

Planning Your Streams Messaging Deployment

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Deployment scenarios

Before you get started with a Cloudera Data Flow deployment, it is useful to understand which software version is right for your platform and operational objectives. This helps you additionally understand the documentation you need to review to get started.

If you want ...	Running with the following additional components	Review this documentation
Kafka for CDP Public Cloud – Streams Messaging clusters	<ul style="list-style-type: none"> • Schema Registry • Streams Messaging Manager • Streams Replication Manager 	Cloudera Data Flow for Data Hub documentation
Kafka for CDP Private Cloud Base		Streaming libraries in Cloudera Runtime CDP Private Cloud Base
CDK powered by Apache Kafka for CDH 5.x		CDK 4.1 Powered by Apache Kafka documentation
	<ul style="list-style-type: none"> • Schema Registry 	Cloudera Streams Processing 1.0.0 documentation
	<ul style="list-style-type: none"> • Schema Registry • Streams Messaging Manager • Streams Replication Manager 	Cloudera Streams Processing 2.0.x documentation
Kafka in CDH 6.x		CDH 6.x Kafka documentation
	<ul style="list-style-type: none"> • Schema Registry • Streams Messaging Manager • Streams Replication Manager 	Cloudera Streams Processing documentation
Kafka for HDF and HDP		HDF documentation

Data Hub cluster definitions

The Streams Messaging templates include Kafka, Schema Registry, Streams Messaging Manager, Streams Replication Manager and ZooKeeper. You may choose from the following template options, depending on your operational objectives:

- Streams Messaging Heavy Duty for AWS
- Streams Messaging Heavy Duty for Azure
- Streams Messaging Heavy Duty for GCP
- Streams Messaging Light Duty for AWS
- Streams Messaging Light Duty for Azure
- Streams Messaging Light Duty for GCP

Streams Messaging provides advanced messaging and real-time processing on streaming data using Apache Kafka, centralized schema management using Schema Registry, management and monitoring capabilities powered by Streams Messaging Manager, as well as cross-cluster Kafka topic replication using Streams Replication Manager

These templates set up fault-tolerant standalone deployments of Apache Kafka and supporting Cloudera components (Schema Registry, Streams Messaging Manager, and Streams Replication Manager), which can be used for Kafka workloads in the cloud or as a disaster recovery instance for on-premises Kafka clusters.

**Note:**

Streams Messaging cluster definitions and templates available in CDP Public Cloud do not support the following Cloudera Runtime Streaming components and features.

- Cruise Control
- Kafka Connect

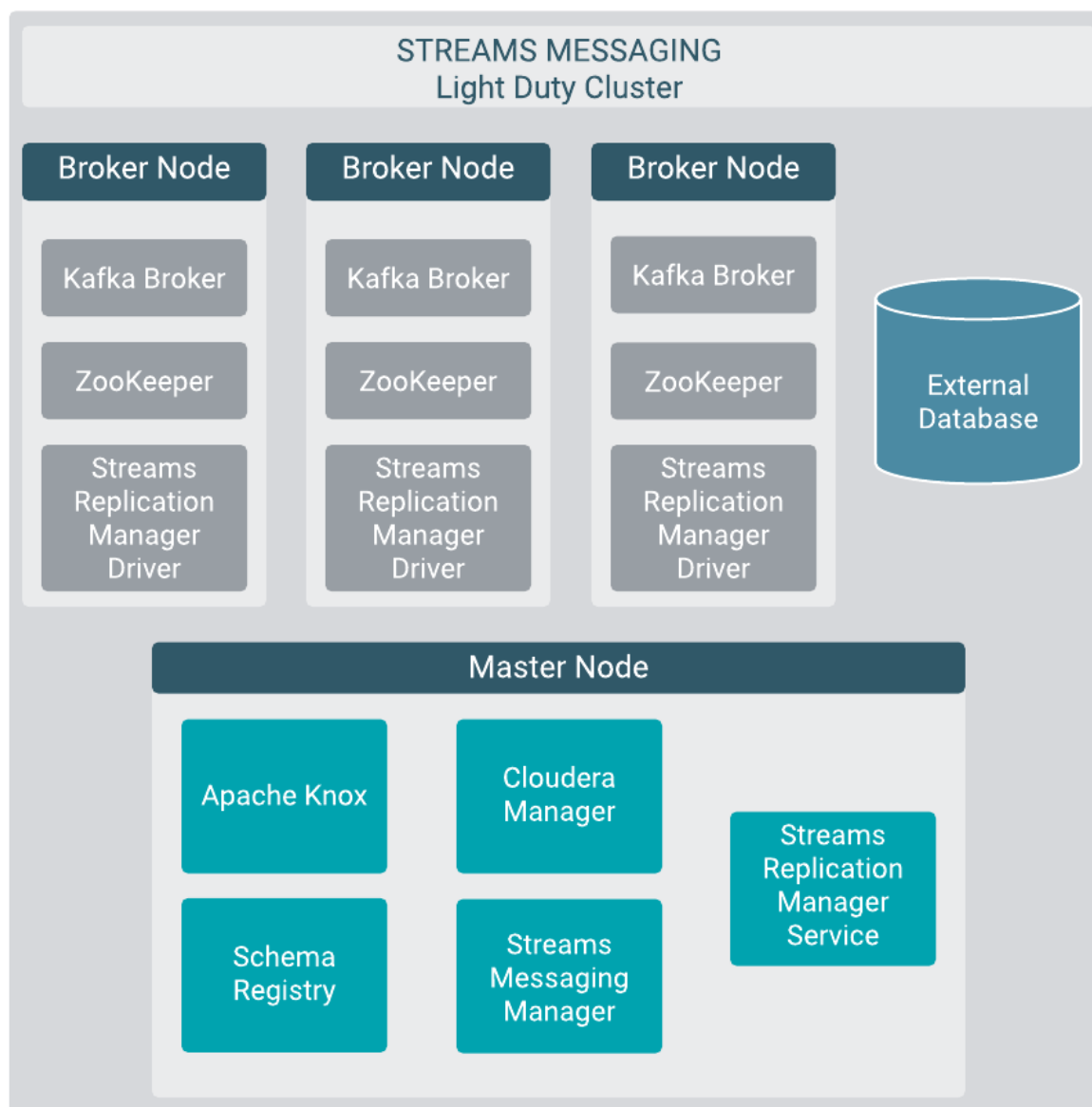
Streams Messaging cluster layout

Describes the layout and capacity of the Streams Messaging: Light Duty and Streams Messaging: Heavy Duty cluster definitions

Streams Messaging: Light Duty cluster layout

You can use a Streams Messaging: Light Duty cluster definition in development, testing, or proof of concept scenarios. Each of the cluster nodes includes:

- Kafka Broker, ZooKeeper, and the SRM driver are co-located on all instances
- For each node hosting Kafka Broker, ZooKeeper, and the SRM driver instances:
 - AWS: m5.2xlarge
 - Azure: D8_v3
 - GCP: e2-standard-8
- Storage configuration per Kafka Broker node:
 - AWS: 1 TB Volume EBS ST1
 - Azure: 1 TB Standard Locally-redundant SSD storage
 - GCP: 1 TB Zonal PD-SSD
- Master node instance
 - AWS: m5.2xlarge
 - Azure: Standard_D8_v3
 - GCP: e2-standard-8
- Storage configuration for Master node:
 - AWS: 100 GB Volume EBS Magnetic
 - Azure: 100 GB Standard Locally-redundant SSD storage
 - GCP: 100 GB Zonal PD-Standard



For more information, see your *cloud provider-specific information about instance types and storage information*.

Streams Messaging: Heavy Duty cluster layout

You can use the Streams Messaging: Heavy Duty cluster definition in production scenarios. The cluster definition includes:

Azure

- Master Node – Containing Knox, Cloudera Manager, ZooKeeper
 - Instance type – Standard_D8_v3
 - Storage configuration – 100 GB Standard Locally-redundant SSD storage
- Registry Nodes – Containing Schema Registry, ZooKeeper
 - Instance type – Standard_D8_v3
 - Storage configuration – 100 GB Standard Locally-redundant SSD storage

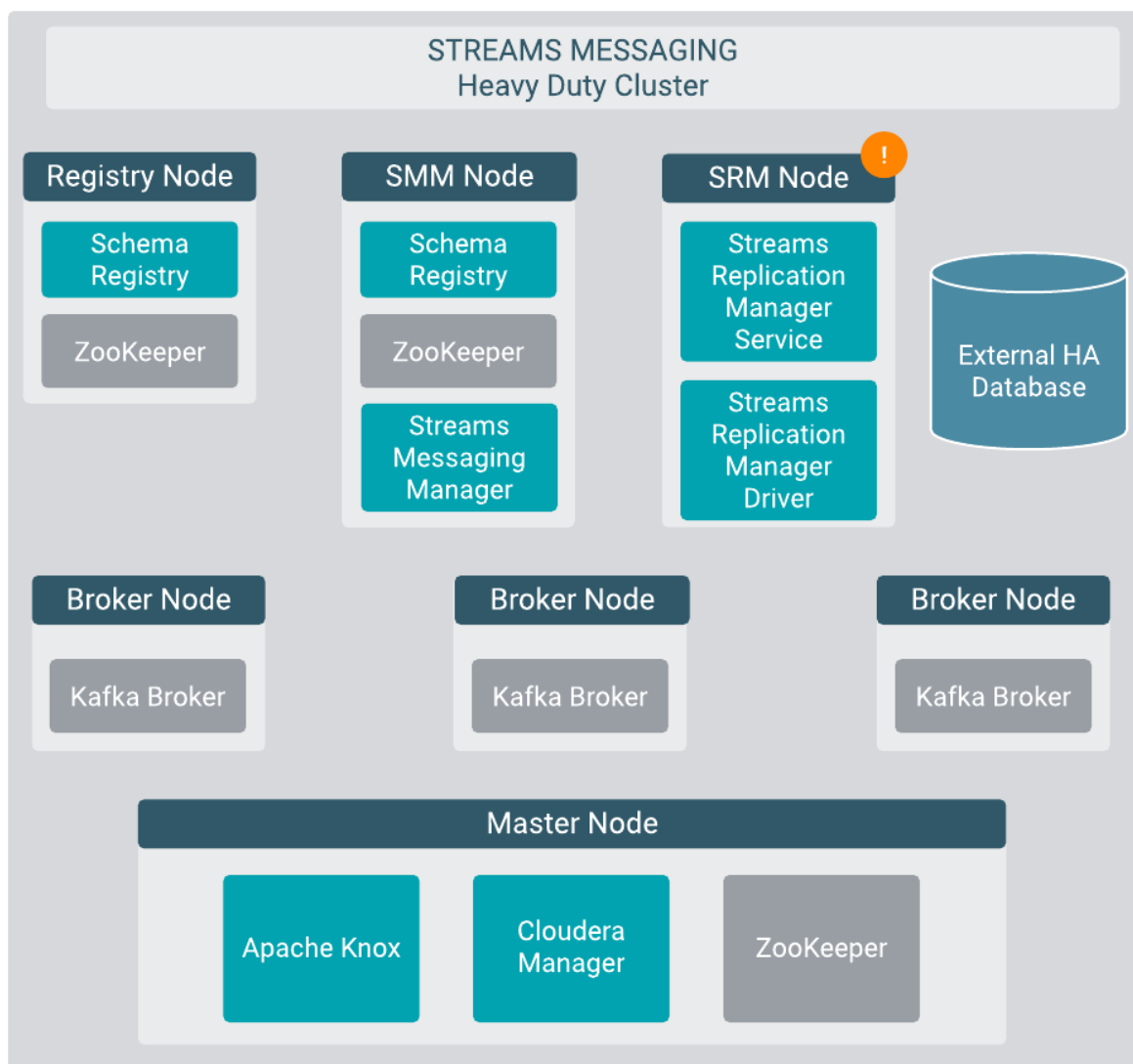
- SMM Nodes – Containing SMM, Schema Registry, ZooKeeper
 - Instance type – Standard_D8_v3
 - Storage configuration – 100 GB Standard Locally-redundant SSD storage
- Broker Nodes – Containing a Kafka Broker
 - Instance type – Standard_D8s_v3
 - Storage configuration – 1 TB Premium Locally-redundant SSD storage
- SRM Nodes – Containing the SRM Driver and Service
 - Instance type – Standard_D8_v3
 - Storage configuration – 100 GB Standard Locally-redundant SSD storage

AWS

- Master Node – Containing Knox, Cloudera Manager, ZooKeeper
 - Instance type – m5.2xlarge
 - Storage configuration – 100 GB EBS ST1
- Registry Nodes – Containing Schema Registry, ZooKeeper
 - Instance type – m5.2xlarge
 - Storage configuration – 100 GB EBS ST1
- SMM Nodes – Containing SMM, Schema Registry, ZooKeeper
 - Instance type – m5.2xlarge
 - Storage configuration – 100 GB EBS ST1
- Broker Nodes – Containing a Kafka Broker
 - Instance type – m5.2xlarge
 - Storage configuration – 1 TB EBS ST1
- SRM Nodes - Containing the SRM Driver and Service
 - Instance type – m5.2xlarge
 - Storage configuration – 100 GB EBS ST1

GCP

- Master Node – Containing Knox, Cloudera Manager, ZooKeeper
 - Instance type – e2-standard-8
 - Storage configuration – 100 GB Zonal PD-Standard
- Registry Nodes – Containing Schema Registry, ZooKeeper
 - Instance type – e2-standard-8
 - Storage configuration – 100 GB Zonal PD-Standard
- SMM Nodes – Containing SMM, Schema Registry, ZooKeeper
 - Instance type – e2-standard-8
 - Storage configuration – 100 GB Zonal PD-Standard
- Broker Nodes – Containing a Kafka Broker
 - Instance type – e2-standard-8
 - Storage configuration – 1 TB Zonal PD-SSD
- SRM Nodes - Containing the SRM Driver and Service
 - Instance type – e2-standard-8
 - Storage configuration – 100 GB Zonal PD-Standard



Important: The SRM Node is not provisioned by default. When provisioning a cluster with this definition, you have to manually set the instance count of the Srm nodes host group to at least 1. Otherwise, SRM will not be provisioned in your cluster.

For more information, see your *cloud provider-specific information about instance types and storage information*.

Related Information

[AWS instance types](#)

[Azure instance types](#)

[GCP instance types](#)

[AWS storage information](#)

[Azure storage information](#)

[GCP storage information](#)