

Enhanced monitoring in OKE with Logging Analytics

July 21, 2024

We are pleased to announce the limited availability launch of [Oracle Cloud Infrastructure \(OCI\) Kubernetes Engine \(OKE\)](#) advanced integration with [OCI Logging Analytics](#). High visibility into Kubernetes environments is essential for Cloud Admins to prevent disruptions and maintain control over complex infrastructure - this is why we've made observability effortless with our one-click Logging Analytics integration. This enhancement allows OKE customers to enable OCI Logging Analytics easily on existing clusters or during new cluster creation, providing deep visibility into the state, health, and performance of their containerized workloads directly from the OKE console.

Kubernetes has become the standard for running containerized workloads on the cloud, accelerating the adoption of AI applications and other large-scale workloads. As more applications become containerized, OCI Kubernetes Engine (OKE), formerly Oracle Container Engine for Kubernetes, provides a robust and customizable platform for managing and scaling these workloads. Oracle simplifies the complexity of Kubernetes management, so customers can continuously innovate without operational burden.

OCI Logging Analytics provides a comprehensive ML/AI-powered monitoring solution across all environments, including a OKE monitoring solution. Market leaders already rely on OCI Logging Analytics' Kubernetes Monitoring Solution to monitor, troubleshoot, and optimize their critical cloud-native apps. Inspired by our customers' best practices, we've made observability easier than ever.

The challenge of monitoring

Managing Kubernetes environments is inherently complex because of their ephemeral nature. A typical setup can include hundreds to thousands of containers running across multiple worker nodes, each serving various applications and workload requirements. As applications are continuously scaled, updated, and patched, containers frequently terminate and restart. Building a monitoring and troubleshooting system for such dynamic environments is a challenging task and takes away valuable time from development and IT teams. Cloud admins need insights to maintain system health and resolve risks and issues quickly, while developers rely on detailed logging insights to debug their containerized applications.

OCI Logging Analytics bridges this monitoring gap by providing an end-to-end Kubernetes monitoring solution for the underlying infrastructure, Kubernetes platform and cloud native applications. You can unlock the value of log data to improve troubleshooting and operational decision-making. This integration enhancement streamlines the disjointed Logging Analytics enablement and configuration process and provides you with Logging Analytics directly from the OKE console to determine issues in their clusters. With prepackaged best practices and detailed dashboards, organizations can efficiently manage their containerized workloads, optimize infrastructure usage and costs, and reduce downtime without having to implement custom solutions.

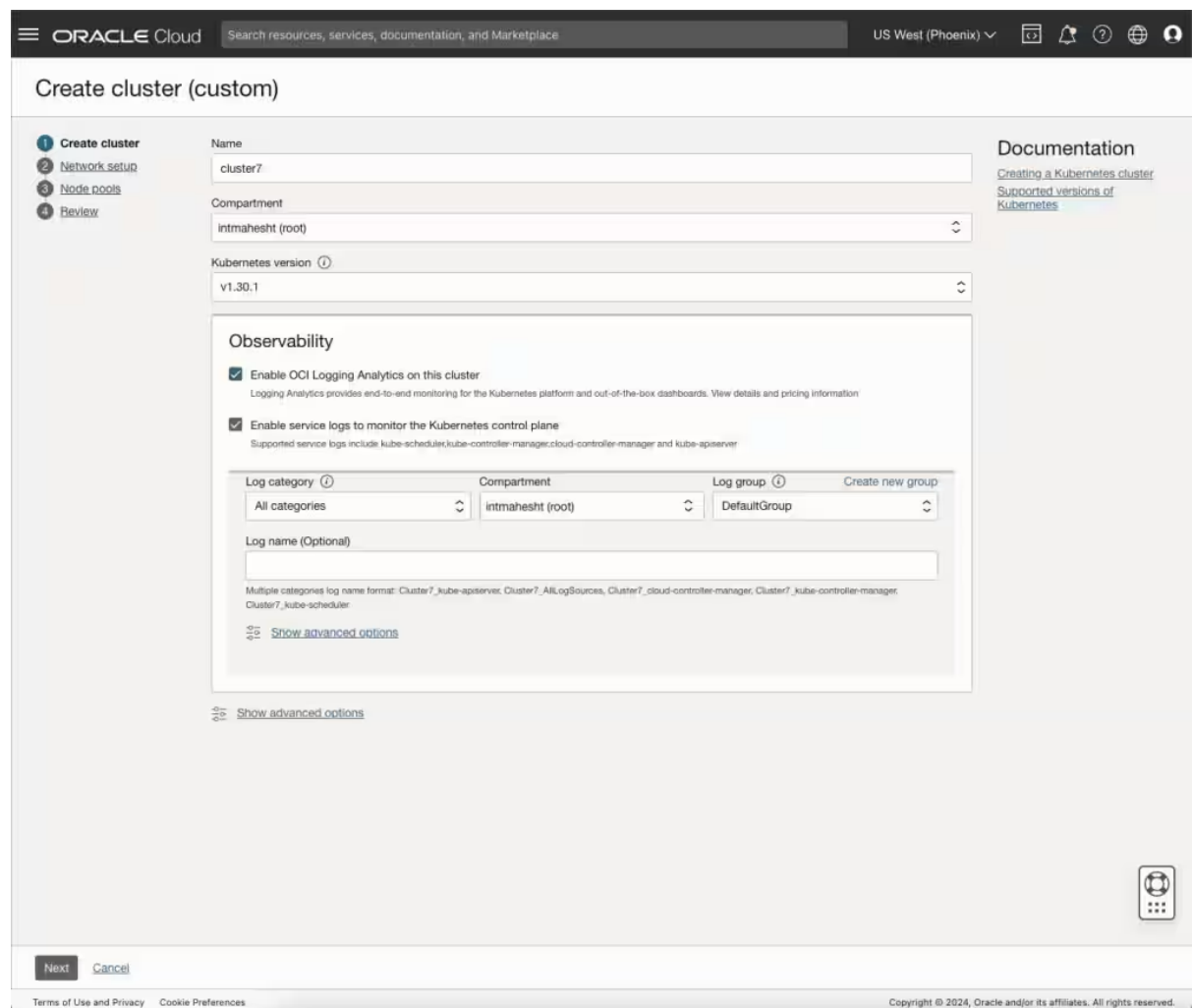
8x8 customer spotlight

More than 3 million business users at more than 55,000 midsize and enterprise organizations rely on 8x8's customer engagement and communication services. After migrating its core video and communication services to OCI, the company began utilizing OKE and OCI Functions to manage its over-300 Kubernetes microservices and improve development. Using OCI Logging Analytics, our Development Operations (DevOps) and Product Development teams get real-time, end-to-end visibility across our cloud native environment to rapidly identify performance anomalies impacting the health of our OKE core infrastructure and resolve issues before users are impacted.

Getting started with OCI Logging Analytics on OKE clusters

Enabling logging analytics during cluster creation empowers organizations to have visibility into their clusters as soon as they're created. Simply select the

box, **Enable OCI Logging Analytics on this cluster**, when defining your cluster in the OKE Console. After you create the cluster, we automatically create the required policies, log groups, and log objects to enable Logging Analytics and start capturing logs. Service logs are generated, ingested into logging, and then passed to Logging Analytics. You can also opt to generate service logs without enabling Logging Analytics by selecting the box, **Enable Service Logs to monitor the Kubernetes Control Plane**.



ORACLE Cloud Search resources, services, documentation, and Marketplace US West (Phoenix) [Icons]

Create cluster (custom)

- 1 Create cluster
- 2 Network setup
- 3 Node pools
- 4 Review

Name: cluster7

Compartment: intmaheht (root)

Kubernetes version: v1.30.1

Observability

- Enable OCI Logging Analytics on this cluster
Logging Analytics provides end-to-end monitoring for the Kubernetes platform and out-of-the-box dashboards. View details and pricing information.
- Enable service logs to monitor the Kubernetes control plane
Supported service logs include kube-scheduler,kube-controller-manager,cloud-controller-manager and kube-apiserver.

Log category: All categories | Compartment: intmaheht (root) | Log group: DefaultGroup | Create new group

Log name (Optional):

Multiple categories log name format: Cluster7_kube-apiserver, Cluster7_ALLLogSources, Cluster7_cloud-controller-manager, Cluster7_kube-controller-manager, Cluster7_kube-scheduler

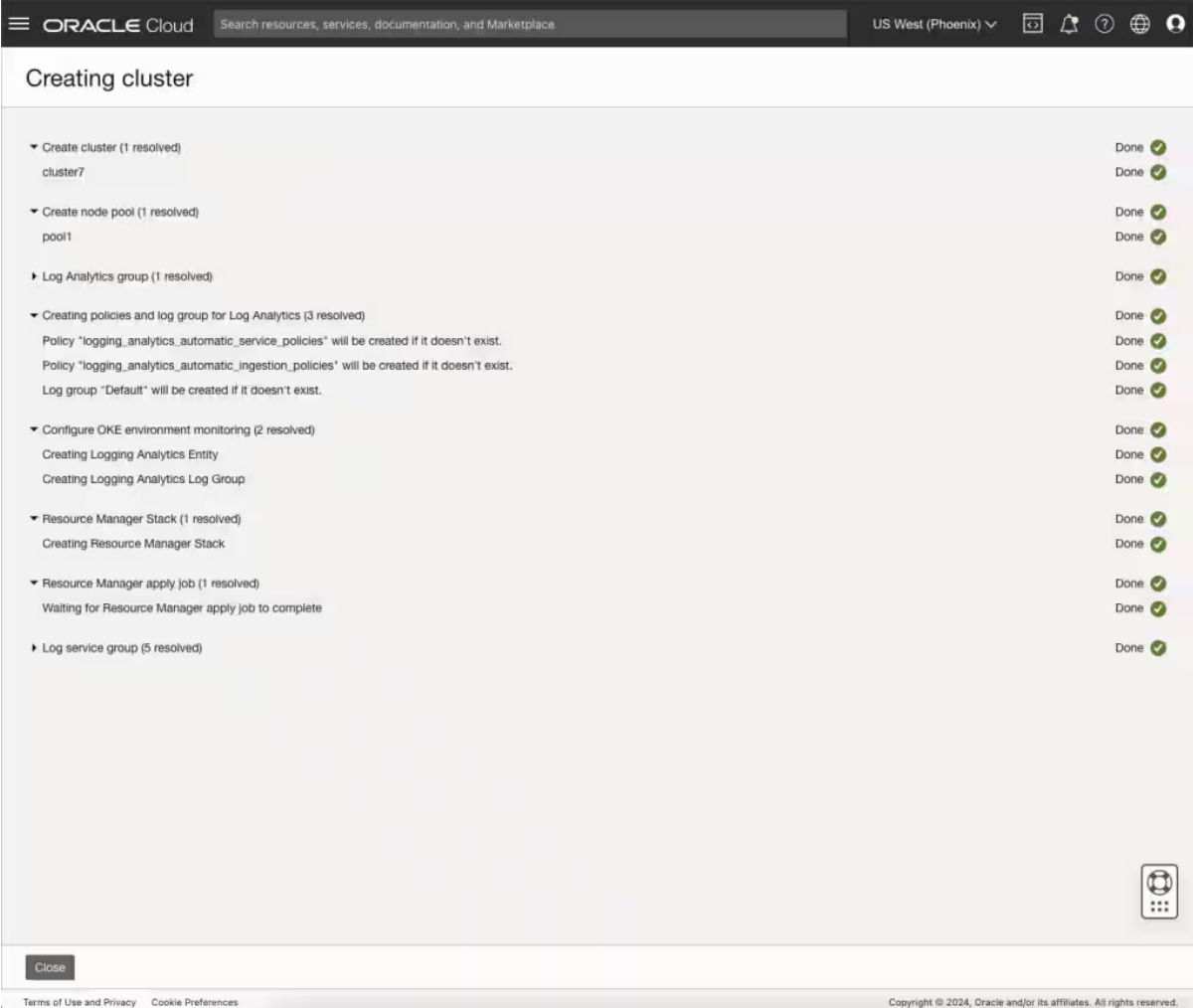
[Show advanced options](#)

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Next Cancel

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Enable Logging Analytics when creating a new cluster with a single click



The screenshot shows the Oracle Cloud console interface for creating a cluster. The page title is "Creating cluster". The progress is as follows:

- ▼ Create cluster (1 resolved) - Done ✓
 - cluster7 - Done ✓
- ▼ Create node pool (1 resolved) - Done ✓
 - pool1 - Done ✓
- ▶ Log Analytics group (1 resolved) - Done ✓
- ▼ Creating policies and log group for Log Analytics (3 resolved) - Done ✓
 - Policy "logging_analytics_automatic_service_policies" will be created if it doesn't exist. - Done ✓
 - Policy "logging_analytics_automatic_ingestion_policies" will be created if it doesn't exist. - Done ✓
 - Log group "Default" will be created if it doesn't exist. - Done ✓
- ▼ Configure OKE environment monitoring (2 resolved) - Done ✓
 - Creating Logging Analytics Entity - Done ✓
 - Creating Logging Analytics Log Group - Done ✓
- ▼ Resource Manager Stack (1 resolved) - Done ✓
 - Creating Resource Manager Stack - Done ✓
- ▼ Resource Manager apply job (1 resolved) - Done ✓
 - Waiting for Resource Manager apply job to complete - Done ✓
- ▶ Log service group (5 resolved) - Done ✓

At the bottom of the console, there is a "Close" button, a footer with "Terms of Use and Privacy" and "Cookie Preferences", and a copyright notice: "Copyright © 2024, Oracle and/or its affiliates. All rights reserved."

Required policies, log groups, and log objects are automatically created to begin capturing logs and enable Logging Analytics.

Logging Analytics offers high-level metrics and relevant insights from in the context of your OKE cluster. Immediately, Logging Analytics dashboards visualize metrics to help you assess the state and associated risks of your cloud native resources. Newly deployed workloads are automatically monitored, streamlining operational management and overhead to enable deep insights. Users may enable Logging Analytics from their pre-existing clusters as well. For more detailed dashboards and drill-down information, you can navigate to the Logging Analytics experience.

The screenshot displays the Oracle Cloud console interface for a Kubernetes cluster named 'cluster7'. The top navigation bar includes the Oracle Cloud logo, a search bar, and the region 'US West (Phoenix)'. The breadcrumb trail shows 'Containers > Clusters > Cluster details'. On the left, a green hexagonal icon with 'CL' and the word 'ACTIVE' is shown. The main content area is divided into several sections:

- Cluster details:** Includes buttons for 'Access Cluster', 'Edit', and 'Delete'. It lists 'Cluster status: Active', 'Node pools: 1', 'Cluster ID: ...cq3rt53mga', 'Compartment: intmahesht (root)', 'Launched: Thu, Aug 15, 2024, 17:51:25 UTC', and 'Created By:'. It also shows 'Kubernetes version: v1.30.1', 'Secrets encryption key: Oracle-managed', 'Cluster type: Enhanced', and 'Cluster credentials expire on: 8/15/2029'. A 'Start Rotation' link is provided for the credentials.
- Network information:** Lists 'VCN name: oke-vcn-quick-cluster6-0e9b4091b', 'VCN ID: ...clmompva', 'Compartment: intmahesht (root)', 'Pods CIDR: 10.244.0.0/16', 'Services CIDR: 10.96.0.0/16', and 'Network type: FLANNEL_OVERLAY'. It also provides 'Kubernetes API endpoint subnet', 'Kubernetes API private endpoint', 'Kubernetes API public endpoint', 'Network security group', and 'Service LB subnet' information.
- Logging Analytics dashboard:** This section contains several widgets:
 - Pods Running:** A large number '33'.
 - Pods Pending:** The text 'No data to display'.
 - Nodes:** A large number '3'.
 - Node Status:** A donut chart showing node statuses: 'ready' (blue), 'notready' (orange), and 'unknown' (purple).
 - Nodes Problem Labels:** A grid of labels for three nodes (10.0.10.71, 10.0.10.68, 10.0.10.157) showing 'Login Failed', 'Authorization Error', and 'Action Failed'.
 - PV Claims by Namespace:** A bar chart showing 'oci-onm' and 'oci-bv' namespaces.
 - Warning Events by Node:** A chart showing 'No data to display'.
- Cluster Metrics:** A section at the bottom of the dashboard.

Logging Analytics dashboard for your cluster exposes prominent metrics to enable workload monitoring

Pricing

This integration comes with no extra cost for OKE. Because services logs are enabled, you pay for Logging Analytics and OCI Logging. First 10Gb of logs are free, after which you will be charged \$0.05 per Gb for active storage and \$0.02 per unit per hour for archival storage. (1 Unit = 300 GB).

Get started

We are providing access to the feature through our [Limited Availability program](#). Complete the form, and we will contact you shortly.

For more information on the concepts in this blog post, Oracle Cloud Infrastructure, OKE, and Logging Analytics, see the following resources:

- [OKE resource center](#)
- [Overview of Container Engine for Kubernetes \(documentation\)](#)
- [Monitor Kubernetes and OKE clusters with OCI Logging Analytics \(reference architecture\)](#)
- [OCI Logging Analytics resource center](#)
- [OCI Logging Analytics \(documentation\)](#)
- [Start your free trial of OCI](#)

About Cloudsway

Cloudsway is a subsidiary of Wangsu Science and Technology (stock code: 300017), established in March 2023. Wangsu Science and Technology is a global leading provider of information infrastructure platform services, with business spread across more than 70 countries and regions worldwide.

Cloudsway is one of the three innovation engines in Wangsu's "2+3" strategy, providing enterprises with integrated products and solutions, such as cloud strategy consulting, modernized application construction, generative AI, and enterprise-grade cloud hosting services. solutions based on AWS.

Cloudsway is committed to become a leading provider of hybrid cloud solutions, offering secure, efficient, and convenient cloud services to

enterprises, helping them with digital and intelligent transformation, and boosting their operational efficiency.