

Cloudera Manager 5 Requirements and Supported Versions

This page describes requirements and supported third-party software for the latest version of Cloudera Manager. Specifically, it lists supported operating systems, browsers, and databases; and it explains which versions of TLS are supported by various components and which major and minor release version of each entity is supported for Cloudera Manager.

After installing each entity, upgrade to the latest patch version and apply any other appropriate updates. An available update may be specific to the operating system on which it is installed. For example, if you are using CentOS in your environment, you could choose 6 as the major version and 4 as the minor version to indicate that you are using CentOS 6.4. After installing this operating system, apply all relevant CentOS 6.4 upgrades and patches. In some cases, such as some browsers, a minor version may not be listed.

For the latest information on compatibility across all Cloudera products, see the [Product Compatibility Matrix \(http://www.cloudera.com/content/cloudera/en/documentation/core/latest/topics/Product_Compatibility_Matrix.html\)](http://www.cloudera.com/content/cloudera/en/documentation/core/latest/topics/Product_Compatibility_Matrix.html).

Continue reading:

- [Supported Operating Systems](#)
- [Supported JDK Versions](#)
- [Supported Browsers](#)
- [Supported Databases](#)
- [Supported CDH and Managed Service Versions](#)
- [Supported Transport Layer Security Versions](#)
- [Resource Requirements](#)
- [Networking and Security Requirements](#)

Supported Operating Systems

Note: Mixed operating system type and version clusters are supported, however using the same version of the same operating system on all cluster hosts is strongly recommended.

Cloudera Manager supports the following 64-bit operating systems:

- **RHEL-compatible**

- Red Hat Enterprise Linux and CentOS, 64-bit (+ SELinux mode in available versions)
 - 5.7
 - 5.10
 - 6.4
 - 6.5
 - 6.6
 - 6.7
 - 7.1
 - 7.2
- Oracle Enterprise (OEL) Linux with Unbreakable Enterprise Kernel (UEK), 64-bit
 - 5.7 (UEK R2)
 - 5.10
 - 5.11
 - 6.4 (UEK R2)
 - 6.5 (UEK R2, UEK R3)
 - 6.6 (UEK R3)
 - 6.7 (UEK R3)
 - 7.1
 - 7.2

Important: Cloudera supports RHEL 7 with the following limitations:

- Only RHEL 7.2 and 7.1 are supported. RHEL 7.0 is not supported.
- Only new installations of RHEL 7.2 and 7.1 are supported by Cloudera. For upgrades to RHEL 7.1 or 7.2, contact your OS vendor and see [Does](#)

Red Hat support upgrades between major versions of Red Hat Enterprise Linux? (<https://access.redhat.com/solutions/21964>)

- **SLES** - SUSE Linux Enterprise Server 11, Service Pack 4, 64-bit is supported by CDH 5.7 and higher. Service Packs 2 and 3 are supported by CDH 5.0 through CDH 5.6. Service Pack 1 is *not* supported by CDH 5, only by CDH 4. Hosts running Cloudera Manager Agents must use [SUSE Linux Enterprise Software Development Kit 11 SP1 \(<http://download.novell.com/Download?buildid=zzeQqpY9nK4%7E>\)](http://download.novell.com/Download?buildid=zzeQqpY9nK4%7E).
- **Debian** - Wheezy 7.0, 7.1, and 7.8, 64-bit. (Squeeze 6.0 is only supported by CDH 4.)
- **Ubuntu** - Trusty 14.04 (LTS) and Precise 12.04 (LTS), 64-bit. (Lucid 10.04 is only supported by CDH 4.)

Note:

- Cloudera Enterprise is supported on platforms with Security-Enhanced Linux (SELinux) enabled. Cloudera is not responsible for policy support nor policy enforcement. If you experience issues with SELinux, contact your OS provider.
- CDH 5.7 DataNode hosts with [EMC® DSSD™ D5™ \(\[cm ig dssd.html#concept r4m r1d pt\]\(#\)\)](#) are supported by RHEL 6.6, 7.1, and 7.2. CDH 5.6 DataNode hosts with [EMC® DSSD™ D5™ \(\[cm ig dssd.html#concept r4m r1d pt\]\(#\)\)](#) are only supported by RHEL 6.6.

Supported JDK Versions

The version of Oracle JDK supported by Cloudera Manager depends on the version of CDH being managed. The following table lists the JDK versions supported on a Cloudera Manager 5.7 cluster running the latest CDH 4 and CDH 5. For more information on supported JDK versions for previous versions of Cloudera Manager and CDH, see [Compatibility \(\[pcm jdk cdh cm.html#xd 583c10bfdbd326ba--6eed2fb8-14349d04bee--7845\]\(#\)\)](#).

Important: There is one exception to the minimum supported and recommended JDK versions listed below. If Oracle releases a security patch that affects server-side Java before the next minor release of *Cloudera* products, the Cloudera support policy covers customers using the patch

CDH Version Managed (Latest)	Minimum Supported JDK Version	Recommended JDK Version
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CDH Version Managed (Latest)	Minimum Supported JDK Version	Recommended JDK Version
CDH 5	1.7.0_55	1.7.0_67, 1.7.0_75, 1.7.0_80
	1.8.0_31 Cloudera recommends that you <i>not</i> use JDK 1.8.0_40.	1.8.0_60
CDH 4 and CDH 5	1.7.0_55	1.7.0_67, 1.7.0_75, 1.7.0_80
	1.8.0_31	1.8.0_60
CDH 4	1.6.0_31	1.7.0_80

Cloudera Manager can install Oracle JDK 1.7.0_67 during installation and upgrade. If you prefer to install the JDK yourself, follow the instructions in [Java Development Kit Installation \(cdh ig jdk installation.html#topic 29\)](#).

Supported Browsers

The Cloudera Manager Admin Console, which you use to install, configure, manage, and monitor services, supports the following browsers:

- Mozilla Firefox 24 and 31.
- Google Chrome 36 and higher.
- Internet Explorer 9 and higher. Internet Explorer 11 Native Mode.
- Safari 5 and higher.

Supported Databases

Cloudera Manager requires several databases. The Cloudera Manager Server stores information about configured services, role assignments, configuration history, commands, users, and running processes in a database of its own. You must also specify a database for the Activity Monitor and Reports Manager roles.

Important: When processes restart, the configuration for each of the services is

redeployed using information that is saved in the Cloudera Manager database. If this information is not available, your cluster will not start or function correctly. You must therefore schedule and maintain regular backups of the Cloudera Manager database in order to recover the cluster in the event of the loss of this database.

The database you use must be configured to support UTF8 character set encoding. The embedded PostgreSQL database that is installed when you follow [Installation Path A - Automated Installation by Cloudera Manager \(cm ig install path a.html#cmig topic 6 5\)](#) automatically provides UTF8 encoding. If you install a custom database, you may need to enable UTF8 encoding. The commands for enabling UTF8 encoding are described in each database topic under [Cloudera Manager and Managed Service Data Stores \(cm ig installing configuring dbs.html#cmig topic 5\)](#).

After installing a database, upgrade to the latest patch version and apply any other appropriate updates. Available updates may be specific to the operating system on which it is installed.

Cloudera Manager and its supporting services can use the following databases:

- MariaDB 5.5
- MySQL - 5.1, 5.5, 5.6, and 5.7
- Oracle 11gR2 and 12c
Note: When installing a JDBC driver, only the `ojdbc6.jar` file is supported for both Oracle 11g R2 and Oracle 12c; the `ojdbc7.jar` file is not supported.
- PostgreSQL - 8.1, 8.3, 8.4, 9.1, 9.2, 9.3, 9.4

Cloudera supports the shipped version of MariaDB, MySQL and PostgreSQL for each supported Linux distribution. Each database is supported for all components in Cloudera Manager and CDH subject to the notes in [CDH 4 Supported Databases \(http://www.cloudera.com/content/cloudera-content/cloudera-docs/CDH4/latest/CDH4-Requirements-and-Supported-Versions/cdhrs topic 2.html\)](#) and [CDH 5 Supported Databases \(cdh ig req supported versions.html#topic 2\)](#).

Supported CDH and Managed Service Versions

The following versions of CDH and managed services are supported:

Warning: Cloudera Manager 5 does not support CDH 3 and you cannot upgrade Cloudera Manager 4 to Cloudera Manager 5 if you have a cluster running CDH 3. Therefore, to upgrade CDH 3 clusters to CDH 4 using Cloudera Manager, you must

use Cloudera Manager 4.

- **CDH 4 and CDH 5.** The latest released versions of CDH 4 and CDH 5 are strongly recommended. For information on CDH 4 requirements, see [CDH 4 Requirements and Supported Versions \(http://www.cloudera.com/content/cloudera-content/cloudera-docs/CDH4/latest/CDH4-Requirements-and-Supported-Versions/CDH4-Requirements-and-Supported-Versions.html\)](http://www.cloudera.com/content/cloudera-content/cloudera-docs/CDH4/latest/CDH4-Requirements-and-Supported-Versions/CDH4-Requirements-and-Supported-Versions.html). For information on CDH 5 requirements, see [CDH 5 Requirements and Supported Versions \(cdh_ig_req_supported_versions.html#xd_583c10bfdbd326ba--5a52cca-1476e7473cd--7f8d\)](http://www.cloudera.com/content/cloudera-content/cloudera-docs/CDH5/latest/CDH5-Requirements-and-Supported-Versions/cdh_ig_req_supported_versions.html#xd_583c10bfdbd326ba--5a52cca-1476e7473cd--7f8d).
- **Cloudera Impala** - Cloudera Impala is included with CDH 5. Cloudera Impala 1.2.1 with CDH 4.1.0 or higher. For more information on Impala requirements with CDH 4, see [Impala Requirements \(http://www.cloudera.com/content/cloudera/en/documentation/cloudera-impala/latest/topics/impala_prereqs.html\)](http://www.cloudera.com/content/cloudera/en/documentation/cloudera-impala/latest/topics/impala_prereqs.html).
- **Cloudera Search** - Cloudera Search is included with CDH 5. Cloudera Search 1.2.0 with CDH 4.6.0. For more information on Cloudera Search requirements with CDH 4, see [Cloudera Search Requirements \(http://www.cloudera.com/content/cloudera/en/documentation/cloudera-search/v1-latest/Cloudera-Search-Installation-Guide/csig_requirements.html\)](http://www.cloudera.com/content/cloudera/en/documentation/cloudera-search/v1-latest/Cloudera-Search-Installation-Guide/csig_requirements.html).
- **Apache Spark** - 0.90 or higher with CDH 4.4.0 or higher.
- **Apache Accumulo** - 1.4.3 with CDH 4.3.0, 1.4.4 with CDH 4.5.0, and 1.6.0 with CDH 4.6.0.

For more information, see the [Product Compatibility Matrix \(Product Compatibility Matrix.html#xd_583c10bfdbd326ba--6eed2fb8-14349d04bee--7b13\)](http://www.cloudera.com/content/cloudera/en/documentation/enterprise/latest/Concepts/CM/compatibility_matrix.html#xd_583c10bfdbd326ba--6eed2fb8-14349d04bee--7b13).

Supported Transport Layer Security Versions

The following components are supported by Transport Layer Security (TLS):

Components Supported by TLS

Component	Role	Port	Version
Cloudera Manager	Cloudera Manager Server	7182	TLS 1.2

Component	Role	Port	Version
Cloudera Manager	Cloudera Manager Server	7183	TLS 1.2
Flume		9099	TLS 1.2
HBase	Master	60010	TLS 1.2
HDFS	NameNode	50470	TLS 1.2
HDFS	Secondary NameNode	50495	TLS 1.2
Hive	HiveServer2	10000	TLS 1.2
Hue	Hue Server	8888	TLS 1.2
Cloudera Impala	Impala Daemon	21000	TLS 1.2
Cloudera Impala	Impala Daemon	21050	TLS 1.2
Cloudera Impala	Impala Daemon	22000	TLS 1.2
Cloudera Impala	Impala Daemon	25000	TLS 1.2
Cloudera Impala	Impala StateStore	24000	TLS 1.2
Cloudera Impala	Impala StateStore	25010	TLS 1.2
Cloudera Impala	Impala Catalog Server	25020	TLS 1.2
Cloudera Impala	Impala Catalog Server	26000	TLS 1.2
Oozie	Oozie Server	11443	TLS 1.1
Solr	Solr Server	8983	TLS 1.1
Solr	Solr Server	8985	TLS 1.1
YARN	ResourceManager	8090	TLS 1.2
YARN	JobHistory Server	19890	TLS 1.2

To configure TLS security for the Cloudera Manager Server and Agents, see

[Configuring TLS Security for Cloudera Manager \(cm_sg_config_tls_security.html#xd_583c10bfdbd326ba-3ca24a24-13d80143249--7ef8\)](#).

Resource Requirements

Cloudera Manager requires the following resources:

- **Disk Space**
 - **Cloudera Manager Server**
 - 5 GB on the partition hosting `/var`.
 - 500 MB on the partition hosting `/usr`.
 - For parcels, the space required depends on the number of parcels you download to the Cloudera Manager Server and distribute to Agent hosts. You can download multiple parcels of the same product, of different versions and builds. If you are managing multiple clusters, only one parcel of a product/version/build /distribution is downloaded on the Cloudera Manager Server—not one per cluster. In the local parcel repository on the Cloudera Manager Server, the approximate sizes of the various parcels are as follows:
 - CDH 4.6 - 700 MB per parcel; CDH 5 (which includes Impala and Search) - 1.5 GB per parcel (packed), 2 GB per parcel (unpacked)
 - Cloudera Impala - 200 MB per parcel
 - Cloudera Search - 400 MB per parcel
 - **Cloudera Management Service** -The Host Monitor and Service Monitor databases are stored on the partition hosting `/var`. Ensure that you have at least 20 GB available on this partition. For more information, see [Data Storage for Monitoring Data \(cm_ig_storage.html#xd_583c10bfd326ba--6eed2fb8-14349d04bee--7b12\)](#).
 - **Agents** - On Agent hosts each unpacked parcel requires about three times the space of the downloaded parcel on the Cloudera Manager Server. By default unpacked parcels are located in `/opt/cloudera/parcels`.
- **RAM** - 4 GB is recommended for most cases and is required when using Oracle databases. 2 GB may be sufficient for non-Oracle deployments with fewer than 100 hosts. However, to run the Cloudera Manager Server on a machine with 2 GB of RAM, you must tune down its maximum heap size (by modifying `-Xmx` in `/etc/default/cloudera-scm-server`). Otherwise the kernel may kill the Server for consuming too much RAM.

- **Python** - Cloudera Manager and CDH 4 require Python 2.4 or higher, but Hue in CDH 5 and package installs of CDH 5 require Python 2.6 or 2.7. All supported operating systems include Python version 2.4 or higher.
- **Perl** - Cloudera Manager requires [perl \(https://www.perl.org/get.html\)](https://www.perl.org/get.html).

Networking and Security Requirements

The hosts in a Cloudera Manager deployment must satisfy the following networking and security requirements:

- Cluster hosts must have a working network name resolution system and correctly formatted `/etc/hosts` file. All cluster hosts must have properly configured forward and reverse host resolution through DNS. The `/etc/hosts` files must
 - Contain consistent information about hostnames and IP addresses across all hosts
 - Not contain uppercase hostnames
 - Not contain duplicate IP addresses

Also, do not use aliases, either in `/etc/hosts` or in configuring DNS. A properly formatted `/etc/hosts` file should be similar to the following example:

```
127.0.0.1
localhost.localdomain
localhost
192.168.1.1
cluster-01.example.com
cluster-01
192.168.1.2
cluster-02.example.com
cluster-02
192.168.1.3
cluster-03.example.com
cluster-03
```

- In most cases, the Cloudera Manager Server must have SSH access to the cluster hosts when you run the installation or upgrade wizard. You must log in using a root account or an account that has password-less [sudo](#)

[\(cm ig permissions.html#xd 583c10bfdbd326ba--6eed2fb8-14349d04bee--7eb1 section ht2 ymp kr\)](#) permission. For authentication during the installation and upgrade procedures, you must either enter the password or upload a public and private key pair for the root or sudo user account. If you want to use a public and private key pair, the public key must be installed on the cluster hosts before you use Cloudera Manager.

Cloudera Manager uses SSH only during the initial install or upgrade. Once the cluster is set up, you can disable root SSH access or change the root password. Cloudera Manager does not save SSH credentials, and all credential information is discarded when the installation is complete. For more information, see [Permission Requirements for Package-based Installations and Upgrades of CDH \(cm ig permissions.html#xd 583c10bfdbd326ba--6eed2fb8-14349d04bee--7eb1\)](#).

- If [single user mode \(install singleuser reqts.html#xd 583c10bfdbd326ba--69adf108-1492ec0ce48--7ade\)](#) is not enabled, the Cloudera Manager Agent runs as root so that it can make sure the required directories are created and that processes and files are owned by the appropriate user (for example, the `hdfs` and `mapred` users).
- No blocking is done by Security-Enhanced Linux (SELinux).
Note: Cloudera Enterprise is supported on platforms with Security-Enhanced Linux (SELinux) enabled. Cloudera is not responsible for policy support nor policy enforcement. If you experience issues with SELinux, contact your OS provider.
- IPv6 must be disabled.
- No blocking by iptables or firewalls; port 7180 must be open because it is used to access Cloudera Manager after installation. Cloudera Manager communicates using specific [ports \(cm ig ports.html#concept k5z vwy 4j\)](#), which must be open.
- For RHEL and CentOS, the `/etc/sysconfig/network` file on each host must contain the hostname you have just set (or verified) for that host.
- Cloudera Manager and CDH use several user accounts and groups to complete their tasks. The set of user accounts and groups varies according to the components you choose to install. Do not delete these accounts or groups and do not modify their permissions and rights. Ensure that no existing systems prevent these accounts and groups from functioning. For example, if you have scripts that delete user accounts not in a whitelist, add these accounts to the list

of permitted accounts. Cloudera Manager, CDH, and managed services create and use the following accounts and groups:

Users and Groups

Component (Version)	Unix User ID	Groups	Notes
Cloudera Manager (all versions)	cloudera-scm	cloudera-scm	Cloudera Manager processes such as Manager Server and the monitoring user. The Cloudera Manager keytab file is <code>cmf.keytab</code> since that name is hard-coded in Cloudera Manager. Note: Applicable to clusters managed by Cloudera Manager only.
Apache Accumulo (Accumulo 1.4.3 and higher)	accumulo	accumulo	Accumulo processes run as this user.
Apache Avro			No special users.
Apache Flume (CDH 4, CDH 5)	flume	flume	The sink that writes to HDFS as this user needs write privileges.
Apache HBase (CDH 4, CDH 5)	hbase	hbase	The Master and the RegionServer processes run as this user.
HDFS (CDH 4, CDH 5)	hdfs	hdfs, hadoop	The NameNode and DataNodes run as this user. The HDFS root directory as well as the <code>hadoop</code> directory used for edit logs should be owned by this user.
Apache Hive (CDH 4, CDH 5)	hive	hive	The HiveServer2 process and the Hive Metastore processes run as this user. A user must be defined for Hive access to the Metastore DB (for example, MySQL).

Component (Version)	Unix User ID	Groups	Notes
			but it can be any identifier and does to a Unix uid. This is <code>javax.jdo.option.Connect</code> in <code>hive-site.xml</code> .
Apache HCatalog (CDH 4.2 and higher, CDH 5)	hive	hive	The WebHCat service (for REST access functionality) runs as the <code>hive</code> user
HttpFS (CDH 4, CDH 5)	httpfs	httpfs	The HttpFS service runs as this user. Security Configuration (cdh_sg_httpfs_security.html#top) instructions on how to generate the <code>httpfs-http.keytab</code> file.
Hue (CDH 4, CDH 5)	hue	hue	Hue services run as this user.
Cloudera Impala (CDH 4.1 and higher, CDH 5)	impala	impala, hive	Impala services run as this user.
Apache Kafka (Cloudera Distribution of Kafka 1.2.0)	kafka	kafka	Kafka services run as this user.
Java KeyStore KMS (CDH 5.2.1 and higher)	kms	kms	The Java KeyStore KMS service runs

Component (Version)	Unix User ID	Groups	Notes
Key Trustee KMS (CDH 5.3 and higher)	kms	kms	The Key Trustee KMS service runs as this user.
Key Trustee Server (CDH 5.4 and higher)	keytrustee	keytrustee	The Key Trustee Server service runs as this user.
Kudu	kudu	kudu	Kudu services run as this user.
Llama (CDH 5)	llama	llama	Llama runs as this user.
Apache Mahout			No special users.
MapReduce (CDH 4, CDH 5)	mapred	mapred, hadoop	Without Kerberos, the JobTracker and SecondaryNameNode run as this user. The LinuxTaskController runs as this user for Kerberos.
Apache Oozie (CDH 4, CDH 5)	oozie	oozie	The Oozie service runs as this user.
Parquet			No special users.
Apache Pig			No special users.
Cloudera Search (CDH 4.3 and higher, CDH 5)	solr	solr	The Solr processes run as this user.
Apache Spark (CDH 5)	spark	spark	The Spark History Server process runs as this user.
Apache Sentry	sentry	sentry	The Sentry service runs as this user.

Component (Version)	Unix User ID	Groups	Notes
(CDH 5.1 and higher)			
Apache Sqoop (CDH 4, CDH 5)	sqoop	sqoop	This user is only for the Sqoop1 Met configuration option that is not recor
Apache Sqoop2 (CDH 4.2 and higher, CDH 5)	sqoop2	sqoop, sqoop2	The Sqoop2 service runs as this user
Apache Whirr			No special users.
YARN (CDH 4, CDH 5)	yarn	yarn, hadoop	Without Kerberos, all YARN service applications run as this user. The LinuxContainerExecutor binary is ov user for Kerberos.
Apache ZooKeeper (CDH 4, CDH 5)	zookeeper	zookeeper	The ZooKeeper processes run as this configurable.

Categories: [Cloudera Manager \(../categories/hub_cloudera_manager.html\)](#) | [Compatibility \(../categories/hub_compatibility.html\)](#) | [Databases \(../categories/hub_databases.html\)](#) | [Deprecated Features \(../categories/hub_deprecated_features.html\)](#) | [FAQs \(../categories/hub_faqs.html\)](#) | [Installing \(../categories/hub_installing.html\)](#) | [Java \(../categories/hub_java.html\)](#) | [Linux \(../categories/hub_linux.html\)](#) | [Network \(../categories/hub_network.html\)](#) | [Planning \(../categories/hub_planning.html\)](#) | [Requirements \(../categories/hub_requirements.html\)](#) | [Security \(../categories/hub_security.html\)](#) | [Versions \(../categories/hub_versions.html\)](#) | [All Categories \(../categories/hub.html\)](#)