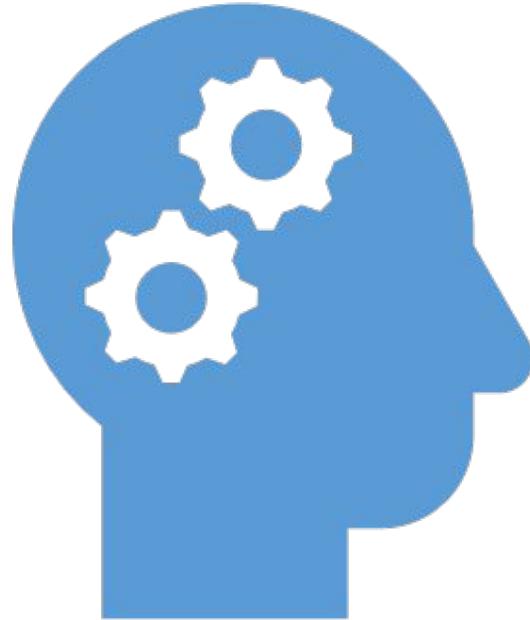




Subject : Data Warehouse and Data Mining



(Computer Engineering and Technology)
(SYB.Tech-AI-DS)

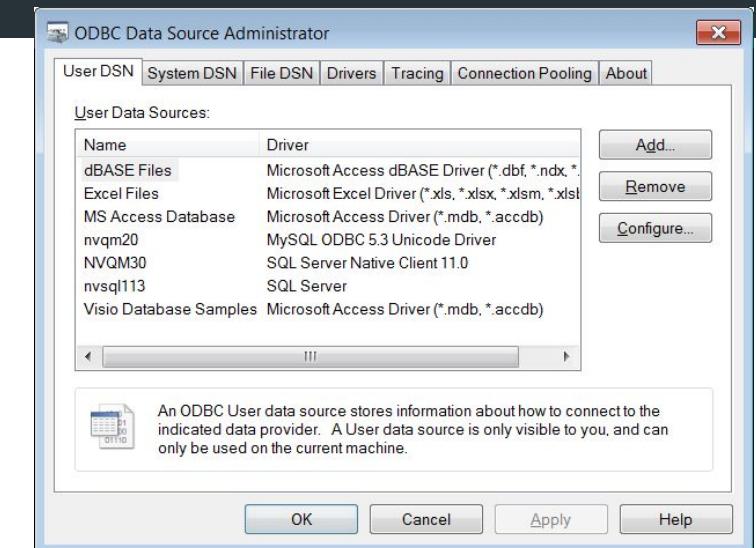
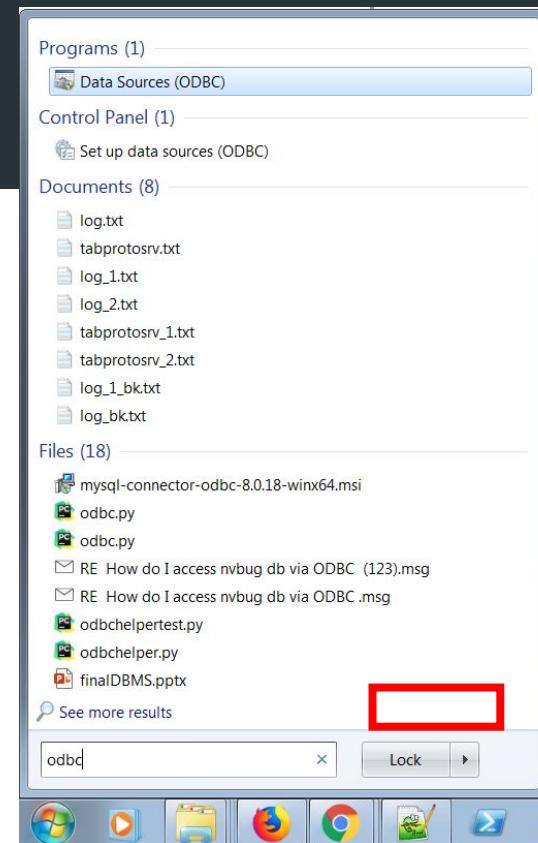
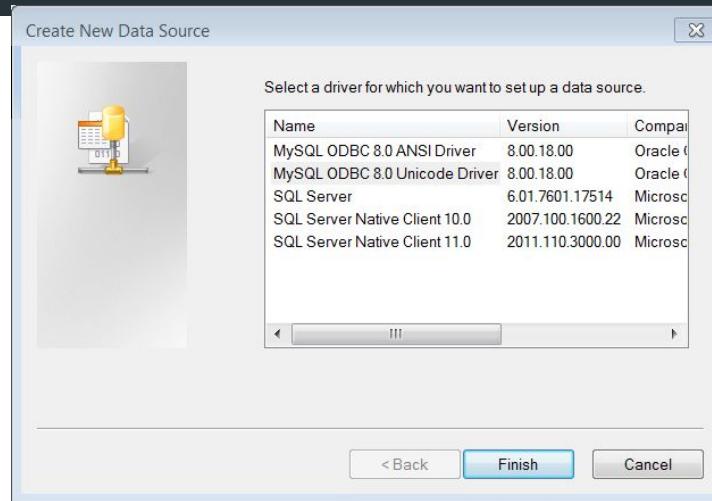


Demonstrate different OLAP Schema and Operations Using OLAP tool.

Lab Assignment 04

Data Preparation

- Install MySQL
- Import sample data required for this assignment into MySQL database using attached sql dump file .
- Download dump.sql
- Copy it in mysql bin folder
- Login to mysql
 - Mysql>source dump.sql
 - Mysql>>Show databases
 - Mysql>Use movedb
 - Mysql>Show tables

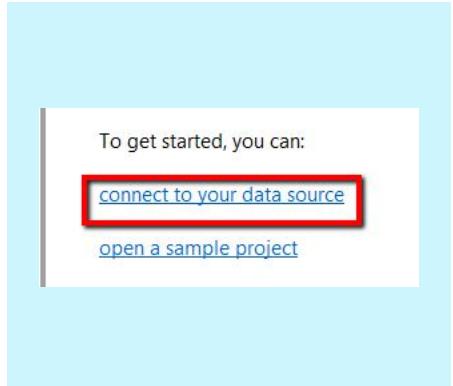
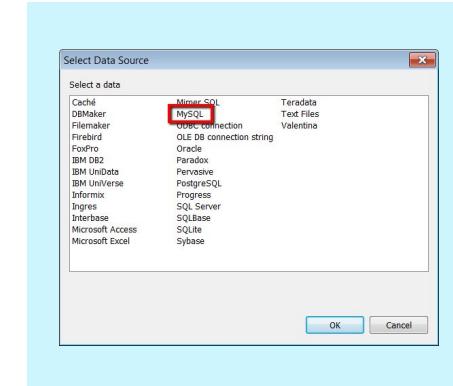
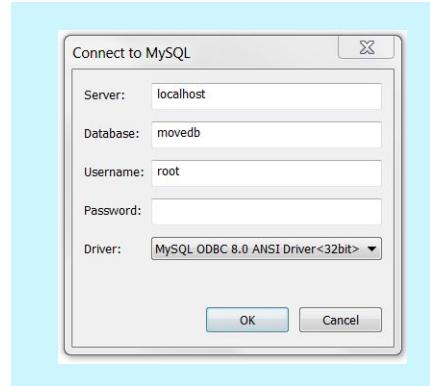
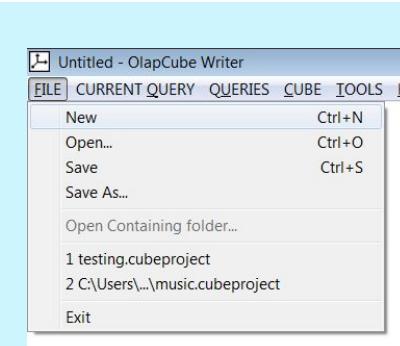


Install ODBC Drivers

Ensure ODBC drivers are installed on the windows machine where OLAPCUBE is installed

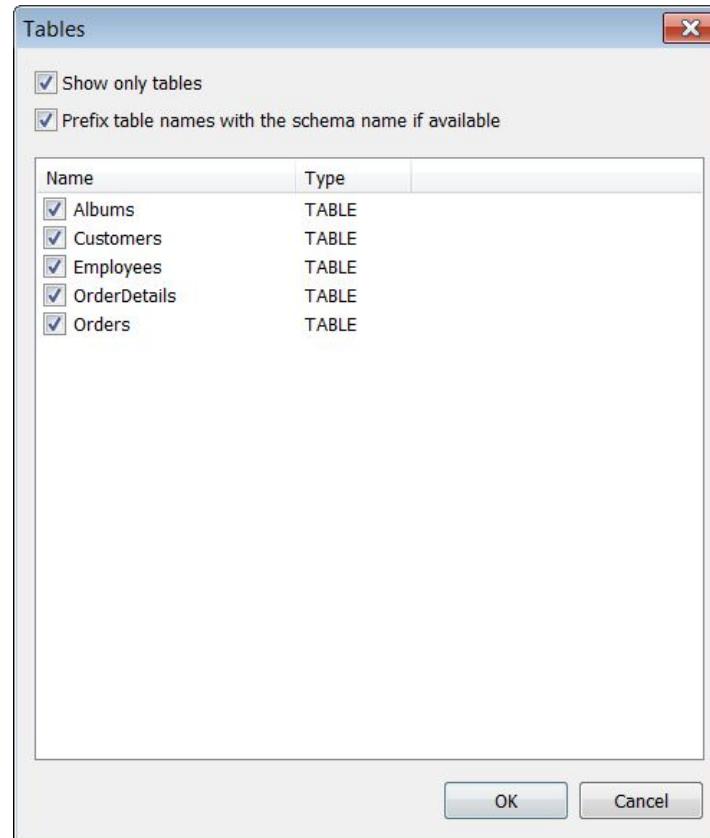
Connect to Data Source

- Open OlapCube
- Select File □ New and connect to MySQL data source



Source Tables

Select all tables from source database



[build cube](#) [open cube](#) [open in Excel](#) [filters](#) [add more tables](#) [new relationship](#) [refresh](#) [database](#)

| Albums | Customers |
|--------------|--------------|
| AlbumID | CustomerID |
| AlbumName | CustomerName |
| Artist | RegionCode |
| LabelName | Country |
| CategoryName | |
| UnitPrice | |
| ReleaseDate | |

| Employees | OrderDetails | Orders |
|------------|--------------|------------|
| EmployeeID | OrderID | OrderID |
| LastName | AlbumID | CustomerID |
| FirstName | UnitPrice | EmployeeID |
| Title | Quantity | OrderDate |
| ReportsTo | | |

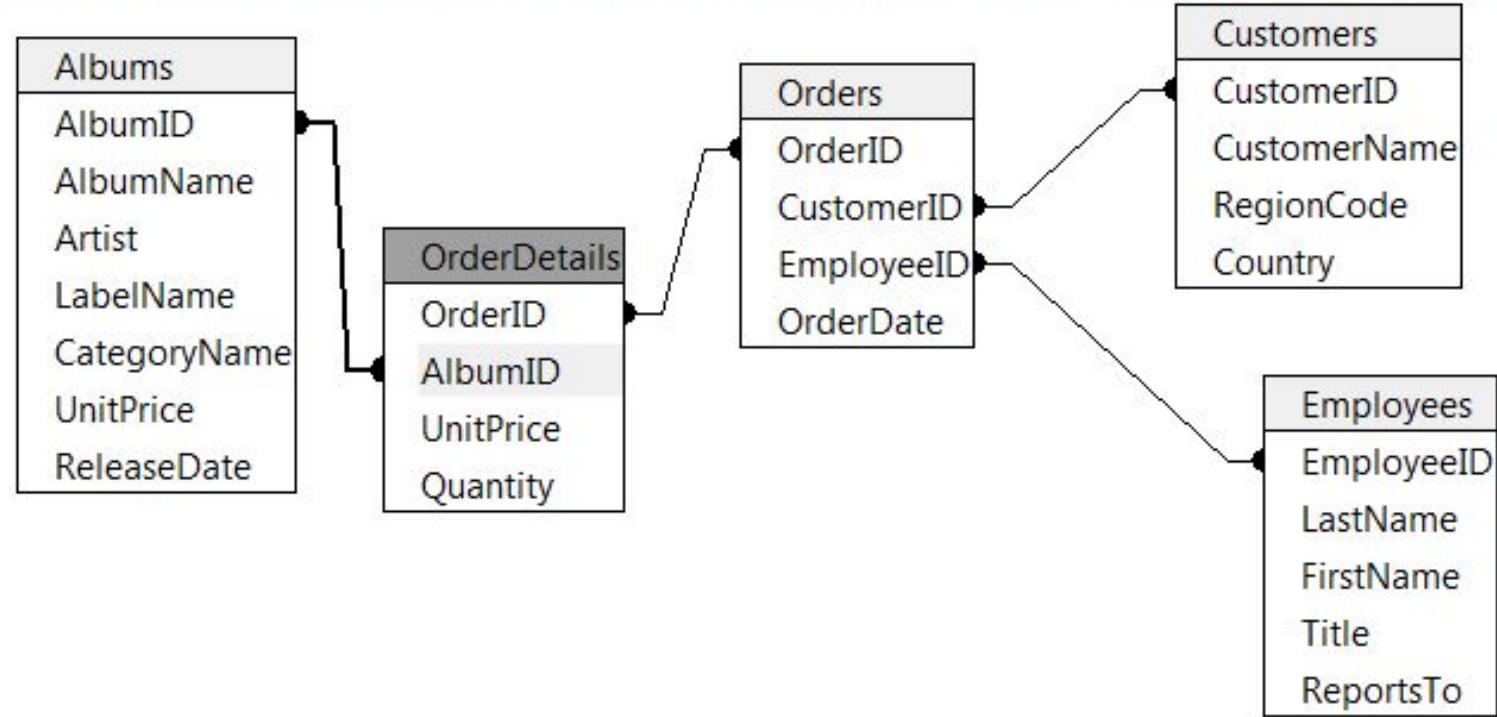
Preview of [Albums](#) [build cube](#) [open cube](#) [open in Excel](#) [refresh](#) [hide data](#) [show/hide columns](#) [remove table](#) [rename table](#) [change table](#)

| AlbumID | AlbumName | Artist | LabelName | CategoryName | UnitPrice | ReleaseDate |
|---------|-------------------------|------------------------------|---------------------------------|--------------|-----------|-------------|
| 5303 | Josh Groban | Groban, Josh | Reprise | POP | 5.39 | 4/23/2002 |
| 5306 | Shaman's Healing | Shastro | Malimba Records | RELAXATION | 11.26 | 4/25/2002 |
| 5307 | Leaves Of Hope | Ginkgo Garden | BSC Music | NEW AGE | 13.2 | 4/27/2002 |
| 5309 | Russian Soul | Shafran, Daniil: vc | The Classics Label (Launch sub) | CELLO | 15.19 | 5/1/2002 |
| 5310 | Live At The Safari Club | Chimps, The | MuSick Recordings, Inc. | ALT ROCK | 11.19 | 5/1/2002 |
| 5311 | Toddler Favorites Tool | Music For Little People | Music For Little People | CHILDREN | 4.72 | 5/1/2002 |
| 5312 | Celebration of America | * Child's Celebration Series | Music For Little People | CHILDREN | 10.12 | 5/1/2002 |
| 5322 | Futureperfect | VNV Nation | Metropolis Records | ALT ROCK | 13.2 | 5/5/2002 |
| 5323 | Joined at the Hip | Williams, Buster | TG Music | JAZZ | 12.2 | 5/7/2002 |

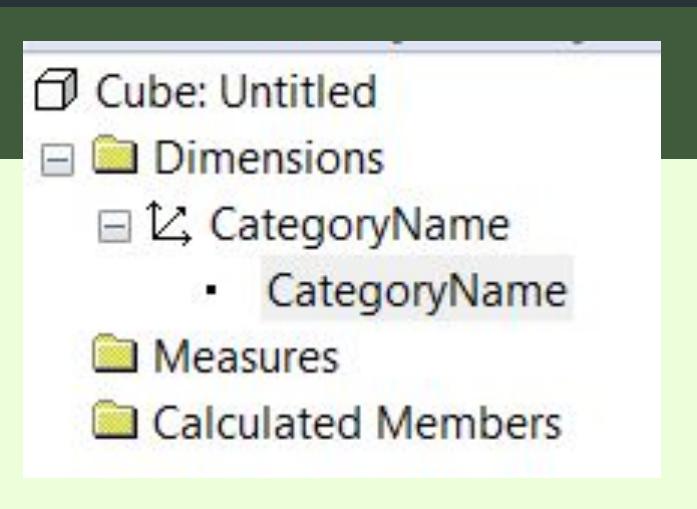
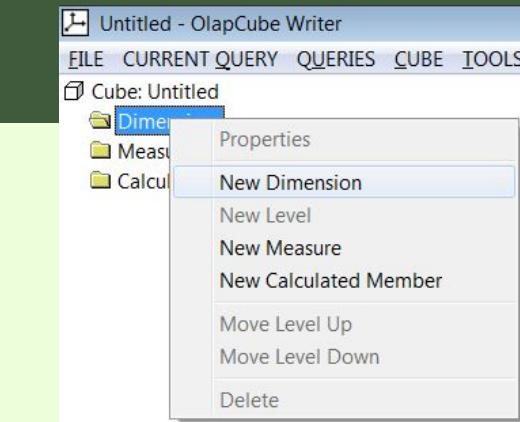
* Clicking on any table will show its data

Creating STAR Schema

[build cube](#) [open cube](#) [open in Excel](#) [filters](#) [add more tables](#) [new relationship](#) [refresh](#) [database](#)

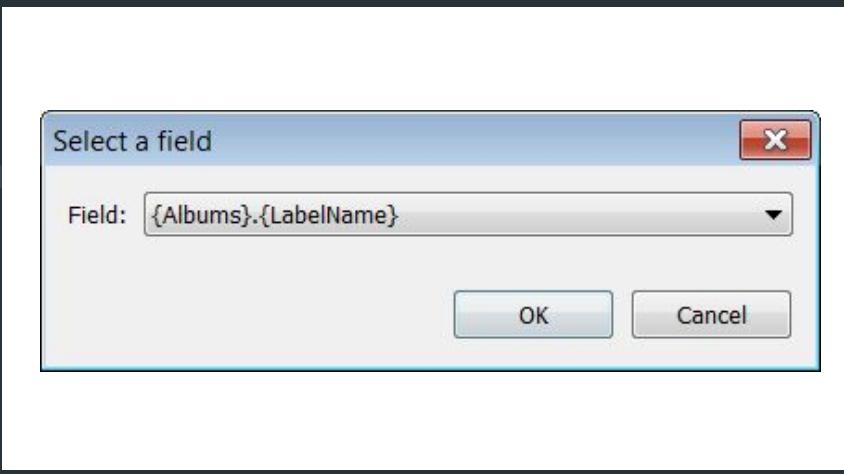
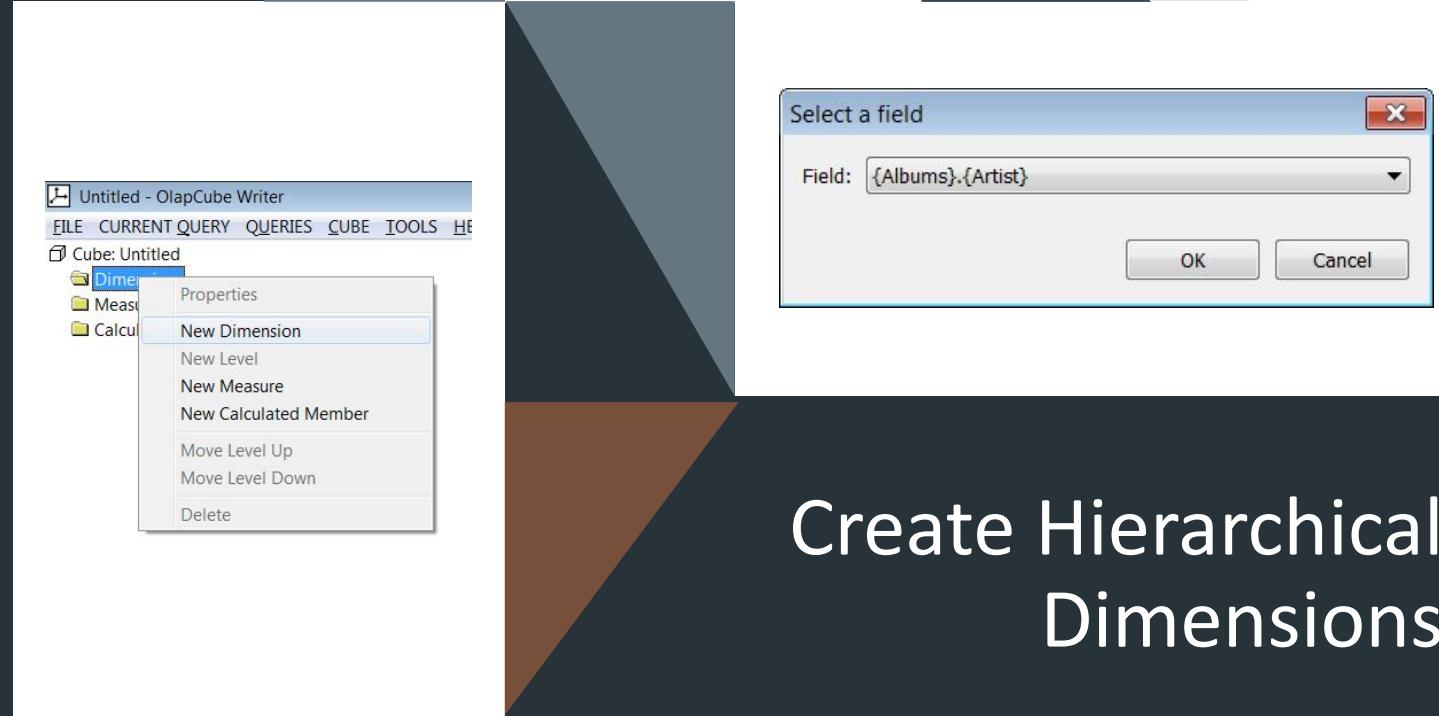
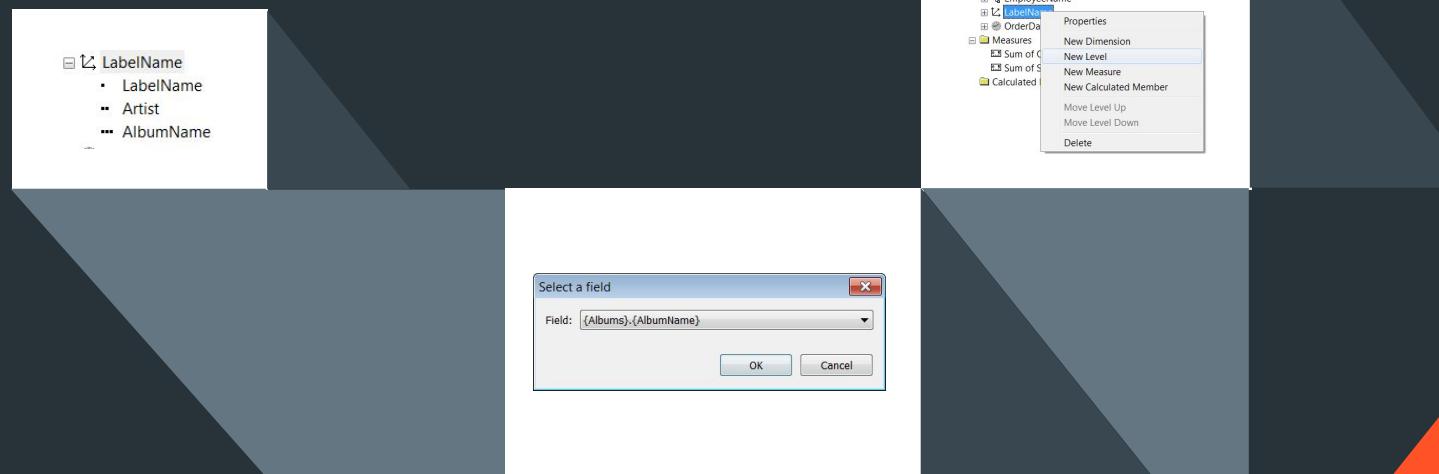


- Drag and drop fields from Orders table to join with other tables
 - Order table is the key table holding facts about the business transaction
 - Albums, Customers, Employees tables hold additional attributes



Create Dimensions

- In left hand side tree, select Dimensions □
New Dimension
 - Select CategoryName from Albums table
as a dimension



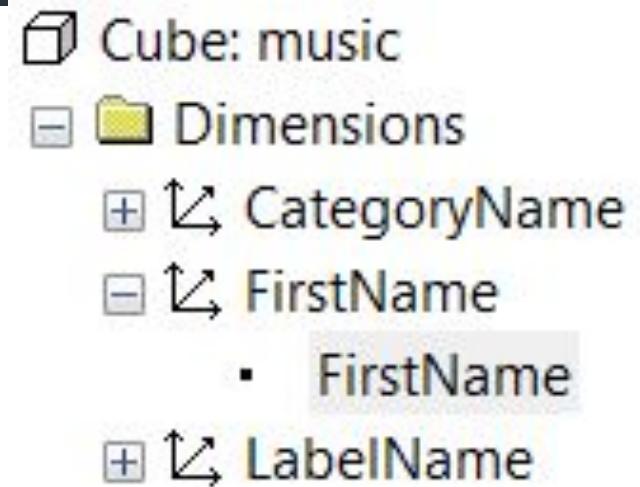
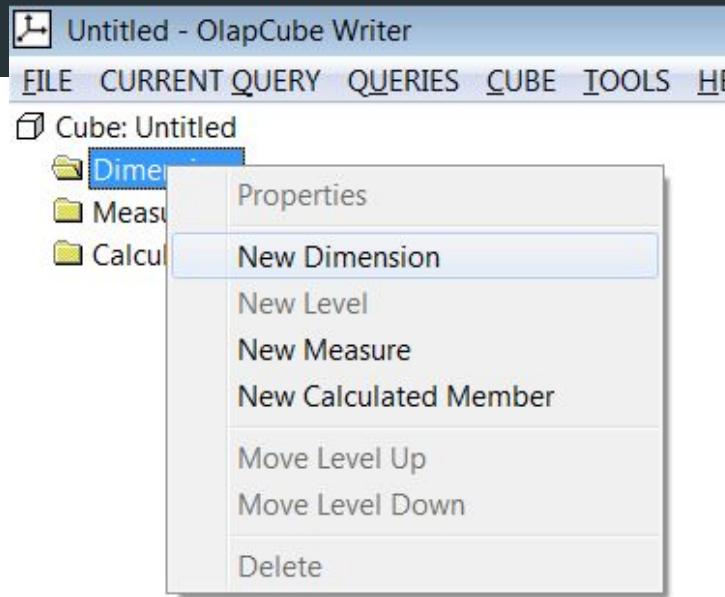
- Create New Dimension with field Albums.LabelName
 - Add new level Albums.Artist followed by another level Albums.AlbumName

Create Hierarchical Dimensions



Create Hierarchical Dimensions

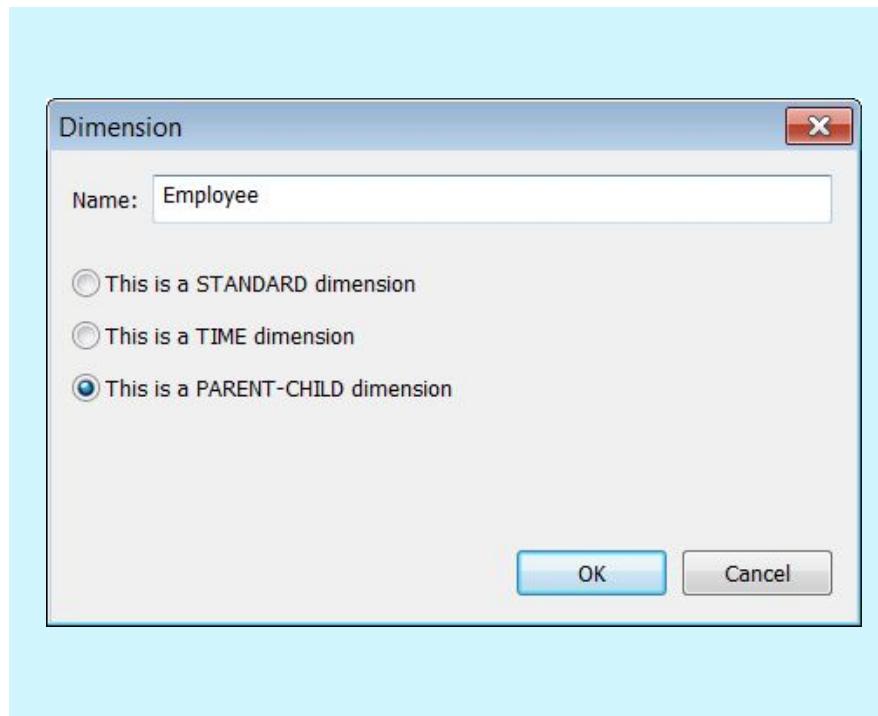
Similarly create Hierarchical Date dimension as shown below



Create Relational Dimension

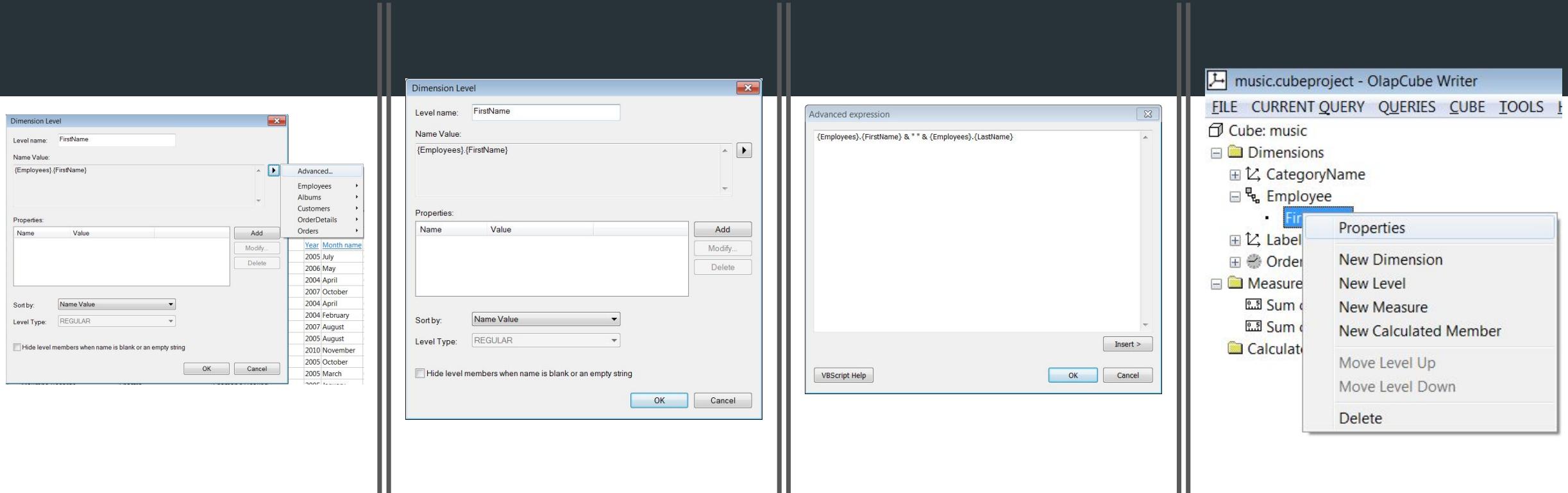
Add new dimension using field Employee.FirstName

Create Relational Dimension



The screenshot shows the 'music.cubaproject - OlapCube Writer' application window. The menu bar includes FILE, CURRENT QUERY, QUERIES, CUBE, TOOLS, and HELP. The 'CUBE' menu is open, showing options like New Dimension, New Level, New Measure, and New Calculated Member. Below the menu, the cube structure is visible with dimensions like CategoryName and FirstName. A context menu is open over the 'FirstName' dimension, listing Properties, New Dimension, New Level, New Measure, New Calculated Member, Move Level Up, Move Level Down, and Delete.

- Rename Dimension name selecting properties option
- Also, change type of dimension from STANDARD to PARENT-CHILD



Create Relational Dimension

Right click level item and select properties

Property

Property name:
KEY

Value:
{Employees}.{EmployeeID}

OK Cancel

Dimension Level

Level name: FirstName

Name Value:
(Employees).{FirstName} & " " & (Employees).{LastName}

Properties:

| Name | Value |
|--------|--------------------------|
| KEY | {Employees}.{EmployeeID} |
| PARENT | {Employees}.ReportsTo |

Add Modify... Delete

Sort by: Name Value

Level Type: REGULAR

Hide level members when name is blank or an empty string

OK Cancel

Dimension Level

Level name: FirstName

Name Value:
(Employees).{FirstName} & " " & (Employees).{LastName}

Properties:

| Name | Value |
|------|-------|
|------|-------|

Add Modify... Delete

Custom Property
Geographic Coordinates
KEY
PARENT

Sort by: Name Value

Level Type: REGULAR

Hide level members when name is blank or an empty string

OK Cancel

Property

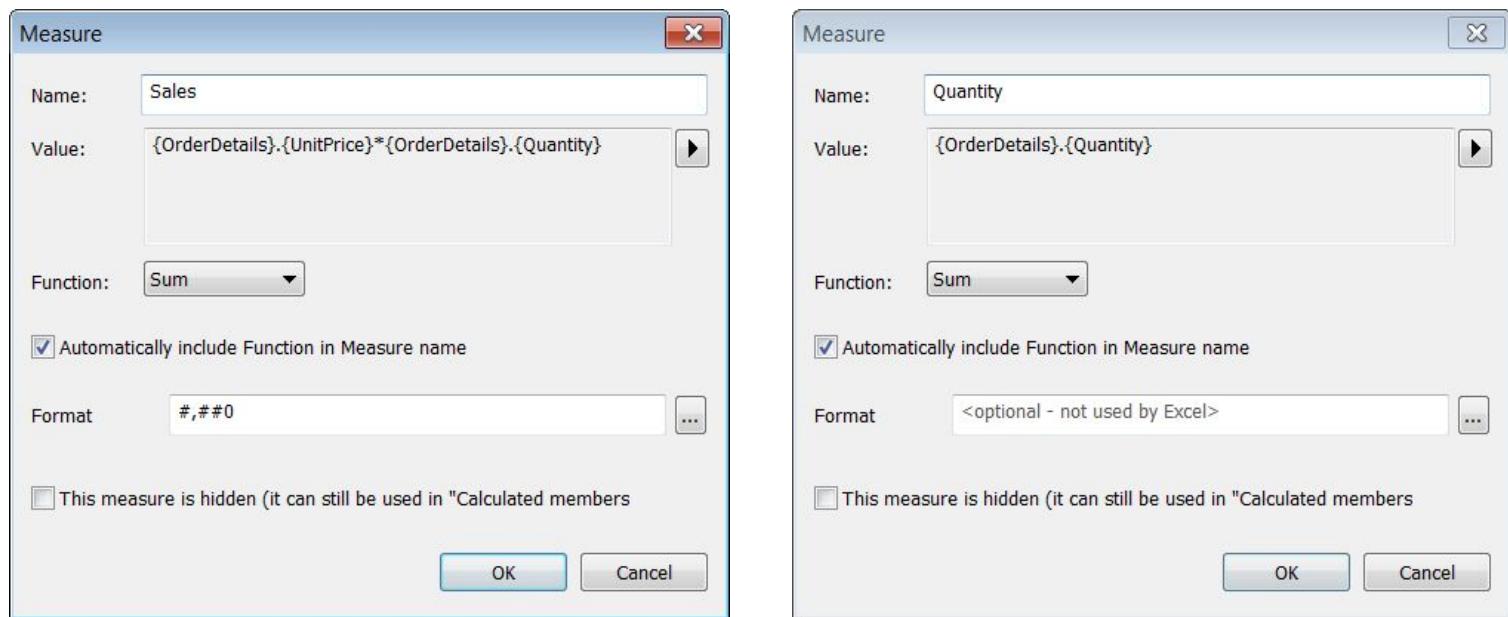
Property name:
PARENT

Value:
{Employees}.{ReportsTo}

OK Cancel

Create Relational Dimension

Create Measures



- Create measures for
 - Sum of Order Quantity
 - Sum of Sale

Build Cube

Click on build cube option to build the build from the schema

| Preview of Cube data build cube open cube open in Excel refresh view sql query hide data | | | | |
|--|---------------------------|------------------------|---------------------------|---|
| CategoryName | LabelName | Artist | AlbumName | OrderDate |
| CategoryName | LabelName | Artist | AlbumName | Year Month name |
| POP | Reprise | Groban, Josh | Josh Groban | 2005 July |
| POP | Reprise | Groban, Josh | Josh Groban | 2006 May |
| POP | Reprise | Groban, Josh | Josh Groban | 2004 April |
| POP | Reprise | Groban, Josh | Josh Groban | 2007 October |
| POP | Reprise | Groban, Josh | Josh Groban | 2004 April |

Reports



Sales Per Category

Add New Bar Chart to show total sales per category

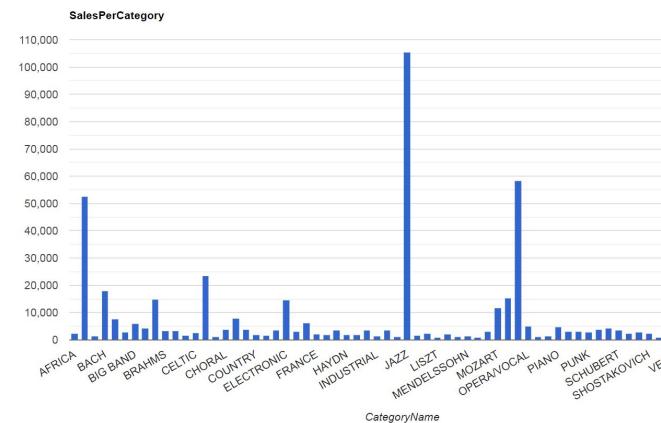
Third Dimension:

Select a dimension for series (optional):

- Employee
- LabelName
- OrderDate

Stacked Chart:

[< Back](#) [Finish](#) [Cancel](#)



First Dimension

Select a dimension for the horizontal axis:

- CategoryName
- Employee
- LabelName
- OrderDate

[< Back](#) [Next >](#) [Cancel](#)

Second Dimension

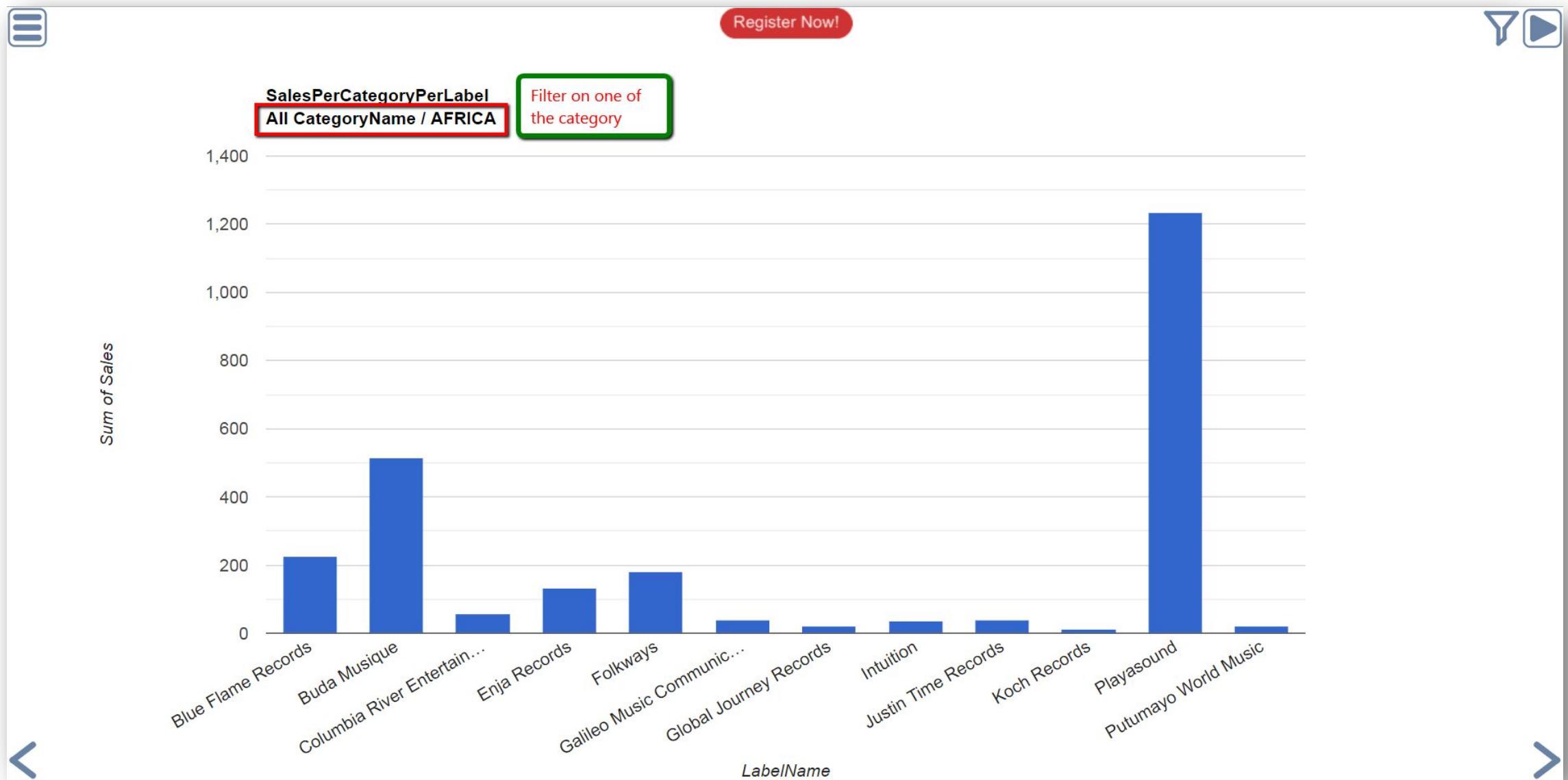
Select a dimension for page filters (optional):

- Employee
- LabelName
- OrderDate

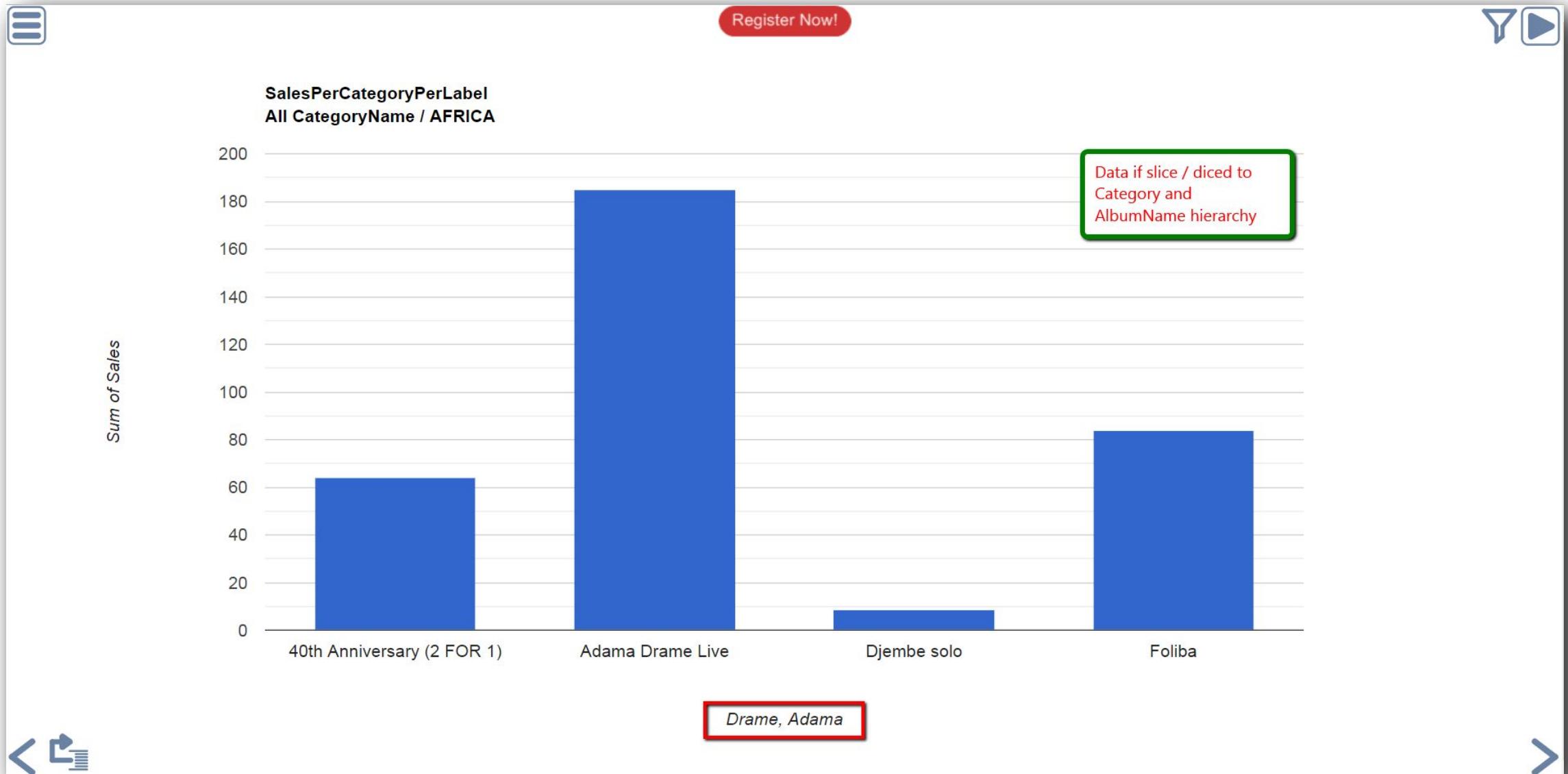
Include the All Member

[< Back](#) [Next >](#) [Cancel](#)

Sales Per Category Per LabelName



Slice Data on Hierarchical Dimension



Slice Data on Hierarchical Date Dimension



Register Now!

