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Percona Distribution for MongoDB Documentation

Release 4.4.10

Percona LLC and/or its affiliates 2009-2022

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CONTENTS

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components designed and tested to work together:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.

- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

See also:

Percona Documentation:

- Percona Server for MongoDB documentation
- Percona Backup for MongoDB documentation

Part I

Installation and Upgrade

INSTALLING PERCONA DISTRIBUTION FOR MONGODB

Percona provides installation packages for the Percona Distribution for MongoDB in **DEB** and **RPM** formats for the most 64-bit Linux distributions. Find the list of supported platforms on the Percona Software and Platform Lifecycle page.

We recommend installing the Percona Distribution for MongoDB from Percona repositories using the **percona-release** utility. This is the most straightforward way since **percona-release** enables the required repositories for you.

Percona provides two repositories for Percona Distribution for MongoDB. We recommend to install Percona Distribution for MongoDB from the *Major Release repository* (e.g. `pdmdb-4.4`) as it includes the latest version packages. Whenever a package is updated, the package manager of your operating system detects that and prompts you to update. As long as you update all Distribution packages at the same time, you can ensure that the packages you're using have been tested and verified by *Percona*.

The *Minor Release repository* includes a particular minor release of the database and all of the packages that were tested and verified to work with that minor release (e.g. `pdmdb-4.4.0`). You may choose to install Percona Distribution for MongoDB from the Minor Release repository if you have decided to standardize on a particular release which has passed rigorous testing procedures and which has been verified to work with your applications. This allows you to deploy to a new host and ensure that you'll be using the same version of all the Distribution packages, even if newer releases exist in other repositories.

The disadvantage of using a Minor Release repository is that you are locked in this particular release. When potentially critical fixes are released in a later minor version of the database, you will not be prompted for an upgrade by the package manager of your operating system. You would need to change the configured repository in order to install the upgrade.

The installation of Percona Distribution for MongoDB includes the following steps:

1. Install the **percona-release** utility.
2. Set up the *Percona* repository for the required version of Percona Distribution for MongoDB.
3. Install the packages.

Run the following commands as root or by using the **sudo** command.

1.1 Install `percona-release`

Follow the installation instructions relevant to your operating system in the Percona Software Repositories Documentation to install `percona-release`.

If you have previously installed **percona-release**, make sure it is updated to the latest version.

1.2 Set up *Percona* repository

As soon as **percona-release** is up-to-date, use the `setup` command to enable *Percona* repository for Percona Distribution for MongoDB (`pdmdb-4.4`).

```
$ sudo percona-release setup pdmdb-4.4
```

Hint: To enable a minor version repository (e.g. pdmdb-4.4.0), use the following command:

```
$ sudo percona-release setup pdmdb-4.4.0
```

1.3 Install packages

Install Percona Distribution for MongoDB components using the package manager of your operating system.

1.3.1 Install on *Debian / Ubuntu*

Use the following commands to install *Percona Server for MongoDB* and / or *Percona Backup for MongoDB*:

```
# Install the Percona Server for MongoDB package
$ sudo apt install percona-server-mongodb
# Install the Percona Backup for MongoDB package
$ sudo apt install percona-backup-mongodb
```

See also:

- Installing Percona Server for MongoDB
- Installing Backup for MongoDB

1.3.2 Install on *Red Hat Enterprise Linux / CentOS*

Use the following commands to install *Percona Server for MongoDB* and / or *Percona Backup for MongoDB*:

```
# Install the Percona Server for MongoDB package
$ sudo yum install percona-server-mongodb
# Install the Percona Backup for MongoDB package
$ sudo yum install percona-backup-mongodb
```

See also:

- Installing Percona Server for MongoDB
- Installing Percona Backup for MongoDB

1.4 Uninstalling Percona Distribution for MongoDB

To uninstall Percona Distribution for MongoDB, remove the packages using the package manager of your operation system. Optionally, disable *Percona* repository.

See also:

Uninstalling *Percona Server for MongoDB*:

- on Debian or Ubuntu
- on RHEL or CentOS

Uninstalling Percona Backup for MongoDB

MINOR UPGRADE OF PERCONA DISTRIBUTION FOR MONGODB

To receive bug fixes and feature enhancements that come with minor releases, keep your Percona Distribution for MongoDB upgraded to the latest version.

Before the upgrade, we recommend to back up your data in order to be on the safe side if anything goes wrong.

Similar to installing, Percona Distribution for MongoDB is upgraded from *Percona* repositories using the **percona-release** utility. Update **percona-release** to the latest version using these instructions. This is required to install new version packages of Percona Distribution for MongoDB.

Run the following commands as root or by using the **sudo** command.

The upgrade procedure includes the following steps:

2.1 Enable *Percona* repository

If you installed Percona Distribution for MongoDB from the Major release repository, this step is optional. This repository automatically includes new version packages and you receive a prompt for an upgrade from the package manager of your operating system.

If you installed Percona Distribution for MongoDB from the Minor release repository, you must enable the new version repository (e.g. `pdmdb-4.4.0`) to upgrade. We recommend to use the `setup` subcommand:

```
$ sudo percona-release setup pdmdb-4.4.0
```

See also:

Installing Percona Distribution for MongoDB

2.2 Stop the service

Stop *Percona Server for MongoDB*:

```
$ sudo systemctl mongod stop
```

Stop **pbm-agent**:

```
$ sudo systmectl pbm-agent stop
```

2.3 Install new version packages

Install *Percona Server for MongoDB* and *Percona Backup for MongoDB* using the package manager of your operating system. Please refer to the *Install packages* section for the corresponding installation instructions.

2.4 Restart the service

Start *Percona Server for MongoDB*:

```
$ sudo systemctl mongod start
```

Start **pbm-agent**:

```
$ sudo systmectl pbm-agent start
```

Part II

Release Notes

RELEASE NOTES

3.1 *Percona Distribution for MongoDB* 4.4.12

Date February 7, 2022

Installation Installing Percona Distribution for MongoDB

Percona Distribution for MongoDB is a freely available MongoDB database alternative, giving you a single solution that combines enterprise components from the open source community, designed and tested to work together. The aim of Percona Distribution for MongoDB is to enable you to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.

- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.12-12 and Percona Backup for MongoDB 1.6.1.

3.1.1 Release Highlights

This release of Percona Distribution for MongoDB includes improvements and bug fixes, provided by MongoDB and included in Percona Server for MongoDB. The most notable from them are the following:

- Defined a timeout for a health check process and throw an error when the process fails to complete within a timeout. This prevents health check to hang.

- Added the ability to transition through the valid states of the fault manager, and the interface to observer and log its state transitions.

- Fixed broken OP_QUERY exhaust cursor implementation

- Added the `repairShardedCollectionChunksHistory` command to restore `history` fields for some chunks. This aims to fix broken snapshot reads and distributed transactions.

3.2 *Percona Distribution for MongoDB* 4.4.10

Date November 10, 2021

Installation Installing Percona Distribution for MongoDB

Percona Distribution for MongoDB is a freely available MongoDB database alternative, giving you a single solution that combines enterprise components from the open source community, designed and tested to work together. The aim of Percona Distribution for MongoDB is to enable you to run and operate your MongoDB efficiently with the data being consistently backed up.

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- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.10-11 and Percona Backup for MongoDB 1.6.1.

3.2.1 Release Highlights

This release of Percona Distribution for MongoDB includes bug fixes, provided by MongoDB and included in Percona Server for MongoDB. The most notable from them are the following:

- Fixed delays in establishing egress connections on `mongos` due to delayed responses from `libcrypto.so`

Percona Backup for MongoDB 1.6.1 improvements include the following:

- Improved backup and point-in-time recovery routines alignment by using sequential `delete-pitr/install-backup` operations instead of in-memory backup intent. This fixes the inability of a backup to start.

- Added support for automated access to S3 buckets using an EC2 instance profile. When Percona Backup for MongoDB is deployed using an EC2 instance, EC2 environment variables and metadata are used for S3 authentication, saving you from explicitly specifying S3 credentials in the Percona Backup for MongoDB configuration file. This comes handy for architectures deployed using the services like Amazon EC2, kiam, kube2iam or irsa.

- Extended logging for `pbm-agents`. This improves user experience with Percona Backup for MongoDB.

3.3 *Percona Distribution for MongoDB* 4.4.9

Date October 7, 2021

Installation Installing Percona Distribution for MongoDB

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This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.9-10 and Percona Backup for MongoDB 1.6.0.

> **Warning:** Beginning with MongoDB 4.4.2, several data impacting or corrupting bugs were introduced. Find the details below.
>
> These bugs are fixed in MongoDB 4.4.9. Percona Server for MongoDB 4.4.9-10, as part of Percona Distribution for MongoDB 4.4.9, includes the upstream fixes of these bugs.
>
> Please *upgrade* your Percona Distribution for MongoDB to version 4.4.9 as soon as possible.
>
> ---
>
> **Additional upgrade planning note**
>
> If you are running MongoDB version 4.4.4 / Percona Distribution for MongoDB 4.4.4 or below, please skip upgrading to version 4.4.8 as that has been found to trigger the Duplicate Key error most consistently. Two WiredTiger bugs (WT-7984 and WT-7995) are found in all versions of MongoDB 4.4.x except 4.4.1. Ideally, upgrade directly from version 4.4.1 to 4.4.9 to attempt to avoid those data impacting or corrupting bugs.

3.3.1 Release Highlights

The bug fixes, provided by MongoDB and included in Percona Server for MongoDB and Percona Distribution for MongoDB are the following:

- WT-7426 - After upgrade to v4.4.5, startups or restarts can trigger WiredTigers RTS bug which can corrupt page metadata causing documents on affected pages to become invisible to MongoDB. This can lead to temporary query incorrectness or more likely a fatal error and inability to restart . Affects only MongoDB 4.4.5 and Percona Distribution for MongoDB 4.4.5.

- SERVER-58936 - Unique Index constraint violations possible - can cause duplicate data - fixed in version 4.4.8.

- WT-7995 - Checkpoint thread can read and persist inconsistent version of data to disk. Can cause Duplicate Key error on startup and prevent the node from starting. Unclean shutdowns can cause data inconsistency within documents, deleted documents to still exist, incomplete query results due to lost or inaccurate index entries, and/or missing documents. Affects MongoDB versions 4.4.2 through 4.4.8 and Percona Distribution for MongoDB 4.4.2 - 4.4.8 as well as MongoDB 5.0.0 through 5.0.2. Upgrade to fixed version of MongoDB 4.4.9 / Percona Distribution for MongoDB 4.4.9 as soon as possible.

- WT-7984 and associated Server Bug SERVER-60371.

- WT-7984 - Bug that could cause Checkpoint thread to omit a page of data. If the server experiences an unclean shutdown, an inconsistent checkpoint is used for recovery and causes data corruption. Fixed in version 4.4.9. Requires the validate command to be run and possible data remediation via complete initial sync.

- SERVER-60371 - Deployments, previously running version 4.4.8 and upgraded to 4.4.9, could still experience Duplicate Key error and Fatal assertion. Related to the two previous Wired Tiger bugs.

  Requires the validate command to be run and possible data remediation via complete initial sync. Currently under review.

Percona Backup for MongoDB 1.6.0 improvements include the following:

- Support for Percona Server for MongoDB and MongoDB Community 5.0

- Point-in-time recovery enhancements: ability to restore from any previous snapshot and configurable span of oplog events

- JSON output for PBM commands to simplify interfacing PBM with applications

3.4 *Percona Distribution for MongoDB* 4.4.8

Date August 16, 2021

Installation Installing Percona Distribution for MongoDB

> **Warning:** This version is not recommended for production use due to the following critical issues found in MongoDB Community: WT-7984 and WT-7995. They are fixed in MongoDB 4.4.9 Community Edition and Percona Server for MongoDB 4.4.9-10. Percona Distribution for MongoDB 4.4.9 includes these fixes too.
>
> We recommend you to *upgrade* to Percona Distribution for MongoDB 4.4.9-10 as soon as possible and run the validate command on every collection on every replica set node.

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Percona Distribution for MongoDB includes the following components:

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This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.8-9 and Percona Backup for MongoDB 1.6.0.

3.5 *Percona Distribution for MongoDB* 4.4.6

Date June 2, 2021

Installation Installing Percona Distribution for MongoDB

> **Warning:** This version is not recommended for production use due to the following critical issues found in MongoDB Community: WT-7984 and WT-7995. They are fixed in MongoDB 4.4.9 Community Edition and Percona Server for MongoDB 4.4.9-10. Percona Distribution for MongoDB 4.4.9 includes these fixes too.
>
> We recommend you to *upgrade* to Percona Distribution for MongoDB 4.4.9-10 as soon as possible and run the validate command on every collection on every replica set node.

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Percona Distribution for MongoDB includes the following components:

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This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.6-8 and Percona Backup for MongoDB 1.5.0.

3.6 *Percona Distribution for MongoDB* 4.4.5

Date April 19, 2021

Installation Installing Percona Distribution for MongoDB

> **Warning:** This version is not recommended for production use due to the following critical issues found in MongoDB Community: WT-7984 and WT-7995. They are fixed in MongoDB 4.4.9 Community Edition and Percona Server for MongoDB 4.4.9-10. Percona Distribution for MongoDB 4.4.9 includes these fixes too.
>
> We recommend you to *upgrade* to Percona Distribution for MongoDB 4.4.9-10 as soon as possible and run the validate command on every collection on every replica set node.

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This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.5-7 and Percona Backup for MongoDB 1.4.1.

3.7 *Percona Distribution for MongoDB* 4.4.4

Date February 25, 2021

Installation Installing Percona Distribution for MongoDB

> **Warning:** This version is not recommended for production use due to the following critical issues found in MongoDB Community: WT-7984 and WT-7995. They are fixed in MongoDB 4.4.9 Community Edition and Percona Server for MongoDB 4.4.9-10. Percona Distribution for MongoDB 4.4.9 includes these fixes too.
>
> We recommend you to *upgrade* to Percona Distribution for MongoDB 4.4.9-10 as soon as possible and run the validate command on every collection on every replica set node.

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.
- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.4-6 and Percona Backup for MongoDB 1.4.1.

3.8 *Percona Distribution for MongoDB* 4.4.3

Date January 28, 2021

Installation Installing Percona Distribution for MongoDB

> **Warning:** This version is not recommended for production use due to the following critical issues found in MongoDB Community: WT-7984 and WT-7995. They are fixed in MongoDB 4.4.9 Community Edition and Percona Server for MongoDB 4.4.9-10. Percona Distribution for MongoDB 4.4.9 includes these fixes too.
>
> We recommend you to *upgrade* to Percona Distribution for MongoDB 4.4.9-10 as soon as possible and run the validate command on every collection on every replica set node.

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.
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This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.3-5 and Percona Backup for MongoDB 1.4.1.

3.9 *Percona Distribution for MongoDB* 4.4.2

Date December 1, 2020

Installation Installing Percona Distribution for MongoDB

> **Warning:** This version is not recommended for production use due to the following critical issues found in MongoDB Community: WT-7984 and WT-7995. They are fixed in MongoDB 4.4.9 Community Edition and Percona Server for MongoDB 4.4.9-10. Percona Distribution for MongoDB 4.4.9 includes these fixes too.
>
> We recommend you to *upgrade* to Percona Distribution for MongoDB 4.4.9-10 as soon as possible and run the validate command on every collection on every replica set node.

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.
- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This release of Percona Distribution for MongoDB is based on Percona Server for MongoDB 4.4.2-4 and Percona Backup for MongoDB 1.3.4.

3.10 *Percona Distribution for MongoDB* 4.4.1 Update

> **Date** October 9, 2020
>
> **Installation** Installing Percona Distribution for MongoDB

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.

- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This update to the Percona Distribution for MongoDB fixes the security vulnerability CVE-2020-26542 and is based on *Percona Server for MongoDB* 4.4.1-3 and *Percona Backup for MongoDB* 1.3.1.

3.11 *Percona Distribution for MongoDB* 4.4.1

> **Date** September 24, 2020
>
> **Installation** Installing Percona Distribution for MongoDB

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.

- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This release of Percona Distribution for MongoDB is based on *Percona Server for MongoDB* 4.4.1-2 and *Percona Backup for MongoDB* 1.3.1.

3.12 *Percona Distribution for MongoDB* 4.4.0

> **Date** August 26, 2020
>
> **Installation** *Installing Percona Distribution for MongoDB*

Percona Distribution for MongoDB is a collection of solutions to run and operate your MongoDB efficiently with the data being consistently backed up.

Percona Distribution for MongoDB includes the following components:

- *Percona Server for MongoDB* is a fully compatible open source, drop-in replacement for MongoDB.

- *Percona Backup for MongoDB* is a distributed, low-impact solution for achieving consistent backups of MongoDB sharded clusters and replica sets.

This release of Percona Distribution for MongoDB is based on *Percona Server for MongoDB* 4.4.0-1 and *Percona Backup for MongoDB* 1.3.0.