Install Confluent Platform using ZIP and TAR Archives

This topic provides instructions for running Confluent Platform locally or running a production-ready Confluent Platform configuration in a multi-node environment.

With the production-ready installation method, you will connect to every node manually, download the archive, and run the Confluent Platform installation commands.

Prerequisites

- You must complete these steps for each node in your cluster.
- Before installing Confluent Platform, your environment must meet the prerequisites as described in software and hardware requirements.

Get the software

1. Go to the installation page.
2. Select the **SELF-MANAGED** tab. You will be prompted to enter your name, company, email address, and country. When finished, click **Download Free**.
3. On the installation page, choose your package type (ZIP or TAR) and click **Download**, or download a package directly by using the curl command.

Confluent Platform

ZIP

- curl -O https://packages.confluent.io/archive/8.1/confluent-8.1.0.zip

TAR

- curl -O https://packages.confluent.io/archive/8.1/confluent-8.1.0.tar.gz

Confluent Platform using only Confluent Community components

ZIP

- curl -O https://packages.confluent.io/archive/8.1/confluent-community-8.1.0.zip

TAR

- curl -O https://packages.confluent.io/archive/8.1/confluent-community-8.1.0.tar.gz

4. Extract the contents of the archive. For ZIP files, run this command in a terminal.
    - unzip confluent-8.1.0.zip

For TAR files run this command:

- tar xzf confluent-8.1.0.tar.gz

You should have these directories:

Folder	Description
/bin/	Driver scripts for starting and stopping services
/etc/	Configuration files
/lib/	Systemd services
/libexec/	Multi-platform CLI binaries
/share/	Jars and licenses
/src/	Source files that require a platform-dependent build

Configure CONFLUENT_HOME and PATH

To more easily use the Confluent CLI and all of the command-line tools that are provided with Confluent Platform, you can optionally configure the CONFLUENT_HOME variable and add the Confluent Platform \bin folder to your PATH. Then you can use the CLI tools without navigating to the CONFLUENT_HOME directory.

1. Set the environment variable for the Confluent Platform home directory. This is the directory where Confluent Platform is installed. For example:
    - export CONFLUENT_HOME=~/confluent-8.1.0
    - Add the Confluent Platform bin directory to your PATH
    - export PATH=$PATH:$CONFLUENT_HOME/bin
2. Test that you set the CONFLUENT_HOME variable correctly by running the confluent command:

- confluent --help

Your output should show the available commands for managing Confluent Platform.

Configure Confluent Platform for production

Configure Confluent Platform with the individual component properties files. By default these are located in CONFLUENT_HOME/etc/. You must minimally configure the following components.

Kafka

For Kafka in KRaft mode, you must configure a node to be a broker or a controller. In addition, you must create a unique cluster ID and format the log directories with that ID.

Typically in a production environment, you should have a minimum of three brokers and three controllers.

- Navigate to the KRaft configuration files located in the /etc/kafka/ directory. In this directory, you will find three sample property files for different node roles:
    - broker.properties: Use this file to configure a broker node.
    - controller.properties: Use this file to configure a controller node.
    - server.properties: Use this file to configure a node that runs in combined mode as both a broker and a controller. This mode is not supported for production environments.

Choose the appropriate properties file for the node's role in your KRaft cluster and then customize the settings in that file.

- Configure the process.roles, node.id and controller.quorum.voters for each node.
    - For process.roles, set whether the node will be a broker or a controller. combined mode, meaning process.roles is set to broker,controller, is currently not supported and should only be used for experimentation.
    - Set a system-wide unique ID for the node.id for each broker/controller.
    - controller.quorum.voters should be a comma-separated list of controllers in the format nodeID@hostname:port

############################## Server Basics ##############################

 # The role of this server. Setting this puts us in KRaft mode

process.roles=broker

 # The node id associated with this instance's roles

node.id=2

 # The connect string for the controller quorum

controller.quorum.voters=1@controller1:9093,3@controller3:9093,5@controller5:9093

- Configure how brokers and clients communicate with the broker using listeners, and where controllers listen with controller.listener.names.

listeners: Comma-separated list of URIs and listener names to listen on in the format listener_name://host_name:port

controller.listener.names: Comma-separated list of listener_name entries for listeners used by the controller.

Schema Registry

Navigate to the Schema Registry properties file (/etc/schema-registry/schema-registry.properties) and specify the following properties:

Specify the address the socket server listens on, e.g. listeners = PLAINTEXT://your.host.name:9092

listeners=http://0.0.0.0:8081

The advertised host name. This must be specified if you are running Schema Registry

with multiple nodes.

host.name=192.168.50.1

List of Kafka brokers to connect to, e.g. PLAINTEXT://hostname:9092,SSL://hostname2:9092

kafkastore.bootstrap.servers=PLAINTEXT://hostname:9092,SSL://hostname2:9092

This configuration is for a three node multi-node cluster.

REST Proxy

If you are using a Confluent Enterprise license, navigate to the REST Proxy properties file (/etc/kafka-rest/rest-proxy.properties) and specify the following property:

kafka.rest.resource.extension.class=io.confluent.kafkarest.security.KafkaRestSecurityResourceExtension

Start Confluent Platform

To start Confluent Platform, make sure you have configured CONFLUENT_HOME and then use the following Kafka CLI commands. In addition, you must format the log directories with a unique cluster ID before you start Confluent Platform.

You should start your KRaft controllers first, then Kafka brokers, and then Schema Registry must be started before any other components.

1. Before you start Kafka, you must use the **kafka-storage** tool with the **random-uuid** command to generate a cluster ID for each new cluster. You only need one cluster ID, which you will use to format each node in the cluster.
2. bin/kafka-storage random-uuid

This results in output like the following:

q1Sh-9_ISia_zwGINzRvyQ

Then use the cluster ID to format storage for each node in the cluster with the kafka-storage tool that is provided with Confluent Platform, and the format command like the following example, specifying the properties file for a controller.

bin/kafka-storage format -t q1Sh-9_ISia_zwGINzRvyQ -c etc/kafka/controller.properties

Previously, Kafka would format blank storage directories automatically and generate a new cluster ID automatically. One reason for the change is that auto-formatting can sometimes obscure an error condition. This is particularly important for the metadata log maintained by the controller and broker servers. If a majority of the controllers were able to start with an empty log directory, a leader might be able to be elected with missing committed data. To configure the log directory, either set metadata.log.dir or log.dirs.

3. Start a Kafka controller. Run this command in its own terminal.

   kafka-server-start $CONFLUENT_HOME/etc/kafka/controller.properties

4. Start a Kafka broker.

   kafka-server-start $CONFLUENT_HOME/etc/kafka/broker.properties

5. Start Schema Registry. Run this command in its own terminal.

schema-registry-start $CONFLUENT_HOME/etc/schema-registry/schema-registry.properties

Kafka Connect

connect-distributed $CONFLUENT_HOME/etc/schema-registry/connect-avro-distributed.properties

Confluent REST Proxy

kafka-rest-start $CONFLUENT_HOME/etc/kafka-rest/kafka-rest.properties

ksqlDB

ksql-server-start $CONFLUENT_HOME/etc/ksqldb/ksql-server.properties

Uninstall

1. Remove the Confluent directory. For example, if you have Confluent Platform 8.1.0 installed:
2. rm -rf $CONFLUENT_HOME
3. Remove the Confluent Platform data files.

rm -rf /var/lib/<confluent-platform-data-files>