

## Securing MiNiFi Java Agent

Date published: 2022-07-28

Date modified: 2025-02-24



# Legal Notice

© Cloudera Inc. 2025. All rights reserved.

The documentation is and contains Cloudera 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 Cloudera software may be found within the documentation accompanying each component in a particular release.

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

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

Cloudera, Cloudera Altus, HUE, Impala, Cloudera Impala, and other Cloudera 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.

# Contents

|                                                               |          |
|---------------------------------------------------------------|----------|
| <b>MiNiFi Java agent authentication.....</b>                  | <b>4</b> |
| <b>Encrypting sensitive properties in bootstrap.conf.....</b> | <b>4</b> |

## MiNiFi Java agent authentication

Learn about the properties that you need to set to configure TLS for the MiNiFi Java agent.

To configure the TLS context for MiNiFi Java, including client certificates and trust settings, edit the following properties in `conf/bootstrap.conf`:

```
# Security Properties #
# These properties take precedence over any equivalent properties specified
in flow.json.raw file #
nifi.minifi.security.keystore=/path/to/keystore.jks
nifi.minifi.security.keystoreType=JKS
nifi.minifi.security.keystorePasswd=password
nifi.minifi.security.keyPasswd=password
nifi.minifi.security.truststore=/path/to/truststore.jks
nifi.minifi.security.truststoreType=JKS
nifi.minifi.security.truststorePasswd=password
nifi.minifi.security.ssl.protocol=TLSv1.2
# Properties for encrypting keystore and truststore passwords
nifi.minifi.sensitive.props.key=passwordOfAtLeast12Characters
nifi.minifi.sensitive.props.algorithm=NIFI_PBKDF2_AES_GCM_256

# Properties needed only if the agent is communicating with EFM
c2.security.truststore.location=
c2.security.truststore.password=
c2.security.truststore.type=
c2.security.keystore.location=
c2.security.keystore.password=
c2.security.keystore.type=
c2.security.need.client.auth=
```

## Encrypting sensitive properties in bootstrap.conf

Learn how to encrypt sensitive properties in the `conf/bootstrap.conf` file using the `encrypt-config` command line tool, invoked in the `minifi-toolkit` as `./bin/encrypt-config.sh` or `bin\encrypt-config.bat`.

### About this task

This tool reads plain text sensitive configuration values from the `bootstrap.conf` file and encrypts each value using a random encryption key. It replaces the plain values with the protected value in the same file or writes to a new `bootstrap.conf` file, if specified. Additionally, it can be used to encrypt unencrypted sensitive properties (if any) in the `flow.json.raw` file.

To enable this functionality, ensure that the `nifi.minifi.sensitive.props.key` and `nifi.minifi.sensitive.props.algorithm` properties are provided in `bootstrap.conf`.

### Example

The following example shows how the tool works with existing values in the `bootstrap.conf` file:

```
nifi.sensitive.props.key=thisIsABadSensitiveKeyPassword
nifi.sensitive.props.algorithm=NIFI_PBKDF2_AES_GCM_256
nifi.sensitive.props.additional.keys=

nifi.security.keystore=/path/to/keystore.jks
nifi.security.keystoreType=JKS
nifi.security.keystorePasswd=thisIsABadKeystorePassword
```

```
nifi.security.keyPasswd=thisIsABadKeyPassword
nifi.security.truststore=
nifi.security.truststoreType=
nifi.security.truststorePasswd=
c2.security.truststore.location=
c2.security.truststore.password=thisIsABadTruststorePassword
c2.security.truststore.type=JKS
c2.security.keystore.location=
c2.security.keystore.password=thisIsABadKeystorePassword
c2.security.keystore.type=JKS
```

Enter the following arguments when using the tool:

```
encrypt-config.sh -b %MINIFI_HOME_DIR%/conf/bootstrap.conf
```

As a result, the bootstrap.conf file is overwritten with protected properties and sibling encryption identifiers (aes/gcm/256, the currently supported algorithm):

```
nifi.sensitive.props.key=40jkrFywZb7BlGz4||Tm9pg0jv4TltvVKeiMlm9zBsqmtmYUA2Q
kzcLKQpspyggtQuhNAkAla5s2695A==
nifi.sensitive.props.key.protected=aes/gcm/256
nifi.sensitive.props.algorithm=NIFI_PBKDF2_AES_GCM_256
nifi.sensitive.props.additional.keys=
nifi.security.keystore=/path/to/keystore.jks
nifi.security.keystoreType=JKS
nifi.security.keystorePasswd=iXDmDCadoNJ3VotZ||wVOGbrii4Gk0vr3b6mDstZg+NE0B
PZUPk6LVqQlf2Sx3G5XFbUbUYAUz
nifi.security.keystorePasswd.protected=aes/gcm/256
nifi.security.keyPasswd=199uUUgpPqB4Fuoo||Kckbw7iu+HZf1r4KSMQAFn8NLJK+CnUuay
qPsTsdM0Wxou1BHg==
nifi.security.keyPasswd.protected=aes/gcm/256
nifi.security.truststore=
nifi.security.truststoreType=
nifi.security.truststorePasswd=
c2.security.truststore.location=
c2.security.truststore.password=0pHpp+l/WHsDM/sm||fXBvDAQ1BXvNQ8b4EHKa1Gsp
sLx+UD+2EDhph0HbsdmgpVhEv4qj0q5TDo0=
c2.security.truststore.password.protected=aes/gcm/256
c2.security.truststore.type=JKS
c2.security.keystore.location=
c2.security.keystore.password=j+80L7++RNDf9INQ||RX/QkdVFwRos6Y4XJ8YSUWoI3W
5Wx50dyw7HrAA84719SvfxA9eUSDEA
c2.security.keystore.password.protected=aes/gcm/256
c2.security.keystore.type=JKS
```

Additionally, the bootstrap.conf file is updated with the encryption key as follows:

```
minifi.bootstrap.sensitive.key=c92623e798be949379d0d18f432a57f1b74732141be32
1cb4af9ed94aa0ae8ac
```

Sensitive configuration values are encrypted by the tool by default, but you can encrypt additional properties, if desired. To encrypt additional properties, specify them as comma-separated values in the minifi.sensitive.props.additional.keys property.



**Note:**

If the bootstrap.conf file already contains valid protected values, those property values are not modified by the tool.

### Example

The following example shows how to encrypt non-encrypted sensitive properties in the flow.json.raw file using the tool.

```
nifi.sensitive.props.key=sensitivePropsKey  
nifi.sensitive.props.algorithm=NIFI_PBKDF2_AES_GCM_256
```

Enter the following arguments when using the tool:

```
encrypt-config.sh -x -f %MINIFI_HOME_DIR%/conf/flow.json.raw
```

As a result, the flow.json.raw file is overwritten with encrypted sensitive properties.

The algorithm uses property descriptors in the flow.json.raw file to determine if a property is sensitive or not. If that information is missing, no properties will be encrypted, even if defined as sensitive in the agent manifest.