

Ranger and Observability Integration

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Overview of Ranger and Observability integration

This guide provides the foundational knowledge and structured processes necessary to connect Apache Ranger with Cloudera's OpenTelemetry-native telemetry framework.



Note: This feature is available since Cloudera Runtime 7.3.2.10000 release.

OpenTelemetry support for Ranger

Ranger uses a custom OpenTelemetry Collector distribution maintained by the Cloudera Observability team.

Ranger Admin

Ranger Admin supports OpenTelemetry (OTel) for exposing metrics to the Cloudera Observability infrastructure.

The integration uses a pull-based model, where the OTel Collector periodically scrapes the metrics endpoint exposed by Ranger Admin. The typical scrape interval is one minute. The integrated workflow works as follows:

Ranger Admin Metrics Endpoint OTel Collector Observability Backend .

The OTel Collector uses service discovery to discover and scrape the endpoint. Ranger Admin does not need to communicate directly with or be aware of the collector.

Configuration details of supported Ranger modules

The integration between Cloudera Observability and Apache Ranger is modularly designed around specific platform roles and telemetry types to ensure comprehensive security monitoring and system visibility.

The initial scope of this integration officially supports the following modules:

- Ranger Admin

The integration modules are natively supported across all primary Cloudera deployment footprints managed through Cloudera Manager, including:

- Data Lake
- Cloudera Base on premises clusters

This modular approach ensures that regardless of where Ranger Admin is running, their telemetry data can be seamlessly pulled and routed to the backend analytical engines.

Ranger Admin

The Ranger Admin metrics integration is configuration-controlled and enabled by default. If you do not want to expose or collect Ranger Admin metrics, disable the property through Cloudera Manager.

Ranger Admin is the centralized management component of Apache Ranger, an open-source framework used to enable, monitor, and manage data security across big data platforms and cloud storage environments. It serves as the core user interface and control center where security administrators define, coordinate, and track data access policies.

A configuration property called `ranger.admin.observability.metrics.enabled` in the `ranger-admin-site.xml` file enables the integration between Observability and Ranger Admin. The property is enabled by default with the value set to `true`. If you want to disable the integration between Observability and Ranger Admin, set its value to `false` as follows:

1. Log in to Cloudera Manager.

2. Navigate to Ranger Configuration .
3. Search for Ranger Admin Advanced Configuration Snippet (Safety Valve) for conf/ranger-admin-site.xml.
4. Set the value of the ranger.admin.observability.metrics.enabled property to false.
5. Save the changes.

When disabled, Ranger Admin metrics are no longer exposed for collection by the OpenTelemetry Collector.