**HANDS – ON EXCERSISES (18.09.24)**

**BY AMITA**

**Part 1: Setting Up the Environment**

**Task 1: Create a Metastore**

Set up a Unity Catalog metastore that will act as the central location to

manage all catalogs and schemas.

**Task 2: Create Department-Specific Catalogs**

**Create separate catalogs for the following departments:**

**Marketing**

CREATE CATALOG marketing\_data;

**Engineering**

CREATE CATALOG engineering\_data;

**Operations**

CREATE CATALOG operations\_data;

**Task 3: Create Schemas for Each Department**

**Inside each catalog, create specific schemas to store different types of data,**

**e.g.:**

**For the Marketing catalog, create schemas such as ads\_data and**

**customer\_data .**

CREATE SCHEMA marketing\_data.ads\_data;

CREATE SCHEMA marketing\_data.customer\_data;

**For the Engineering catalog, create schemas such as projects and**

**development\_data .**

CREATE SCHEMA engineering\_data.projects;

CREATE SCHEMA engineering\_data.development\_data;

**For the Operations catalog, create schemas such as logistics\_data and**

**supply\_chain .**

CREATE SCHEMA operations\_data.logistics\_data;

CREATE SCHEMA operations\_data.supply\_chain;

**Part 2: Loading Data and Creating Tables**

**Task 5: Create Tables from the Datasets**

CREATE TABLE marketing\_data.ads\_data.ads\_data (

    ad\_id INT,

    impressions INT,

    clicks INT,

    cost\_per\_click DECIMAL(10, 2)

);

**Example: Create a table for projects in the engineering catalog.**

CREATE TABLE engineering\_data.projects.project\_data (

project\_id INT,

project\_name STRING,

start\_date DATE,

end\_date DATE

);

**Part 3: Data Governance Capabilities**

**Task 6: Create Roles and Grant Access**

**Create specific roles for each department and grant access to the relevant**

**catalogs and schemas.**

-- Create roles for each department

CREATE ROLE marketing\_role;

CREATE ROLE engineering\_role;

CREATE ROLE operations\_role;

-- Grant access to specific catalogs and schemas

GRANT USAGE ON CATALOG marketing\_data TO marketing\_role;

GRANT USAGE ON CATALOG engineering\_data TO engineering\_role;

GRANT USAGE ON CATALOG operations\_data TO operations\_role;

**Task 7: Configure Fine-Grained Access Control**

**Data Lineage**

-- Allow marketing\_role to only access customer\_data schema

GRANT SELECT ON SCHEMA marketing\_data.customer\_data TO marketing\_role;

-- Allow engineers to access project data

GRANT SELECT ON SCHEMA engineering\_data.projects TO engineering\_role;

**Task 10: Explore Metadata in Unity Catalog**

DESCRIBE TABLE marketing\_data.ads\_data.ads\_data;