

# Hortonworks Data Platform

## Support Matrices

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## Hortonworks Data Platform: Support Matrices

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# 1. Ambari 2.5.0: Support

The matrices in this chapter outline what is supported for Ambari 2.5.0.

## 1.1. 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)
2.5.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).

## 1.2. Meet Minimum System Requirements

### 1.2.1. Operating Systems Requirements

The following operating systems are supported for Ambari 2.5.0:

**Table 1.1. Ambari 2.5.0 Operating System Support**

Operating System	Version
CentOS (64-bit)	CentOS v7.x
	CentOS v6.x
Debian	Debian v7.x
Oracle (64-bit)	Oracle Linux v7.x
	Oracle Linux v6.x
SUSE (64-bit)	(SLES) Enterprise Linux 12, SP2 for Teradata
	(SLES) Enterprise Linux 12, SP1
	(SLES) Enterprise Linux 11, SP4 (HDP 2.2 and later)
	(SLES) Enterprise Linux 11, SP3 for Teradata (HDP 2.2 and later)
	(SLES) Enterprise Linux 11, SP1 (HDP 2.2)
Ubuntu (64-bit)	Ubuntu 16.04 (Xenial)
	Ubuntu 14.04 (Trusty)



### Important

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](#).

## 1.2.2. 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 1.2. Ambari 2.5.0 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

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

## 1.2.3. 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 (v1.0.1, 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

## 1.2.4. JDK Requirements

The following Java Development Kits (JDKs) are supported:

**Table 1.3. HDP 2.6.0 JDK Support**

JDK	Version
Open Source	JDK8 <sup>†</sup>
	JDK7 <sup>†</sup> , deprecated
Oracle	JDK 8, 64-bit (minimum JDK 1.8.0_77), default
	JDK 7, 64-bit (minimum JDK 1.7_67), deprecated

<sup>†</sup>Open JDK does not run on SLES 11.



### Note

JDK support depends on your choice of HDP Stack.

### More Information

[Changing the JDK Version](#)

## 1.2.5. 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	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	By default, Ambari installs an instance of PostgreSQL on the Ambari Server host. Optionally, you can use an existing instance of PostgreSQL, MySQL or Oracle.
Druid	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* MySQL 5.6****	
Hive	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* 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.
Oozie	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	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.  <b>Do Not Use the default instance of Derby for a production environment.</b> 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.

Component	Databases	Description
Ranger	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	You must have an existing instance of PostgreSQL , MySQL or Oracle available for Ranger.

\* Use of an existing MariaDB 10 database is **only** supported with HDP 2.5 when running 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 Non-Default Databases - Ambari](#)

[Using Non-Default Databases - Hive](#)

[Using Non-Default Databases - Oozie](#)

[Installing Ranger](#)

[Changing the Default Ambari Server Port](#)

## 1.2.6. 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
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](#)

## 1.2.7. 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

## 1.2.8. 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
```

## 2. HDP 2.6.0: Support

The matrices in this chapter outline what is supported for HDP 2.6.0.

### 2.1. Operating Systems Requirements

The following operating systems are supported for HDP 2.6.0:

**Table 2.1. HDP 2.6.0 Operating System Support**

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

### 2.2. JDK Requirements

The following Java Development Kits (JDKs) are supported for HDP 2.6.0:

**Table 2.2. HDP 2.6.0 JDK Support**

JDK	Version
Open Source	JDK8 <sup>†</sup>
	JDK7 <sup>†</sup> , deprecated
Oracle	JDK 8
	JDK 7, deprecated

<sup>†</sup>Open JDK does not run on SLES 11.



#### Note

JDK support depends on your choice of HDP Stack.

### 2.3. 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*** MariaDB 10* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	By default, Ambari installs an instance of PostgreSQL on the Ambari Server host. Optionally, you can use an existing instance of PostgreSQL, MySQL or Oracle.
Druid	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* MySQL 5.6****	
Hive	PostgreSQL 9.1.13+, 9.3, 9.4*** MariaDB 10* 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* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	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.  <b>Do Not Use the default instance of Derby for a production environment.</b> 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* MySQL 5.6**** Oracle 11gr2 Oracle 12c**	You must have an existing instance of PostgreSQL, MySQL or Oracle available for Ranger.

\* Use of an existing MariaDB 10 database is **only** supported with HDP 2.6 when running 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 Non-Default Databases - Ambari](#)

[Using Non-Default Databases - Hive](#)

[Using Non-Default Databases - Oozie](#)

[Installing Ranger](#)

[Changing the Default Ambari Server Port](#)

## 3. HDP 2.6.0 for IBM Power: Support

The matrices in this chapter outline what is supported for HDP 2.6.0. for IBM Power.

### 3.1. Operating Systems Requirements

The following operating systems are supported for HDP 2.6.0 for IBM Power:

**Table 3.1. HDP 2.6.0 for IBM Power: Operating System Support**

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

### 3.2. 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 3.2. Ambari 2.5.0 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.

### 3.3. Software Requirements

On each of your hosts:

- `yum` and `rpm` (RHEL 7)
- `curl`, `jsch`, `scp`, `tar`, `unzip`, and `wget`
- OpenSSL (v1.0.1, build 16 or later)
- Python 2.7

### 3.4. JDK Requirements

The following Java Development Kits (JDKs) are supported for HDP 2.6.0 for IBM Power:

**Table 3.3. HDP 2.6.0 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
```

## 3.5. 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 InnoDB engine.

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

### More Information

[Using Ambari with MySQL/MariaDB](#)

[Installing Ranger](#)

## 3.6. 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
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. Be sure to test for your particular environment.

## 3.7. 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

## 3.8. 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
```