



# KPI Metrics Metadata Configuration Guide

**An Open Source Asset for use with  
TIBCO® Data Virtualization**

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<b>Project Name</b>	AS Assets KPI Metrics
<b>Document Location</b>	This document is only valid on the day it was printed. The source of the document will be found in the ASAssets_KPI folder ( <a href="https://github.com/TIBCOSoftware">https://github.com/TIBCOSoftware</a> )
<b>Purpose</b>	Self-paced instructional



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## Revision History

Version	Date	Author	Comments
1.0	Aug 30 2019	Mike Tinius	Initial revision
1.1	Nov 6 2019	Mike Tinius	Added reportResourceDatasourceLineage.
1.2	Dec 12 2019	Mike Tinius	Modified location and name of constant configuration file.
1.3	Jan 20 2020	Mike Tinius	Moved Published Resource info to "KPImetrics Data Dictionary v1.1.pdf"
1.4	Feb 18 2020	Mike Tinius	Update Cache_METADATA_TABLES to perform more efficiently.

## Related Documents

Name	Version
How To Use Utilities.pdf	2019Q301
KPImetrics Configuration Guide v1.29.pdf	2020Q101
KPImetrics Overview.pdf	2020Q101
KPImetrics Data Dictionary v1.2.pdf	2020Q101
KPImetrics_Table_Relationship_Diagram.pptx	2020Q101
KPI Metrics Overview.pptx	2020Q101

## Supported Versions

Name	Version
TIBCO® Data Virtualization	7.0.8 or later
AS Assets Utilities open source	2019Q301 or later

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# 1 Introduction

## Purpose

The purpose of this document is to provide guidance on how configure and use the AS Assets KPI Metadata.

## Audience

This document is intended to provide guidance for the following users:

- Data Virtualization Administrators – provides a guide for installation.
- Architects – provides the KPImetrics architecture.
- Data professionals – provides background on the published views and usage.
- Operations users – provides insight into triggers and procedures that are executed.
- Project Managers – provides general information on KPImetrics.

## References

Product references are shown below. Any references to CIS or DV refer to the current TIBCO® Data Virtualization.

- TIBCO® Data Virtualization was formerly known as
  - Cisco Data Virtualization (DV)
  - Composite Information Server (CIS)

## Overview

Please review the document “**KPImetrics Overview.pdf**”.

## 2 Requirements

The following requirements and pre-requisites must be met:

- See requirements section in KPImetrics Configuration Guide vx.yy.pdf.

### 3 Use Cases

Metadata Metrics – The following use cases are examples of design-time metrics. Design-time is different than KPI metrics run-time metrics.

1. How many views do not properly adhere to the layer rules? – compliance with architecture.
  - a. Each layer should invoke the appropriate layer below it. Should never invoke source views.  
[reportMetadataNonCompliantLayers\[Arch\]](#)
2. Which connector/adaptor is used by which views  
[reportMetadataDatasource\[Arch\]](#)
3. Source View is compliant with additional columns: source code, fetchtimestamp etc.  
[reportMetadataNonCompliantColumns\[Arch\]](#)
4. # views by layers  
[reportNumResourcesByLayer\[Arch\]](#)
5. Owner of views. Who has modified.  
[vMetadataResource\[Arch\]](#)
6. # policy, roles, policy name, attributes, description  
[vMetadataPolicy\[Arch\]](#)  
[vMetadataPolicyAssignmnt\[Arch\]](#)
7. Metadata regarding access and authorization for a give resource associated with access groups.  
[vMetadataPrivilege\[Arch\]](#)
8. Report on what data sources are associated with a particular resource. For example, a user can view all of the published resources and their corresponding data source(s). This report will show actualprivileges.
  - a. The report will only show combinedprivileges and inherited privileges for those projects where it was configured in pqlInsert\_METADATA\_Constants “METADATA\_CONST\_LAYERS” section. Each layer requires a configuration of COMBINED\_NO\_USERS or COMBINED\_WITH\_USERS for that data to be present in the report.  
[reportResourceDatasourceLineage\[Arch\]](#)
9. Report on what columns are associated with a particular resource and layer. For example, a user can view all of the published resources and their corresponding column(s).  
[reportResourceColumn\[Arch\]](#)

10. Report on what resources are assigned privileges and what users are assigned to the privilege. When the privilege type is GROUP then the resource may have 0 or more users assigned to that group. When the privilege type is USER then there would be a single user assigned.
  - a. The report will only show users for those projects where it was configured in `sqlInsert_METADATA_Constants` "METADATA\_CONST\_LAYERS" section. Each layer requires a configuration of `ACTUAL_WITH_USERS` or `COMBINED_WITH_USERS` for that data to be present in the report.
  - b. Note: for a report on just resource privileges use `vMetadataPrivilege[Arch]`.  
[\*\*reportMetadataPrivilegeUsers\[Arch\]\*\*](#)

## 4 Configuration

### Configure Metadata Constants

#### Background Information:

The procedure “10\_pqInsert\_Metadata\_Tables\_METADATA\_Constants” is used to configure various constants for a given “project”. A project has a base path which encompasses all of the layer folders and resources.

This procedure “DOES NOT” need to be executed manually. It will be executed each time the trigger “kpimetricsTrig\_40\_Cache\_METADATA\_TABLES” executes. The trigger executes Cache\_METADATA\_TABLES which in turn executes “10\_pqInsert\_Metadata\_Tables\_METADATA\_Constants”. It does this so that all metadata is kept in synch with the same LOAD\_DATE across all of the tables.

#### Instructions:

- Configure the following  
/shared/ASAssets/KPImetrics/Customize/pqInsert\_METADATA\_Constants.
- Configure the section “INSERT METADATA\_CONST\_NAME ROWS”
  - Modify the concatenated string below as needed. Add a row for each "project" name to capture metadata for.
  - **PROJECT\_NAME:** A unique name that will be assigned a unique ID.
  - **EXECUTE\_FLAG:** Y=execute this row. N=do not execute when triggered.
  - **ARCHIVE\_FLAG:** Y=archive rows before processing. N=do not archive.
  - **ARCHIVE\_PURGE\_DAYS:** The number of days to purge from the current date.
  - **PROJECT\_DESC:** A description of the project path.
  - Maintain the existing structure with double pipe separating the line and single pipe separating a column.

```
SET projectName = 'TestSpoke';
SET METADATA_CONST_NAME_str = METADATA_CONST_NAME_str ||
PROJECT_NAME      EXECUTE_FLAG      ARCHIVE_FLAG      ARCHIVE_PURGE_DAYS      PROJECT_DESC
'||||projectName  ||'|||          'Y'           ||'|||          'N'           ||'|||          30           ||'|||          'TestSpoke project desc' ||
"; -- This is always the last line
```

- Configure the section “INSERT METADATA\_CONST\_PATH ROWS”
  - Modify the concatenated string below as needed. Add a row for each base path within the "project" to capture metadata for.
    - Modify projectName, pathSH, pathDS.
    - The variable "pathWS" is not currently supported for web services.
    - Modify the PROJECT\_PATH and RESOURCE\_TYPES as per your requirements.



- Maintain the existing structure with double pipe separating the line and single pipe separating a column.
- **PROJECT\_NAME:** A foreign key reference to METADATA\_CONST\_NAME which provides a unique name that will be assigned a PROJECT\_NAME\_ID that is unique.
- **PROJECT\_PATH:** A unique key for this table which drives all of the processing for Cache\_METADATA\_TABLES procedure to load data.
- **RESOURCE\_TYPES:** - A comma-separated list of resource types to process.
  - When using pathSH for shared area then [TABLE,PROCEDURE,TREE]
  - When using pathDS for /services/databases then [LINK]
  - NOTE: Web Services are not currently supported.

```

SET projectName = 'TestSpoke';
SET pathSH = '/shared/00_DataFederation/TestSpoke';
SET pathDS = '/services/databases/PWC/TestSpoke';
SET METADATA_CONST_PATHS_str = METADATA_CONST_PATHS_str ||
--PROJECT_NAME      PROJECT_PATH      RESOURCE_TYPES
'||'|projectName      ||'|'           'TABLE,PROCEDURE,TREE'      ||
'||'|projectName      ||'|'           'LINK'                        ||
"; -- This is always the last line

```

- Configure the section "INSERT METADATA\_CONST\_LAYERS ROWS"
  - Modify the concatenated string below as needed. Only modify the layer type and parent path after the standard project path.
    - Modify projectName, pathSH, pathDS.
    - The variable "pathWS" is not currently supported for web services.
    - Modify the PROJECT\_PATH, LAYER\_TYPE, PARENT\_PATH and GENERATE\_LINEAGE as per your requirements.
  - Maintain the existing structure with double pipe separating the line and single pipe separating a column.
  - **PROJECT\_NAME:** A foreign key reference to METADATA\_CONST\_NAME which provides a unique name that will be assigned a PROJECT\_NAME\_ID that is unique.
  - **PROJECT\_PATH:** Provides a foreign key back to META\_DRIVER table.
  - **LAYER\_TYPE:** A unique string describing the layer to acquire metadata for.
  - **PARENT\_PATH:** The actual path in DV which is associated with the LAYER\_TYPE.
  - **GENERATE\_LINEAGE:** Y=Generate lineage for this layer path. N=Do not generate lineage for this layer path.
  - **EXCLUSION\_LIST:** A comma-separated list of paths or partial paths ending in a / that are to be excluded from the lineage generation. If a comma exists within a path then escape the comma with "\_002C". e.g. /shared/my,path1/path2/ --> /shared/my\_002Cpath1/path2/
  - **ASSIGN\_PRIVILEGES:** Provides the rules for assigning privileges on a per layer basis.
    - NO\_PRIVILEGES - Do not assign any privileges for this layer
    - ACTUAL\_NO\_USERS - Assign actual privileges but do not invoke the getResourcePrivileges() api to get COMBINED or INHERITED. Do not retrieve users associated with groups.

- ACTUAL\_WITH\_USERS - [DEFAULT] Assign actual privileges but do not invoke the getResourcePrivileges() api to get COMBINED or INHERITED. Retrieve all users associated with a GROUP privilege.
- COMBINED\_NO\_USERS - Invoke the getResourcePrivileges() api to get COMBINED and INHERITED privileges. Do not retrieve users associated with groups. Invoking the api will slow down the processing considerably.
- COMBINED\_WITH\_USERS - Invoke the getResourcePrivileges() api to get COMBINED and INHERITED privileges. Retrieve all users associated with a GROUP privilege. Invoking the api will slow down the processing considerably.
- Rules:
  - A LAYER\_TYPE that is a parent to a sub-folder is allowed and it will not cause duplication of resources. This concept will work in any layer including /shared and published /services/databases.
  - The table METADATA\_CONST\_LAYERS is validated for duplicates. If a duplicate layer and PARENT\_PATH is found an exception is thrown.
  - Each LAYER\_TYPE should have a unique name within a given PROJECT\_NAME\_ID.

For example,

1) Given the following layer type designations, there is a grandparent-parent-child folder relationship represented here:

Note: The number of levels/layers is NOT restricted.

<u>LAYER_TYPE</u>	<u>PARENT_PATH</u>
Note: 01_SourceViewLayer is a parent to 01_SourceViewLayer_svThirdParty	
01_SourceViewLayer	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer
Note: 01_SourceViewLayer_svThirdParty is a parent to 01_SourceViewLayer_svThirdParty_A and 01_SourceViewLayer_svThirdParty_B	
01_SourceViewLayer_svThirdParty	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty
01_SourceViewLayer_svThirdParty_A	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_A
01_SourceViewLayer_svThirdParty_B	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_B

2) Given the following resources, the layer type will be assigned from the child (lowest folder) up to the grandparent (highest) folder.

<u>LAYER_TYPE</u>	<u>RESOURCE_PATH</u>
01_SourceViewLayer_svThirdParty_A	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_A/012_svThirdParty_A1/customers
01_SourceViewLayer_svThirdParty_A	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_A/customers
01_SourceViewLayer_svThirdParty_B	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_B/012_svThirdParty_B1/customers
01_SourceViewLayer_svThirdParty_B	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_B/012_svThirdParty_B2/customers
01_SourceViewLayer_svThirdParty_B	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/012_svThirdParty_B/customers
01_SourceViewLayer_svThirdParty	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/012_svThirdParty/customers
01_SourceViewLayer	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/011_svInternal/tutorial/customers
01_SourceViewLayer	/shared/00_DataFederation/TestSpoke/01_SourceViewLayer/DS_ORDERS/tutorial/customers

The following demonstrates how to setup the constants.

```
SET projectName = 'TestSpoke';
SET pathSH = '/shared/00_DataFederation/TestSpoke';
SET pathDS = '/services/databases/PWC/TestSpoke';
SET METADATA_CONST_LAYERS_str = METADATA_CONST_LAYERS_str ||
--PROJECT_NAME    PROJECT_PATH    LAYER_TYPE    PARENT_PATH    GENERATE_LINEAGE    EXCLUSION_LIST
ASSIGN_PRIVILEGES
'|'|projectName    '|'|pathSH'|'|'00_DataSource'|'|pathSH|'/00_DataSource'|'|'N'|'|' '|'|
'ACTUAL_WITH_USERS'|
'|'|projectName    '|'|pathSH'|'|'01_SourceViewLayer'|'|pathSH|'/01_SourceViewLayer'|'|'N'|'|' '|'|
'ACTUAL_WITH_USERS'|
'|'|projectName    '|'|pathSH'|'|'02_ConformingViewLayer'|'|pathSH|'/02_ConformingViewLayer'|'|'N'|'|' '|'|
'ACTUAL_WITH_USERS'|
```

```

'|'|projectName      '|'|      pathSH'|'|' '031_CommonEntityModel'|'|'|pathSH|'/03_CommonModelLayer/031_CommonEntityModel'|'|'|N'| '|'|      '|'|
'|'|      'ACTUAL_WITH_USERS'|
'|'|projectName      '|'|      pathSH'|'|' '032_CommonDimensionalModel'|'|'|pathSH|'/03_CommonModelLayer/032_CommonDimensionalModel'
'|'|'|N'| '|'|      '|'|      'ACTUAL_WITH_USERS'|
'|'|projectName      '|'|      pathSH'|'|' '033_CommonAnalyticalModel'|'|'|pathSH|'/03_CommonModelLayer/033_CommonAnalyticalModel'|'|'|N'| '|'|
'|'|      'ACTUAL_WITH_USERS'|
'|'|projectName      '|'|      pathSH'|'|' '034_CommonIntegrationModel'|'|'|pathSH|'/03_CommonModelLayer/034_CommonIntegrationModel'|'|'|N'|
'|'|      'ACTUAL_WITH_USERS'|
'|'|projectName      '|'|      pathSH'|'|' '041_BusinessDemandModel'|'|'|pathSH|'/04_BusinessDeliveryLayer/041_BusinessDemandModel'|'|'|N'| '|'|
'|'|      'ACTUAL_WITH_USERS'|
'|'|projectName      '|'|      pathSH'|'|' '042_BusinessDemandView'|'|'|pathSH|'/04_BusinessDeliveryLayer/042_BusinessDemandView'|'|'|Y'| '|'|
'|'|      'ACTUAL_WITH_USERS'|
'|'|projectName      '|'|      pathDS'|'|' 'PublishedDS_tutorial'      '|'|      pathDS      '|'|'|Y'| '|'|      '|'|
'|'|      'ACTUAL_WITH_USERS'|
"; -- This is always the last line

```

- Configure the section “INSERT METADATA\_CONST\_VALIDATE ROWS”
  - Modify the concatenated string below as needed.
    - Modify projectName, pathSH, pathDS.
    - The variable "pathWS" is not currently supported for web services.
    - Modify the PROJECT\_PATH, LAYER\_TYPE, RULE\_TYPE and RULE\_DESC as per your requirements.
  - Maintain the existing structure with double pipe separating the line and single pipe separating a column.
  - **PROJECT\_NAME**: A foreign key reference to METADATA\_CONST\_NAME which provides a unique name that will be assigned a PROJECT\_NAME\_ID that is unique.
  - **PROJECT\_PATH**: Provides a foreign key back to META\_DRIVER table.
  - **LAYER\_TYPE**: A valid layer name found in the table METADATA\_CONST\_LAYERS.
  - **RULE\_TYPE**: Valid values=[ENFORCE\_LAYER|ENFORCE\_COLUMN]
  - **RULE\_DESC**: Enforce the rule type.
    - When RULE\_TYPE=ENFORCE\_COLUMN
      - a. Enforces which columns must be present in all of the views for a given layer type. Comma-separated list of case-sensitive column names.
    - When RULE\_TYPE=ENFORCE\_LAYER
      - a. Enforces which source layer resource can invoke which target layer resource. Comma-separated list of valid LAYER\_TYPES.
      - b. If a resource can invoke another resource in the same layer then add its own layer to the list.

```

SET projectName = 'TestSpoke';
SET pathSH = '/shared/00_DataFederation/TestSpoke';
SET pathDS = '/services/databases/PWC/TestSpoke';
SET METADATA_CONST_VALIDATE_str = METADATA_CONST_VALIDATE_str ||
--PROJECT_NAME PROJECT_PATH LAYER_TYPE RULE_TYPE RULE_DESC
'|'|pathSH '|'|' '01_SourceViewLayer' '|'|'ENFORCE_LAYER'|'|' '00_DataSource'|
'|'|projectName '|'|pathSH '|'|' '01_SourceViewLayer' '|'|'ENFORCE_COLUMN'|'|' 'fetchTimeStamp,systemSourceCode'|
'|'|projectName '|'|pathSH '|'|' '02_ConformingViewLayer'|'|'ENFORCE_LAYER'|'|' '01_SourceViewLayer'|
'|'|projectName '|'|pathSH '|'|' '031_CommonEntityModel'|'|'ENFORCE_LAYER'|'|' '02_ConformingViewLayer'|
'|'|projectName '|'|pathSH '|'|' '032_CommonDimensionalModel'|'|'ENFORCE_LAYER'|'|' '02_ConformingViewLayer'|
'|'|projectName '|'|pathSH '|'|' '033_CommonAnalyticalModel'|'|'ENFORCE_LAYER'|'|' '02_ConformingViewLayer'|
'|'|projectName '|'|pathSH '|'|' '034_CommonIntegrationModel'|'|'ENFORCE_LAYER'|'|' '02_ConformingViewLayer'|
'|'|projectName '|'|pathSH '|'|' '041_BusinessDemandModel'|'|'ENFORCE_LAYER'|'|'
'031_CommonEntityModel,032_CommonDimensionalModel,034_CommonIntegrationModel,041_BusinessDemandModel'|
'|'|projectName '|'|pathSH '|'|' '042_BusinessDemandView'|'|'ENFORCE_LAYER'|'|' '041_BusinessDemandModel'|

```

```

'||projectName ||'||pathDS ||'||
"; -- This is always the last line
'PublishedDS_tutorial' ||'||'ENFORCE_LAYER' ||'||
'042_BusinessDemandView||

```

## Configure Trigger

Enabling triggers starts the processing of KPI metadata data. The trigger “kpimetricsTrig\_40\_Cache\_METADATA\_TABLES” is turned off by default. It must be turned on in order to begin the processing of

1. Modify /shared/ASAssets/KPImetrics/Customize/**defaultTriggersToEnable** and change the trigger kpimetricsTrig\_40\_Cache\_METADATA\_TABLES from OFF to ON if you want to capture metadata.
2. When updateTriggers is executed, it will turn on and off the trigger automatically according to how the trigger is set in defaultTriggersToEnable.

## 5 KPImetrics Metadata Resources

### Configuration Resources

This section outlines the resources that are used for configuration of KPImetrics Metadata.

### Published Resources

This section outlines the resources that are published under the ASAssets virtual database to expose metrics data. Resources are organized under catalogs and schemas based upon their functionality.

Please review the document “*KPImetrics Data Dictionary vX.Y.pdf*” for details about published tables, procedures and columns.

### Metadata Data Source Tables

The following provides a description for the database tables used by KPImetrics Metadata.

#### Metadata Data Source Tables and Procedures for KPI\_<database\_type>

Location: /shared/ASAssets/KPImetrics/Physical/Metadata/KPI\_<database\_type>

The KPImetrics module provides data source for all currently supported storage database platforms under /shared/ASAssets/KPImetrics/Physical/Metadata.

Currently the KPImetrics module includes the following KPImetrics data sources

- /shared/ASAssets/KPImetrics/Physical/Metadata/KPI\_oracle
- /shared/ASAssets/KPImetrics/Physical/Metadata/KPI\_sqlserver

The following tables have been created in CIS\_KPI schema to capture the required data. Each table has a corresponding archive table.

#### RULES:

- Only one load set of data is stored at any given point in time in the main metadata tables.
- When METADATA\_CONST\_NAME.ARCHIVE\_FLAG=Y then each table is archived to its corresponding archive table.
- Each node in a cluster will contain its own set of metadata rows therefore, NODE\_HOST and NODE\_PORT are a part of every key. Even though the resource name will be the same, the RESOURCE\_ID may be different on any given node. Be sure to do reporting based on a particular NODE\_HOST and NODE\_PORT.

Table Name	Description
METADATA_ALL_PRIVILEGES	<p>This table contains the pool of system.ALL_PRIVILEGES which is used to process the privileges more efficiently than invoking APIs.</p> <p>KEY: LOAD_DATE, RESOURCE_ID, NAME_ID, NAME_TYPE, PRIVILEGE, NODE_HOST, NODE_PORT</p>
METADATA_ALL_RESOURCES	<p>This table contains the pool of system.ALL_RESOURCES, system.ALL_TABLES, system.ALL_PROCEDURES, system.ALL_WSDL_OPERATIONS, system.ALL_COLUMNS, and system.ALL_PARAMETERS. The RESOURCE_ORGIN columns defines which table the data came from so that it can be queried appropriately when processing data.</p> <p>KEY: LOAD_DATE, RESOURCE_ID, NAME_ID, NAME_TYPE, PRIVILEGE, NODE_HOST, NODE_PORT</p>
METADATA_ALL_USERS_GROUPS METADATA_ALL_USERS_GROUPS_ARCH	<p>This table contains the list of a all domain groups and the users associated with those groups. Therefore, the username will be repeated within the table for each group it is a member of. This is <u>not the same as</u> system.ALL_RESOURCES. This table is created by getting a list of all domains and then getting the users for each domain. This table is used with assigning users to privileges. It is more efficient than an API call to achieve the same capability.</p>
METADATA_CONST_NAME METADATA_CONST_NAME_ARCH	<p>This table contains a unique base project path that drives all of the metadata capture for all of the tables. Only metadata is captured the project paths present in this table. The trigger specified below along with the procedure it invokes is the only mechanism for capturing metadata for all of the metadata tables listed here.</p> <p>LOAD_DATE: The timestamp of the latest metadata load.</p> <p>PROJECT_NAME_ID: A unique sequence id for each project name.</p> <p>PROJECT_NAME: A unique name that will be assigned a PROJECT_NAME_ID that is unique.</p> <p>ENVIRONMENT_NAME: The environment nickname from commonValues.cisServerNickname.</p> <p>EXECUTE_FLAG: Y=execute this row. N=do not execute when triggered.</p> <p>ARCHIVE_FLAG: Y=archive rows before processing. N=do not archive. Note: all rows get deleted each time the trigger executes. Archive is the only way to maintain history.</p>

	<p>ARCHIVE_PURGE_DAYS: The number of days to purge from the current date.</p> <p>PROJECT_DESC: A description of the project path.</p> <p>RESOURCE_TYPES: TABLE,PROCEDURE - A comma-separated list of resource types to process. Currently only TABLE and PROCEDURE are valid.</p> <p>EXECUTE_STATUS: The status of the latest load. SUCCESS or EXCEPTION which includes the exception message.</p> <p>NODE_HOST: Indicates which hostname/node the processing took place on. Multiple hosts/nodes in a cluster.</p> <p>NODE_PORT: Indicates the port of the DV server in which the processing took place on.</p> <p><u>TRIGGER:</u></p> <p>/KPImetrics/Physical/Metadata/System/ClusterSafeTriggers/kpimetricsTrig_40_Cache_METADATA_TABLES→Cache_METADATA_TABLES</p> <p>KEY: LOAD_DATE, PROJECT_NAME_ID, PROJECT_NAME, NODE_HOST, NODE_PORT</p>
<p>METADATA_CONST_PATHS</p> <p>METADATA_CONST_PATHS_ARCH</p>	<p>This table contains a list of base project paths that drives all of the metadata capture for all of the tables. Only metadata is captured the project paths present in this table.</p> <p>PROJECT_PATH: A unique key for this table which drives all of the processing for Cache_METADATA_TABLES procedure to load data.</p> <p>RESOURCE_TYPES: TABLE,PROCEDURE,LINK - A comma-separated list of resource types to process.</p> <p>KEY: LOAD_DATE, PROJECT_NAME_ID, PROJECT_PATH, NODE_HOST, NODE_PORT</p>
<p>METADATA_CONST_LAYERS</p> <p>METADATA_CONST_LAYERS_ARCH</p>	<p>This table contains the valid layer types for each project path. A layer type has a corresponding parent path within the project path that it correlates to.</p> <p>PROJECT_PATH: Provides a foreign key back to METADATA_CONST_NAME table.</p> <p>LAYER_TYPE: A unique string describing the layer to acquire metadata for.</p> <p>PARENT_PATH: The actual path in DV which is associated with the LAYER_TYPE.</p> <p>KEY: LOAD_DATE, PROJECT_NAME_ID, LAYER_TYPE, NODE_HOST, NODE_PORT</p>
<p>METADATA_CONST_VALIDATE</p> <p>METADATA_CONST_VALIDATE_ARCH</p>	<p>This table contains the layer validation rules. The rules provide for enforcing columns within views and which views can invoke views in specific layers.</p>

	<p><b>PROJECT_PATH:</b> Provides a foreign key back to METADATA_CONST_NAME table.</p> <p><b>LAYER_TYPE:</b> A valid layer name found in the table METADATA_CONST_LAYERS.</p> <p><b>RULE_TYPE:</b> Valid values=[ENFORCE_LAYER ENFORCE_COLUMN]</p> <p><b>RULE_DESC:</b> Enforce the rule type.</p> <p>When RULE_TYPE=ENFORCE_COLUMN Enforces which columns must be present in all of the views for a given layer type. Comma-separated list of case-sensitive column names.</p> <p>When RULE_TYPE=ENFORCE_LAYER Enforces which source layer resource can invoke which target layer resource. Comma-separated list of valid LAYER_TYPES.</p> <p>If a resource can invoke another resource in the same layer then add its own layer to the list.</p> <p><b>KEY:</b> LOAD_DATE, PROJECT_NAME_ID, LAYER_TYPE, RULE_TYPE, NODE_HOST, NODE_PORT</p>
<p>METADATA_RESOURCE</p> <p>METADATA_RESOURCE_ARCH</p>	<p>This is the core table which all other tables reference. This table contains a row for each TABLE and PROCEDURE resource found within the specified PROJECT_PATH in the METADATA_CONST_NAME table.</p> <p><b>KEY:</b> LOAD_DATE, PROJECT_NAME_ID, RESOURCE_ID, NODE_HOST, NODE_PORT</p>
<p>METADATA_RESOURCE_COLUMN</p> <p>METADATA_RESOURCE_COLUMN_ARCH</p>	<p>This table contains all of the COLUMNS referenced by the RESOURCE_ID in METADATA_RESOURCE.</p> <p><b>KEY:</b> LOAD_DATE, PROJECT_NAME_ID, RESOURCE_ID, COLUMN_NAME, NODE_HOST, NODE_PORT</p>
<p>METADATA_RESOURCE_LINEAGE</p> <p>METADATA_RESOURCE_LINEAGE_ARCH</p>	<p>This table contains the lineage for each resource in each layer. This will be a very large table.</p> <p><b>KEY:</b> LOAD_DATE, PROJECT_NAME_ID, RESOURCE_ID, LINEAGE_ORDER, LAYER_TYPE, NODE_HOST, NODE_PORT</p>
<p>METADATA_DATASOURCE</p> <p>METADATA_DATASOURCE_ARCH</p>	<p>This table contains the all of the datasource information for a given project path.</p> <p><b>KEY:</b> LOAD_DATE, PROJECT_NAME_ID, DATASOURCE_ID, NODE_HOST, NODE_PORT</p>
<p>METADATA_NON_COMPLIANT</p> <p>METADATA_NON_COMPLIANT_ARCH</p>	<p>This table contains information on column and layer compliancy based on the METADATA_CONST_VALIDATE rules tables.</p> <p><b>KEY:</b> LOAD_DATE, PROJECT_NAME_ID, RESOURCE_ID, LINEAGE_ORDER, NON_COMPLIANT_REASON, NODE_HOST, NODE_PORT</p>
METADATA_POLICY	<p>This table contains RBS [rule-based security] and CBS [column-based security] rows for a given project path.</p>



METADATA_POLICY_ARCH	KEY: LOAD_DATE, PROJECT_NAME_ID, POLICY_ID, NODE_HOST, NODE_PORT
METADATA_POLICY_ASSIGNMNT METADATA_POLICY_ASSIGNMNT_ARCH	This table contains the assignments for a policy. KEY: LOAD_DATE, PROJECT_NAME_ID, RESOURCE_ID, POLICY_ID, NODE_HOST, NODE_PORT
METADATA_PRIVILEGE METADATA_PRIVILEGE_ARCH	This table contains the assigned privileges for all of the resources in a given project path. KEY: LOAD_DATE, PROJECT_NAME_ID, RESOURCE_ID, NAME, NAME_TYPE, DOMAIN_NAME, USER_NAME, NODE_HOST, NODE_PORT
METADATA_PRIVILEGE_USER METADATA_PRIVILEGE__USER_ARCH	This table contains a many to many relationships between METADATA_PRIVILEGE[_ARCH] and METADATA_ALL_USERS_GROUPS[_ARCH]. KEY: LOAD_DATE, PROJECT_NAME_ID, PRIVILEGE_ID, USER_PK, NODE_HOST, NODE_PORT

## Metadata System Triggers and Load Scripts

Location: /shared/ASAssets/KPImetrics/Physical/Metadata/System

/ClusterSafeCache

/ClusterSafeTriggers

/Helpers

This section provides a quick summary of all triggers, their schedules and how they execute in a cluster.

Trigger Name	Trigger Schedule	Trigger Period	Cluster execution
kpimetricsTrig_40_Cache_METADATA_TABLES	11:30 PM	1 day	all nodes

This section lists all triggers and load scripts that have been defined to execute various KPImetrics procedures at regular intervals. The default execution frequencies are listed for each trigger. The load scripts have been created to load and aggregate raw data into processed KPImetrics metadata.

Trigger [schedule] → Script Name → View name	Description
<p><b>Schedule: [1 day, 11:30 pm]</b></p> <p><b>kpimetricsTrig_40_Cache_METADATA_TABLES →</b>          /shared/ASAssets/KPImetrics/Physical/Metadata/System/ClusterSafeCache/Cache_METADATA_TABLES →          /shared/ASAssets/KPImetrics/Customize/pqInsert_METADATA Constants</p>	<p>This trigger executes the Cache_METADATA_TABLES procedure. This procedure is used to capture all the metadata for all of the metadata tables.</p> <p>Exceptions: Emails will be sent if there are exceptions. Review the following view (table) for issues:          /services/databases/ASAssets/KPImetrics/workflow/vCISWorkflowStatus</p> <p>Uses the same ALL_RESOURCE data from METRICS_ALL_RESOURCES_STG which gets cached every 2 hours. The data would be current as of 11 pm. This alleviates the need to recache data that was already cached. Therefore, there is a <b>dependency</b> on <b>Cache_ALL_RESOURCES</b> completing for a given node.</p>