

Cloudera Flow Management Installation

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CFM Installation Overview

It is helpful to understand an overview of the Cloudera Flow Management (CFM) installation process before you begin. Installing CFM involves meeting basic system requirements, getting the CFM Custom Service Descriptor Files, Installing the CFM Parcel, and then adding and configuring CFM Services.

Install the JDK

You should install JDK 8 on each machine on which you will install NiFi, if your version of Cloudera Manager is not already configured with JDK 8.

Procedure

1. Download JDK from the appropriate website.
2. Run the installation command appropriate for your operating system:

For RHEL/CentOS/SLES:

```
yum install java-1.8.0-openjdk-devel
```

For Ubuntu:

```
apt-get install openjdk-8-jdk
```

Related Information

[Open JDK Download](#)

[Oracle JDK Download](#)

Add the ZooKeeper Service

If you are running NiFi in a clustered environment, you must install ZooKeeper before adding the NiFi service. To add ZooKeeper, navigate to the Add Service page for your cluster and select ZooKeeper.

Procedure

1. From Home > Status tab, select the drop-down to the right of your cluster, and select Add a Service.
2. Select ZooKeeper, and click Continue.
3. Select the cluster node onto which you want to install ZooKeeper. Do not install ZooKeeper onto the same cluster node as NiFi.

Get the CFM Custom Service Descriptor Files

A Custom Service Descriptor (CSD) file contains configuration information needed to describe and manage a new service. Download the CSDs for each CFM Service, specify ownership and permissions, and then restart the Cloudera Manager Server. Find the CSD location in the *CFM Release Notes*.

Procedure

1. Download the CSDs for NiFi, NiFi Registry, and the NiFi Toolkit and put them into `opt/cloudera/csd`.
You can download the files from the Cloudera website or the CFM repository. See *Download Locations*.

2. Change the CSD owner. In `opt/cloudera/csd`, enter:

```
chown cloudera-scm:cloudera-scm ./*
chmod 644 ./*
```

3. Restart the Cloudera Manager Server.

```
sudo service cloudera-scm-server restart
```

4. Restart the Cloudera Management Service. From the Cloudera Manager Status tab, click the Restart Icon or select Restart from the Cloudera Management Service drop-down.

Related Information

[CFM Release Notes](#)

[Download Locations](#)

Installing Databases

If you are installing NiFi Registry, you can install and configure a MySQL or PostgreSQL database.

Supported databases for NiFi Registry

Lists supported databases for NiFi Registry.

If you are installing a new NiFi Registry, then you can use one of the following databases:

- PostgreSQL 9.x
- PostgreSQL 10.x
- MySQL 5.6
- MySQL 5.7
- MySQL 8

Installing MySQL

You can install MySQL 5.5 or later.

Procedure

1. Log in to the node on which you want to install NiFi Registry.
2. Install MySQL and the MySQL community server, and start the MySQL service:

```
yum localinstall \
https://dev.mysql.com/get/mysql57-community-release-el7-8.noarch.rpm
yum install mysql-community-server
systemctl start mysqld.service
```

3. Obtain the randomly generated MySQL root password.

```
grep 'A temporary password is generated for root@localhost' \
/var/log/mysqld.log | tail -1
```

4. Reset the MySQL root password. Enter the following command. You are prompted for the password you obtained in the previous step. MySQL then asks you to change the password.

```
/usr/bin/mysql_secure_installation
```

Configuring NiFi Registry Metadata Stores in MySQL

MySQL provides the option to use an externally located database that supports high availability.

About this task

Perform the following steps to use MySQL:

Procedure

1. Download the MySQL JDBC driver and place it somewhere accessible to NiFi Registry.
/path/to/drivers/mysql-connector-java-8.0.16.jar
2. Create a database inside MySQL (enter mysql shell using `mysql -u root -p`)
`CREATE DATABASE nifi_registry;`
3. Create a database user and grant privileges (for remote users, use `nifiereg'@'<IP-ADDRESS>` or `nifiereg'@'%'` for any remote host).

```
GRANT ALL PRIVILEGES ON nifi_registry.* TO 'nifiereg'@'localhost' IDENTIFIED BY 'changeme';
```

4. Configure the database properties in `nifi-registry.properties`.

```
nifi.registry.db.url=jdbc:mysql://<MYSQL-HOSTNAME>/nifi_registry
nifi.registry.db.driver.class=com.mysql.cj.jdbc.Driver nifi.registry.db.driver.directory=/path/to/drivers
nifi.registry.db.username=nifiereg nifi.registry.db.password=changeme
```

Results

`nifiereg'@'<IP-ADDRESS>`

, or

`nifiereg'@'%'`

`nifiereg'@'<IP-ADDRESS>`

, or

`nifiereg'@'%'`

for any remote host).

`mysql -u root -p`

).

What to do next

Install Postgres

You can install Postgres 9.5 or later.

About this task

If you have already installed a MySQL database, you may skip these steps.

Procedure

1. Install Red Hat Package Manager (RPM) according to the requirements of your operating system:

```
yum install https://yum.postgresql.org/9.6/redhat/rhel-7-x86_64/pgdg-redhat96-9.6-3.noarch.rpm
```

2. Install Postgres version 9.5 or later:

```
yum install postgresql96-server postgresql96-contrib postgresql96
```

3. Initialize the database:

For CentOS 7, use the following syntax:

```
/usr/pgsql-9.6/bin/postgresql96-setup initdb
```

4. Start Postgres.

For example, if you are using CentOS 7, use the following syntax:

```
systemctl enable postgresql-9.6.service  
systemctl start postgresql-9.6.service
```

5. Verify that you can log in:

```
sudo su postgres  
psql
```

Configuring NiFi Registry Metadata Stores in Postgres

Postgres provides the option to use an externally located database that supports high availability.

About this task

Perform the following steps to use Postgres:

Procedure

1. Download the Postgres JDBC driver and place it somewhere accessible to NiFi Registry

/path/to/drivers/postgresql-42.2.2.jar

2. Create a database inside Postgres

```
createdb nifireg
```

3. Create a database user and grant privileges.

```
psql nifireg  
CREATE USER nifireg WITH PASSWORD 'changeme';  
GRANT ALL PRIVILEGES ON DATABASE nifireg to nifireg;  
\q
```

4. Configure the database properties in nifi-registry.properties.

```
nifi.registry.db.url=jdbc:postgresql://<POSTGRES-HOSTNAME>/nifireg  
nifi.registry.db.driver.class=org.postgresql.Driver  
nifi.registry.db.driver.directory=/path/to/drivers  
nifi.registry.db.username=nifireg  
nifi.registry.db.password=changeme
```

Install the CFM Parcel

You can install the CFM parcel using the public parcel repository, or you manually download the CFM parcel and the .sha file. The public repository and the parcel and .sha files are available in the *CFM Release Notes*.

Related Information

[CFM Release Notes](#)

Install the CFM Parcel from the Repository

Install the CFM parcel to make the NiFi, NiFi Registry, and NiFi Toolkit services available for installation. To install the CFM parcel to Cloudera Manager, you must update the Parcel URL, and then download, distribute and activate the CFM parcels.

Procedure

1. Navigate to the Parcel Configuration page. From the navigation bar click Hosts then Parcels, and click the Edit Settings button.
2. From the Parcel Configuration page, in the Remote Parcel Repository URLs list, click + to add an additional row.
3. Add the CFM parcel URL available in from the Cloudera download location.

For example:

```
https://<username>:<password>@archive.cloudera.com/p/CFM/sles12/1.x/updates/1.1.0.0/tars/parcel/CFM-1.1.0.0-sles12.parcel
```

4. Click Save Changes. The new CFM parcel displays with the set of parcels available for download on the Parcels page.
5. From the Parcels page, download, distribute, and activate the CFM parcel.

Related Information

[Download Locations](#)

Manually Install the CFM Parcel

You can manually download the parcel and .sha files and then perform the CFM parcel installation.

Procedure

1. Download the CFM manifest, parcel, and .sha files appropriate for your operating system.
For the download links, see *Software Download Locations*.
2. Copy both the parcel file and sha files to the cluster parcel repository location. By default this is located in the Cloudera Manager Server /opt/cloudera/parcel-repo folder.
3. Navigate to the Parcels page. From the navigation bar, click Hosts then Parcels.
4. Review the parcel list and verify that the CFM is available. If not, click the Check for New Parcels button. The new CFM parcel should display Available for Download on the Parcels page.
5. From the Parcels page, download, distribute, and activate the CFM parcel.

Related Information

[Software Download Locations](#)

Add and Configure CFM Services

To complete the CFM installation, add and configure the CFM services. You can add them in any order you like, but if you are using the NiFi Toolkit CA service, it is recommended that you add NiFi Toolkit CA, then NiFi Registry, and then NiFi.

Add and Configure NiFi Toolkit CA Service

Procedure

1. From Home > Status tab, select the drop-down to the right of your cluster, and select Add a Service. Install one service at a time.
2. If you want to use the NiFi Toolkit CA service for TLS support, it is recommended that you can add and configure it first.

The following two values for the NiFi Toolkit CA Service are required:

- If the cluster is not configured to use JDK 8, use the Java Home Path Override configuration field, specify the location of the JDK you installed at the beginning of the installation process.
 - For the NiFi CA Token, ensure you enter a token with at least 16 characters.
3. Click Continue and Continue again once the installation is completed.

Results

Verify the new service is started properly by checking the health status for the new service. If the Health Status is Good, then the service started properly.

Add and Configure NiFi Registry Service

Procedure

1. From Home > Status tab, select the drop-down to the right of your cluster, and select Add a Service. Install one service at a time.
2. Add and configure the NiFi Registry service.
 - If the cluster is not configured to use JDK 8, use the Java Home Path Override configuration field, specify the location of the JDK you installed at the beginning of the installation process.
 - Specify the security settings appropriate for your installation. See *Securing CFM* for detailed information.
3. Click Continue and Continue again once the installation is completed.

Results

Verify the new service is started properly by checking the health status for the new service. If the Health Status is Good, then the service started properly.

Related Information

[Securing CFM](#)

Add and Configure NiFi Service

Procedure

1. From Home > Status tab, select the drop-down to the right of your cluster, and select Add a Service. Install one service at a time.
2. Add and configure the NiFi Service.
 - When selecting the set of dependencies for NiFi, you must select ZooKeeper, and optionally select NiFi Toolkit CA if you are using it for security.
 - If the cluster is not configured to use JDK 8, use the Java Home Path Override configuration field, specify the location of the JDK you installed at the beginning of the installation process.
 - Specify the security settings appropriate for your installation. See *Securing CFM* for detailed information.
3. Click Continue and Continue again once the installation is completed.

Results

Verify the new service is started properly by checking the health status for the new service. If the Health Status is Good, then the service started properly.

Related Information

[Securing CFM](#)