` configuration file looks for example as follows:

```
policy           = daily
target           = brman:secret@127.0.0.1:3306
type             = schema
schema          = -mysql
archive         = on
archivedestination = file:///mnt/tape
per-schema      = on
no-compress     = on
no-memory-table-check = on
```

3.12. Simulate what happens

For the Sissies among us (as for example me) we have the `--simulate` option. This option simulates

nearly all steps as far as possible without executing really anything. This option is either for testing some features or for debugging purposes.

3.13. Logging

If you want to track your backup history you can specify with the `--log` option where your `bman` log file should be located.

3.14. Using Catalog

It will be very useful when you can store your backups metadata in the database so you can check them in the future and to find out the backup criteria (type, mode, instance-name, ... etc) for specific backup processes. This could be achieved by using the catalog feature. To activate this feature you have to create a schema for the catalog "default name is `brman_catalog``" then create its tables by using the option `--create` in a special `bman` command (check examples below). Finally, to store your backup metadata in the catalog what you only have to do is adding the option `--catalog=catalog_connection_string` to the normal `bman` command. Check the examples below for using catalog in `bman`.

3.15. Special cases and workarounds

If your application is dropping tables during your `bman` Backup and `bman` is returning errors you find here some workarounds: [Dropped Tables with FromDual Backup Manager](#).

3.16. Backup Manager (`bman`) Examples

3.16.1. Example: Getting `bman` version and help

To just see if `bman` works correctly just run:

```
shell> bman --version
```

To get a compact help of what `bman` can do run the following command. This output is the most reliable and most up-to-date source of information about `brman` (documentation may not be up-to-date):

```
shell> bman --help
```

3.16.2. Example: Full logical backup

Do a full (logical = default) backup and store it in the daily policy folder:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=full --policy=daily
```

3.16.3. Example: Full physical backup

Do a full physical backup and store it in the weekly policy folder:

```
shell> bman --target=brman:secret@127.0.0.1 --type=full --mode=physical
--policy=weekly
```

3.16.4. Example: Full binary log backup

Do a binary log backup omitting the password in the target and store it in the **binlog** policy folder. The binary logs should NOT be purged during the backup (by default they would be purged):

```
shell> bman --target=brman@192.168.1.42:3307 --type=binlog --policy=binlog --no-purge
```

3.16.5. Example: Schema backup omitting some schemas

Do a schema backup omitting the **mysql** schema:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=schema --schema=-mysql \
--policy=daily --archive --archivedestination=file:///mnt/tape
```

3.16.6. Example: Schema backup of some schemas

Do a schema backup only of **foodmart** and **world** and write each backup to its own own file. Omit compressing these backups because they are located for example on deduplicated drives:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=schema \
--schema+=foodmart,+world --per-schema --policy=daily --no-compress
```

3.16.7. Example: Configuration backup into weekly policy

Do a configuration backup (**my.cnf**) and store it in the weekly policy folder:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=config --policy=weekly
```

3.16.8. Example: Structure backup into monthly policy

Do a structure backup and store it in the monthly policy folder and name the file with the instance name:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=structure --policy=monthly \
--instance-name=prod-db
```

3.16.9. Example: Weekly structure backup to other location

Do a weekly structure backup and archive it to an other backup location:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=structure --policy=weekly \  
--archive --archivedestination=file:///mnt/tape
```

3.16.10. Example: Privilege backup

Do a weekly privilege backup:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=privilege --policy=weekly \  
--mode=logical
```

3.16.11. Example: Privilege backup per schema

Do a daily privilege backup per schema:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=privilege --policy=daily \  
--per-schema
```

3.16.12. Example: Archiving an Cleaning

Archive backup to other location:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=structure --policy=weekly \  
--archive --archivedestination=file:///mnt/tape --cleanup
```

Cleanup old backups:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=cleanup --policy=daily \  
--retention=30d
```

Cleanup old backups from archive location:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=cleanup --policy=daily \  
--retention=30d --archive --archivedestination=file:///mnt/nfsmount
```

3.16.13. Example: Backup shipping

If you want to ship your backup to an other (backup) server after database backup you can use the option `--archivedestination`. The protocols `file`, `scp`, `sftp` and `rsync` are supported:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=full --policy=daily \  
--archivedestination=sftp://backup@backup.example.com:22/home/backup/production/daily/
```

3.16.14. Example: Other options (`--pass-through`)

If you want to pass through options to the underlying backup utility (`mysqldump`, `mariadb-backup`, `xtrabackup`, `mysqlbackup`) you can use the `--pass-through` option. In the following example the `mysqldump` utility omits dumping the `CountryLanguage` table in a `world` schema backup:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=schema --mode=logical  
--policy=daily \  
--schema=+world --pass-through="--ignore-table=world.CountryLanguage"
```

3.16.15. Example: Monitoring integration (`fpmmm`)

If you are using the FromDual Performance Monitor for MariaDB and MySQL (`fpmmm`) and/or Zabbix for database monitoring you can send the backup information also to your monitoring solution for getting trends and see errors or anomalies:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=full --policy=daily \  
--fpmmm-hostname=mariadb-103 --fpmmm-cache  
-file=/var/cache/fpmmm/fpmmm.FromDual.mariadb-103.cache
```

3.16.16. Example: Backup Catalog

Creation of a backup catalog (assuming you have created already a catalog schema with the default name `brman_catalog`):

```
shell> bman --catalog=brman:secret@127.0.0.1:3306 --create
```

Backups against catalog:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --catalog=brman:secret@127.0.0.1:3306  
\  
--instance-name=test --type=full --policy=daily
```

3.16.17. Example: Excluding a table or a schema from backup

If you want to exclude one or several tables from a logical brman backup you can use the `--pass-through` option:

```
shell> bman --target=brman:secret@127.0.0.1:3306 --type=schema --mode=logical \  
--pass-through="--ignore-table=world.CountryLanguage"
```

```
--policy=daily --schema=+world --pass-through="--ignore-table=world.CountryLanguage"
```

If you prefer a configuration file instead use this:

```
#  
# /etc/brman.conf  
#  
target          = brman:secret@127.0.0.1:3306  
type            = schema  
mode           = logical  
policy         = daily  
schema         = +world  
pass-through    = --ignore-table=world.CountryLanguage
```

4. FromDual Recovery Manager (**rman**)

4.1. Where can **rman** help you

The Recovery Manager (**rman**) is the counterpart to the Backup Manager (**bman**). Recovery Manager assists you in restoring and recovering backups of your MariaDB and MySQL databases done with **bman** or in some cases also with classical backup means like (**mariadb-dump**, **mysqldump**, **mariadb-backup**, **xtrabackup** and **mysqlbackup**). Recovery Manager makes your restore easier and safer.

4.2. Progress Indicator

Since version 2.1.0 the FromDual Recovery Manager (**rman**) has also a progress indicator for the restore of logical backups made with **mysqldump**.

The Recovery Manager progress indicator logs to STDOUT:

```
shell> rman --target=brman:secret@127.0.0.1:3306 --type=full --mode=logical  
--policy=daily \  
--instance-name=qamariadb102 --progress --backup-name=bck_qamariadb102_full_2019-08  
-20_21:15:23.sql
```

```
Reading configuration from /etc/mysql/my.cnf  
No rman configuration file.
```

```
Command line: /home/mysql/product/brman-2.2.1/bin/rman.php  
--target=brman:*****@127.0.0.1:3306 --type=full --mode=logical --progress --backup  
-name=bck_qamariadb102_full_2019-08-20_21:15:23.sql --policy=daily --instance  
-name=qamariadb102
```

```
Options from command line  
target          = brman:*****@127.0.0.1:3306
```

```
type           = full
mode           = logical
progress       =
backup-name    = bck_qamariadb102_full_2019-08-20_21:15:23.sql
policy         = daily
instance-name  = qamariadb102
```

Resulting options

```
target         = brman:*****@127.0.0.1:3306
type           = full
mode           = logical
progress       =
backup-name    = bck_qamariadb102_full_2019-08-20_21:15:23.sql
policy         = daily
instance-name  = qamariadb102
log            = ./rman.log
datadir        = /var/lib/mysql
owner          = mysql
backupdir      = /home/mysql/bck
binlog-policy  = binlog
```

```
Logging to    ./rman.log
Backupdir is  /home/mysql/bck
Version is    2.2.1
```

Start restore at 2019-08-20 21:18:46

```
mysql --user=brman --password=***** --host=127.0.0.1 --port=3306
```

```
From backup file: /home/mysql/bck/daily/bck_qamariadb102_full_2019-08-20_21:15:23.sql.gz
```

Restore progress:

```
. schema foodmart
. schema fromdual_a
. . table          audit          1 statements,          3
rows,              171 bytes
. . table          c1            1 statements,          3
rows,              42 bytes
. . table          c2            1 statements,          3
rows,              42 bytes
. . table          child         1 statements,          3
rows,              177 bytes
. . table          parent        1 statements,          3
rows,              175 bytes
. schema fromdual_b
. . table          audit          1 statements,          3
rows,              171 bytes
. . table          c1            1 statements,          3
rows,              42 bytes
. . table          c2            1 statements,          3
rows,              42 bytes
```

```

. . table                child          1 statements,      3
rows,                    177 bytes
. . table                employees    0 statements,      0
rows,                    0 bytes
. . table                parent      1 statements,      3
rows,                    175 bytes
. schema fromdual_c
. . table                audit      1 statements,      3
rows,                    171 bytes
. . table                c1        1 statements,      3
rows,                    42 bytes
. . table                c2        1 statements,      3
rows,                    42 bytes
. . table                child      1 statements,      3
rows,                    177 bytes
. . table                parent      1 statements,      3
rows,                    175 bytes
...
. schema test
. . table                test       347 statements,    4621
rows,                    286528 bytes
. schema world
. . table                City       1 statements,      4079
rows,                    177139 bytes
. . table                Country   1 statements,      239
rows,                    36481 bytes
. . table                CountryLanguage 1 statements,      984
rows,                    26160 bytes
. schema brman_catalog
. schema foodmart
. schema fromdual_a
. schema fromdual_b
. schema fromdual_c
. schema mysql
. schema test
. schema test_catalog
. schema world
Schemas: 9, Tables: 55, Statements: 376, Rows: 12275, Bytes: 992736
WARNING: Progress numbers for Total Byte Counter may be different of dump file size.

Restore time was: 0d 0h 1' 28"
End restore at 2019-08-20 21:20:14 (rc=0)

```

The overhead of FromDual Recovery Manager progress indicator is not significant. We measured less than 1% longer recovery times with the progress indicator compared to pure `mysql` restoration.

4.3. Recovery Manager (`rman`) Examples

4.3.1. Example: Full logical restore

This is the way how to do a full logical restore from a backup done with **bman**, **mariadb-dump** or **mysqldump**:

```
shell> rman --target=brman:secret@127.0.0.1:3306 \  
--type=full --mode=logical \  
--policy=daily --backupdir=/home/oli/bck --backup-name=full_dump.sql.gz
```

4.3.2. Example: Full physical restore

A full physical restore from a backup done with **bman**, **mariadb-backup** or **xtrabackup** is done as follows:

```
shell> rman --target=brman:secret@127.0.0.1 \  
--type=full --mode=physical --policy=daily \  
--backup-name=bck_full_2026-06-11
```

4.3.3. Example: Logical restore of a specific schema from FromDual **bman** backup:

```
shell> rman --target=brman:secret@127.0.0.1:3306 \  
--type=schema --mode=logical --schema=world --policy=daily \  
--progress --fast --no-binlog --cleanup-first \  
--backup-name=full_dump.sql.gz
```

4.3.4. Example: Point-in-Time-Recovery (PiTR) after restore:

```
shell> rman --target=brman:secret@127.0.0.1:3306 \  
--type=full --policy=daily --mode=logical \  
--backupdir=/home/oli/bck --backup-name=full_dump.sql.gz \  
--recover --before-datettime='2024-07-04 16:19:21' \  
--binlog-policy=binlog
```

4.3.5. Example: Partial (database/schema) physical restore (**xtrabackup** /**mariadb-backup**) from FromDual **bman** backup:

```
shell> rman --target=brman:secret@127.0.0.1 \  
--type=schema --mode=physical --policy=daily \  
--schema=test --log=/tmp/rman.log \  
--backup-name=bck_full_2024-07-11 --backupdir=/tmp/backup
```

See also: [Partial physical database restore for MariaDB and MySQL](#)

4.3.6. Example: Monitoring integration (fpmmm)

If you are using the FromDual Performance Monitor for MariaDB and MySQL (fpmmm) and/or Zabbix for database monitoring you can send the backup information also to your monitoring solution for getting trends and see errors or anomalies:

```
shell> rman --target=brman:secret@127.0.0.1:3306 --type=full --mode=logical \  
  --policy=daily --instance-name=qamariadb102 \  
  --fpmmm-hostname=mariadb-106 --fpmmm-cache \  
  -file=/var/cache/fpmmm/fpmmm.FromDual.mariadb-106.cache
```

4.3.7. Example: Restore of a testing system from bman backup

Restore on a testing system of a backup made by bman:

```
shell> rman --config=/etc/rman_restore.conf \  
  --backup-name=$(ls -tr1 /var/restores/daily/bck_schema_world*.sql.gz | tail -n1 | \  
  cut -d/ -f5-)
```

5. Automated Restore testing

FromDual Backup and Recovery Manager is ideal for automated restore testing.

For more details see also: [Automated MariaDB restore tests](#).

6. brman Integration into other FromDual Tools

FromDual Backup and Recovery Manager is integrated into other Tools of FromDual Enterprise Toolbox:

- Backup size, return code and duration of a rman runs can be reported to FromDual Performance Monitor for MariaDB and MySQL (fpmmm). This allows monitoring of backups and alerting if backups fail or are not executed at all.
- Restore return code and duration of a rman runs can be reported to FromDual Performance Monitor for MariaDB and MySQL (fpmmm). This allows monitoring of automated restore tests and alerting if restore fail or are not executed at all.
- Backup and Recovery Manager is shown from myEnv overview:

```
shell> V
```

```
The following FromDual Toolbox Packages are installed:  
-----
```

MyEnv:	2.0.3 (2decca847d904dce9363fe68869897ab5a39dadb)
BRman:	2.3.0
OpsCenter:	not available
Fpmmm:	1.5.0
O/S:	Linux / Ubuntu
Binaries:	mariadb-10.6

- Backups are integrated into the Graphical User Interface FromDual Ops Center for MariaDB and MySQL ([focmmm](#)): [Database backup](#).

7. Backup and Recovery Manager Release Notes

- [Backup and Recovery Manager for MariaDB and MySQL 2.3.1](#), Release Date: 12 August 2024
- [Backup and Recovery Manager for MariaDB and MySQL 2.3.0](#), Release Date: 25 June 2024
- Backup and Recovery Manager for MariaDB and MySQL 2.2.5, Release Date: 23 February 2022
- [Backup and Recovery Manager for MariaDB and MySQL 2.2.4](#), Release Date: 26 July 2021
- [Backup and Recovery Manager for MariaDB and MySQL 2.2.3](#), Release Date: 13 January 2021
- [Backup and Recovery Manager for MariaDB and MySQL 2.2.2](#), Release Date: 8 October 2020
- [Backup and Recovery Manager for MariaDB and MySQL 2.2.1](#), Release Date: 5 August 2019
- [Backup and Recovery Manager for MariaDB and MySQL 2.2.0](#), Release Date: 25 July 2019
- [Backup and Recovery Manager for MariaDB and MySQL 2.1.0](#), Release Date: 22 February 2019
- [Backup and Recovery Manager for MariaDB and MySQL 2.0.0](#), Release Date: 27 June 2018
- [Backup and Recovery Manager for MySQL 1.2.5](#), Release Date: 1 May 2017
- [Backup and Recovery Manager for MySQL 1.2.4](#), Release Date: 12 January 2017
- [Backup and Recovery Manager for MySQL 1.2.3](#), Release Date: 1 October 2016
- [Backup and Recovery Manager for MySQL 1.2.2](#), Release Date: 29 May 2015
- [Backup and Recovery Manager for MySQL 1.2.1](#), Release Date: 18 January 2015
- Backup and Recovery Manager for MySQL 1.2.0, Release Date: 24 September 2014
- Backup and Recovery Manager for MySQL 1.1.1, Release Date: 4 September 2014
- Backup and Recovery Manager for MySQL 1.1.0, Release Date: 11 August 2014
- Backup and Recovery Manager for MySQL 1.0.4, Release Date: 15 April 2014
- Backup and Recovery Manager for MySQL 1.0.3, Release Date: 3 April 2014
- Backup and Recovery Manager for MySQL 1.0.2, Release Date: 10 December 2013
- Backup and Recovery Manager for MySQL 1.0.1, Release Date: 4 November 2013
- Backup and Recovery Manager for MySQL 1.0, Release Date: 30 September 2013
- Backup and Recovery Manager for MySQL 0.4, Release Date: 30 March 2011

- Backup and Recovery Manager for MySQL 0.3.6, Release Date: 23 January 2011
- Backup and Recovery Manager for MySQL 0.3.5, Release Date: 22 January 2011
- Backup and Recovery Manager for MySQL 0.3.4, Release Date: 21 November 2010
- Backup and Recovery Manager for MySQL 0.3.3, Release Date: 21 November 2010
- Backup and Recovery Manager for MySQL 0.3.2, Release Date: 14 November 2010
- Backup and Recovery Manager for MySQL 0.3.1, Release Date: 14 November 2010
- Backup and Recovery Manager for MySQL 0.3, Release Date: 13 November 2010
- Backup and Recovery Manager for MySQL 0.2.7, Release Date: 12 August 2010
- Backup and Recovery Manager for MySQL 0.2.6, Release Date: 12 August 2010
- Backup and Recovery Manager for MySQL 0.2.5, Release Date: 12 August 2010
- Backup and Recovery Manager for MySQL 0.2.4, Release Date: 12 August 2010
- Backup and Recovery Manager for MySQL 0.2.3, Release Date: 19 January 2010
- Backup and Recovery Manager for MySQL 0.2.2, Release Date: 7 January 2010
- Backup and Recovery Manager for MySQL 0.2.1, Release Date: 31 December 2009
- Backup and Recovery Manager for MySQL 0.2, Release Date: 24 December 2009
- Backup and Recovery Manager for MySQL 0.1.1, Release Date: 18 July 2008
- Backup and Recovery Manager for MySQL 0.1, Release Date: 18 July 2008

8. Backup and Recovery Manager License

[See here](#)

9. Backup and Recovery Manager Frequently Asked Questions (FAQ)

Question: How can I find the version of the installed `brman`?

Answer: You can find the version by the 2 following commands:

```
shell> bman --version
shell> rman --version
```

Question: Is there a Graphical User Interface (GUI) for Backup and Recovery Manager?

Answer: Backup Recovery Manager is integrated into [FromDual Ops Center for MariaDB and MySQL](#).

Question: How can I automate restore and restore tests with `brman`?

Answer: To automatize backup and restore with Backup and Recovery Manager (`brman`) we have written the article: [Automated MariaDB restore tests](#).

Question: How can I integrate `brman` into my monitoring?

Answer: If you are using the [FromDual Performance Monitor for MariaDB and MySQL \(fpmmm\)](#) and/or Zabbix for database monitoring you can send the backup and restore information also to your monitoring solution for getting trends and see errors or anomalies. For this you can use the options `--fpmmm-hostname=` and `--fpmmm-cache-file=`.

No other FAQ so far... Please ask!