



Deployment Guide Clouddian HyperStore

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Table of Contents

Chapter 1: Introduction.	5
Intended Audience.	5
Document Purpose.	5
 Chapter 2: Template.	 7
 Chapter 3: Cloudian HyperStore.	 8
 Chapter 4: LoadMaster Global Settings.	 10
Enable Subnet Originating Requests Globally.	10
 Chapter 5: LoadMaster Virtual Services.	 12
Create a Virtual Service using a Template.	13
Cloudian S3 Virtual Services.	13
S3 HTTP Virtual Service Recommended API Settings (optional).	14
S3 HTTPS Virtual Service Recommended API Settings (optional).	15
S3 Admin Virtual Service Recommended API Settings (optional).	15
Cloudian IAM Virtual Services.	16
IAM HTTP Virtual Service Recommended API Settings (optional).	16
IAM HTTPS Virtual Service Recommended API Settings (optional).	17
Cloudian Management Console (CMC) Virtual Services.	17
CMC Virtual Service Recommended API Settings (optional).	17

Chapter 6: Troubleshooting - Connections Rejected. 19

Chapter 7: References. 20

Introduction

Introduction

Cloudian HyperStore is a software-defined, flexible, expandable native file and object storage solution. In combination with a Progress Kemp load balancer, a Cloudian solution can provide high availability and enhanced performance for object storage using the S3 protocol.

Related Links

- [Intended Audience](#)
- [Document Purpose](#)

Intended Audience

Intended Audience

Anyone interested in configuring the LoadMaster to load balance Cloudian HyperStore.

Document Purpose

Document Purpose

This deployment guide provides instructions on how to configure the LoadMaster to load balance Cloudian HyperStore services using Progress Kemp application templates. This guide should only be used as a reference for the load balancing configuration of Cloudian services because each environment is unique and may have different requirements. This guide outlines the load balancing configuration using S3 standard

ports (80 and 443) in the Progress Kemp application templates, but custom ports can also be leveraged based on the environment.

Template

Template

Progress Kemp has developed a template containing our recommended settings for this workload. You can install this template to help create Virtual Services (VSs) because it automatically populates the settings. You can use the template to easily create the required VSs with the recommended settings. For some workloads, additional manual steps may be required such as assigning a certificate or applying port following. These steps are covered in the document, if needed.

You can remove templates after use and this will not affect deployed services. If needed, you can make changes to any of the VS settings after using the template.

Download released templates from the following page: [LoadMaster Templates](#).

For more information and steps on how to import and use templates, refer to the [Virtual Services and Templates, Feature Description](#).

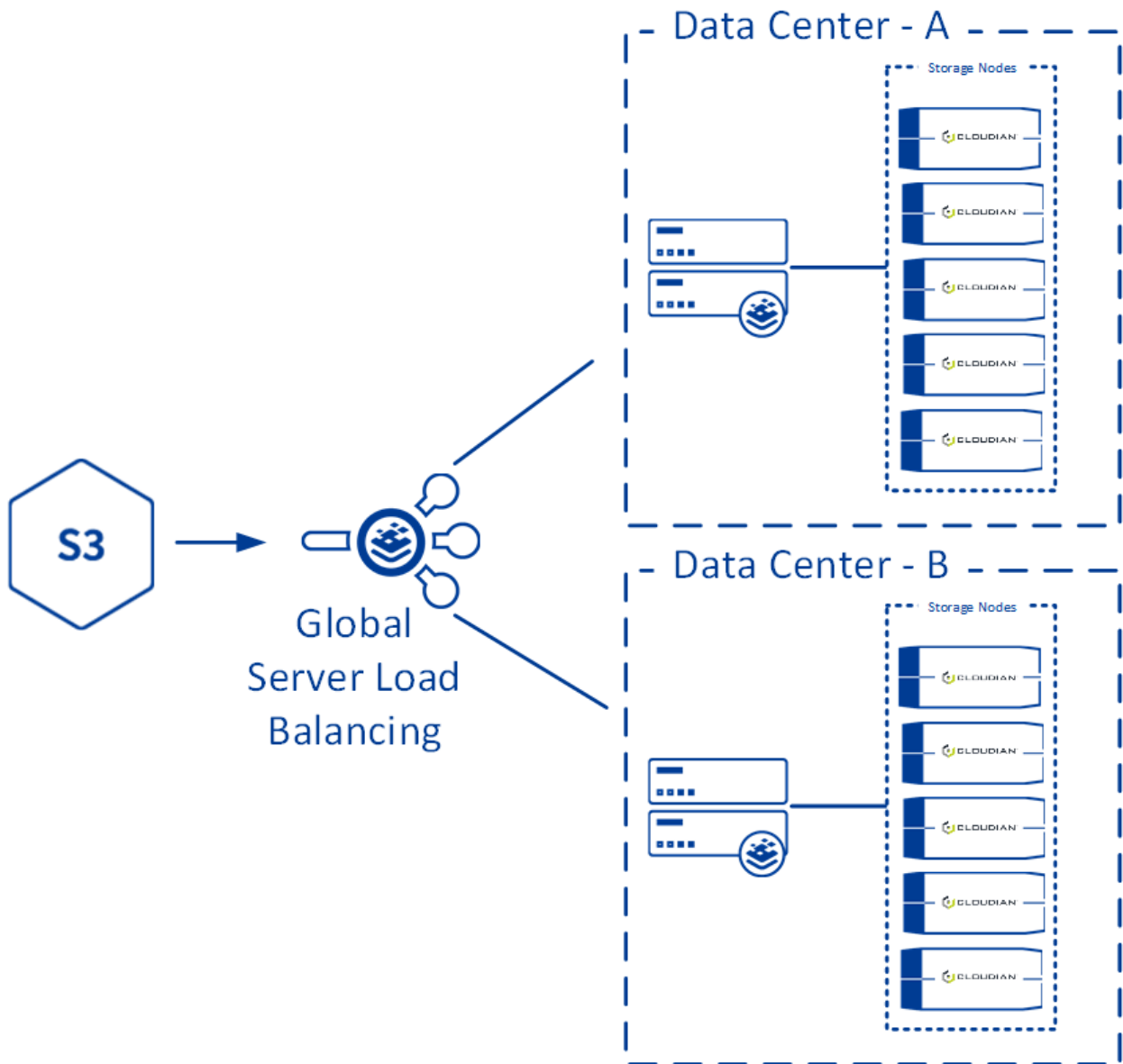
Cloudian HyperStore

Cloudian HyperStore

Cloudian HyperStore is a software-defined object storage solution for large archives, media, and web data storage. Policy-driven data management allows Cloudian to move data seamlessly between on-premises, edge, and public cloud storage to optimize availability, protection, performance, and cost.

The following table provides a list of the Cloudian default ports and protocols used for accessing the storage.

Cloudian Protocol	Transport Protocol	Port
S3	HTTP	80
	HTTPS	443
IAM	HTTP	16080
	HTTPS	16443
S3 Admin	HTTPS	19443
CMC	HTTPS	8443,8888



LoadMaster Global Settings

LoadMaster Global Settings

Before setting up the Virtual Services, the following global settings should be configured to support the workload.

Related Links

- [Enable Subnet Originating Requests Globally](#)

Enable Subnet Originating Requests Globally

Enable Subnet Originating Requests Globally

It is best practice to enable the **Subnet Originating Requests** option globally.

In a one-armed setup (where the Virtual Service and Real Servers are on the same network/subnet) **Subnet Originating Requests** is usually not needed. However, enabling **Subnet Originating Requests** should not affect the routing in a one-armed setup.

In a two-armed setup where the Virtual Service is on network/subnet A, for example, and the Real Servers are on network B, **Subnet Originating Requests** should be enabled on LoadMasters with firmware version 7.1-16 and above.



When **Subnet Originating Requests** is enabled, the Real Server sees traffic originating from 10.20.20.21 (LoadMaster eth1 address) and responds correctly in most scenarios.

With **Subnet Originating Requests** disabled, the Real Server sees traffic originating from 10.0.0.15 (LoadMaster Virtual Service address on **eth0**) and responds to **eth0** which could cause asymmetric routing.

When **Subnet Originating Requests** is enabled globally, it is automatically enabled on all Virtual Services. If the **Subnet Originating Requests** option is disabled globally, you can choose whether to enable **Subnet Originating Requests** on a per-Virtual Service basis.

To enable **Subnet Originating Requests** globally, follow the steps below:

1. In the main menu of the LoadMaster User Interface (UI), go to **System Configuration > Miscellaneous Options > Network Options**.
2. Select the **Subnet Originating Requests** check box.

LoadMaster Virtual Services

LoadMaster Virtual Services

This step-by-step setup of Virtual Services leverages the Progress Kemp application template for Cloudian.

The table in each section outlines the settings configured by the application template. You can use this information to manually configure Virtual Services or using the LoadMaster Application Programming Interface (API) and automation tools.

There are four services that can be published through the LoadMaster:

- **S3:** Provides connections from the application/client to the storage. There are two methods available; encrypted or non-encrypted.
- **S3 Admin:** S3 service that extends the API allowing administrators to generate reports and manage users and groups.
- **IAM:** Cloudian HyperStore provides support for the Amazon Web Services (AWS) Identity Access Management (IAM) API.
- **Cloudian Management Console (CMC):** Web-based user interface for Cloudian HyperStore administrators.

Related Links

- [Create a Virtual Service using a Template](#)
- [Cloudian S3 Virtual Services](#)
- [Cloudian IAM Virtual Services](#)


```
$ grep admin_auth_pass /etc/cloudian-*/puppet/manifests/extdata/common.csv  
admin_auth_pass,"1" # puppet-admin-auth-pass
```

Take the last value from the delimited text from above and use it in the following command:

```
$ echo -n "sysadmin:<InsertDelimitedText>" | base64
```

```
$ echo -n "sysadmin:helloworld@1234567890!~%^&*%$%" | base64
```

Related Links

- S3 HTTP Virtual Service Recommended API Settings (optional)
- S3 HTTPS Virtual Service Recommended API Settings (optional)
- S3 Admin Virtual Service Recommended API Settings (optional)

S3 HTTP Virtual Service Recommended API Settings (optional)

S3 HTTP Virtual Service Recommended API Settings (optional)

This table outlines the API parameters and values set using the Progress Kemp application template. You can use these settings with scripts and automation tools.

API Parameter	API Value
port	80
prot	tcp
VType	http
SubnetOriginating	1
Schedule	1c
CheckType	http
CheckPort	80
CheckUrl	/.healthCheck

S3 HTTPS Virtual Service Recommended API Settings (optional)

S3 HTTPS Virtual Service Recommended API Settings (optional)

This table outlines the API parameters and values set using the Progress Kemp application template. You can use these settings with scripts and automation tools.

API Parameter	API Value
port	443
prot	tcp
VStype	http
SubnetOriginating	1
Schedule	lc
CheckType	https
CheckPort	443
CheckUrl	/.healthCheck

S3 Admin Virtual Service Recommended API Settings (optional)

S3 Admin Virtual Service Recommended API Settings (optional)

This table outlines the API parameters and values set using the Progress Kemp application template. You can use these settings with scripts and automation tools.

API Parameter	API Value
port	19443
prot	tcp
VStype	http
SubnetOriginating	1
Schedule	lc
CheckType	https

API Parameter	API Value
CheckPort	19443
CheckUrl	/.healthCheck
CheckHeaders	Authorization:Basic (Enter-Base64-String)

Cloudian IAM Virtual Services

Cloudian IAM Virtual Services

The following section outlines the Layer 7 configuration options for using Identity and Access Management (IAM) with Cloudian.

Related Links

- [IAM HTTP Virtual Service Recommended API Settings \(optional\)](#)
- [IAM HTTPS Virtual Service Recommended API Settings \(optional\)](#)

IAM HTTP Virtual Service Recommended API Settings (optional)

IAM HTTP Virtual Service Recommended API Settings (optional)

This table outlines the API parameters and values set using the Progress Kemp application template. You can use these settings with scripts and automation tools.

API Parameter	API Value
port	16080
prot	tcp
VStype	http
SubnetOriginating	1
Schedule	lc
CheckType	tcp
CheckPort	16080

IAM HTTPS Virtual Service Recommended API Settings (optional)

IAM HTTPS Virtual Service Recommended API Settings (optional)

This table outlines the API parameters and values set using the Progress Kemp application template. You can use these settings with scripts and automation tools.

API Parameter	API Value
port	16443
prot	tcp
VStype	http
SubnetOriginating	1
Schedule	lc
CheckType	tcp
CheckPort	16443

Clouddian Management Console (CMC) Virtual Services

Clouddian Management Console (CMC) Virtual Services

The following section outlines the Layer 7 configuration options for using CMC.

Related Links

- [CMC Virtual Service Recommended API Settings \(optional\)](#)

CMC Virtual Service Recommended API Settings (optional)

CMC Virtual Service Recommended API Settings (optional)

This table outlines the API parameters and values set using the Progress Kemp application template. You can use these settings with scripts and automation tools.

API Parameter	API Value
port	8443
prot	tcp
VStype	http
SubnetOriginating	1
ExtraPorts	8888
Persist	src
PersistTimeout	1800
Schedule	lc
CheckType	https
CheckPort	8443
CheckURL	/Cloudian/login.htm

Troubleshooting - Connections Rejected

Troubleshooting - Connections Rejected

When using a non-default TCP port or offloading for Cloudbian services, you must ensure the Real Server port is correct. This is a common mistake when configuring the Real Servers when the Virtual Services port is different from the Real Server port. See the table in the [Cloudbian HyperStore](#) section of this document for the required Real Server ports for Cloudbian.

References

References

Some resources on Cloudfian are available here: [Cloudfian Solutions](#).

Useful, related documents are listed below:

[Transparency Feature Description](#)

[RESTful API Interface Description](#)