

FromDual MyEnv Documentation

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

1. About

MyEnv is a tool to run **several** MySQL, MariaDB or PostgreSQL database instances on **ONE host** without using any virtualization or container technologies. You can even run multiple database instances with **different versions** on the same machine. We call this multi-instance set-ups.

With MyEnv a multi-instance set-up is **more comfortable** to handle than with `mysqld_multi` (old) or Systemd services (new) and it provides **more useful functionality**.

Using MyEnv does **not need** the use of the **root user** to operate a database instances. Thus it is **appropriate for classical enterprise DBA organizations**.

Further multi-instance set-ups is a much more efficient way of **consolidating** MySQL and MariaDB instances an has **less overhead than virtualization** solutions. To do proper resource fencing MyEnv provides cgroup integration (container integration (docker/incus/lxd) is planned in the future).

2. Installation Guide

2.1. Prerequisites

- Currently MyEnv works on Linux (other UNIXes may work but are not tested).
- MyEnv works best with recent Debian, Ubuntu or Rocky Linux Linux distributions.
- MyEnv is based on PHP.
- A dedicated user (typically `dba`) to run the databases is required. This user must have a shell (`bash` is tested).

2.2. Download and Install MyEnv

MyEnv can be downloaded from the FromDual [download page](#) or directly via the command line:

```
$ cd /tmp
$ VERSION='2.1.1'
$ wget https://support.fromdual.com/admin/download/myenv-{VERSION}.tar.gz
```

2.3. Adding FromDual DEB or RPM repositories

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2.4. Installation of MyEnv from FromDual Repository on Debian / Ubuntu



MyEnv requires the following packages:

- `php-cli`
- `php-mysql`
- `libaio1`
- `lsb-release`

Install the packages as follows: `$ sudo apt install php-cli php-mysql libaio1 lsb-release`

2.5. Installation of MyEnv from FromDual Repository on Rocky Linux / Red Hat Linux / Oracle Linux / AlmaLinux / Fedora / CentOS



MyEnv requires the following packages:

- `php-cli`
- `php-mysqli` (provided by RPM `php-mysql`)
- `php-posix` (provided by RPM `php-process`)
- `libaio`

Install the packages as follows:

```
$ sudo dnf install php-cli php-mysqli php-posix libaio
```

2.6. Installation of MyEnv on OpenSUSE and SLES



MyEnv requires the following packages:

- `php-posix`
- `php-pcntl`
- `php-mysql`

- `php-sockets`

Install the packages as follows:

```
$ sudo zypper install php-posix php-pcntl php-mysql php-sockets
```

2.7. Installation of FromDual MyEnv from a binary tarball

2.7.1. Preparations for MyEnv

In the file `/etc/php5/cli/php.ini` or `/etc/php/7.0/cli/php.ini` (Ubuntu) or `/etc/php.ini` (CentOS), change the setting `variables_order` to `EGPCS`.

MyEnv is assumed to run under the user `dba`. Thus you have to create this user and its group:

```
$ sudo groupadd --system dba
$ sudo useradd --system --gid dba --home-dir /home/dba --create-home --shell /bin/bash dba
$ sudo passwd dba
```

Some directories for database socket files are needed as well:

```
$ sudo mkdir /run/mysqld /run/mariadb
$ sudo chown dba: /run/mysqld /run/mariadb
```

Next is the directory where the MyEnv configuration will be located. DO NOT FORGET to give the `dba` user read and write permission for this directory.

```
$ sudo mkdir /etc/myenv
$ sudo chown -R dba: /etc/myenv
$ sudo chmod 740 /etc/myenv
```

Switch the user:

```
$ su - dba
```

and create some more folders in his home directory:

```
$ mkdir ~/product ~/database ~/download
```

- **product** is the location of the unpacked binaries. This is the location where MyEnv is looking

for them by default.

- **download** is intended to be used as landing zone for downloads, such as fresh binary tarballs.
- **database** usually contains the `datadir` of the instances (more precisely `instancedir`).

2.7.2. Installation of MyEnv

To install MyEnv you have to untar it. It is assumed to do that in the `product` directory of the `dba` user.

```
$ VERSION='2.1.1'  
$ cd ~/product  
$ tar xf /tmp/myenv-${VERSION}.tar.gz  
$ ln -s myenv-${VERSION} myenv
```

2.8. Testing FromDual MyEnv installation

```
$ ~/product/myenv/bin/showMyEnvVersion.php
```

3. User Guide

3.1. Technical Overview

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3.2. Downloading and installing database binary tarball

Before you start configuring MyEnv and a MyEnv controlled database instance it is recommended to first install the binary tarball of your favourite database MariaDB, MySQL or PostgreSQL:

3.3. For MariaDB



Go to the [MariaDB Downloads](#) page, choose **MariaDB Server Version** → **Linux** → **Architecture** → **Init System** to choose the release you want to use. And download the tarball to the `~/download` directory. Alternatively you can do it also on the command line:

```
$ su - dba  
$ cd ~/download  
$ MAVERSION='12.3.2'  
$ wget https://archive.mariadb.org//mariadb-${MAVERSION}/bintar-linux-systemd-
```

```
x86_64/mariadb-${MAVERSION}-linux-systemd-x86_64.tar.gz
$ cd ~/product
$ tar xf ~/download/mariadb-${MAVERSION}-linux-systemd-x86_64.tar.gz
$ ln -s mariadb-${MAVERSION}-linux-systemd-x86_64 mariadb-${MAVERSION}
```

3.4. For MySQL



Go to the [Download MySQL Community Server](#) page and choose **Select Version** → **Linux - Generic** → **OS Version** to choose the release you want to use. And download the tarball to the `~/download` directory. Alternatively you can do it also on the command line:

```
$ sudo apt install xz-utils # On Debian
$ su - dba
$ cd ~/download
$ MYVERSION='9.7.3'
$ MAJOR=$(echo ${MYVERSION} | cut -d. -f-2)
$ GLIBCVERSION='2.28'
$ wget https://dev.mysql.com/get/Downloads/MySQL-${MAJOR}/mysql-${MYVERSION}-linux-glibc${GLIBCVERSION}-x86_64.tar.xz
$ cd ~/product
$ tar xf ~/download/mysql-${MYVERSION}-linux-glibc${GLIBCVERSION}-x86_64.tar.xz
$ ln -s mysql-${MYVERSION}-linux-glibc${GLIBCVERSION}-x86_64 mysql-${MYVERSION}
```

3.5. For PostgreSQL



For PostgreSQL we did not find binary tarballs. So we have to create them ourselves:

3.5.1. Compile PostgreSQL from Source

```
$ cd postgresql
$ ./configure
$ make -j 4
$ su
$ make install
$ adduser postgres
$ mkdir -p /usr/local/pgsql/data
$ chown postgres /usr/local/pgsql/data
$ su - postgres
$ /usr/local/pgsql/bin/initdb -D /usr/local/pgsql/data
$ /usr/local/pgsql/bin/pg_ctl -D /usr/local/pgsql/data -l logfile start
$ /usr/local/pgsql/bin/createdb test
```

```
$ /usr/local/pgsql/bin/psql test
```

3.5.2. Create a PostgreSQL binary tarball (.tar.gz)

```
$ cd postgresql
$ ./configure --prefix=/tmp/postgresql-19.dev-x86_64
$ make -j 4
$ make install
$ tar -C /tmp -czf /tmp/postgresql-19.dev-x86_64.tar.gz postgresql-19.dev-x86_64
$ cp /tmp/postgresql-19.dev-x86_64.tar.gz /download
```

3.5.3. Install a PostgreSQL binary tarball (.tar.gz) under MyEnv

```
$ su - dba
$ cd product
$ tar xf ~/download/postgresql-19.dev-x86_64.tar.gz
$ ln -s postgresql-19.dev-x86_64 postgresql-19
```

3.6. Configuration of MyEnv

To configure MyEnv you have 2 possibilities:

- You can **configure** MyEnv by running the MyEnv installer:

```
$ ~/product/myenv/bin/installMyEnv.php
```

- or you can configure MyEnv manually:

```
$ sudo echo 'export MYENV_BASE=/home/dba/product/myenv' > /etc/myenv/MYENV_BASE
$ sudo cp /home/dba/product/myenv/tpl/myenv.conf.template /etc/myenv/myenv.conf
$ sudo cp /home/dba/product/myenv/tpl/variables.conf.template
/etc/myenv/variables.conf
$ sudo cp /home/dba/product/myenv/tpl/aliases.conf.template /etc/myenv/aliases.conf
$ cat ~/product/myenv/tpl/profile.template >> ~/.bash_profile
```

When you have chosen to use the MyEnv installer, follow the steps through the set-up. If you already have binaries available, you get the possibility to create a new database instance.

After each MyENV installation or configuration operation you have to run:

```
$ source ~/.bash_profile
```

3.7. Put MyEnv under Systemd control

```
$ sudo cp /home/dba/product/myenv/tpl/systemd.myenv.dba.unit.template
/etc/systemd/system/myenv.service
$ sudo systemctl daemon-reload
$ sudo systemctl enable myenv.service
Created symlink /etc/systemd/system/myenv → /etc/systemd/system/myenv.service.

$ sudo systemctl status myenv.service
□ myenv.service - FromDual Environment for MySQL and MariaDB (myenv)
   Loaded: loaded (/etc/systemd/system/myenv.service; enabled; vendor preset:
enabled)
   Active: inactive (dead)
     Docs: https://www.fromdual.com/myenv-installation-guide

$ sudo systemctl start myenv
$ sudo systemctl status myenv
□ myenv.service - FromDual Environment for MySQL and MariaDB (myenv)
   Loaded: loaded (/etc/systemd/system/myenv.service; enabled; vendor preset:
enabled)
   Active: active (running) since Tue 2020-09-01 09:42:39 CEST; 4s ago
     Docs: https://www.fromdual.com/myenv-installation-guide
   Process: 19532 ExecStartPre=/bin/mkdir -p /var/run/myenv /var/run/mysqld
(code=exited, status=0/SUCCESS)
   Process: 19533 ExecStartPre=/bin/chown mysql: /var/run/myenv /var/run/mysqld
(code=exited, status=0/SUCCESS)
   Main PID: 19534 (myenv_start_sto)
     Tasks: 32 (limit: 4915)
    Memory: 343.7M
    CGroup: /system.slice/myenv.service
           └─19534 /usr/bin/php -d variables_order=EGPCS
/home/mysql/product/myenv/bin/myenv_start_stop.php start
           └─19552 bin/mysqld --defaults
-file=/home/mysql/database/monitoring/etc/my.cnf --basedir=/home/mysql/product/mysql
-5.7 --datadir=/home/mysql/database/monitoring/data --user=mysql
           └─19584 sh -c export LC_ALL=C ; /usr/bin/php -d variables_order=EGPCS
-f /home/mysql/product/myenv-2.0.2/bin/database.php mysql-80 start 2>&1
2>/tmp/my_exec.stderr.19534
           └─19585 /usr/bin/php -d variables_order=EGPCS -f
/home/mysql/product/myenv-2.0.2/bin/database.php mysql-80 start
           └─19595 bin/mysqld --defaults-file=/home/mysql/database/mysql
-80/etc/my.cnf --basedir=/home/mysql/product/mysql-8.0
--datadir=/home/mysql/database/mysql-80/data --user=mysql

Sep 01 09:42:39 boss systemd[1]: Starting FromDual Environment for MySQL and
MariaDB (myenv)...
Sep 01 09:42:39 boss systemd[1]: Started FromDual Environment for MySQL and
MariaDB (myenv).

$ tail -f /home/dba/product/myenv/log/myenv_start_stop.log -n 1000
```

```
2025-09-01 09:42:39 Starting myenv_start_stop
2025-09-01 09:42:39 Starting instances: monitoring mysql-80 dwh mysql-84 mariadb-
114 mariadb-118 mysql-8019
2025-09-01 09:42:39 Starting instance: monitoring
2025-09-01 09:42:42 Starting instance: mysql-80
2025-09-01 09:42:54 Starting instance: dwh
2025-09-01 09:42:57 Starting instance: mysql-84
2025-09-01 09:43:00 Starting instance: mariadb-114
2025-09-01 09:43:03 Starting instance: mariadb-118
2025-09-01 09:43:10 Starting instance: mysql-8019
2025-09-01 09:43:18 Finished myenv_start_stop (rc=0).
```

3.7.1. Configuration of PostgreSQL

{%collapsible%}

```
[pg18]

start           = yes
stop            = yes
type            = mysqld
basedir         = /home/mysql/product/postgresql-18
instancedir     = /home/mysql/database/pg18
datadir         = /home/mysql/database/pg18/data
user            = mysql
port            = 5433
socket          = /run/postgresql/.s.PGSQL.5433
my.cnf          = /home/mysql/database/pg18/etc/postgresql.conf
angel           = no
cgroups         = no
stage           = testing
```

3.8. Put a database under MyEnv control

Run the MyEnv install script `~/product/myenv/bin/installMyEnv` and choose the option "a" (add instance) then follow the instructions.

Or add a section similar to the following example to the MyEnv configuration file `/etc/myenv/myenv.conf`:

```
#
# /etc/myenv/myenv.conf
#
```

```
[test]
```

```
start          = yes
stop           = yes
hideschema    = mysql,performance_schema,lost+found,sys
type          = mysqld
basedir       = /home/mysql/product/mysql-5.7
instancedir   = /home/mysql/database/myenv_test
datadir       = /home/mysql/database/myenv_test/data
user          = mysql
port          = 3306
socket        = /run/mysqld/mysql-3306.sock
my.cnf        = /home/mysql/database/myenv_test/etc/my.cnf
angel         = no
cgroups       = no
stage         = testing
```

3.9. How MyEnv works

It is always recommended to work as user `mysql` for starting, stopping and doing maintenance work. Otherwise you run into conflicts with permissions on files, etc.

When you login as user `mysql` you will get the current status of your environment (if MyEnv is installed and configured correctly):

```
dba@master:~ [prodcms, 3308]> u
```

```
Up      : mysql-8421 (5.7.21) prodcms (10.2)
```

```
Down    : mysql-84 (5.7) mariadb-103 (10.3.8) mysql-4030 (4.0.30)
          mysql-4125 (4.1.25) mariadb-55 (5.5) galera-57-a (5.7)
          galera-57-b (5.7) galera-57-c (5.7)
```

```
mysql-8421      (*:3311 ) : cacti
mysql-84        (*:3310 ) : cluster_test test01 test02 test03
                  test04
mariadb-103     (*:3314 ) : typo3
mysql-4030      (*:3309 ) : test
mysql-4125      (*:3313 ) : test foodmart
mariadb-55      (*:3307 ) : drupal7
prodcms         (*:3308 ) : drupal8
mariadb-55      (*:3312 ) : magento oxid
galera-57-a (192.168.57.1:3306 ) : hybric
```

```
galera-57-b (192.168.57.2:3306 ) : hybris
galera-57-c (192.168.57.3:3306 ) : hybris
```

```
dba@master:~ [prodcms, 3308]>
```

3.10. Functionality

The most important command in MyEnv are:

```
<instance> : Switches to the environment for this instance. For example:
              $ mariadb-103
u or up     : Lists, which releases are available, which instances are up and
              down and which instance contains which database. For example:
              $ u
start       : Starts the actual or a specific instance. For example:
              $ start
              or
              $ start mysql-805
stop        : Stops the actual instance or a specific instance. For example:
              $ stop
              or
              $ stop mariadb-10212
restart     : restarts the actual or a specific instance. For example:
              $ restart
              or
              $ restart mysql-8421
bootstrap   : bootstraps a Galera node.
V           : print the current MyEnv version
cdb         : cd to the binlogdir of this instance.
cdd         : cd to the datadir of this instance.
cde         : cd to the etcdir of this instance.
cdh         : cd to the basedir of this instance.
cdi         : cd to the instancedir of this instance.
cdl         : cd to the logdir of this instance.
cdm         : cd to the myenv-directory.
cdt         : cd to the tmpdir of this instance.
cd a b      : cd to a directory with the name where a is substituted by b.
              For example:
              $ pwd /var/lib/mysql1
              $ cd 1 2
              $ pwd /var/lib/mysql2
ll          : ls -l
la          : ls -la
mv          : mv -i
rm          : rm -i
```

Some examples:

```
dba@chef:~ [mariadb-103, 3318]> u
```

```
Up      : mariadb-102 (10.2) mysql-84 (5.7)
```

```
Down    : monitoring (5.7) dwh (5.7.21) mariadb-103 (10.3)
```

```
monitoring      (*:3319) : mem mem__advisor_text mem__advisors
mem__bean_config mem__config mem__enterprise
                                mem__events mem__instruments
mem__instruments_config mem__inventory mem__quan sys zabbix
mariadb-102      (*:3312 ) : test
dwh              (*:3325 ) : cms crm datamart download erp focmm foodmart mpm
shop staging tellmatic test
mariadb-103      (*:3318 ) : foodmart test world
mysql-84         (*:3320 ) : FlughafenDB test test2
```

```
dba@chef:~ [mariadb-103, 3318]> dwh
dba@chef:~ [dwh, 3325]>
```

```
dba@chef:~ [dwh, 3325]> start
. SUCCESS!
dba@chef:~ [dwh, 3325]> restart
.. SUCCESS!
. SUCCESS!
dba@chef:~ [dwh, 3325]> stop
.. SUCCESS!
```

```
dba@chef:~ [dwh, 3325]> mariadb-102
dba@chef:~ [mariadb-102, 3312]> cdm
dba@chef:~/product/myenv [mariadb-102, 3312]> cdh
dba@chef:~/product/mariadb-10.2 [mariadb-102, 3312]> cdd
dba@chef:~/database/mariadb-102/data [mariadb-102, 3312]> cdb
dba@chef:~/database/mariadb-102/binlog [mariadb-102, 3312]> cde
dba@chef:~/database/mariadb-102/etc [mariadb-102, 3312]> cd1
dba@chef:~/database/mariadb-102/log [mariadb-102, 3312]> cd 102 103
dba@chef:~/database/mariadb-103/log [mariadb-102, 3312]>
```

MyEnv works with aliases, variables and functions. With the UNIX commands `alias`, `env` and `declare -F | grep -v ' _'` you get an overview over the MyEnv functionality.

3.11. Upgrading MyEnv

Upgrading MyEnv is very easy. You can proceed as follows if you want to upgrade to a newer version of MyEnv:

```
$ su - mysql
$ cd ~/download
$ VERSION='2.1.1'
$ wget https://support.fromdual.com/admin/download/myenv-${VERSION}.tar.gz
$ cd ~/product
$ tar xf ../download/myenv-${VERSION}.tar.gz
$ unlink myenv
$ ln -s myenv-${VERSION} myenv
```

You are basically going to re-install MyEnv, but with a newer version.

Please also check the Release notes for specific problems.

3.12. Un-install MyEnv

To un-install MyEnv again just remove the myenv section from your `.bash_profile` and the `~/product/myenv` link:

```
$ cd ~/product
$ sudo rm -rf myenv-x.y myenv /etc/init.d/myenv /etc/myenv
```

Make sure that the original start/stop script is put back in place and that the `my.cnf` is at its original location.

3.13. Troubleshooting

To enable debugging functionality, use the following command:

```
$ export MYENV_DEBUG=1
```

To disable the debugging again, use the following command:

```
$ unset MYENV_DEBUG
```

Feedback is always welcome! In case you found a bug or you have a feature request, please report it to the [FromDual bug tracker](<https://support.fromdual.com/bugs> "FromDual bug tracker") or send us an email.

4. Enterprise Subscription and Support

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5. Release Notes

- FromDual MyEnv 2.1.1 has been released, Release Date: 12 December 2025
- [FromDual MyEnv 2.1.0 has been released](#), Release Date: 16 February 2024
- [FromDual MyEnv 2.0.3 has been released](#), Release Date: 2 July 2021
- [FromDual MyEnv 2.0.2 has been released](#), Release Date: 15 January 2019
- [FromDual MyEnv 2.0.1 has been released](#), Release Date: 3 October 2018
- [FromDual MyEnv 2.1.1 has been released](#), Release Date: 15 March 2018
- [FromDual MyEnv 1.3.1 has been released](#), Release Date: 2 August 2016
- [FromDual MyEnv 1.3.0 has been released](#), Release Date: 28 January 2016
- [FromDual MyEnv 1.2.2 has been released](#), Release Date: 6 October 2015
- [FromDual MyEnv 1.2.1 has been released](#), Release Date: 21 July 2015
- [FromDual MyEnv 1.2.0 has been released](#), Release Date: 3 April 2015
- [FromDual MyEnv 1.1.4 has been released](#), Release Date: 4 February 2015
- FromDual MyEnv 1.1.3 has been released, Release Date: 30 January 2015
- [FromDual MyEnv 1.1.2 has been released](#), Release Date: 13 October 2014
- [FromDual MyEnv 1.1.1 has been released](#), Release Date: 4 September 2014
- [FromDual MyEnv 1.1.0 has been released](#), Release Date: 11 August 2014
- [FromDual MyEnv 1.0.5 has been released](#), Release Date: unknown
- [FromDual MyEnv 1.0.4 has been released](#), Release Date: 15 April 2014
- [FromDual MyEnv 1.0.3 has been released](#), Release Date: 3 April 2014
- [FromDual MyEnv 1.0.2 has been released](#), Release Date: 10 December 2013
- [FromDual MyEnv 1.0.1 has been released](#), Release Date: 4 November 2013
- [FromDual MyEnv 1.0 has been released](#), Release Date: 30 September 2013
- FromDual MyEnv 0.4 has been released, Release Date: 30 March 2011
- FromDual MyEnv 0.3.6 has been released, Release Date: 23 January 2011
- FromDual MyEnv 0.3.5 has been released, Release Date: 22 January 2011
- FromDual MyEnv 0.3.4 has been released, Release Date: 21 November 2010
- FromDual MyEnv 0.3.3 has been released, Release Date: 21 November 2010
- FromDual MyEnv 0.3.2 has been released, Release Date: 14 November 2010
- FromDual MyEnv 0.3.1 has been released, Release Date: 14 November 2010

- FromDual MyEnv 0.3 has been released, Release Date: 13 November 2010
- FromDual MyEnv 0.2.7 has been released, Release Date: 12 August 2010
- FromDual MyEnv 0.2.6 has been released, Release Date: 12 August 2010
- FromDual MyEnv 0.2.5 has been released, Release Date: 12 August 2010
- FromDual MyEnv 0.2.4 has been released, Release Date: 12 August 2010
- FromDual MyEnv 0.2.3 has been released, Release Date: 19 January 2010
- FromDual MyEnv 0.2.2 has been released, Release Date: 7 January 2010
- FromDual MyEnv 0.2.1 has been released, Release Date: 31 December 2009
- FromDual MyEnv 0.2 has been released, Release Date: 24 December 2009
- FromDual MyEnv 0.1.1 has been released, Release Date: 18 July 2008
- FromDual MyEnv 0.1 has been released, Release Date: 18 July 2008

6. Questions and Answers (Q & A)

Question: How can I set a default instance chosen when I log in?

Answer: In the configuration file `/etc/myenv/myenv.conf` you can add a `default` instance in the `[default]` section as follows:

```
#
# /etc/myenv/myenv.conf
#

[default]

default          = mariadb-123
```

This instance leads to the following prompt and environment when logged in:

```
dba@boss:~ [mariadb-123, 3306]>
```

Question: We were unable to stop an instance through myenv but start is working fine. How can we find the problem?

```
[root@ip-172-31-46-213 ~]# su - mysql

Up       : Master (5.7.30) Slave (5.7.30)

Down    :

Master (*:3306 ) :
Slave  (*:3307 ) :
```

```
dba@ip-172-31-46-213:~ [Master, 3306]> stop
ERROR: Cannot find nor guess PID file (rc=520). Is it possible that the database
is already
stopped? (rc=520)
ERROR: Stopping instance Master failed (rc=546).
```

Answer: In all FromDual tools the return code (`rc`) is unique. So you can easily find where in the code the error happened. In your case it is in `Lib/MyEnv.inc` in the function `stopInstance`.

In the code we check if PID file is empty. And it is empty if it cannot be found:

- in `my.cnf` specified in `myenv.conf` as variable `pid_file` or `pid-file`
- under `$datadir/mysql.pid`
- under `$datadir/<hostname>.pid`

It would be interesting for us if you could tell us where your PID file is located and where it is configured (`SHOW GLOBAL VARIABLES LIKE 'pid%'`);).