

# Rebuilding FreeIPA (Preview)

Date published: 2025-02-05

Date modified: 2025-02-05

## Legal Notice

© Cludera Inc. 2024. All rights reserved.

The documentation is and contains Cludera proprietary information protected by copyright and other intellectual property rights. No license under copyright or any other intellectual property right is granted herein.

Unless otherwise noted, scripts and sample code are licensed under the Apache License, Version 2.0.

Copyright information for Cludera software may be found within the documentation accompanying each component in a particular release.

Cludera software includes software from various open source or other third party projects, and may be released under the Apache Software License 2.0 ("ASLv2"), the Affero General Public License version 3 (AGPLv3), or other license terms.

Other software included may be released under the terms of alternative open source licenses. Please review the license and notice files accompanying the software for additional licensing information.

Please visit the Cludera software product page for more information on Cludera software. For more information on Cludera support services, please visit either the Support or Sales page. Feel free to contact us directly to discuss your specific needs.

Cludera reserves the right to change any products at any time, and without notice. Cludera assumes no responsibility nor liability arising from the use of products, except as expressly agreed to in writing by Cludera.

Cludera, Cludera Altus, HUE, Impala, Cludera Impala, and other Cludera marks are registered or unregistered trademarks in the United States and other countries. All other trademarks are the property of their respective owners. Disclaimer: EXCEPT AS EXPRESSLY PROVIDED IN A WRITTEN AGREEMENT WITH CLOUDERA, CLOUDERA DOES NOT MAKE NOR GIVE ANY REPRESENTATION, WARRANTY, NOR COVENANT OF ANY KIND, WHETHER EXPRESS OR IMPLIED, IN CONNECTION WITH CLOUDERA TECHNOLOGY OR RELATED SUPPORT PROVIDED IN CONNECTION THEREWITH. CLOUDERA DOES NOT WARRANT THAT CLOUDERA PRODUCTS NOR SOFTWARE WILL OPERATE UNINTERRUPTED NOR THAT IT WILL BE FREE FROM DEFECTS NOR ERRORS, THAT IT WILL PROTECT YOUR DATA FROM LOSS, CORRUPTION NOR UNAVAILABILITY, NOR THAT IT WILL MEET ALL OF CUSTOMER'S BUSINESS REQUIREMENTS. WITHOUT LIMITING THE FOREGOING, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CLOUDERA EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, QUALITY, NON-INFRINGEMENT, TITLE, AND FITNESS FOR A PARTICULAR PURPOSE AND ANY REPRESENTATION, WARRANTY, OR COVENANT BASED ON COURSE OF DEALING OR USAGE IN TRADE.

*This document has been released as part of a technical preview for features described herein. Technical preview components are provided as a convenience to our customers for their evaluation and trial usage. These components are provided 'as is' without warranty or support. Further, Cludera assumes no liability for the usage of technical preview components, which should be used by customers at their own risk.*

## Contents

<b>Legal Notice</b>	<b>2</b>
<b>Contents</b>	<b>3</b>
<b>About this feature</b>	<b>4</b>
Prerequisites	4
<b>CLI commands</b>	<b>5</b>

*This document has been released as part of a technical preview for features described herein. Technical preview components are provided as a convenience to our customers for their evaluation and trial usage. These components are provided 'as is' without warranty or support. Further, Cloudera assumes no liability for the usage of technical preview components, which should be used by customers at their own risk.*

## About this feature

You can rebuild FreeIPA in case all the instances are lost or the LDAP database is damaged beyond repair. Rebuilding FreeIPA instances is used strictly for disaster recovery, if there is a healthy FreeIPA instance available, repair should be used.

During the FreeIPA rebuild, the existing instances are removed and a new instance is created with the provided FQDN. After verifying access to the cloud storage, the stored backups of the FreeIPA instance are downloaded and validated as well to ensure that the header and data file exist and the header file content is valid, for example if the FQDN matches with the provided instance FQDN or if the type of the backups are correct. If something is out of order, a validation error will be thrown and the rebuild process needs to be restarted.

After passing the validation, a new FreeIPA instance is installed with the same admin username and password. When the installation is finished, restoring the FreeIPA based on the full and incremental backup is started. The restoring process is finished with rebooting the FreeIPA instance and cleaning up the previous FreeIPA servers, which got restored with the backup and do not exist anymore.

As the new FreeIPA instance is installed from the backups, a health check is also performed to ensure that the rebuild is successful. As a last step, a cluster update is initiated to set the unbound configuration to point to the new FreeIPA instance.

**Note:** Downtime is expected for the clusters during rebuilding the FreeIPA instance.

## Prerequisites

- Ensure that the following backups of the FreeIPA instance are accessible on cloud storage:
  - Full backup: full backups are created automatically after provisioning by default for every FreeIPA instance. In case you created a manual full backup after provisioning, the latest version is needed for the rebuild.
  - Incremental backup: data backups are created every hour automatically
- Ensure that instance has permission to download the backup from cloud storage.
- Ensure that you have obtained `CDP_FREEIPA_REBUILD` entitlement from Cloudera Support to use the rebuild feature.
- Ensure that you have [Beta CDP CLI installed](#).
- Ensure that you have the following information prepared for the CLI commands:
  - FreeIPA and environment CRN
  - FQDN of the instance to rebuild

*This document has been released as part of a technical preview for features described herein. Technical preview components are provided as a convenience to our customers for their evaluation and trial usage. These components are provided 'as is' without warranty or support. Further, Cloudera assumes no liability for the usage of technical preview components, which should be used by customers at their own risk.*

**Note:**In case of multi-instance FreeIPA, you need to choose which instance needs to be rebuilt and provide the backup of that instance. The validation process during the FreeIPA rebuild will fail in case the backup and instance do not match.

- Ensure that there are no in progress operations for the FreeIPA instance, for example repair.

## CLI commands

Use the following command to rebuild the FreeIPA instance:

```
Unset
cdp environments rebuild-freeipa --environment [***ENVIRONMENT***]
--freeipa-crn [***FREEIPA CRN***] --instance-to-restore-fqdn [***INSTANCE TO
RESTORE FQDN***] --full-backup-storage-location [***FULL BACKUP STORAGE
LOCATION***] --data-backup-storage-location [***DATA BACKUP STORAGE
LOCATION***]
```

Examples:

- AWS

```
Unset

cdp environments rebuild-freeipa \
--environment
crn:cdp:environments:us-west-1:cloudera:environment:bbdf301f-6791-423c-8df0-cfa
742131437 \
--freeipa-crn
crn:cdp:freeipa:us-west-1:cloudera:freeipa:0fed1aea-935f-46d8-8fa0-09537006a38b
\
--instance-to-restore-fqdn ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site \
--full-backup-storage-location
s3://testbucket/backup/cluster-backups/freeipa/testenv-freeipa_0fed1aea-935f-46
d8-8fa0-09537006a38b/ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site/full/ipa-ful
l-2024-07-25-13-01-46/ \
--data-backup-storage-location
s3://testbucket/backup/cluster-backups/freeipa/testenv-freeipa_0fed1aea-935f-46
d8-8fa0-09537006a38b/ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site/hourly/2024-
07-25/ipa-data-2024-07-25-14-01-06/
```

*This document has been released as part of a technical preview for features described herein. Technical preview components are provided as a convenience to our customers for their evaluation and trial usage. These components are provided 'as is' without warranty or support. Further, Cloudera assumes no liability for the usage of technical preview components, which should be used by customers at their own risk.*

- Azure

Unset

```

cdp environments rebuild-freeipa \
--environment
crn:cdp:environments:us-west-1:cloudera:environment:bbdf301f-6791-423c-8df0-cfa
742131437 \
--freeipa-crn
crn:cdp:freeipa:us-west-1:cloudera:freeipa:0fed1aea-935f-46d8-8fa0-09537006a38b
\
--instance-to-restore-fqdn ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site \
--full-backup-storage-location
abfs://rebuild@cloudbreaktestpersistent.dfs.core.windows.net/full/ \
--data-backup-storage-location
abfs://rebuild@cloudbreaktestpersistent.dfs.core.windows.net/hourly/

```

- GCP

Unset

```

cdp environments rebuild-freeipa \
--environment
crn:cdp:environments:us-west-1:cloudera:environment:bbdf301f-6791-423c-8df0-cfa
742131437 \
--freeipa-crn
crn:cdp:freeipa:us-west-1:cloudera:freeipa:0fed1aea-935f-46d8-8fa0-09537006a38b
\
--instance-to-restore-fqdn ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site \
--full-backup-storage-location
gs://testbucket/backup/cluster-backups/freeipa/testenv-freeipa_23c5507d-9061-40
a6-84d6-33b04237af18/ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site/full/ipa-ful
l-2024-05-27-11-26-38 \
--data-backup-storage-location
gs://testbucket/backup/cluster-backups/freeipa/testenv-freeipa_23c5507d-9061-40
a6-84d6-33b04237af18/ipaserver0.testenv.xcu2-8y8x.wl.cloudera.site/hourly/2024-
05-27/ipa-data-2024-05-27-12-01-06

```

*This document has been released as part of a technical preview for features described herein. Technical preview components are provided as a convenience to our customers for their evaluation and trial usage. These components are provided 'as is' without warranty or support. Further, Cloudera assumes no liability for the usage of technical preview components, which should be used by customers at their own risk.*

During the repair process, you can check the status using the following command:

Unset

```
cdp environments get-repair-freeipa-status --operation-id
8a9e3d54-a184-4784-8e0a-5492e29460f8
```

The command will return if the status is `RUNNING`, `FAILED` or `COMPLETED`, but you can check the status of the FreeIPA cluster in Management Console for further information. For details, see [Check FreeIPA repair status](#).

To see the status of each FreeIPA instance in an environment, use the `cdp environments get-freeipa-status --environment-name` command. For details, see [Show FreeIPA instance status](#).

**Note:** In case the FreeIPA rebuild process fails, you can use the following logs to investigate the cause of the error:

- `/var/log/ipa-restore-full.log`
- `/var/log/ipa-restore-data.log`
- `/var/log/ipa-restore-update-dns.log`
- `/var/log/iparestore.log`
- `/var/lib/ipa/restore` directory is used during the rebuild process to download the backup files to. You can use this directory to manually check if the backups are correct and valid for the rebuild.

### After you finish

After rebuilding the FreeIPA instance, you need to restart your clusters to ensure that the services are running with the correct setup.