

# INTRODUCTION TO DATA WAREHOUSING

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Northern Virginia Code Camp

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# About Jessica M. Moss

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- BI Mentor with Solid Quality Mentors
- Microsoft SQL Server MVP
- MCDBA, MCTS: 2005 BI, MCITP: 2005 BI
- Active member of PASS and SQL User Groups
- Blog: <http://www.jessicammoss.com>



# Agenda

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- Data Warehouse
- Lifecycle
- Design
- Load
- Aggregation
- Conclusion
- Questions

# Data Warehouse

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- Repository of data
- Designed for reporting
- Can be used for analysis, trends

# Lifecycle

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- Design
- Load
- Aggregation
- Reporting

# Design

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- Facts
  - ▣ Information that can be aggregated
  - ▣ Contains “measures”
  
- Dimensions
  - ▣ Describes the facts
  - ▣ Contains “attributes”

# Dimension Types

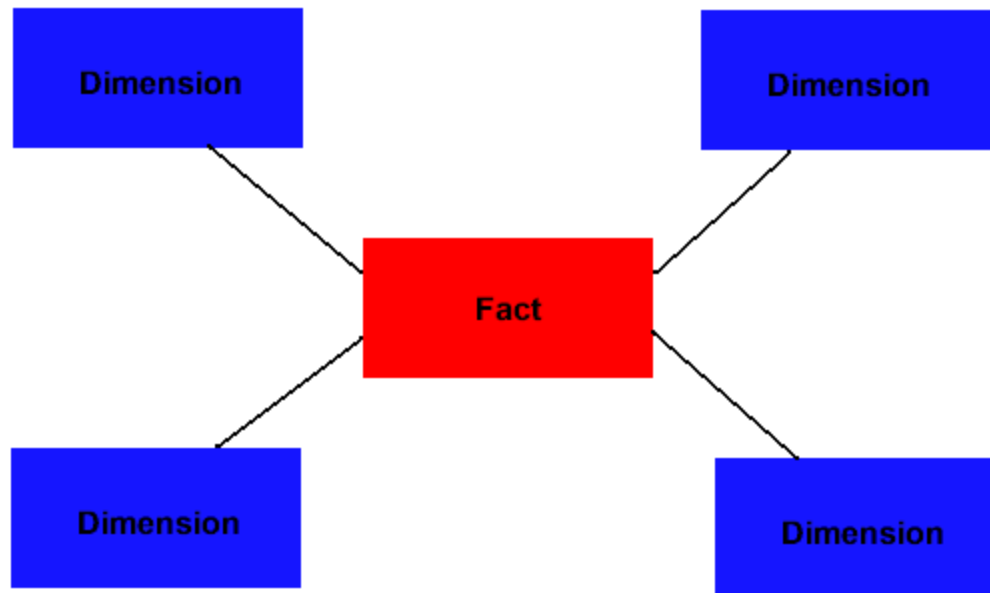
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- Type 1
  - ▣ Overwrite old value
- Type 2
  - ▣ Create new record, expire old record
- Type 3
  - ▣ Add a current value to the record
- Type 0
  - ▣ No change needed

# Schemas

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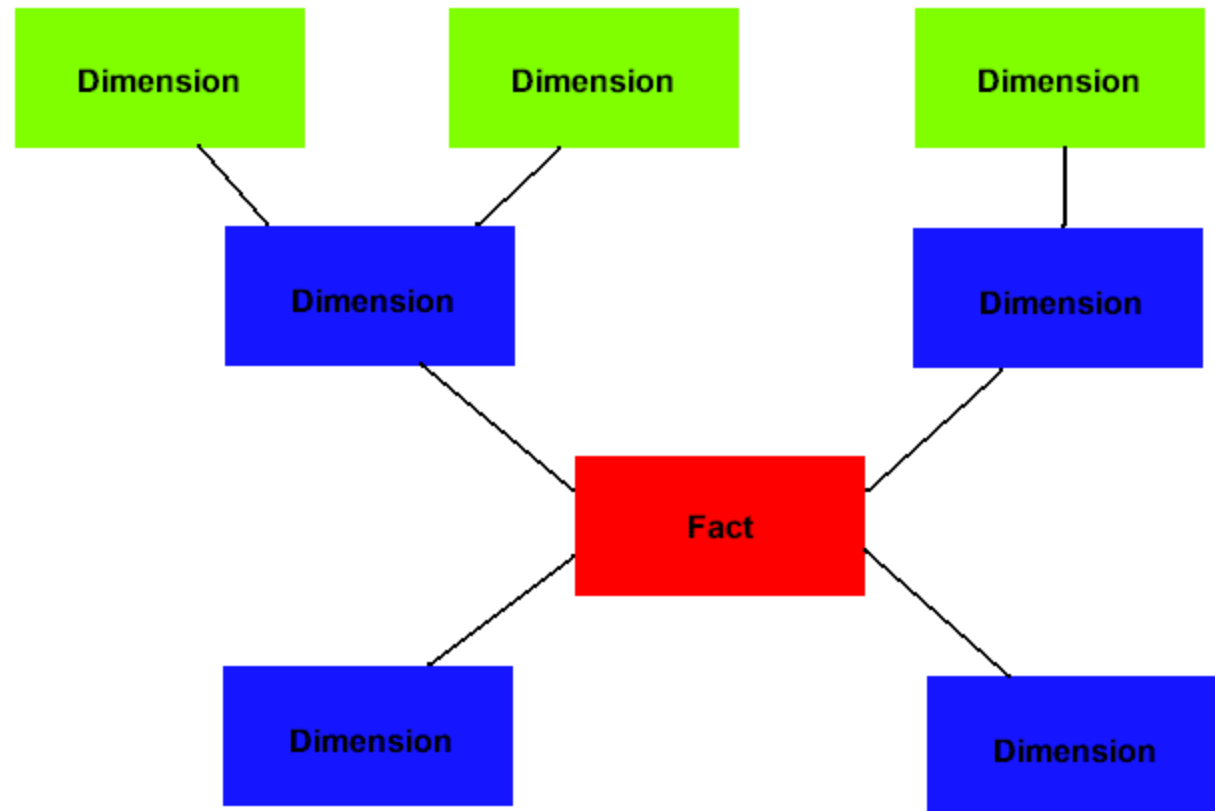
## □ Star



# Schemas

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## □ Snowflake



# Methodologies

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- Inmon
  - ▣ Top down
- Kimball
  - ▣ Bottom up

# Load - Extract

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- Bring data into your system from a source
- Source can be:
  - ▣ Operational System
  - ▣ Excel spreadsheet
  - ▣ ODS
  - ▣ Etc

# Load - Transform

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- Clean your data

# Load - Load

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- Put data into your warehouse
- Can create aggregate tables

# SSIS

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- Can use SSIS to perform ETL
- Extraction from sources
- Clean data
- Look up keys
- Load into destination

# Aggregation

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- Hierarchies
- Facts/Dimensions
- Aggregations

# SSAS

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- Uses your underlying data warehouse
- Store aggregations
- Typically same design as DSV

# DEMO

# Questions

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