Hortonworks Data Platform

Support Matrices

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Hortonworks Data Platform: Support Matrices

The Hortonworks Data Platform, powered by Apache Hadoop, is a massively scalable and 100% open source platform for storing, processing and analyzing large volumes of data. It is designed to deal with data from many sources and formats in a very quick, easy and cost-effective manner. The Hortonworks Data Platform consists of the essential set of Apache Hadoop projects including MapReduce, Hadoop Distributed File System (HDFS), HCatalog, Pig, Hive, HBase, ZooKeeper and Ambari. Hortonworks is the major contributor of code and patches to many of these projects. These projects have been integrated and tested as part of the Hortonworks Data Platform release process and installation and configuration tools have also been included.

Unlike other providers of platforms built using Apache Hadoop, Hortonworks contributes 100% of our code back to the Apache Software Foundation. The Hortonworks Data Platform is Apache-licensed and completely open source. We sell only expert technical support, training and partner-enablement services. All of our technology is, and will remain free and open source.

Please visit the Hortonworks Data Platform page for more information on Hortonworks technology. For more information on Hortonworks services, please visit either the Support or Training page. Feel free to Contact Us directly to discuss your specific needs.

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1. Operating Systems Requirements

Note

The operating systems listed here do not cover HDP for IBM Power or IBM DSX. For requirements related to HDP for IBM Power, click here. For requirements related to HDP for IBM DSX, click here.

The following operating systems are supported for this release:

Table 1.1. Operating System Support

Operating System	Version
CentOS (64-bit)	CentOS 7.0, 7.1, 7.2, 7.3, 7.4
	CentOS 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8,6.9
Debian	Debian 7
Oracle (64-bit)	Oracle 7.0, 7.1, 7.2, 7.3, 7.4
	Oracle 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8,6.9
Red Hat (64-bit)	RHEL 7.0, 7.1, 7.2, 7.3, 7.4
	RHEL 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9
SUSE (64-bit)	(SLES) Enterprise Linux 12, SP2
	(SLES) Enterprise Linux 12, SP1
	(SLES) Enterprise Linux 11, SP3
	(SLES) Enterprise Linux 11, SP4
Ubuntu (64-bit)	Ubuntu 16.04 (Xenial)
	Ubuntu 14.04 (Trusty)

Important

For Ambari, the installer pulls many packages from the base OS repositories. If you do not have a complete set of base OS repositories available to all your machines at the time of installation you may run into issues.

If you encounter problems with base OS repositories being unavailable, please contact your system administrator to arrange for these additional repositories to be proxied or mirrored. For more information see Using a Local Repository.

2. Ambari 2.6.1: Support

The matrices in this chapter outline what is supported for Ambari 2.6.1.

2.1. Determine Stack Compatibility

Use this table to determine whether your Ambari and HDP stack versions are compatible.

Ambari*	HDP 2.6	HDP 2.5	HDP 2.4 (deprecated)	HDP 2.3 (deprecated)	HDP 2.2 (deprecated)
2.6.x	#	#	#		
2.5.x	#	#	#	#	
2.4.x		#	#	#	#
2.2.2.18			#	#	#
2.2.1			#	#	#
2.2.0				#	#

* Ambari does not install Hue or HDP Search (Solr).

** If you plan to install and manage HDP 2.3.4 (or later), **you must use Ambari 2.2.0 (or later)**. Do **not** use Ambari 2.1x with HDP 2.3.4 (or later).

2.2. Meet Minimum System Requirements

2.2.1. Browser Requirements

The Ambari Install Wizard runs as a browser-based Web application. You must have a machine capable of running a graphical browser to use this tool. The minimum required browser versions are:

Table 2.1. Ambari 2.5.1 Browser Requirements

Operating System	Browser
Linux	Chrome 56.0.2924.87, 57.0.2987
	Firefox 51, 52
Mac OS X	Chrome 56.0.2924.87, 57.0.2987
	Firefox 51, 52
	Safari 10.0.1, 10.0.3
Windows*	Chrome 56.0.2924.87, 57.0.2987
	Edge 38
	Firefox 51.0.1, 52.0
	Internet Explorer 10, 11

* For HDP Stack component UI's, browsers are not tested/supported for the Windows OS.

On any platform, we recommend updating your browser to the latest, stable version.

2.2.2. Software Requirements

On each of your hosts:

- `yum` and `rpm` (RHEL/CentOS/Oracle Linux)
- `zypper` and `php_curl` (SLES)
- `apt` (Debian/Ubuntu)
- `scp, curl, unzip, tar`, and `wget`
- OpenSSL (v1.01, build 16 or later)
- Python

For SLES 11:	Python 2.6.x
For SLES 12:	Python 2.7.x
For CentOS 7, Ubuntu 14, Ubuntu 16, and Debian 7:	Python 2.7.x

2.2.3. JDK Requirements

The following Java Development Kits (JDKs) are supported:

Table 2.2. HDP 2.6.4 JDK Support

JDK	Version
Open Source	JDK8[†]
Oracle	JDK 8, 64-bit (minimum JDK 1.8.0_77), default

[†]Open JDK does not run on SLES 11.

Note

JDK support depends on your choice of HDP Stack.

More Information

Changing the JDK Version

2.2.4. Database Requirements

Ambari requires a relational database to store information about the cluster configuration and topology. If you install HDP Stack with Hive or Oozie, they also require a relational database.

The following table outlines these database requirements:

Component	Databases	Description
Ambari	PostgreSQL 9.1.13+,9.3, 9.4***	By default, Ambari installs an instance of PostgreSQL on the Ambari Server host. Optionally,

Component	Databases	Description
	MariaDB 10.1* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	you can use an existing instance of PostgreSQL, MySQL or Oracle.

* If using HDP 2.5, MariaDB 10 database is **only** supported on RHEL/CentOS/Oracle Linux 7 or SLES 12.

** Use of an existing Oracle 12c database is **only** supported with HDP 2.3 or later.

*** Use of an existing PostgreSQL 9.4 is only supported with HDP 2.5 or later.

**** Use of an existing MySQL 5.6 database is only supported with the default, InnoDB engine.

Important

For the Ambari database, if you use an existing Oracle database, make sure the Oracle listener runs on a port other than 8080 to avoid conflict with the default Ambari port.

Important

Using the **Microsoft SQL Server** or **SQL Anywhere** database options are not supported.

More Information

Using Existing Databases - Ambari

Using Existing Databases - Hive

Using Existing Databases - Oozie

Installing Ranger

Changing the Default Ambari Server Port

2.2.5. Memory Requirements

The Ambari host should have at least 1 GB RAM, with 500 MB free.

To check available memory on any host, run:

```
free -m
```

If you plan to install the Ambari Metrics Service (AMS) into your cluster, you should review Using Ambari Metrics in Hortonworks Data Platform Apache Ambari Operations, for guidelines on resources requirements. In general, the host you plan to run the Ambari Metrics Collector host should have the following memory and disk space available based on cluster size:

Number of hosts	Memory Available	Disk Space
1	1024 MB	10 GB
10	1024 MB	20 GB
50	2048 MB	50 GB
100	4096 MB	100 GB
300	4096 MB	100 GB
500	8096 MB	200 GB
1000	12288 MB	200 GB
2000	16384 MB	500 GB

Note

Use these values as guidelines. Be sure to test them for your specific environment.

More Information

Using Ambari Metrics

Package Size and Inode Count Requirements [5]

2.2.6. Package Size and Inode Count Requirements

	Size	Inodes
Ambari Server	100MB	5,000
Ambari Agent	8MB	1,000
Ambari Metrics Collector	225MB	4,000
Ambari Metrics Monitor	1MB	100
Ambari Metrics Hadoop Sink	8MB	100
After Ambari Server Setup	N/A	4,000
After Ambari Server Start	N/A	500
After Ambari Agent Start	N/A	200

*Size and Inode values are approximate

2.2.7. Check the Maximum Open File Descriptors

The recommended maximum number of open file descriptors is 10000, or more. To check the current value set for the maximum number of open file descriptors, execute the following shell commands on each host:

```
ulimit -Sn

ulimit -Hn
```

If the output is not greater than 10000, run the following command to set it to a suitable default:

```
ulimit -n 10000
```

3. HDP 2.6.4: Support

The matrices in this chapter outline what is supported for HDP 2.6.4.

3.1. JDK Requirements

The following Java Development Kits (JDKs) are supported for HDP 2.6.4:

Table 3.1. HDP 2.6.4 JDK Support

JDK	Version
Open Source	JDK8[†]
Oracle	JDK 8

[†]Open JDK does not run on SLES 11.

Note

JDK support depends on your choice of HDP Stack.

3.2. Database Requirements

Ambari requires a relational database to store information about the cluster configuration and topology. If you install HDP Stack with Hive or Oozie, they also require a relational database.

The following table outlines these database requirements:

Component	Databases	Description
Druid	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10.1* MySQL 5.6****	
Hive	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10.1* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	By default (on RHEL/CentOS/Oracle Linux 6), Ambari installs an instance of MySQL on the Hive Metastore host. Otherwise, you need to use an existing instance of PostgreSQL, MySQL or Oracle.
Hue	PostgreSQL 9.1.13+, 9.3 MySQL 5.6**** Oracle 11gr2 Oracle 12c** sqlite	sqlite is the default.
Oozie	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10.1*	By default, Ambari installs an instance of Derby on the Oozie Server host. Optionally, you can use an existing instance of PostgreSQL, MySQL or Oracle.

Component	Databases	Description
	MySQL 5.6**** Oracle 11gr2 Oracle 12c**	**Do Not Use the default instance of Derby for a production environment.** If you plan to use Derby for a demo, development or test environment, migration of the Oozie database from Derby to a new database is only available in the community.
Ranger	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10.1* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	You must have an existing instance of PostgreSQL , MySQL or Oracle available for Ranger.

* If using HDP 2.5, MariaDB 10 database is **only** supported on RHEL/CentOS/Oracle Linux 7 or SLES 12.

** Use of an existing Oracle 12c database is **only** supported with HDP 2.3 or later.

*** Use of an existing PostgreSQL 9.4 is only supported with HDP 2.5 or later.

**** Use of an existing MySQL 5.6 database is only supported with the default, InnoDB engine.

Important

For the Ambari database, if you use an existing Oracle database, make sure the Oracle listener runs on a port other than 8080 to avoid conflict with the default Ambari port.

Important

Using the **Microsoft SQL Server** or **SQL Anywhere** database options are not supported.

More Information

Using Existing Databases - Ambari

Using Existing Databases - Hive

Using Existing Databases - Oozie

Installing Ranger

Changing the Default Ambari Server Port

4. HDP 2.6.4 for IBM Power: Support

The matrices in this chapter outline what is supported for HDP 2.6.4. for IBM Power.

4.1. Operating Systems Requirements

The following operating systems are supported for HDP 2.6.4 for IBM Power:

Table 4.1. HDP 2.6.4 for IBM Power: Operating System Support

Operating System	Version
Red Hat (64-bit)	RHEL 7.2, 7.3, 7.4

4.2. Browser Requirements

The Ambari Install Wizard runs as a browser-based Web application. You must have a machine capable of running a graphical browser to use this tool. The minimum required browser versions are:

Table 4.2. Ambari 2.5.1 Browser Requirements

Operating System	Browser
Linux (RHEL 7)	Chrome 26
	Firefox 18
Mac OS X (10.6 or later)	Chrome 26
	Firefox 18
	Safari 5
Windows (7 and 8)	Chrome 26
	Firefox 18
	Internet Explorer 10

On any platform, we recommend updating your browser to the latest, stable version.

4.3. Software Requirements

On each of your hosts:

- `yum` and `rpm` (RHEL 7)
- `curl`, `jsch`, `scp`, `tar`, `unzip`, and `wget`
- OpenSSL (v1.01, build 16 or later)
- Python 2.7

4.4. JDK Requirements

The following Java Development Kits (JDKs) are supported for HDP 2.6.4 for IBM Power:

Table 4.3. HDP 2.6.4 for IBM Power JDK Support Matrix

JDK	Version
Open Source	JDK8

You must install the following OpenJDK 1.8 for PPC packages as a prerequisite on all machines in the cluster:

- java-1.8.0-openjdk
- java-1.8.0-openjdk-devel
- java-1.8.0-openjdk-headless

Set your JAVA_HOME:

```
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk
```

4.5. Database Requirements

Ambari requires a relational database to store information about the cluster configuration and topology. If you install HDP Stack with Hive or Oozie, they also require a relational database.

The following table outlines these database requirements:

Component	Databases	Description
Ambari	MySQL 5.6*	
Druid	MySQL 5.6****	
Hive	MySQL 5.6*	By default (on RHEL 7), Ambari installs an instance of MySQL on the Hive Metastore host.
Oozie	MySQL 5.6*	
Ranger	MySQL 5.6*	

* Ambari 2.5 installs MySQL 5.6 with the Inno DB engine.

** To use a MySQL as the Ambari database, you must set up the mysql connector, create auser and grant user permissions.

More Information

Using Existing Databases - Ambari

Using Existing Databases - Hive

Using Existing Databases - Oozie

Installing Ranger

4.6. Memory Requirements

The Ambari host should have at least 1 GB RAM, with 500 MB free.

To check available memory on any host, run:

```
free -m
```

If you plan to install the Ambari Metrics Service (AMS) into your cluster, you should review Using Ambari Metrics in Hortonworks Data Platform Apache Ambari Operations, for guidelines on resources requirements. In general, the host you plan to run the Ambari Metrics Collector host should have the following memory and disk space available based on cluster size:

Number of hosts	Memory Available	Disk Space
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100	4096 MB	100 GB
300	4096 MB	100 GB
500	8096 MB	200 GB
1000	12288 MB	200 GB
2000	16384 MB	500 GB

Note

Use these values as guidelines. Be sure to test them for your specific environment. Be sure to test for your particular environment.

4.7. Package Size and Inode Count Requirements

	Size	Inodes
Ambari Server	100MB	5,000
Ambari Agent	8MB	1,000
Ambari Metrics Collector	225MB	4,000
Ambari Metrics Monitor	1MB	100
Ambari Metrics Hadoop Sink	8MB	100
After Ambari Server Setup	N/A	4,000
After Ambari Server Start	N/A	500
After Ambari Agent Start	N/A	200

*Size and Inode values are approximate

4.8. Check the Maximum Open File Descriptors

The recommended maximum number of open file descriptors is 10000, or more. To check the current value set for the maximum number of open file descriptors, execute the following shell commands on each host:

```
ulimit -Sn
```

```
ulimit -Hn
```

If the output is not greater than 10000, run the following command to set it to a suitable default:

```
ulimit -n 10000
```

5. HDP 2.6.3 for IBM DSX: Support

The following operating systems are supported for HDP-2.6.3 and the IBM DSX Local October 2017 release (v1.1.2.01).

5.1. Operating Systems Requirements

Table 5.1. HDP 2.6.3 for IBM DSX: Operating System Support

Operating System	Version
Red Hat (64-bit)	RHEL 7.0, 7.1, 7.2, 7.3

For more information on using HDP-2.6.3 with IBM DSX Local, see Set up HDP to work with DSX Local.