//Account Usage schema used to show cost

USE ROLE SYSADMIN;

DROP WAREHOUSE IF EXISTS CRM\_DEV\_ADHOC;

DROP WAREHOUSE IF EXISTS CRM\_DEV\_ETL;

DROP WAREHOUSE IF EXISTS CRM\_PRD\_ADHOC;

DROP WAREHOUSE IF EXISTS CRM\_PRD\_ETL;

DROP WAREHOUSE IF EXISTS HR\_DEV\_ADHOC;

DROP WAREHOUSE IF EXISTS HR\_DEV\_ETL;

DROP WAREHOUSE IF EXISTS HR\_PRD\_ADHOC;

DROP WAREHOUSE IF EXISTS HR\_PRD\_ETL;

//setup

USE ROLE SYSADMIN;

CREATE OR REPLACE WAREHOUSE CRM\_DEV\_ADHOC WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE CRM\_DEV\_ETL WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE CRM\_PRD\_ADHOC WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE CRM\_PRD\_ETL WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE HR\_DEV\_ADHOC WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE HR\_DEV\_ETL WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE HR\_PRD\_ADHOC WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE WAREHOUSE HR\_PRD\_ETL WAREHOUSE\_SIZE=XSMALL INITIALLY\_SUSPENDED=TRUE;

CREATE OR REPLACE DATABASE TAGGING\_DEMO;

--CREATE SCHEMA FOR TAGS

CREATE OR REPLACE SCHEMA TAGGING\_DEMO.TAG\_REPO;

USE SCHEMA TAGGING\_DEMO.TAG\_REPO;

--CREATE TAGS WITH A PREDEFINED LIST OF ALLOWED VALUES

CREATE TAG IF NOT EXISTS COST\_CENTER ALLOWED\_VALUES 'HR', 'CRM', 'FINANCE';

CREATE TAG IF NOT EXISTS ENVIRONMENT ALLOWED\_VALUES 'DEV', 'TST', 'PRD';

SHOW TAGS IN TAGGING\_DEMO.TAG\_REPO;

--CREATE SCHEMA FOR VIEWS

CREATE SCHEMA IF NOT EXISTS TAGGING\_DEMO.TECH;

--CREATE DATABASE AND SCHEMAS FOR PRD

CREATE DATABASE IF NOT EXISTS TAGGING\_DEMO\_PRD;

CREATE SCHEMA IF NOT EXISTS TAGGING\_DEMO\_PRD.CRM\_DM;

CREATE SCHEMA IF NOT EXISTS TAGGING\_DEMO\_PRD.HR\_DM;

--CREATE DATABASE AND SCHEMAS FOR DEV

CREATE DATABASE IF NOT EXISTS TAGGING\_DEMO\_DEV;

CREATE SCHEMA IF NOT EXISTS TAGGING\_DEMO\_DEV.CRM\_DM;

CREATE SCHEMA IF NOT EXISTS TAGGING\_DEMO\_DEV.HR\_DM;

//Associate Tags with warehouse, database and schemas

--TAG WAREHOUSES

USE SCHEMA TAGGING\_DEMO.TAG\_REPO;

ALTER WAREHOUSE CRM\_DEV\_ADHOC SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='CRM', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='DEV';

ALTER WAREHOUSE CRM\_DEV\_ETL SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='CRM', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='DEV';

ALTER WAREHOUSE CRM\_PRD\_ADHOC SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='CRM', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='PRD';

ALTER WAREHOUSE CRM\_PRD\_ETL SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='CRM', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='PRD';

ALTER WAREHOUSE HR\_DEV\_ADHOC SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='HR', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='DEV';

ALTER WAREHOUSE HR\_DEV\_ETL SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='HR', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='DEV';

ALTER WAREHOUSE HR\_PRD\_ADHOC SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='HR', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='PRD';

ALTER WAREHOUSE HR\_PRD\_ETL SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='HR', TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='PRD';

SHOW WAREHOUSES;

--TAG DATABASES

ALTER DATABASE TAGGING\_DEMO\_PRD SET TAG TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='PRD';

ALTER DATABASE TAGGING\_DEMO\_DEV SET TAG TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT='DEV';

--TAG SCHEMAS (DEMONSTRATE TAG LINEAGE)

ALTER SCHEMA TAGGING\_DEMO\_PRD.CRM\_DM SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='CRM';

ALTER SCHEMA TAGGING\_DEMO\_DEV.CRM\_DM SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='CRM';

ALTER SCHEMA TAGGING\_DEMO\_PRD.HR\_DM SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='HR';

ALTER SCHEMA TAGGING\_DEMO\_DEV.HR\_DM SET TAG TAGGING\_DEMO.TAG\_REPO.COST\_CENTER='HR';

//Create Dummy Tables

--COPY SAMPLE DATA

USE ROLE SYSADMIN;

CREATE OR REPLACE TABLE TAGGING\_DEMO\_PRD.CRM\_DM.CUSTOMER AS SELECT \* FROM "USECASE\_DB"."USECASE\_SCHEMA"."CUSTOMER";

CREATE OR REPLACE TABLE TAGGING\_DEMO\_DEV.CRM\_DM.CUSTOMER AS SELECT \* FROM "USECASE\_DB"."USECASE\_SCHEMA"."CUSTOMER";

CREATE OR REPLACE TABLE TAGGING\_DEMO\_PRD.CRM\_DM.CUSTOMER\_ADDRESS AS SELECT \* FROM SAMPLE\_DATA\_REPLICA.PUBLIC.CUSTOMER\_ADDRESS;

CREATE OR REPLACE TABLE TAGGING\_DEMO\_DEV.CRM\_DM.CUSTOMER\_ADDRESS AS SELECT \* FROM SAMPLE\_DATA\_REPLICA.PUBLIC.CUSTOMER\_ADDRESS;

CREATE OR REPLACE TABLE TAGGING\_DEMO\_PRD.HR\_DM.EMPLOYEE AS SELECT \* FROM "USECASE\_DB"."USECASE\_SCHEMA"."CUSTOMER";

CREATE OR REPLACE TABLE TAGGING\_DEMO\_DEV.HR\_DM.EMPLOYEE AS SELECT \* FROM "USECASE\_DB"."USECASE\_SCHEMA"."CUSTOMER";

//Show all applied tags (2 hours data latency)

--Show tag inheritance. Tags applied on the database are also applied on schema level.

USE ROLE ACCOUNTADMIN;

SELECT \*

FROM TABLE(SNOWFLAKE.ACCOUNT\_USAGE.TAG\_REFERENCES\_WITH\_LINEAGE('TAGGING\_DEMO.TAG\_REPO.COST\_CENTER'))

ORDER BY LEVEL, OBJECT\_NAME;

SELECT \*

FROM TABLE(SNOWFLAKE.ACCOUNT\_USAGE.TAG\_REFERENCES\_WITH\_LINEAGE('TAGGING\_DEMO.TAG\_REPO.ENVIRONMENT'))

ORDER BY LEVEL, OBJECT\_NAME;

//Grant required privileges to SYSADMIN

USE ROLE ACCOUNTADMIN;

GRANT IMPORTED PRIVILEGES on DATABASE SNOWFLAKE TO ROLE SYSADMIN;

//View that aggregates compute credits per cost center over the last 30 days

USE ROLE SYSADMIN;

--DROP VIEW TECH.V\_CREDITS\_PER\_COST\_CENTER;

CREATE OR REPLACE VIEW TECH.V\_CREDITS\_PER\_COST\_CENTER AS

SELECT

TAG\_VALUE AS COST\_CENTER,

SUM(NVL(CREDITS\_USED, 0)) AS CREDITS

FROM SNOWFLAKE.ACCOUNT\_USAGE.TAG\_REFERENCES LEFT JOIN

SNOWFLAKE.ACCOUNT\_USAGE.WAREHOUSE\_METERING\_HISTORY ON WAREHOUSE\_NAME=OBJECT\_NAME

WHERE TAG\_NAME='COST\_CENTER'

AND TAG\_DATABASE='TAGGING\_DEMO'

AND TAG\_SCHEMA='TAG\_REPO'

AND DOMAIN='WAREHOUSE'

AND START\_TIME>=DATEADD('DAYS',-30,CURRENT\_DATE())

GROUP BY 1

ORDER BY 2 DESC;

SELECT \* FROM TAGGING\_DEMO.TECH.V\_CREDITS\_PER\_COST\_CENTER;

//View that aggregates compute credits per environment over the last 30 days

--DROP VIEW TECH.V\_CREDITS\_PER\_ENVIRONMENT;

CREATE OR REPLACE VIEW TECH.V\_CREDITS\_PER\_ENVIRONMENT AS

SELECT

TAG\_VALUE AS ENVIRONMENT,

SUM(NVL(CREDITS\_USED, 0)) AS CREDITS

FROM SNOWFLAKE.ACCOUNT\_USAGE.TAG\_REFERENCES LEFT JOIN

SNOWFLAKE.ACCOUNT\_USAGE.WAREHOUSE\_METERING\_HISTORY ON WAREHOUSE\_NAME=OBJECT\_NAME

WHERE TAG\_NAME='ENVIRONMENT'

AND TAG\_DATABASE='TAGGING\_DEMO'

AND TAG\_SCHEMA='TAG\_REPO'

AND DOMAIN= 'WAREHOUSE'

AND START\_TIME>=DATEADD('DAYS',-90,CURRENT\_DATE())

GROUP BY 1

ORDER BY 2 DESC;

SELECT \* FROM TECH.V\_CREDITS\_PER\_ENVIRONMENT;

//View that aggregates schema storage per cost center

--DROP VIEW TECH.V\_SCHEMA\_STORAGE\_PER\_COST\_CENTER;

CREATE OR REPLACE VIEW TECH.V\_SCHEMA\_STORAGE\_PER\_COST\_CENTER AS

SELECT

TAG\_VALUE AS COST\_CENTER,

ROUND(SUM(ACTIVE\_BYTES + TIME\_TRAVEL\_BYTES + FAILSAFE\_BYTES + RETAINED\_FOR\_CLONE\_BYTES)/power(1024, 3),2) AS STORAGE\_IN\_GB

FROM SNOWFLAKE.ACCOUNT\_USAGE.TAG\_REFERENCES LEFT JOIN

SNOWFLAKE.ACCOUNT\_USAGE.TABLE\_STORAGE\_METRICS ON OBJECT\_DATABASE = TABLE\_CATALOG AND

OBJECT\_NAME = TABLE\_SCHEMA

WHERE TAG\_NAME='COST\_CENTER'

AND TAG\_DATABASE='TAGGING\_DEMO'

AND TAG\_SCHEMA='TAG\_REPO'

AND DOMAIN='SCHEMA'

GROUP BY 1;

SELECT \* FROM TECH.V\_SCHEMA\_STORAGE\_PER\_COST\_CENTER;

//View that aggregates schema storage per environment

--DROP VIEW TECH.V\_SCHEMA\_STORAGE\_PER\_ENVIRONMENT;

CREATE OR REPLACE VIEW TECH.V\_SCHEMA\_STORAGE\_PER\_ENVIRONMENT AS

SELECT

TAG\_VALUE AS ENVIRONMENT,

ROUND(SUM(ACTIVE\_BYTES + TIME\_TRAVEL\_BYTES + FAILSAFE\_BYTES + RETAINED\_FOR\_CLONE\_BYTES)/power(1024, 3),2) AS STORAGE\_IN\_GB

FROM SNOWFLAKE.ACCOUNT\_USAGE.TAG\_REFERENCES LEFT JOIN

SNOWFLAKE.ACCOUNT\_USAGE.TABLE\_STORAGE\_METRICS ON OBJECT\_NAME = TABLE\_CATALOG

WHERE TAG\_NAME='ENVIRONMENT'

AND TAG\_DATABASE='TAGGING\_DEMO'

AND TAG\_SCHEMA='TAG\_REPO'

AND DOMAIN='DATABASE'

GROUP BY 1;

SELECT \* FROM TECH.V\_SCHEMA\_STORAGE\_PER\_ENVIRONMENT;