



# Cost Management Service 1-latest

## Getting started with cost management

Learn how you can track your OpenShift costs



## Cost Management Service 1-latest Getting started with cost management

---

Learn how you can track your OpenShift costs

## Legal Notice

Copyright © 2024 Red Hat, Inc.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at

<http://creativecommons.org/licenses/by-sa/3.0/>

. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, the Red Hat logo, JBoss, OpenShift, Fedora, the Infinity logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux<sup>®</sup> is the registered trademark of Linus Torvalds in the United States and other countries.

Java<sup>®</sup> is a registered trademark of Oracle and/or its affiliates.

XFS<sup>®</sup> is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL<sup>®</sup> is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js<sup>®</sup> is an official trademark of Joyent. Red Hat is not formally related to or endorsed by the official Joyent Node.js open source or commercial project.

The OpenStack<sup>®</sup> Word Mark and OpenStack logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community.

All other trademarks are the property of their respective owners.

## Abstract

Use cost management to track the cost of your clouds and containers. Start by setting up an integration, configuring cost management to process your data, and then learn how to use cost management to analyze your data. Cost management is part of the Red Hat Insights portfolio of services. The Red Hat Insights suite of advanced analytical tools helps you to identify and prioritize impacts on your operations, security, and business. This getting started guide will teach you everything you need to know to begin using cost management.

---

## Table of Contents

|  |           |
|--|-----------|
| <b>PREFACE</b> .....   | <b>3</b>  |
| <b>CHAPTER 1. WHY USE COST MANAGEMENT</b> .....                  | <b>4</b>  |
| 1.1. WHAT CAN YOU ACCOMPLISH WITH COST MANAGEMENT?               | 4         |
| <b>CHAPTER 2. HOW TO SET UP COST MANAGEMENT</b> .....            | <b>5</b>  |
| 2.1. SIGN UP   | 5         |
| 2.2. CONNECT AND VIEW YOUR COST DATA                             | 5         |
| 2.2.1. Option 1: On-premise                                      | 5         |
| 2.2.1.1. Install the Metrics Operator                            | 6         |
| 2.2.1.2. Set up OpenShift tags                                   | 6         |
| 2.2.1.3. Create a Red Hat OpenShift cost model                   | 6         |
| 2.2.2. Option 2: Cloud   | 6         |
| 2.2.2.1. Install the Metrics Operator                            | 6         |
| 2.2.2.2. Add an integration for your cloud provider              | 6         |
| 2.2.2.3. Set up OpenShift tags                                   | 6         |
| 2.2.2.4. Create a cloud cost model                               | 7         |
| 2.3. CONTROL YOUR PERMISSIONS                                    | 7         |
| 2.4. ANALYZE YOUR RESULTS  | 7         |
| <b>CHAPTER 3. YOUR PRIVACY AND DATA IN COST MANAGEMENT</b> ..... | <b>8</b>  |
| <b>CHAPTER 4. CONFIGURING COST MANAGEMENT</b> .....              | <b>9</b>  |
| 4.1. DETERMINING IF YOU NEED A CLOUD INTEGRATION OR COST MODEL   | 9         |
| 4.2. ADDING INTEGRATIONS TO COST MANAGEMENT                      | 9         |
| 4.3. LIMITING ACCESS TO COST MANAGEMENT RESOURCES                | 9         |
| 4.4. CONFIGURING TAGGING FOR YOUR INTEGRATIONS                   | 10        |
| 4.5. CONFIGURING COST MODELS TO ACCURATELY REPORT COSTS          | 10        |
| <b>PROVIDING FEEDBACK ON RED HAT DOCUMENTATION</b> .....         | <b>11</b> |



## PREFACE

Cost management helps you monitor and analyze your OpenShift Container Platform and Public cloud costs to improve the management of your business. It is based on the upstream project Koku.

To get started, learn about the following topics:

- What you can do with cost management and why your organization might want to use it
- How to set up and configure cost management
- How to adjust your settings after setup
- How to use cost management

You can use cost management to track cost and usage data for your Amazon Web Services (AWS), Microsoft Azure, Google Cloud, Oracle Cloud, and OpenShift Container Platform environments.

# CHAPTER 1. WHY USE COST MANAGEMENT

**Cost management** is a free offering as part of your subscription to the Red Hat Insights portfolio of services. With cost management, you can monitor and analyze your costs to improve the management of your business.

Cost management helps you simplify the management of your resources and costs across container platforms like OpenShift Container Platform, as well as public clouds like Amazon Web Services (AWS), Google Cloud, Oracle Cloud, and Microsoft Azure.

## 1.1. WHAT CAN YOU ACCOMPLISH WITH COST MANAGEMENT?

With the expanding scale and performance of containerized business applications, you need aggregated and meaningful data so that you can quickly analyze your cluster spending and align with business priorities.

To overcome business challenges, cost management gives your organization visibility into your costs down to the project level for on-premise and public cloud environments. This visibility gives IT and financial stakeholders a unique snapshot into the costs associated with applications.

With cost management, you can achieve some of the following goals:

- Visualize, understand, and analyze how you use your resources and costs across hybrid cloud infrastructure
- Track cost trends
- Map charges to projects and organizations
- Use cost models to normalize data and add markups
- Forecast your future consumption and compare it with your budgets
- Optimize your resources and usage
- Identify patterns of usage that you might want to investigate
- Integrate with third party tools that can use your cost and resourcing data

These preceding goals can ultimately help your organization optimize costs, increase efficiency, and save money.



## CHAPTER 2. HOW TO SET UP COST MANAGEMENT

To get started with cost management, complete the following four steps, plus any applicable substeps:

1. [Access and log in to cost management.](#)
2. [Connect and view your cost data:](#)

Cost management can analyze cost data from on-premise instances of OpenShift or cloud-based instances of OpenShift. If your organization has an on-premise instance of OpenShift, complete the following additional steps:

- a. [Install the Metrics Operator.](#)
- b. [Set up OpenShift tags.](#)
- c. [Create a Red Hat OpenShift cost model.](#)

Cost management also supports AWS, Google Cloud, Oracle Cloud, and Microsoft Azure. To set up cost management for OpenShift that is running on a cloud provider, complete the following additional steps:

- a. [Install the Metrics Operator.](#)
- b. [Add an integration for your cloud provider.](#)
- c. [Set up tags.](#)
- d. [Create a cloud cost model.](#)

Finally, finish getting set up for both on-premise and cloud with the following steps:

3. [Control your permissions](#)
4. [Analyze your results](#)

### 2.1. SIGN UP

Cost management is part of the [Red Hat Insights](#) portfolio of services. The Red Hat Insights suite of advanced analytical tools helps you to identify and prioritize impacts on your operations, security, and business.

You can access cost management in the [Hybrid Cloud Console](#). To get started, click [OpenShift > Cost Management](#).

After you sign up, configure a user with Cloud Administrator access that can add cloud or OpenShift integrations to your cost management. For more information, see the [Sources access guide](#).

### 2.2. CONNECT AND VIEW YOUR COST DATA

To begin analyzing your cost data, you need to enter information about your costs.

The steps you will take depend on if your organization set up an on-premise cluster with OpenShift, or integrated with a cloud provider.

#### 2.2.1. Option 1: On-premise

To get started with an on-premise cluster, complete the following steps:

### 2.2.1.1. Install the Metrics Operator

Red Hat® OpenShift® Operators automate the creation, configuration, and management of instances of Kubernetes-native applications. Your OpenShift cluster should already be set up, but you additionally need to set up the Metrics Operator.

To install the Metrics Operator, follow the instructions in [Installing a cost operator](#).

### 2.2.1.2. Set up OpenShift tags

Tags, also called labels, are strings of custom metadata that you assign to resources. You can use tags to differentiate and allocate costs between various parts of your environment.

To learn about the different use cases for tags and how to set them up, see [Managing cost data using tagging](#).

### 2.2.1.3. Create a Red Hat OpenShift cost model

Finally, you must add a cost model to accurately analyze your costs.

A cost model is a framework that uses raw costs and metrics to define calculations for your costs. You can record, categorize, and distribute the costs that the cost model generates to specific customers, business units, or projects.

To learn how to set up a cost model, see [Using cost models](#).

## 2.2.2. Option 2: Cloud

Cost management supports AWS, Google Cloud, Oracle Cloud, and Microsoft Azure. Unlike an on-premise cluster, you need to set up an integration to connect to your cloud provider.

To integrate cost management with your cloud provider, complete the following steps:

### 2.2.2.1. Install the Metrics Operator

Red Hat® OpenShift® Operators automate the creation, configuration, and management of instances of Kubernetes-native applications. Your OpenShift cluster should already be set up, but you additionally need to set up the Metrics Operator.

To install the Metrics Operator, follow the instructions in [Installing a cost operator](#).

### 2.2.2.2. Add an integration for your cloud provider

To enable cost management to monitor your costs with a cloud provider like AWS, Google, Oracle, or Azure, you need to set up an integration. An integration is a provider account that cost management connects to and monitors.

The process to set up an integration for each provider varies. To learn how to integrate with your cloud provider, see [Adding an integration](#).

### 2.2.2.3. Set up OpenShift tags

Tags, also called labels, are strings of custom metadata that you assign to resources. You can use tags to differentiate and allocate costs between various parts of your environment.

To learn about the different use cases for tags and how to set them up, see [Managing cost data using tagging](#).

#### **2.2.2.4. Create a cloud cost model**

Finally, depending on your cloud provider, you need to add either an AWS, Google, or Azure cost model to accurately analyze your costs.

A cost model is a framework that uses raw costs and metrics to define calculations for your costs. You can record, categorize, and distribute the costs that the cost model generates to specific customers, business units, or projects.

To learn how to set up a cloud cost model, see [Using cost models](#).

### **2.3. CONTROL YOUR PERMISSIONS**

You might want to limit access to your data to only specific users or organizations. To learn how to control permissions, see [Limiting access to cost management resources](#).

### **2.4. ANALYZE YOUR RESULTS**

Now that your cost data is generated, you can analyze your results and make changes in your business. To learn more about cost analysis, go to [Visualizing your costs using Cost Explorer](#).

## CHAPTER 3. YOUR PRIVACY AND DATA IN COST MANAGEMENT

To run cost management, we gather your cost and usage data, but do not collect identifying information such as user names, passwords, or certificates.

For more information about your privacy and data, log in to the [Customer Portal](#) and see [Red Hat's Privacy Policy](#) and [our FAQ page](#).

## CHAPTER 4. CONFIGURING COST MANAGEMENT

You can customize cost management to meet your unique needs. Learn how to limit access to your cloud and OpenShift costs, how you can organize your costs with tags, and how to create cost models to accurately reflect what you are paying.

To get started, read the following sections:

- [Limiting access to cost management resources](#)
- [Configuring tagging for your integrations](#)
- [Configuring cost models to accurately report costs](#)

### 4.1. DETERMINING IF YOU NEED A CLOUD INTEGRATION OR COST MODEL

You might need to create a cloud integration and a cost model to accurately analyze your costs. The following list can help you determine what you need:

- If you want your costs to come from your cloud integration, such as AWS or Microsoft Azure, you must create a corresponding cloud integration.
- If your costs do not come from your cloud integration, you must create a cost model.

Learn about cloud integrations and cost models more in the following sections.

### 4.2. ADDING INTEGRATIONS TO COST MANAGEMENT

An integration is a provider account that cost management connects to and monitors, for example, an OpenShift Container Platform deployment or a cloud infrastructure provider.

To use cost management to monitor your cloud costs, you must first connect a data integration to the cost management application. Cost management can track costs for Amazon Web Services (AWS), Microsoft Azure, Google Cloud, Oracle Cloud, and Red Hat OpenShift Container Platform integrations.

From [the Integrations page](#), you can view, edit, and delete integrations that are connected to cost management.

To learn how to add your specific integration to cost management, see the following guides:

- [Integrating OpenShift Container Platform data into cost management](#)
- [Integrating Amazon Web Services \(AWS\) data into cost management](#)
- [Integrating Google Cloud data into cost management](#)
- [Integrating Microsoft Azure data into cost management](#)
- [Integrating Oracle Cloud data into cost management](#)

### 4.3. LIMITING ACCESS TO COST MANAGEMENT RESOURCES

After you add and configure integrations in cost management, you can limit access to cost data and resources.

You might not want users to have access to all of your cost data. Instead, you can grant users access only to data that is specific to their projects or organizations. With role-based access control, you can limit the visibility of resources in cost management reports. For example, you can restrict a user's view to only AWS integrations, rather than the entire environment.

To learn how to limit access, see the more in-depth guide [Limiting access to cost management resources](#).

## 4.4. CONFIGURING TAGGING FOR YOUR INTEGRATIONS

The cost management application tracks cloud and infrastructure costs with tags. Tags are also known as labels in OpenShift.

You can refine tags in cost management to filter and attribute resources, organize your resources by cost, and allocate costs to different parts of your cloud infrastructure.



### IMPORTANT

You can only configure tags and labels directly on an integration. You can choose the tags that you activate in cost management, however, you cannot edit tags and labels in the cost management application.

To learn more about the following topics, see [Managing cost data using tagging](#):

- Planning your tagging strategy to organize your view of cost data
- Understanding how cost management associates tags
- Configuring tags and labels on your integrations

## 4.5. CONFIGURING COST MODELS TO ACCURATELY REPORT COSTS

Now that you configured your integrations to collect cost and usage data in cost management, you can configure cost models to associate prices to metrics and usage.

A cost model is a framework that uses raw costs and metrics to define calculations for the costs in cost management. You can record, categorize, and distribute the costs that the cost model generates to specific customers, business units, or projects.

In [Cost Models](#), you can complete the following tasks:

- Classifying your costs as infrastructure or supplementary costs
- Capturing monthly costs for OpenShift nodes and clusters
- Applying a markup to account for additional support costs

To learn how to configure a cost model, see [Using cost models](#).

## PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

If you found an error or have a suggestion on how to improve these guidelines, open an issue in the [cost management Jira board](#) and add the **Documentation** label.

We appreciate your feedback!