

Cloudera Runtime 7.2.11

Managing Apache Phoenix Security

Date published: 2020-02-29

Date modified: 2023-05-09

CLOUDERA

<https://docs.cloudera.com/>

Legal Notice

© Cloudera Inc. 2024. 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

Phoenix is FIPS compliant.....	4
Managing Apache Phoenix security.....	4
Enable Phoenix ACLs.....	4
Configure TLS encryption manually for Phoenix Query Server.....	5

Phoenix is FIPS compliant

Phoenix is now Federal Information Processing Standards (FIPS) compliant.

FIPS are publicly announced standards developed by the National Institute of Standards and Technology for use in computer systems by non-military American government agencies and government contractors. Phoenix Query Server (PQS) is compatible with an FIPS-enabled environment..

PQS can run on an OS with FIPS turned on and can use FIPS-compliant crypto libraries.

OMID is also compatible with an FIPS-enabled environment.

For more information, see *Installing and Configuring CDP with FIPS*.

Related Information

[Installing and Configuring CDP with FIPS](#)

Managing Apache Phoenix security

Apache Ranger manages authorization and access control through a user interface that ensures consistent policy administration for both Apache Phoenix and Apache HBase.

Apache Phoenix namespaces, tables, column family, and columns use the same access control parameters set in Apache HBase. You must first enable Apache Phoenix ACLs support using Cloudera Manager before you can define permissions for your Apache HBase tables if you are using Apache HBase ACLs.

Shared Data Experience (SDX) Data Lake helps you configure and manage authorization and access control through the Apache Ranger user interface that ensures consistent policy administration for Apache HBase. Apache Phoenix security derives policies applied to the underlying Apache HBase tables in Ranger. You can grant read or write permissions to an Apache HBase table for a specific user using the Apache Ranger user interface.

Auto-TLS is enabled by default in CDP. But you can also manually configure TLS for Phoenix Query Server. See the related information section to learn more about security in CDP.

Related Information

[Configure TLS encryption manually for Phoenix Query Server](#)
[CDP Security](#)

Enable Phoenix ACLs

To enable Phoenix ACLs using Cloudera Manager, edit the HBase Service advanced configuration snippet for the cluster.

Procedure

1. Go to the HBase service.
2. Click Configuration.
3. Search for the property HBase Service Advanced Configuration Snippet (Safety Valve) for hbase-site.xml.
4. Paste your configuration into the Value field and save your changes.

```
<property>
  <name>phoenix.acls.enabled</name>
  <value>true</value>
```

```
</property>
```

- Restart your cluster for the changes to take effect.

Configure TLS encryption manually for Phoenix Query Server

You can encrypt communication between clients and the Phoenix Query Server using Transport Layer Security (TLS) formerly known as Secure Socket Layer (SSL). You must follow these steps to manually configure TLS for Phoenix Query Server.

Before you begin

- Keystores containing certificates bound to the appropriate domain names must be accessible on all hosts running the Phoenix Query Server role of the Phoenix service.
- Keystores for Phoenix must be owned by the phoenix group, and have 0440 file permissions (that is, the file must be readable by the owner and group).
- Absolute paths to the keystore and truststore files must be specified. These settings apply to all hosts on which daemon roles of the Phoenix service run. Therefore, the paths you choose must be valid on all hosts.
- The Cloudera Manager version must support the TLS/SSL configuration for Phoenix at the service level. Ensure you specify absolute paths to the keystore and truststore files. These settings apply to all hosts on which daemon roles of the service in question run. Therefore, the paths you choose must be valid on all hosts.

An implication of this is that the keystore file names for a given service must be the same on all hosts. If, for example, you have obtained separate certificates for Phoenix daemons on hosts `node1.example.com` and `node2.example.com`, you might have chosen to store these certificates in files called `phoenix-node1.keystore` and `phoenix-node2.keystore` (respectively). When deploying these keystores, you must give them both the same name on the target host — for example, `phoenix.keystore`.

Procedure

- In Cloudera Manager, select the Phoenix service.
- Click the Configuration tab.
- Use the Scope / Query Server filter.
- Search for `tls`.
- Select `Enable TLS/SSL for Query Server`.
- Edit the following TLS/SSL properties according to your configuration.

Table 1:

Property	Description
Query Server TLS/SSL Server JKS Keystore File Location	The path to the TLS/SSL keystore file containing the server certificate and private key used for TLS/SSL. Used when Query Server is acting as a TLS/SSL server. The keystore must be in JKS format.
Query Server TLS/SSL Server JKS Keystore File Password	The password for the Query Server JKS keystore file.
Query Server TLS/SSL Client Trust Store File	The location on disk of the truststore file, in <code>.jks</code> format, used to confirm the authenticity of TLS/SSL servers to which the Query Server might connect. This is used when Query Server is the client in a TLS/SSL connection. This truststore file must contain the certificate(s) used to sign the connected service(s). If this parameter is not specified, the default list of known certificate authorities is used instead.

Property	Description
Query Server TLS/SSL Client Trust Store Password	The password for the Query Server TLS/SSL Certificate Trust Store File. This password is not mandatory to access the truststore; this field is optional. This password provides optional integrity checking of the file. The contents of truststores are certificates, and certificates are public information.

7. Click Save Changes.
8. Restart the Phoenix service.

Related Information

[Managing Apache Phoenix security](#)