Master Dimensional Modeling Step By Step
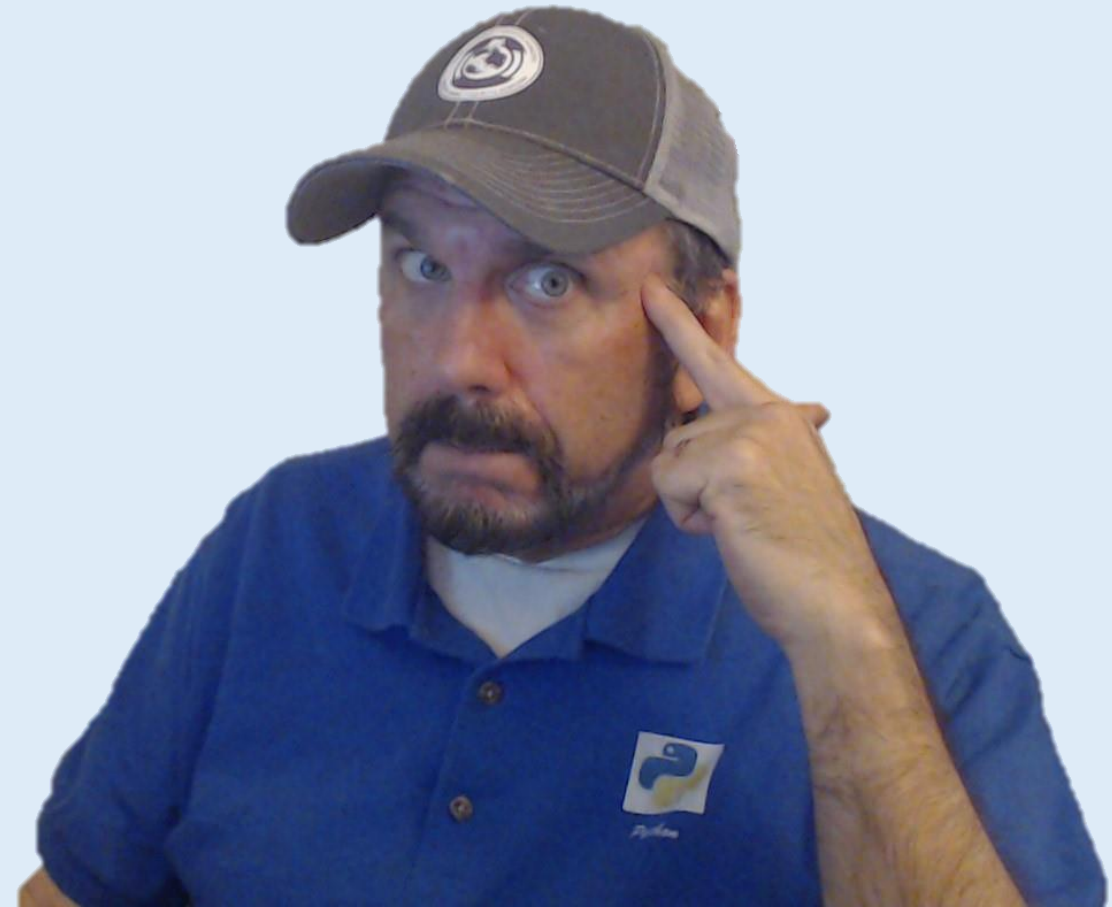
Lesson 02: The 4 Step Dimensional Modeling Process

by Bryan Cafferky from my YouTube channel
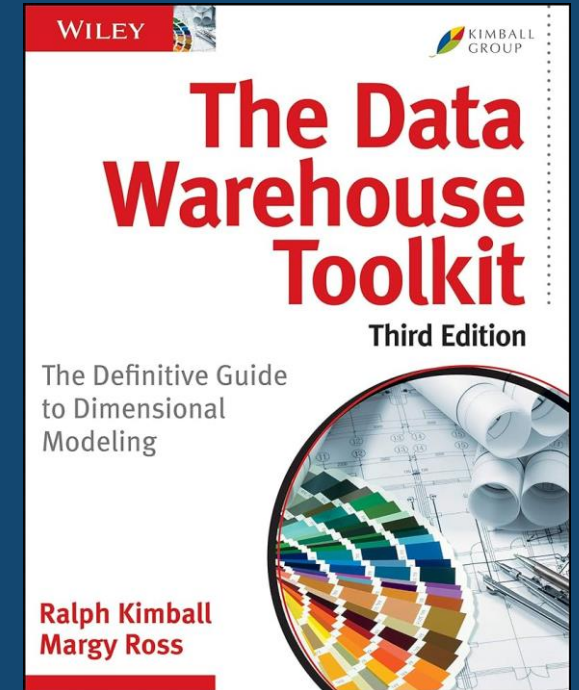
The 4 Steps to Designing Dimensional Models

1) **Select the Business Process**

2) **Declare the Grain**

3) **Choose the Dimensions**

4) **Identify the Facts**

Step 1: Select the Business Process

- **Business Process, Not Department.**
  - **Examples: Sales, Inventory, Purchasing**

- **What Business Process Can Benefit Most?**

- **What Does the Business Want to Know?**

- **Where is the Source Data for the Process?**

- **Do You Have All the Data Needed to Answer the Critical Questions?**

Step 2: Declare the Grain (Critical)

➢ **The Fact Represents an Event, i.e., sale, purchase, request**

➢ **The Grain is the Level of Detail a Row in the Fact Table Represents:**

    ➢ **single order line item vs. order summary**

    ➢ **general ledger journal entry line item detail vs. account balance**

    ➢ **single click in a web application's clickstream vs. aggregated logs**

➢ **Balance Between Details and Performance/Storage**

    ➢ **Click Level clickstream may not be practical**

    ➢ **customer order summary may not be useful**

➢ **Favor Lower Level Detail, i.e., Higher Grain**

Step 3: Choose the Dimensions

- ➤ **Dimensions Describe the Event (who, what, where, when, how)**

- ➤ **Dimensions Provide the Filters and Groupings for Queries**

- ➤ **Typical Dimensions**
  - ➤ **order date**
  - ➤ **customer**
  - ➤ **store**
  - ➤ **product**

- ➤ **Denormalizing Dimensions is Good**
  - ➤ **Product -> Product Category, Product Subcategory, Product Details**
  - ➤ **Do Not Snowflake (don't have one dimension join to another dimension)**

Step 4: Identify the Facts aka Measures

➢ **Select the Event Metrics (how many, how much)**
   ➢ order line item quantity
   ➢ order line item sales amount
   ➢ sales tax amount
   ➢ unit price

➢ **All Facts Must Match the Declared Grain**

➢ **Ideally Facts are Additive**

Wrapping Up

1) **Select the Business Process**

2) **Declare the Grain**

3) ~~~~ **Thank You!** ~~~~ ions

4) **Identify the Facts**