Custom Table Coprocessors in Cloudera Operational Database (Preview)

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This document has been released as part of a technical preview for features described herein. Technical preview components are provided as a convenience to our customers for their evaluation and trial usage. These components are provided 'as is' without warranty or support. Further, Cloudera assumes no liability for the usage of technical preview components, which should be used by customers at their own risk.

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Custom table coprocessors in Cloudera Operational Database

You can add table coprocessors so that HBase can run custom code on the server side against the stored data and filter local minimum or maximum values during ingestion without scanning the entire table.

You can use built-in table coprocessors from the upstream HBase releases. COD supports custom table coprocessors, which you can implement and extend from HBase coprocessors' interfaces.

You can add custom table coprocessors into the HBase tables or remove them from HBase tables, also obtain a list of coprocessors with its status on the COD environment.

You must ensure that:

- You have the CDP CLI setup.
- You have uploaded the JAR file (custom coprocessor) to a remote location that the COD instance can access.

Important:
This feature is in Technical Preview and is not ready for production deployment. Cloudera encourages you to explore these technical preview features in non-production environments and provide feedback on your experiences.

Related information

- Coprocessor Introduction

Adding custom coprocessors into HBase tables

Learn how to add custom table coprocessors to the HBase table.

Steps

1. Launch the CDP CLI tool.
2. Upload your custom coprocessor to a remote location. For example, S3.

3. Run the following **add-coprocessor** command to add a specific coprocessor using its canonical class name.

```
# add table-level coprocessor
cdp opdb add-coprocessor \
--environment ENVIRONMENT \
--database DATABASE  \
--table-name TABLE_NAME \
--coprocessor-canonical-name COPROCESSOR_CANONICAL_NAME \
[--coprocessor-location-url COPROCESSOR_LOCATION_URL] \
[--coprocessor-args COPROCESSOR_ARGS]
```

Removing custom coprocessors from HBase tables

Learn how to remove the custom coprocessors from the HBase tables.

Steps

1. Launch the CDP CLI tool.
2. Run the following **remove-coprocessor** command to remove a specific coprocessor using its canonical class name.

```
# remove table-level coprocessor
cdp opdb remove-coprocessor \
--environment ENVIRONMENT \
--database DATABASE \
--table-name TABLE_NAME \
--coprocessor-canonical-name COPROCESSOR_CANONICAL_NAME \
[--force] \
[--no-force]
```

Obtaining a list of coprocessors from a COD environment

Learn how to obtain a list of coprocessors from a COD environment.

Steps

1. Launch the CDP CLI tool.
2. Run the following **list-coprocessors** command to obtain a list of all the added coprocessors.

```
# Get a list of coprocessors with its status on the COD
environment
cdp opdb list-coprocessors \
--environment ENVIRONMENT \
--database DATABASE \
[--table-name TABLE_NAME] \
[--command-id COMMAND_ID]
```

Verifying table coprocessors in HBase tables

After you add or remove the table coprocessors through CDP CLI, you can verify whether they are added successfully.

Steps

1. Open the HBase UI from the Cloudera Manager.
2. Click **User Tables** under **Tables**.
3. Check the coprocessors' details in the **Description** column for the respective HBase tables.