

# Hortonworks Cybersecurity Platform

## Upgrade Guide

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## Hortonworks Cybersecurity Platform: Upgrade Guide

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Hortonworks Cybersecurity Platform (HCP) is a modern data application based on Apache Metron, powered by Apache Hadoop, Apache Storm, and related technologies.

HCP provides a framework and tools to enable greater efficiency in Security Operation Centers (SOCs) along with better and faster threat detection in real-time at massive scale. It provides ingestion, parsing and normalization of fully enriched, contextualized data, threat intelligence feeds, triage and machine learning based detection. It also provides end user near real-time dashboarding.

Based on a strong foundation in the Hortonworks Data Platform (HDP) and Hortonworks DataFlow (HDF) stacks, HCP provides an integrated advanced platform for security analytics.

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. Preparing to Upgrade

Prior to upgrading Hortonworks Cybersecurity Platform (HCP), you must back up your configuration and stop all Metron services.

## 1.1. Backing up Your Configuration

The HCP upgrade uses the default configuration for the new Metron version. If you made any changes to the Metron configuration in the previous version, you need to back up your old configuration so you can incorporate those changes into the new Metron configuration. You will also need to re-enter values for the Metron properties in Ambari.

1. Create a backup directory.

```
mkdir /$HCP_BACKUP_DIRECTORY
```

2. Back up your configuration information in ZooKeeper to your backup directory:

```
${METRON_HOME}/bin/zk_load_configs.sh -m DUMP -z $ZOOKEEPER > /  
$HCP_BACKUP_DIRECTORY/$BACKUP_CONFIG.txt
```

3. Back up the following property files in the `$METRON_HOME/config` directory to your backup directory:

- `elasticsearch.properties`
- `enrichment.properties`
- `pcap.properties`
- `profiler properties`

For example:

```
cp elasticsearch.properties /$HCP_BACKUP/elasticsearch.properties
```

4. Copy the zookeeper directory to your backup directory:

```
cp -R zookeeper/ /$HCP_BACKUP/zookeeper
```

5. Back up your Metron configuration.

The easiest way to do this is to take a screenshot of each of the Metron configuration pages that you modified in Ambari. At a minimum, take a screen shot of the following configuration pages:

- Index Settings
- Parsers
- REST

## 1.2. Stopping All Metron Services

You need to stop all Metron services prior to uninstalling Metron.

### 1. Stop all Metron services in Ambari.

Stop each Metron service in the following order:

- Metron Alerts UI
- Metron Management UI
- Metron REST
- Storm

To stop Storm, complete the following steps:

#### a. Kill each Storm topology.

From the Storm node, list all of the Storm topologies that are currently running:

```
storm list
```

#### b. Kill each of the running Storm topologies in the following order:

- all parsers such as bro and snort
- enrichment
- indexing
- profiler

For example:

```
storm kill bro
```

#### c. Return to the Storm UI.

Verify that all topologies are killed.

#### d. In Ambari, stop Storm by selecting Storm and clicking **Stop All** in the **Actions** menu.

### 2. Ensure that the UIs are shut down.

If the Metron Alerts UI or Metron Management UI status in Ambari is "running," shut down the UIs by entering the following from `$METRON_HOME/var/log/metron/metron`:

```
service metron-alerts-ui status
service metron-alerts-ui stop

service metron-management-ui status
service metron-management-ui stop
```

## 2. Upgrading Metron

After you shut down Metron and all of its services, you must uninstall Metron and then reinstall the newest version of Metron.

### Prerequisite

- Back up your Metron configuration.  
See [Backing up Your Configuration](#) for more information.
- Stop all Metron services  
See [Stopping All Metron Services](#) for more information.

### 1. Uninstall Metron.

In Ambari, select **Metron**, then under the **Service Actions** menu, click **Delete Service**.

When prompted, enter "delete" to confirm deleting the service.

### 2. Remove all of the rpms from the old Metron version.

#### CentOS

From the Ambari node, enter the following to list all of the Metron packages:

```
rpm -e $(rpm -qa | grep metron)
```

Remove each of the packages:

```
rpm remove $PACKAGE_NAME
```

#### Ubuntu

From the Ambari node, enter the following to delete all of the Metron packages:

```
sudo aptitude purge $PACKAGE_NAME
```

### 3. Modify the `/etc/yum.repos.d/HCP.repo` file with the updated repo version:

```
vi /etc/yum.repos.d/HCP.repo
```

### 4. Update the `HCP.repo` file.

#### CentOS

```
yum update
```

#### Ubuntu

```
apt-get update
```

### 5. Install the current HCP mpack repo from [Release Notes](#).

For example:

```
wget http://public-repo-1.hortonworks.com/HCP/centos7/1.x/updates/1.4.2.0/  
tars/metron/hcp-ambari-mpack-1.4.2.0-18.tar.gz  
ambari-server install-mpack --force --mpack=/${MPACK_DOWNLOAD_DIRECTORY}/  
hcp-ambari-mpack-1.4.2.0-18.tar.gz --verbose
```

6. Restart the Ambari server.

```
ambari-server restart
```

7. Re-open Ambari and add back the updated Metron version.

From the **Actions** menu, click **Add Service**, then click **Metron** from the **Choose Services** page. Ensure Metron is the updated version.

Ambari lists each service on which Metron is dependent.

8. Click **yes** to add each dependency.
9. In Ambari, add back your Metron configuration information in the **Property** fields.



### Important

Do not copy and paste into the Metron property fields. You can inadvertently add a special character.

10. Click **Deploy** to start the Metron set up.

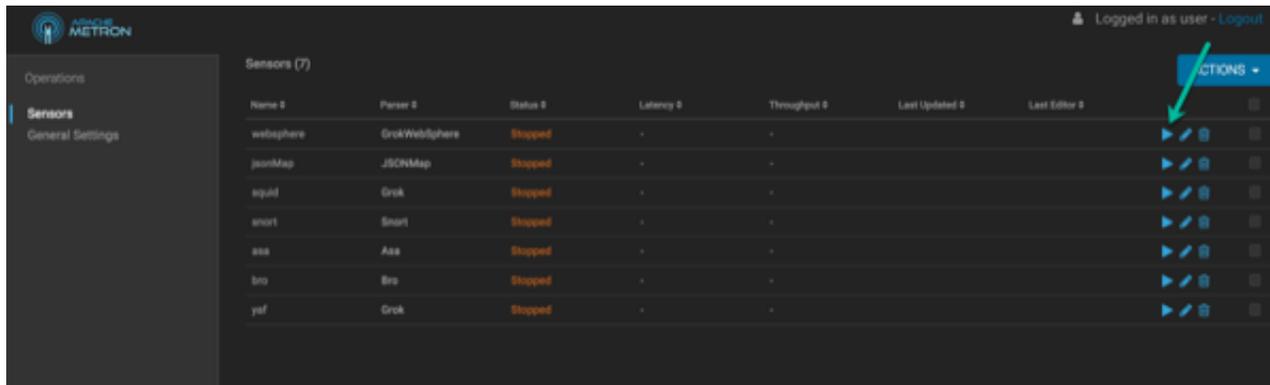
The process to install, start, and test Metron will take a while.

11. Restart the Metron services:

- Metron REST
- Metron Management UI
- Metron Alerts UI
- Indexing

12. In the Management UI, restart the Metron Parsers including Enrichment, Bro, Snort, Yaf, and any other parsers you added previously.

Figure 2.1. Management UI

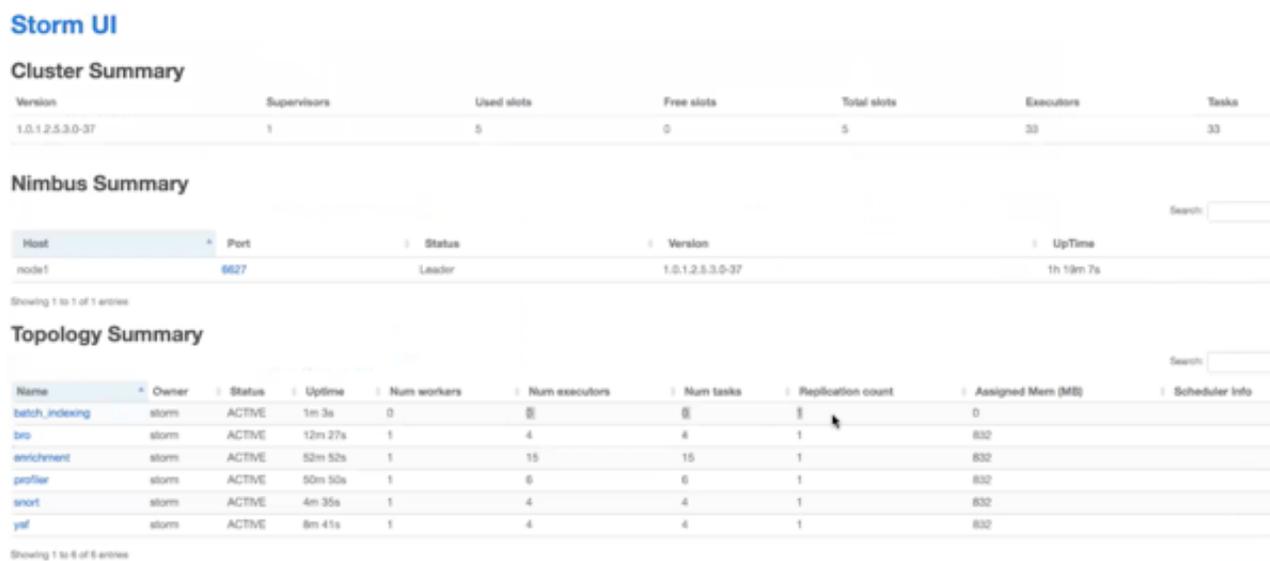


**Note**

Starting the Metron parsers might take a while.

13. Check the status of the parsers in the Storm UI.

Figure 2.2. Storm UI



## 3. Mandatory Post-Upgrade Tasks

After you finish updating the Ambari M-Pack, depending on your configuration, you need to update the following features in your cluster:

- [Upgrading Your Configuration \[6\]](#)
- [Changes to STELLAR Language \[6\]](#)

### 3.1. Upgrading Your Configuration

The upgrade uses the default configuration for the new Metron version. If you made any changes to the Metron configuration in the previous version, incorporate those changes into the new Metron configuration by changing one or more of the following:

- Metron properties in Ambari
- ZooKeeper

Incorporate changes from the ZooKeeper file you backed up earlier.

- Flux files

Incorporate changes from the Flux files you backed up earlier.

### 3.2. Changes to STELLAR Language

HCP adds additional Stellar keywords to each new HCP version. These new keywords might cause compatibility issues where these reserved words and symbols are used in existing scripts. Be sure to check the [Stellar Language Quick Reference](#) for new and changed Stellar keywords.

HCP 1.4.2 adds `match` to the Stellar language which introduces the following new reserved keywords and symbols:

```
match, default, {, }, '=>'
```

You must modify any Stellar expressions that use these keywords not in quotes.

## 4. Troubleshooting

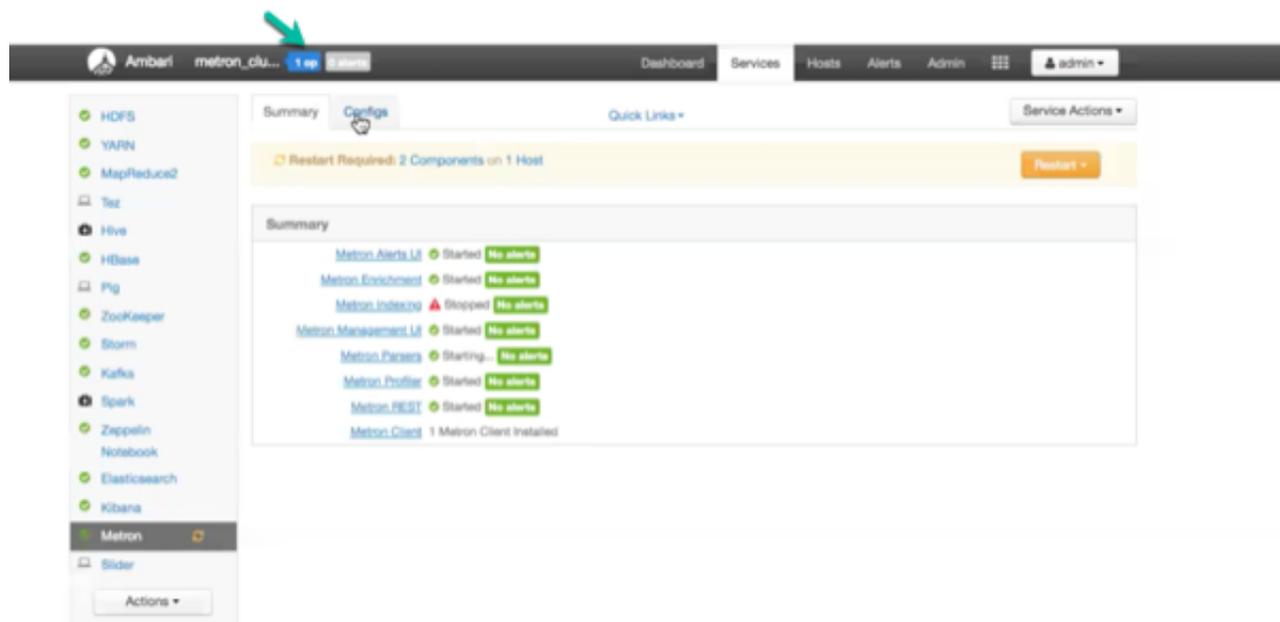
If you run into issues with your upgrade use the following troubleshooting tips to identify and resolve those issues.

### 4.1. Checking the Status of the Parsers

If your parsers do not restart, you can check the status of the parsers by completing the following steps:

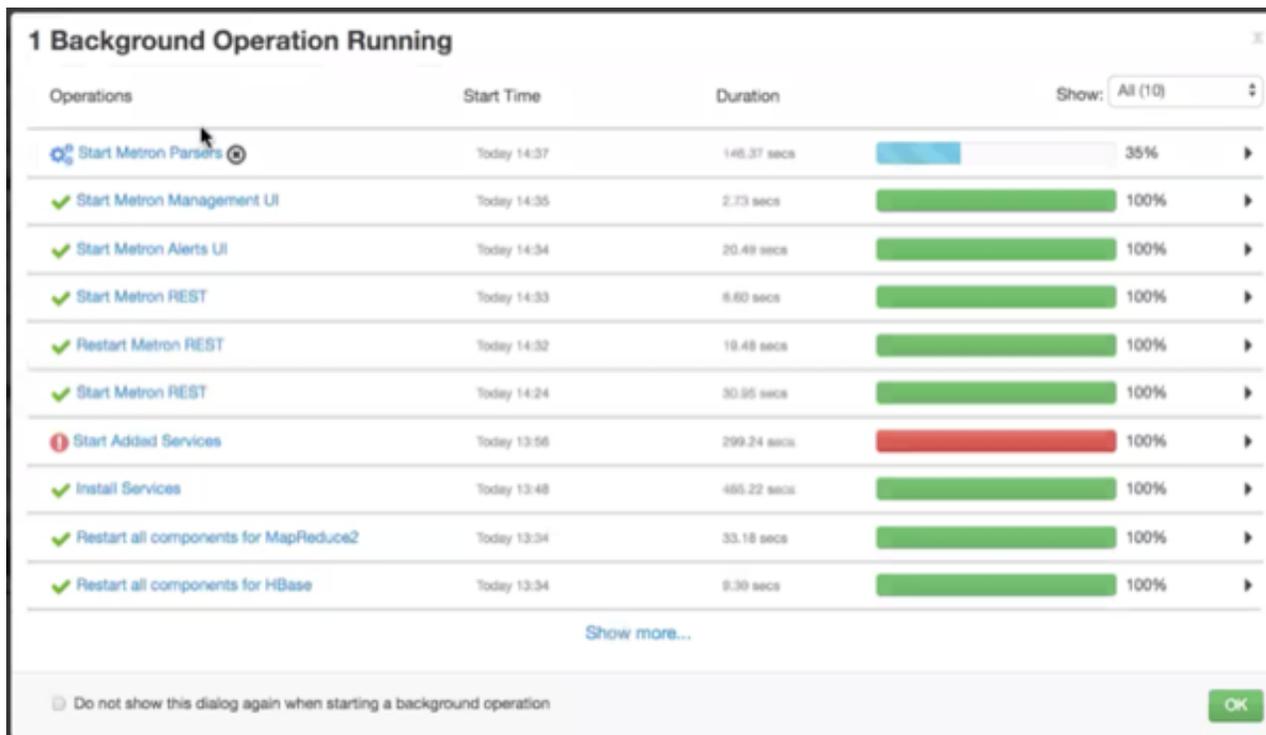
1. Click the operation status tab at the top of the Ambari window.

Figure 4.1. Ambari Summary Tab



Ambari displays the Operations Running Status window.

Figure 4.2. Ambari Background Operation Page



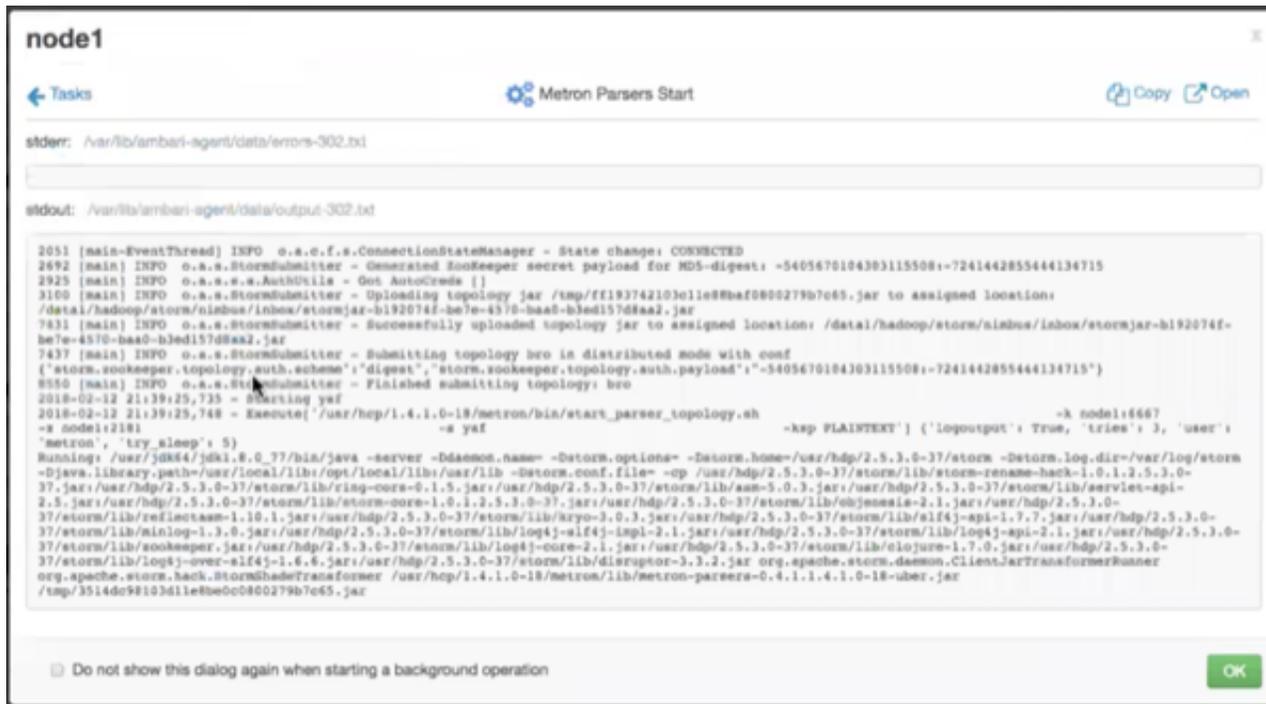
2. Click **Start Metron Parsers**.

Ambari displays the **Start Metron Parsers** window.

3. Click the parser node you want to check, then click **Metron Parsers Start**.

Ambari displays information on the status of the parser.

Figure 4.3. Metron Parsers Start Page



4. Review the information in this window to determine the status of your parsers.