Configuring and Deploying Hadoop Cluster Deployment Templates

This chapter contains the following sections:

Hadoop Cluster Profile Templates

The Hadoop cluster profile template specifies the number of nodes in the cluster. The template also takes care of provisioning and configuring the Hadoop cluster services. Apache Software Foundation projects around the world develop services for Hadoop deployment and integration. Some Hadoop distributions support only a subset of these services, or have their own distribution-specific services.

Each of the following supplies a dedicated function:

Note You cannot uncheck some of the services because they are necessary to create a Hadoop cluster. All mandatory services are checked by default.

Hadoop Services	Cloudera	MapR	Hortonworks
HDFS	Yes	—	Yes
CLDB	—	Yes	—
YARN/MapReduce	Yes	Yes	Yes
ZooKeeper	Yes	Yes	Yes
HBase	Yes	Yes	Yes
Hive	Yes	Yes	Yes
Oozie	Yes	Yes	Yes

Hadoop Services	Cloudera	MapR	Hortonworks
Hue	Yes	—	—
Spark	Yes	Yes	Yes
Key-Value Store Indexer	Yes	—	—
Solr	Yes	—	—
Sqoop	—	Yes	Yes
Impala	Yes	—	—
Flume	Yes	Yes	—
PIG	—	Yes	Yes
MAHOUT	—	Yes	—
Falcon	—	—	Yes
SmartSense	—	—	Yes
Tez	—	—	Yes
Storm	—	—	Yes
Ganglia/Ambari Metrics	—	—	Yes
Drill	—	Yes	—
Kafka	Yes	—	Yes

Creating a Hadoop Cluster Profile Template

Before you begin

Create a Hadoop cluster Configuration Template.

Step 1 On the menu bar, choose **Solutions** > **Big Data** > **Containers**.

Step 2 On the **Containers** page, click **Hadoop Cluster Profile Templates**.

Step 3 Click **Add (+)**.

Step 4 On the **Hadoop Cluster Profile Template** page of the **Create Hadoop Cluster Profile Template** wizard, complete the following fields:

Name	Description
Template Name field	A unique name for the template.
Template Description field	A short description for the template.

Name	Description
Node Count field	The number of nodes in the cluster. The default is four nodes.
Hadoop Distribution drop-down list	The type of Hadoop distribution. The Hadoop cluster services are displayed based on the selected Hadoop distribution.
Hadoop Distribution Version	Choose the Hadoop distribution version.
Hadoop Cluster Configuration Parameters Template drop-down list	Choose the cluster configuration parameters template.
Secure check box	Check this check box if you want to enable security for the cluster. This option is applicable only for MapR cluster.
Storage Pool Disk Grouping Configuration	
No.of disks per pool for the servers with disks 1-12 field	The number of disks per pool for the servers with disks ranging from 1 to 12. This filed is displayed only for MapR cluster. You need to enter the value before creating a new node in the MapR cluster.
No.of disks per pool for the servers with disks 13-24 field	The number of disks per pool for the servers with disks ranging from 13 to 24. This filed is displayed only for MapR cluster. You need to enter the value before creating a new node in the MapR cluster.
No.of disks per pool for the servers with disks >24 field	The number of disks per pool for the servers with disks ranging from 24 to 96. This filed is displayed only for MapR cluster. You need to enter the value before creating a new node in the MapR cluster.

Step 5   Click **Next**.

What to do next

Create a Services Selection policy.

Creating a Services Selection Policy

The cluster policy contains the Hadoop cluster services that you want to enable in the Hadoop cluster.

Note   The **Service Selection Page** displays the Hadoop cluster services, depending on the Hadoop distribution already selected on the **Hadoop Cluster Profile Template** page.

Step 1   On the **Services Selection Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2 Check the check box for the optional Hadoop cluster services that you want to enable in your cluster.

Some Hadoop cluster services are required for the distribution and cannot be disabled. The available Hadoop cluster services include the following:

- **HDFS**—A file system that spans all nodes in a Hadoop cluster for data storage. This service replicates data across multiple nodes to avoid data loss.

- **YARN**—A resource-management platform responsible for managing compute resources in clusters and using them for scheduling your applications.

- **HBase**—A high-speed read and write column-oriented database.

- **Hive**—The query engine framework for Hadoop that facilitates easy data summarization, ad-hoc queries, and the analysis of large data sets stored in HDFS and HBase. With SQL-like semantics, Hive makes it easy for RDBMS users to transition into querying unstructured data in Hadoop.

- **Oozie**—A workflow environment for coordinating complex data processing operations.

- **ZooKeeper**—An infrastructure for cross-node synchronization. The applications ensure that tasks across the cluster are serialized or synchronized.

- **Hue**—An interface that aggregates the most common Hadoop components to improve user experience. This allows you to avoid the underlying complexity of the system, and bypasses the command-line interface.

- **Spark**—An open-source data analytics engine.

- **Key-Value Store Indexer**—A method for indexing data across the cluster.

- **SOLR**—A method for searching data across the cluster.

- **Sqoop**—A client-server tool that transfers bulk data between Hadoop and structured data stores, such as relational databases.

- **Impala**—A massively parallel processing (MPP) SQL query engine that runs natively in Apache Hadoop.

- **Flume**—A distributed, reliable, and available service for efficiently collecting, aggregating, and moving large amounts of streaming data into the Hadoop Distributed File System (HDFS).

- **SmartSense**—A server that analyzes the cluster diagnostic information and produces recommended configurations affecting performance, security, and operations.

- **Kafka**—A fast, scalable, durable, and fault-tolerant publish-subscribe messaging system.

Step 3 Click **Next**.

What to do next

Configure the Rack Assignment policy.

Configuring the Rack Assignment Policy

Step 1 On the **Rack Assignment Policy** page of the **Create Hadoop Cluster Profile Template** wizard, you can:

- Create one or more Hadoop node configuration policies. Click **Add** (+), and continue with Step 2.

- Modify the default node configuration policy. Choose the default policy in the table. Click **Edit**, and continue with Step 2.

Step 2   On the **Add Entry to Hadoop Node Configuration Policy** screen, do the following:

a) In the **Rack Name** field, enter the name of the rack server.

b) In the **DataNodes** field, click **Select** and check the check box for each node that you want to configure on that server.

> **Note**   Some Hadoop cluster services require a minimum number of nodes. For example, ZooKeeper requires a minimum of three nodes.

c) Click **Submit**.

Step 3   Click **Next**.

What to do next

Configure the HDFS policy.

Configuring the HDFS Policy

Step 1   On the **HDFS Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the HDFS policy configuration, and click **Edit**.

Step 3   On the **Edit HDFS Policy Entry** screen, review and, if necessary, change the following fields:

a) Choose **Yes** from the **DataNode** drop-down list if you want the node to act as the DataNode for HDFS. The data nodes store and retrieve data on request by the name node or by the client.

> **Note**   The node that act as a DataNode for HDFS is not allocated to Node1, Node2, and Node3 when the
>
> - node count is greater than 5 for Cloudera
>
> - node count is greater than 3 for Hortonworks.

b) Choose **Yes** from the **Primary NameNode** drop down-list if you want the node to act as the primary name node for HDFS. The primary name node maintains all the operations of the HDFS cluster. There can be only one primary name node for the HDFS cluster.

c) Choose **Yes** from the **Secondary NameNode** drop down-list if you want the node to act as a secondary name node for HDFS. The secondary name node is not a direct replacement for the primary name node. The main role of a secondary name node is to periodically merge the FSImage and edit log, to prevent the edit log from becoming too large. A secondary name node runs on a separate physical system because it requires more memory to merge two files. It keeps a copy of the merged file in its local file system so that it is available for use if the primary name node fails.

d) Choose **Yes** from the **Balancer** drop down-list if you want the node to act as a balancer for HDFS.

e) Choose **Yes** from the **HTTPFS** drop down-list if you want the node to act as HTTPFS for HDFS. This service provides HTTP access to HDFS.

f) Choose **Yes** from the **Fail Over Controller** drop down-list if you want the node to act as Fail Over Controller for HDFS.

g) Choose **Yes** from the **Gateway** drop down-list if you want the node to act as Gateway for HDFS.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for HDFS.

Step 6   Click **Next**.

What to do next

Configure the CLDB policy.

Configuring the CLDB Policy

Step 1   On the **CLDB Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the CLDB policy configuration, and click **Edit**.

Step 3   On the **Edit CLDB Policy Entry** screen, choose **Yes** if you want the node to act as a CLDB agent.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for CLDB.

Step 6   Click **Next**.

What to do next

Configure the YARN policy.

Configuring the YARN Policy

Step 1   On the **YARN Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the YARN policy configuration, and click **Edit**.

Step 3   On the **Edit YARN Policy Entry** screen, review and, if necessary, change the following fields:

    a) Choose **Yes** from the **Resource Manager** drop-down list if you want the node to act as a Resource Manager. The Resource Manager is the ultimate authority that allocates resources among all the applications in the system.

    b) Choose **Yes** from the **Node Manager** drop down-list if you want the node to act as a task Node Manager. The Node Manager is responsible for launching the applications' containers, monitoring their resource usage (CPU, memory, disk, network), and reporting to the Resource Manager.

        Note   The node that act as a DataNode for HDFS is not allocated to Node1, Node2, and Node3 when the

            • node count is greater than 5 for Cloudera

            • node count is greater than 3 for Hortonworks.

    c) Choose **Yes** from the **Gateway** drop down-list if you want the node to act as a Gateway.

    d) Choose **Yes** from the **JobHistory** drop down-list if you want the node to preserve the Job History.

    e) Click **Submit**.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Yarn.

Step 6   Click **Next**.

What to do next

Configure the ZooKeeper policy.

Configuring the ZooKeeper Policy

✎

| **Note** | Configure a minimum of three nodes for ZooKeeper. |

Step 1   On the **ZooKeeper Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the ZooKeeper policy configuration, and click **Edit**

Step 3   On the **Edit ZooKeeper Policy Entry** screen, choose **Yes** to make the node to act as a ZooKeeper.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for ZooKeeper.

Step 6   Click **Next**.

What to do next

Configure the HBase policy.

Configuring the Kafka Policy

Step 1   On the **Kafka Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Kafka policy configuration, and click **Edit**.

Step 3   On the **Edit Kafka Policy Entry** screen, choose **Yes** from the **Kafka Broker** drop-down list if you want the node to act as a Kafka broker.

| **Note** | All nodes are Kafka nodes, only if **Kafka** and **Zookeeper** check boxes are selected in the **Services Selection Policy** page while creating Cloudera or Hortonworks clusters. If it is a HDFS and Kafka cluster, then last two nodes of the template are selected for kafka by default. |

| **Note** | Addition of Kafka role is not supported in Cloudera and Hortonworks clusters. |

| **Note** | Adding an additional Kafka node to an existing cluster (with working Kafka nodes) is not supported. |

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Kafka.

Step 6   Click **Next**.

Configuring the HBase Policy

Step 1   On the **HBase Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the HBase policy configuration, and click **Edit**.

Step 3   On the **Edit HBase Policy Entry** screen, review and, if necessary, change the following fields:

a) Choose **Yes** from the **HBase Master** drop-down list if you want the node to act as a HBase master.

b) Choose **Yes** from the **Region Server** drop down-list if you want the node to act as a region server.

> **Note**   The node that act as a DataNode for HDFS is not allocated to Node1, Node2, and Node3 when the
>
> • node count is greater than 5 for Cloudera
>
> • node count is greater than 3 for Hortonworks.

c) Choose **Yes** from the **HBase Thrift Server** drop down-list if you want the node to act as a HBase Thrift.

d) Click **Submit**.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for HBase.

Step 6   Click **Next**.

What to do next

Configure the Hive policy.

Configuring the Hive Policy

Step 1   On the **Hive Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Hive policy configuration, and click **Edit**.

Step 3   On the **Edit Hive Policy Entry** screen, review and, if necessary, change the following fields:

a) Choose **Yes** from the **HiveServer2** drop-down list if you want the node to act as a HiveServer2.

b) Choose **Yes** from the **Hive Metastore Server** drop down-list if you want the node to act as a Hive metastore.

c) Choose **Yes** from the **WebHCat** drop down-list if you want the node to act as a WebHCat. WebHCat is the REST API for HCatalog, a table and storage management layer for Hadoop.

d) Choose **Yes** from the **Gateway** drop down-list if you want the node to act as a Gateway for Hive.

e) Click **Submit**.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Hive.

Step 6 Click **Next**.

What to do next

Configure the Oozie policy.

Configuring the Oozie Policy

Step 1 On the **Oozie Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2 Click the row in the table with the node for which you want to change the Oozie policy configuration, and click **Edit**.

Step 3 On the **Edit Oozie Policy Entry** scree, choose **Yes** to make the node to act as an Oozie server.

Step 4 Repeat Steps 1 and 2 to configure the other nodes for Oozie.

Step 5 Click **Next**.

What to do next

Configure the Hue policy.

Configuring the Hue Policy

Step 1 On the **Hue Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2 Click the row in the table with the node for which you want to change the Hue policy configuration, and click **Edit**.

Step 3 On the **Edit Hue Policy Entry** screen, do the following:

a) Choose **Yes** from the **Hue Server** drop-down list if you want the node to act as a Hue server.

b) Choose **Yes** from the **BeesWax Server** drop down-list if you want the node to act as a BeesWax server.

c) Choose **Yes** from the **Kt Renewer** drop down-list if you want the node to act as a Kt Renewer.

d) Click **Submit**.

Step 4 Repeat Steps 1 and 2 to configure the other nodes for Hue.

Step 5 Click **Next**.

What to do next

Configure the Spark policy.

Configuring the Spark Policy

Step 1 On the **Spark Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2 Click the row in the table with the node for which you want to change the Spark policy configuration, and click **Edit**.

Step 3   On the **Edit Spark Policy Entry** screen, review and, if necessary, change the following fields:

    a)   Choose **Yes** from the **History Server** drop-down list if you want the node to act as a History Server.

    b)   Choose **Yes** from the **Gateway** drop down-list if you want the node to act as a gateway.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Spark.

    Note   When Spark applications run on a YARN cluster manager, resource management, scheduling, and security are controlled by YARN. In Cloudera cluster, configuring th Spark on Yarn policy is supported.

Step 6   Click **Next**.

What to do next

Configure the Key-Value Store Indexer policy.

Configuring the Key-Value Store Indexer Policy

Step 1   On the **Key-Value Store Indexer Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Key-Value Store Indexer policy configuration, and click **Edit**.

Step 3   On the **Edit KSIndexer Policy Entry** scree, choose **Yes** if you want the node to act as a KSIndexer server.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for KSIndexer.

Step 6   Click **Next**.

What to do next

Configure the Solr policy.

Configuring the Solr Policy

Step 1   On the **Solr Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Solr policy configuration, and click **Edit**.

Step 3   On the **Edit Solr Policy Entry** screen, choose **Yes** if you want the node to act as a Solr server.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Solr.

Step 6   Click **Next**.

What to do next

Configure the Sqoop policy.

Configuring the Sqoop Policy

Step 1	On the **Sqoop Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:
Step 2	Click the row in the table with the node for which you want to change the Sqoop policy configuration, and click **Edit**.
Step 3	On the **Edit Sqoop Policy Entry** screen, choose **Yes** if you want the node to act as a Sqoop server.
Step 4	Click **Submit**.
Step 5	Repeat Steps 1 and 2 to configure the other nodes for Sqoop.
Step 6	Click **Next**.

What to do next

Configure the Impala policy.

Configuring the Impala Policy

Step 1	On the **Impala Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:
Step 2	Click the row in the table with the node for which you want to change the Impala policy configuration, and click **Edit**.
Step 3	On the **Edit Impala Policy Entry** screen, do the following:

    a) Choose **Yes** from the **Impala Daemon** drop- down list if you want the node to act as an Impala daemon.

    b) Choose **Yes** from the **Impala StateStore** drop-down list if you want the node to act as an Impala Statestore.

    c) Choose **Yes** from the **Impala Catalog Server** drop-down list if you want the node to act as an Impala catalog server.

       The other fields in this dialog box are for your information only.

    d) Click **Submit**.

Step 4	Repeat Steps 1 and 2 to configure the other nodes for Impala.
Step 5	Click **Submit**.

What to do next

Configure the Flume policy.

Configuring the Flume Policy

Step 1	On the **Flume Policy** page of the **Create Hadoop Cluster Profile Template** wizard do the following:
Step 2	Click the row in the table with the node for which you want to change the Flume policy configuration, and click **Edit**.

Step 3   On the **Edit Flume Policy Entry** screen, choose **Yes** if you want the node to act as a Flume agent.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Flume.

Step 6   Click **Next**.

What to do next

Configure the PIG Policy.

Configuring the PIG Policy

Step 1   On the **Pig Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Pig policy configuration, and click **Edit**.

Step 3   On the **Edit Pig Policy Entry** screen, choose **Yes** if you want the node to act as a Pig agent.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Pig.

Step 6   Click **Next**.

What to do next

Configure the MAHOUT Policy.

Configuring the MAHOUT Policy

Step 1   On the **MAHOUT Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the MAHOUT policy configuration, and click **Edit**.

Step 3   On the **Edit MAHOUT Policy Entry** screen, choose **Yes** if you want the node to act as a MAHOUT agent.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for MAHOUT.

Step 6   Click **Submit**.

What to do next

Configure a Falcon Policy.

Configuring the Falcon Policy

Step 1   On the **Falcon Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Falcon policy configuration, and click **Edit**.

Step 3   On the **Edit Falcon Policy Entry** dialog box, choose **Yes**. You can make the node act as a Falcon server from the **Falcon Server** and the Falcon client from **Falcon Client** drop-down lists.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Falcon.

Step 6   Click **Submit**.

What to do next

Configure the Tez Policy.

Configuring the Tez Policy

Step 1   On the **Tez Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Tez policy configuration, and click **Edit**.

Step 3   On the **Edit Tez Policy Entry** screen, choose **Yes** if you want the node to act as a Tez agent.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Tez.

Step 6   Click **Submit**.

What to do next

Configure the Storm Policy.

Configuring the Storm Policy

Step 1   On the **Storm Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Storm policy configuration, and click **Edit**.

Step 3   On the **Edit Storm Policy Entry** screen, do the following:

    a) Choose **Yes** in the **DRPC Server** drop-down list if you want the node to act as a DRPC server.

    b) Choose **Yes** in the **Nimbus** drop-down list if you want the node to act as a Nimbus server.

    c) Choose **Yes** in the **Storm REST API Server** drop-down list if you want the node to act as a Storm REST API server.

    d) Choose **Yes** in the **Storm UI Server** drop-down list if you want the node to act as a Storm UI server.

    e) Choose **Yes** in the **Supervisor** drop-down list if you want the node to act as a supervisor.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Storm.

Step 6   Click **Submit**.

What to do next

Configure the Ganglia Policy.

Configuring the Ganglia Policy

Step 1   On the **Ganglia Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the Ganglia policy configuration, and click **Edit**.

Step 3   On the **Edit Ganglia Policy Entry** screen, choose **Yes**. You can make the node to act as a Ganglia server from the **Ganglia Server** and the Ganglia monitor from the **Ganglia Monitor** drop-down lists.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for Ganglia.

Step 6   Click **Submit**.

Configuring the SmartSense Policy

Note   SmartSense policy is supported only for Hortonworks 3.0.0 clusters.

Step 1   On the **SmartSense Policy** page of the **Create Hadoop Cluster Profile Template** wizard, do the following:

Step 2   Click the row in the table with the node for which you want to change the SmartSense policy configuration, and click **Edit**.

Step 3   On the **Edit SmartSense Policy Entry** screen, review and, if necessary, change the following fields:

Note   For more information on the selecting the HST server and HST agent and configuring SmartSense gateway, see the SmartSense Installation guide available in https://docs.hortonworks.com/.

    a) Choose **Yes** from the **HST Server** drop-down list if you want the node to act as a HST server.

    b) Choose **Yes** from the **HST Agent** drop-down list if you want the node to act as a HST agent.

    c) Choose **Yes** from the **Activity Analyzer** drop-down list if required.

    d) Choose **Yes** from the **Activity Explorer** drop-down list if required.

Step 4   Click **Submit**.

Step 5   Repeat Steps 1 and 2 to configure the other nodes for SmartSense.

Step 6   Click **Next**.

Cloning a Hadoop Cluster Profile Template

Step 1   On the menu bar, choose **Solutions** > **Big Data** > **Containers**.

Step 2   On the **Containers** page, click the **Hadoop Cluster Profile Templates**.

Step 3   Click the row for the template that you want to clone.

Step 4   Click **Clone**.

Step 5   On the **Clone Hadoop Cluster Profile Template** screen, do the following:

    a)   Enter a unique name and description for the new Hadoop cluster profile template.

    b)   Click **Next**, review the information on each page, and modify, if necessary.

    c)   Click **Submit**.

Creating a Cluster Deployment Template

Before you begin

- Create a Cisco UCS Service Profile Template for Big Data

- Create a Hadoop Cluster Profile Template

Step 1   Choose **Solutions** > **Big Data** > **Containers**.

Step 2   Click **Cluster Deploy Templates**.

Step 3   Click **Add (+)**.

Step 4   On the **Add Cluster Deploy Template** screen, complete the following fields:

Name	Description
Template Name field	Enter a unique name for the Hadoop cluster deployment template.
Description field	Enter a short description of the template.
Container Type drop-down list	Choose the type of container for the cluster.
Select UCS Template drop-down list	Choose the UCS service profile template for Big Data that you want to use in the Hadoop cluster. **Note** If you choose Splunk as the container type, choose the UCS service profile template for Big Data with Splunk software to create a Splunk cluster.

Name	Description
Hadoop Cluster Profile Template drop-down list	Choose the Hadoop cluster profile template that you want to use. This option is displayed when you choose the container type as Hadoop.

Step 5   Click **Add**.