



# **Zenoss Core Upgrade Guide**

Release 5.2.6

Zenoss, Inc.

[www.zenoss.com](http://www.zenoss.com)

# Zenoss Core Upgrade Guide

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# 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.

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

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## Related 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](mailto:docs@zenoss.com). In the email, include the document title and part number. The part number appears at the end of the list of trademarks, at the front of this guide.

## 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*.

### 1091.17.191 (5.2.6)

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Version 5.2.5 was withdrawn.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*.

# 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
5.2.0, 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	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)

\* Version 5.2.5 was withdrawn.

## 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

Release Date	Control Center	Zenoss Core
06 Jul 2017	1.3.3	<b>5.2.6</b>
19 Jun 2017	<b>1.3.3</b>	5.2.5 (internal release)
03 May 2017	<b>1.3.2</b>	<b>5.2.4</b>
06 Apr 2017	<b>1.3.1</b>	<b>5.2.3</b>
09 Mar 2017	<b>1.3.0</b>	5.2.2
27 Feb 2017	<b>1.2.3</b>	<b>5.2.2</b>
31 Jan 2017	<b>1.2.2</b>	<b>5.2.1</b>
16 Dec 2016	<b>1.2.1</b>	5.2.0
28 Nov 2016	1.2.0	<b>5.2.0</b>

## Upgrade paths included in this document

---

### Upgrading from Zenoss Core 5.2.x

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

**Upgrading from Zenoss Core 5.1.x**

<b>From</b>	<b>To</b>
Zenoss Core 5.1.10	Zenoss Core 5.2.6
Zenoss Core 5.1.9	Zenoss Core 5.2.6
Zenoss Core 5.1.8	Zenoss Core 5.2.6
Zenoss Core 5.1.7	Zenoss Core 5.2.6
Zenoss Core 5.1.5	Zenoss Core 5.2.6
Zenoss Core 5.1.4	Zenoss Core 5.2.6
Zenoss Core 5.1.3	Zenoss Core 5.2.6
Zenoss Core 5.1.2	Zenoss Core 5.2.6
Zenoss Core 5.1.1	Zenoss Core 5.2.6



# Part I: Upgrading custom deployments

This part includes the chapters that describe how to upgrade customized deployments of Zenoss Core.

The procedures in this part are valid for the upgrade paths shown in the following tables.

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

From	To
Zenoss Core 5.1.10	Zenoss Core 5.2.6
Zenoss Core 5.1.9	Zenoss Core 5.2.6
Zenoss Core 5.1.8	Zenoss Core 5.2.6
Zenoss Core 5.1.7	Zenoss Core 5.2.6
Zenoss Core 5.1.5	Zenoss Core 5.2.6
Zenoss Core 5.1.4	Zenoss Core 5.2.6
Zenoss Core 5.1.3	Zenoss Core 5.2.6
Zenoss Core 5.1.2	Zenoss Core 5.2.6
Zenoss Core 5.1.1	Zenoss Core 5.2.6

## Before upgrading

---

Use the procedure in this chapter to prepare your Zenoss Core deployment for an upgrade.

### Importing from Docker Hub

---

To perform this procedure, the Control Center master host must have internet access.

Use this procedure to import Zenoss Core images from Docker Hub. Pulling and importing the images takes approximately 10-20 minutes.

- 1 Log in to the Control Center master host as `root`, or as a user with superuser privileges.
- 2 Pull the Zenoss Core image for this release.

```
docker run -it --rm -v /root:/mnt/root \  
zenoss/core_5.2:5.2.6_1 rsync -a /root/5.2.x /mnt/root
```

When the download completes, the `rsync` command copies the upgrades scripts from the new image to `/root/5.2.x`.

- 3 Pull the HBase and OpenTSDB images for Zenoss Core.

```
/root/5.2.x/pull-docker-images.sh
```

## 3

## Upgrading Zenoss Core

---

This chapter includes the procedures for upgrading Zenoss Core. The procedures in the preceding chapter must be completed before performing the procedures in this chapter.

**Note** Zenoss strongly recommends checking the integrity of Zenoss Core databases before performing an upgrade or installing a ZenPack. For more information, see [Using Zenoss Toolbox](#) on page 14.

---

### Stopping 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 | awk '/Name|Zenoss.core/'
```

- If the status 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 | awk '/Name|Zenoss.core/'
```

Repeat the command until the status 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/5.2.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

---

Perform the procedures in this chapter after Zenoss Core is upgraded.

### 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 `zenosbdbpack` before upgrading.
- 2 The [findposkeyerror](#) tool checks objects and their relationships, and provides options for fixing errors.
- 3 The [zenrelationscan](#) tool checks only ZenRelations between objects.
- 4 The [zencatalogscan](#) tool checks ZODB object catalogs, which speed up web 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.

### Version of root service is empty

In some releases of Zenoss Core, the application template includes an empty value for the Version object of the Zenoss.core service. Use this procedure to set the version number and restart the upgrade.

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

Replace *Version-Number* with the current version of Zenoss Core:

```
/opt/serviced/bin/serviced-set-version Zenoss.core Version-Number
```

- 3 Restart the upgrade script.

```
/root/5.2.x/upgrade-core.sh
```

### 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/5.2.x/upgrade-core.sh
```

# Upgrade paths documented in previous editions



This appendix records the release dates and upgrade paths of previous versions of Control Center and Zenoss Core.

## Release dates and versions

### Release 5.1.x

Release Date	Control Center	Zenoss Core
29 Nov 2016	1.2.0	<b>5.1.10</b>
14 Nov 2016	<b>1.2.0</b>	<b>5.1.9</b>
17 Oct 2016	<b>1.1.9</b>	<b>5.1.8</b>
20 Sep 2016	<b>1.1.8</b>	<b>5.1.7</b>
25 Jul 2016	1.1.7	<b>5.1.5</b>
20 Jul 2016	<b>1.1.7</b>	5.1.4
28 Jun 2016	<b>1.1.6</b>	<b>5.1.4</b>
1 Jun 2016	<b>1.1.5</b>	5.1.3
24 May 2016	<b>1.1.4</b> (withdrawn)	<b>5.1.3</b>
27 Apr 2016	1.1.3	<b>5.1.2</b>
20 Apr 2016	<b>1.1.3</b>	5.1.1
4 Mar 2016	<b>1.1.2</b>	5.1.1
29 Feb 2016	<b>1.1.1</b>	<b>5.1.1</b>

### Release 5.0.x

Release Date	Control Center	Zenoss Core
20 Feb 2016	<b>1.0.10</b>	<b>5.0.10</b>
02 Dec 2015	<b>1.0.9</b>	<b>5.0.9</b>
16 Nov 2015	<b>1.0.8</b>	<b>5.0.8</b>

Release Date	Control Center	Zenoss Core
10 Oct 2015	1.0.7	5.0.7
14 Sep 2015	1.0.6	5.0.6
05 Aug 2015	1.0.5	5.0.5
10 Jul 2015	1.0.4	5.0.4
27 May 2015	1.0.3	5.0.3
20 Apr 2015	1.0.2	5.0.2
03 Apr 2015	1.0.1	5.0.1
24 Feb 2015	1.0.0	5.0.0

## Upgrade paths included in previous versions

The following tables identify upgrade paths that are supported but documented only in previous editions of this guide.

**Table 1: Upgrade from 1.0.x / 5.0.x to 1.1.x / 5.1.x**

From combination	To combination
Control Center 1.0.6 and Zenoss Core 5.0.6	Control Center 1.2.0 and Zenoss Core 5.1.9
Control Center 1.0.7 and Zenoss Core 5.0.7	Control Center 1.2.0 and Zenoss Core 5.1.9
Control Center 1.0.8 and Zenoss Core 5.0.8	Control Center 1.2.0 and Zenoss Core 5.1.9
Control Center 1.0.9 and Zenoss Core 5.0.9	Control Center 1.2.0 and Zenoss Core 5.1.9
Control Center 1.0.10 and Zenoss Core 5.0.10	Control Center 1.2.0 and Zenoss Core 5.1.9

**Table 2: Upgrade to 1.0.10 / 5.0.10**

From combination	To combination
Control Center 1.0.3 and Zenoss Core 5.0.3	Control Center 1.0.10 and Zenoss Core 5.0.10
Control Center 1.0.4 and Zenoss Core 5.0.4	Control Center 1.0.10 and Zenoss Core 5.0.10
Control Center 1.0.5 and Zenoss Core 5.0.5	Control Center 1.0.10 and Zenoss Core 5.0.10

From combination	To combination
Control Center 1.0.6 and Zenoss Core 5.0.6	Control Center 1.0.10 and Zenoss Core 5.0.10
Control Center 1.0.7 and Zenoss Core 5.0.7	Control Center 1.0.10 and Zenoss Core 5.0.10
Control Center 1.0.8 and Zenoss Core 5.0.8	Control Center 1.0.10 and Zenoss Core 5.0.10
Control Center 1.0.9 and Zenoss Core 5.0.9	Control Center 1.0.10 and Zenoss Core 5.0.10

**Table 3: Upgrade to 1.0.3 / 5.0.3**

From combination	To combination
Control Center 1.0.0 and Zenoss Core 5.0.0	Control Center 1.0.3 and Zenoss Core 5.0.3
Control Center 1.0.1 and Zenoss Core 5.0.1	Control Center 1.0.3 and Zenoss Core 5.0.3
Control Center 1.0.2 and Zenoss Core 5.0.2	Control Center 1.0.3 and Zenoss Core 5.0.3