



Zenoss Core Upgrade Guide

Release 5.3.2

Zenoss, Inc.

www.zenoss.com

Zenoss Core Upgrade Guide

Copyright © 2017 Zenoss, Inc. All rights reserved.

Zenoss, Own IT, and the Zenoss logo are trademarks or registered trademarks of Zenoss, Inc., in the United States and other countries. All other trademarks, logos, and service marks are the property of Zenoss or other third parties. Use of these marks is prohibited without the express written consent of Zenoss, Inc., or the third-party owner.

Amazon Web Services, AWS, and EC2 are trademarks of Amazon.com, Inc. or its affiliates in the United States and/or other countries.

Flash is a registered trademark of Adobe Systems Incorporated.

Oracle, the Oracle logo, Java, and MySQL are registered trademarks of the Oracle Corporation and/or its affiliates.

Linux is a registered trademark of Linus Torvalds.

RabbitMQ is a trademark of Pivotal Software, Inc.

SNMP Informant is a trademark of Garth K. Williams (Informant Systems, Inc.).

Sybase is a registered trademark of Sybase, Inc.

Tomcat is a trademark of the Apache Software Foundation.

VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

All other companies and products mentioned are trademarks and property of their respective owners.

Part Number: 1091.17.268

Zenoss, Inc.
11305 Four Points Drive
Bldg 1 - Suite 300
Austin, Texas 78726

Contents

About this guide	4
Supported operating environments.....	4
Zenoss Core publications.....	5
Change history.....	6
Chapter 1: Documented upgrade paths	7
Release dates and versions.....	7
Upgrade paths included in this document.....	7
Chapter 2: Before upgrading	9
Rebuilding the MIB catalog.....	9
Downloading Zenoss Core image files.....	9
Importing Zenoss Core image files.....	10
Chapter 3: Upgrading Zenoss Core	11
Stopping Zenoss Core.....	11
Upgrading Zenoss Core.....	11
Chapter 4: After upgrading	13
Removing the pre-upgrade snapshot.....	13
Appendix A: Using Zenoss Toolbox	14
Zenoss Toolbox tools.....	14
Running Zenoss Toolbox tools.....	14
Appendix B: Common upgrade error recovery procedures	16
A snapshot with the given tag already exists.....	16

About this guide

Zenoss Core Upgrade Guide provides detailed instructions for upgrading Zenoss Core from one minor or micro version to a more recent version.

Note Zenoss strongly recommends reviewing the *Zenoss Core Planning Guide* carefully before using this guide.

Supported operating environments

Zenoss Core, Control Center, and operating systems

The following table identifies the supported combinations of Zenoss Core, Control Center, and operating system releases.

Zenoss Core release	Control Center	
	release	Host OS
5.3.0, 5.3.1, 5.3.2	1.3.0, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.4.0, 1.4.1	RHEL/CentOS 7.1, 7.2, or 7.3 (64-bit)
5.2.0, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.6*	1.2.0, 1.2.1, 1.2.2, 1.2.3, 1.3.0, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.4.0, 1.4.1	RHEL/CentOS 7.1, 7.2, or 7.3 (64-bit)
5.1.9, 5.1.10	1.1.9, 1.2.0	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.8	1.1.5, 1.1.6, 1.1.7, 1.1.8, 1.1.9	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.7	1.1.5, 1.1.6, 1.1.7, 1.1.8	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.6 (internal release only)	(none)	(none)
5.1.4, 5.1.5	1.1.5, 1.1.6, 1.1.7	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.3	1.1.2, 1.1.3, 1.1.5	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.2	1.1.2, 1.1.3	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.1	1.1.1, 1.1.2	RHEL/CentOS 7.1 or 7.2 (64-bit)

Supported clients and browsers

The following table identifies the supported combinations of client operating systems and web browsers.

Client OS	Supported Browsers
Windows 7 and 8.1	Internet Explorer 11 (Enterprise mode only; compatibility mode is not supported.)
	Internet Explorer 10*
Windows 10	Internet Explorer 11 (Enterprise mode only; compatibility mode is not supported.)
	Internet Explorer 10*

* Version 5.2.5 was withdrawn.

* Support for Internet Explorer 10 will be withdrawn beginning with the next major release of Zenoss Core.

Client OS	Supported Browsers
	Firefox 50 and later
	Chrome 54 and later
	Microsoft Edge
Windows Server 2012 R2	Firefox 30
	Chrome 36
Macintosh OS/X 10.9	Firefox 30 and above
	Chrome 36 and above
Ubuntu 14.04 LTS	Firefox 30 and above
	Chrome 37 and above
Red Hat Enterprise Linux 6.5, CentOS 6.5	Firefox 30 and above
	Chrome 37 and above

Zenoss Core publications

Title	Description
<i>Zenoss Core Administration Guide</i>	Provides an overview of Zenoss Core architecture and features, as well as procedures and examples to help use the system.
<i>Zenoss Core Configuration Guide</i>	Provides required and optional configuration procedures for Zenoss Core, to prepare your deployment for monitoring in your environment.
<i>Zenoss Core Installation Guide</i>	Provides detailed information and procedures for creating deployments of Control Center and Zenoss Core.
<i>Zenoss Core Planning Guide</i>	Provides both general and specific information for preparing to deploy Zenoss Core.
<i>Zenoss Core Release Notes</i>	Describes known issues, fixed issues, and late-breaking information not already provided in the published documentation set.
<i>Zenoss Core Upgrade Guide</i>	Provides detailed information and procedures for upgrading deployments of Zenoss Core.

Additional information and comments

Zenoss welcomes your comments and suggestions regarding our documentation. To share your comments, please send an email to docs@zenoss.com. In the email, include the document title (*Zenoss Core Upgrade Guide*) and part number (1091.17.268).

Change history

The following list associates document part numbers and the important changes to this guide since the previous release. Some of the changes involve features or content, but others do not. For information about new or changed features, refer to the *Zenoss Core Release Notes*.

1091.17.268 (5.3.2)

Update release numbers.

1091.17.242 (5.3.1)

Update release numbers.

1091.17.230 (5.3.0)

You can upgrade by using the appliance artifacts or a converged set of non-appliance artifacts. This document is reorganized and updated with associated information.

Update release numbers.

1091.17.171 (5.2.6)

Update release numbers.

About 5.2.5

Version 5.2.5 was withdrawn.

1091.17.122 (5.2.4)

Update release numbers.

1091.17.100 (5.2.3)

Update release numbers.

1091.17.058 (5.2.2)

Update release numbers.

1091.17.044 (5.2.1)

Remove change history entries prior to release 5.2.0.

Add a part about upgrading custom deployments, move scope chapter before the part.

1091.16.335 (5.2.0)

Remove procedures for upgrading Control Center clusters. That information is now in the *Control Center Upgrade Guide*.

1

Documented upgrade paths

This chapter identifies the release dates of Control Center and Zenoss Core, and the upgrade paths included in this guide.

Release dates and versions

Release 5.2.x and 5.3.x

Release Date	Control Center	Zenoss Core
25 Sep 2017	1.4.1	5.3.2
30 Aug 2017	1.4.0	5.3.1
17 Aug 2017	1.4.0	5.3.0
06 Jul 2017	1.3.3	5.2.6
19 Jun 2017	1.3.3	5.2.5 (withdrawn)
03 May 2017	1.3.2	5.2.4
06 Apr 2017	1.3.1	5.2.3
09 Mar 2017	1.3.0	5.2.2
27 Feb 2017	1.2.3	5.2.2
31 Jan 2017	1.2.2	5.2.1
16 Dec 2016	1.2.1	5.2.0
28 Nov 2016	1.2.0	5.2.0

Upgrade paths included in this document

Upgrading from Zenoss Core 5.3.x

From	To
Zenoss Core 5.3.1	Zenoss Core 5.3.2
Zenoss Core 5.3.0	Zenoss Core 5.3.2

Upgrading from Zenoss Core 5.2.x

From	To
Zenoss Core 5.2.6	Zenoss Core 5.3.2
Zenoss Core 5.2.4	Zenoss Core 5.3.2
Zenoss Core 5.2.3	Zenoss Core 5.3.2
Zenoss Core 5.2.2	Zenoss Core 5.3.2
Zenoss Core 5.2.1	Zenoss Core 5.3.2
Zenoss Core 5.2.0	Zenoss Core 5.3.2

Upgrading from Zenoss Core 5.1.x

From	To
Zenoss Core 5.1.10	Zenoss Core 5.3.2
Zenoss Core 5.1.9	Zenoss Core 5.3.2
Zenoss Core 5.1.8	Zenoss Core 5.3.2
Zenoss Core 5.1.7	Zenoss Core 5.3.2
Zenoss Core 5.1.5	Zenoss Core 5.3.2
Zenoss Core 5.1.4	Zenoss Core 5.3.2
Zenoss Core 5.1.3	Zenoss Core 5.3.2
Zenoss Core 5.1.2	Zenoss Core 5.3.2
Zenoss Core 5.1.1	Zenoss Core 5.3.2

2

Before upgrading

Use the procedures in this chapter to import updated Docker images for Zenoss Core into the local registry of the Control Center master host.

Rebuilding the MIB catalog

Use this procedure to rebuild the MIB catalog. **This procedure is required when upgrading Zenoss Core from release 5.3.0 to 5.3.1 only.**

To perform this procedure, Zenoss Core must be operating normally.

- 1 Log in to the Control Center master host as `root`, or as a user with superuser privileges.
- 2 Attache to a Zope container as user `zenoss`.

```
serviced service attach zope su - zenoss
```

- 3 Start `zendmd`.

```
zendmd
```

- 4 Rebuild the MIB index and commit the changes.
Each command may take up to 60 seconds.

```
dmd.Mibs.reIndex()  
commit()
```

- 5 Exit the container.

```
exit
```

Downloading Zenoss Core image files

To perform this procedure, you need:

- a workstation with internet access
- an account on the [Zenoss Community](#) site.
- a secure network copy program

Use this procedure to

- download the required files to a workstation
 - copy the files to a Control Center master host
- 1 In a web browser, navigate to the [Zenoss Community](#) site, and then log in with your account.
 - 2 Download the self-installing Docker image files for Zenoss Core.
Select the files with the highest version number. The version number is represented as *Version* in the following file names:
 - `install-zenoss-hbase_vVersion.run`
 - `install-zenoss-opentsdb_vVersion.run`
 - `install-zenoss-core_Version.run`
 - 3 Use a secure copy program to copy the files to the Control Center master host.

Importing Zenoss Core image files

Use this procedure to import the Zenoss Core image from self-installing archive files.

- 1 Log in to the master host as `root`, or as a user with superuser privileges.
- 2 Copy or move the archive files to `/root`.
- 3 Add execute permission to the files.

```
chmod +x /root/*.run
```

- 4 Change directory to `/root`.

```
cd /root
```

- 5 Import the images.

```
for image in install-zenoss*.run
do
  echo -n "$image: "
  ./$image
done
```

Importing begins when you press the `y` key. If you press the `y` key and then the **Return** key, the current image is imported, but the next one is not.

- 6 List the images in the registry.

```
docker images
```

The result should include one image for each archive file.

- 7 Optional: Delete the archive files, if desired.

```
rm -i ./install-*.run
```

- 8 Copy the upgrade scripts from the new Zenoss Core image to `/root/5.3.x`.

```
docker run -it --rm -v /root:/mnt/root \
  zenoss/core_5.3:5.3.2_1 rsync -a /root/5.3.x /mnt/root
```

3

Upgrading Zenoss Core

This chapter contains the procedures for upgrading a customized deployment of Zenoss Core. Before starting the procedures in this chapter, complete the procedures in *Before upgrading* on page 9.

Note Before performing an upgrade or installing a ZenPack, Zenoss strongly recommends that you check the integrity of Zenoss Core databases. For more information, see *Using Zenoss Toolbox* on page 14.

Stopping Zenoss Core

Use this procedure to stop Zenoss Core.

- 1 Log in to the Control Center master host as a user with `serviced` CLI privileges.
- 2 Check the status of Zenoss Core.

```
serviced service status --show-fields 'Name,ServiceID,Status'
```

- If the status of all services is `stopped`, this procedure is complete. Continue to the next procedure.
- If the status is `running`, perform the remaining steps.

- 3 Stop Zenoss Core.

```
serviced service stop Zenoss.core
```

- 4 Check the status of Zenoss Core.

```
serviced service status --show-fields 'Name,ServiceID,Status'
```

Repeat the command until the status of all services is `stopped`.

Upgrading Zenoss Core

Use this procedure to upgrade Zenoss Core.

- 1 Log in to the Control Center master host as `root`, or as a user with superuser privileges.
- 2 Start the upgrade script.

```
/root/5.3.x/upgrade-core.sh
```

The upgrade process begins. If you encounter errors, see [Common upgrade error recovery procedures](#) on page 16.

3 Restart Zenoss Core.

Some Zenoss Core services are started during the upgrade, and they must be restarted.

```
serviced service restart Zenoss.core
```

After upgrading

After Zenoss Core is upgraded, perform the procedures in this chapter.

Removing the pre-upgrade snapshot

The Zenoss Core upgrade script uses Control Center to create and tag a snapshot of the system before it begins the upgrade process. Tagged snapshots persist until they are explicitly removed, and grow over time. When you are satisfied the new release is working properly, remove the pre-upgrade snapshot.

- 1 Log in to the Control Center master host as a user with `serviced` CLI privileges.
- 2 Display a list of all Control Center snapshots, with their tags.

```
serviced snapshot list -t
```

Example result, truncated to save space:

Snapshot	Description	Tags
xm5mtezbyo2_20160211-220535.480		preupgrade-core-5.2.0

The snapshot identifier is shown in the first column.

- 3 Remove the pre-upgrade snapshot.

Replace *Snapshot-ID* with the identifier of the pre-upgrade snapshot returned in the previous step:

```
serviced snapshot remove Snapshot-ID
```

A

Using Zenoss Toolbox

This appendix provides an introduction to the Zenoss Toolbox, which is included in Zenoss Core. For up-to-date information, refer to the Zenoss Toolbox [KnowledgeBase article](#).

Zenoss Toolbox tools

The Zenoss Toolbox tools examine key Zenoss Core components for common issues affecting data integrity. Zenoss recommends running the following tools, in order, before upgrading Zenoss Core:

- 1 The [zodbscan](#) tool quickly scans the Zope Object Database (ZODB) to provide a preliminary indication of the health of the database, and to determine whether the database needs to be compressed with `zenosdbpack` before upgrading. The `zodbscan` tool might instruct you to run the following tools:
 - a The [findposkeyerror](#) tool checks objects and their relationships, and provides options for fixing errors.
 - b The [zenrelationscan](#) tool checks only ZenRelations between objects.
- 2 The [zencatalogscan](#) tool checks ZODB object catalogs, which speed up browser interface access.

The tools are run inside a Zope container, and the log files for each command are found in `$ZENHOME/log/toolbox`.

Running Zenoss Toolbox tools

- 1 Log in to the Control Center master host as a user with `serviced` CLI privileges.
- 2 Start an interactive session in a Zope container.

```
serviced service attach zope/0
```

- 3 Switch user to `zenoss`.

```
su - zenoss
```

- 4 Run the Zenoss Toolbox tools, in order.
For more information about the tools, see [Zenoss Toolbox tools](#) on page 14.
- 5 Exit the `zenoss` user account.

```
exit
```

- 6 Exit the Zope container.

```
exit
```

Common upgrade error recovery procedures

B

This appendix describes common error messages during upgrades, and provides procedures for recovering and continuing.

A snapshot with the given tag already exists

When an upgrade attempt fails, the upgrade script does not remove the snapshot it creates at the beginning of the upgrade process. Use this procedure to remove the tag of the pre-upgrade snapshot and restart the upgrade. Untagged snapshots are removed when their time-to-live (TTL) expires. The TTL value is defined by the `SERVICED_SNAPSHOT_TTL` variable in the Control Center configuration file.

- 1 Log in to the Control Center master host as a user with `serviced` CLI privileges.
- 2 Create a variable for the identifier of the tenant application.

```
myTenant=$(serviced service list Zenoss.core --format='{{.ID}}')
```

- 3 Display a list of all Control Center snapshots, with their tags.

```
serviced snapshot list -t
```

Example result, truncated to save space:

Snapshot	Description	Tags
xm5mtezbyo2_20160211-220535.480		preupgrade-core-5.2.0

The snapshot identifier is shown in the first column.

- 4 Remove the tag of the pre-upgrade snapshot.
Replace *Tag-Name* with the name of the pre-upgrade snapshot that was displayed in the previous step:

```
serviced snapshot untag ${myTenant} Tag-Name
```

- 5 Restart the upgrade script.

```
/root/5.3.x/upgrade-core.sh
```