**Data Warehousing Exercise 1**

1. Create CDM, PDM, LDM, Bus Matrix for the below databases:
   1. Hr
   2. Northwind or Airports
2. Perform the below SCD’s based on the conditions below,

Note: Create Target tables with required additional columns

|  |  |  |
| --- | --- | --- |
| SCD Type | Source Table | SCD column |
| SCD 1 | northwind.customers | City |
| SCD 3 (2 History) | northwind.employees | FirstName |
| SCD 2 Date type | northwind.suppliers | Contact Name |
| SCD 2 Flag type | northwind.categories | CategoryName |
| SCD 2 Version type | northwind.products | Productname |

SCD1:-

select \* into source from [Northwind].[Customers]

select \* into target from source

truncate table target

insert into target

select a.[CustomerID], a.[CompanyName], a.[ContactName],

a.[ContactTitle], a.[Address],a.[City], a.[Region],

a.[PostalCode],a.[Country], a.[Phone], a.[Fax] from source a left join target b ON a.CustomerID=b.CustomerID

where b.CustomerID IS NULL;

update source

SET City='Hyderabad'

WHERE CustomerID='ALFKI';

UPDATE target

set target.City=a.city

from source a inner join target b on a.CustomerID=b.CustomerID;

SCD2 DateType:-

select \* into sourcesuppliers from [Northwind].[Suppliers]

select \* into targetsuppliers from sourcesuppliers

truncate table targetsuppliers

alter table targetsuppliers

add startdate date,enddate date;

insert into targetsuppliers select a.[SupplierID],a.[CompanyName],

a.[ContactName],a.[ContactTitle], a.[Address], a.[City],

a.[Region], a.[PostalCode], a.[Country], a.[Phone],

a.[Fax], a.[HomePage],getdate() as startdate,b.enddate from sourcesuppliers a left join targetsuppliers b

on a.SupplierID=b.SupplierID

where b.SupplierID IS NULL;

update sourcesuppliers

set contactname='priya'

where SupplierID=1;

update targetsuppliers

set targetsuppliers.enddate=getdate()

from sourcesuppliers a inner join targetsuppliers b

on a.SupplierID=b.SupplierID

where a.contactname<>b.contactname;

SCD2 Flagtype:-

select \* into sourcecategories from [Northwind].[Categories]

alter table sourcecategories

add flag char(2);

select \* into targetcategories from sourcecategories

truncate table targetcategories

insert into targetcategories select a.[CategoryID],

a.[CategoryName], a.[Description],a.[Picture],

'Y' as flag from sourcecategories a

left join targetcategories b on a.CategoryID=b.CategoryID

where b.CategoryID IS NULL;

update sourcecategories

set CategoryName='Products'

where CategoryID=1;

update targetcategories

set targetcategories.flag='N'

from sourcecategories a

inner join targetcategories b

on a.CategoryID=b.CategoryID

where a.CategoryName in ('Products','Condiments','Produce');

1. Load the date Dimension using SQL.
2. Load the date Dimension using python.
3. Perform Source system analysis for HR database. Template attached below with two sample tables.

