Building the Foundation: Dallas College's Strategic Data Warehouse Journey

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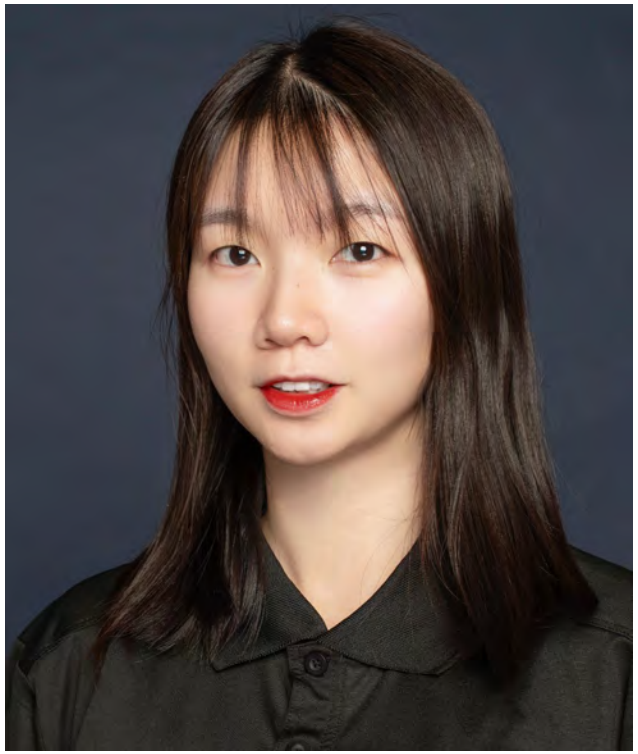
2.26.2026

Presenter



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- Master‘s degree, Business Analytics and Data Science (MSBAnDS)

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Topics Covered

- Introduction
- Foundational Alignment
- Data Warehouse Structure
- Data-Informed Culture

Introduction

DALLAS COLLEGE

About Dallas College

- Dallas College is one of the largest community colleges in Texas. Since 1965, we have helped almost 3 million people on their educational journey
- Dallas College originally operated as a district of seven independently accredited colleges. In 2020, those colleges united under a single name to offer our students a more streamlined, more convenient experience. The seven original campuses live on as our primary locations.

300+
ACADEMIC AND TECHNICAL DEGREES AND CERTIFICATES

100+
HIGH-DEMAND CAREER PROGRAMS AND TRAINING

100k+
NUMBER OF TOTAL CREDIT AND CONTINUING ED. STUDENTS

3200+
NUMBER OF TOTAL FULL-TIME AND ADJUNCT FACULTY

Why Dallas College needs a data warehouse

- Data Centralization
- Data Reliability/Quality
- Data Literacy

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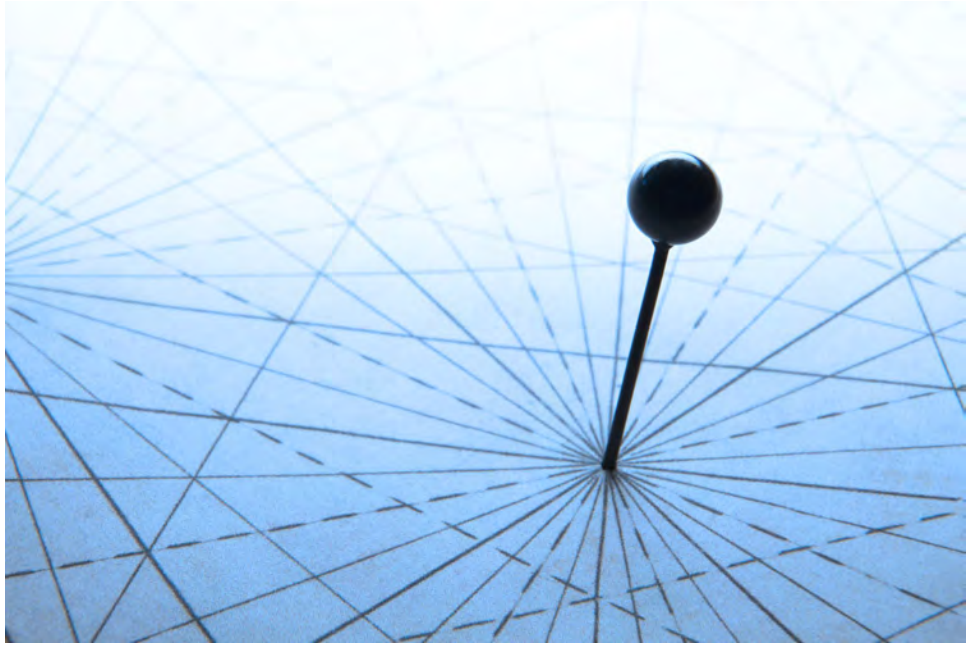
Foundational Alignment– “Know Yourself, Your Team, and Your Organization”

Dallas College Data Needs

- Large enrollment institution
- Highly data-driven
- Leadership relies on data for:
  - Strategic planning
  - Operational decisions

Dallas College Data Challenges

- Dallas College data challenges:
  - Lack of shared data dictionaries
  - Data definition inconsistency
  - Scattered business process documentation



- What we need:
  - Clear terminology
  - Clear data ownership
  - Clear process documentation

Dallas College Resources

- Tools:
  - Cloud-based data warehouse - Microsoft Fabric
- People:
  - Data team
  - Data stewards
  - Business process stakeholders
- Design:
  - High-impact use cases

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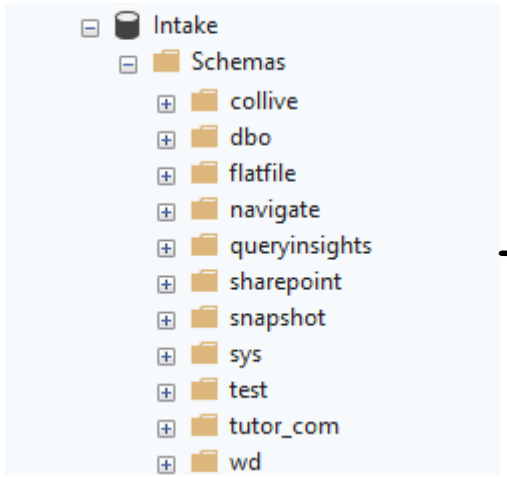
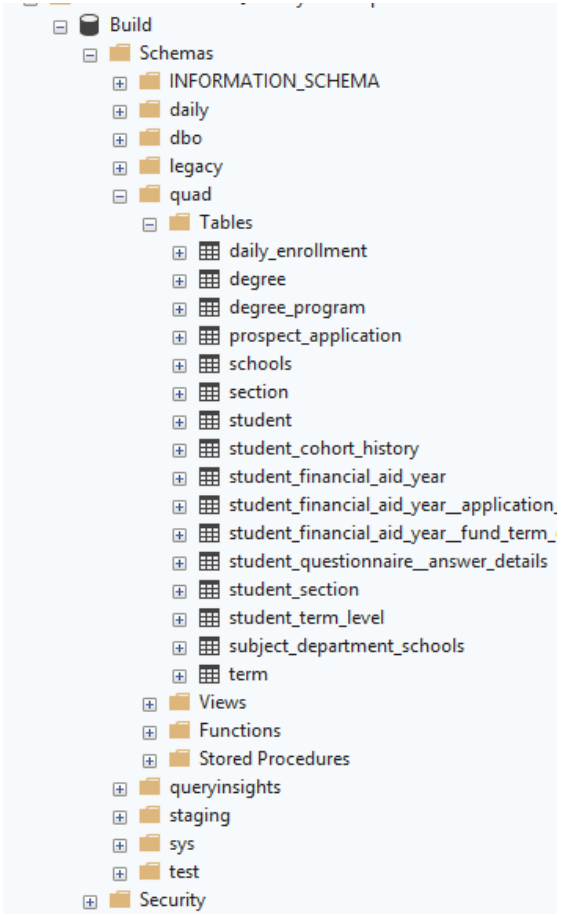
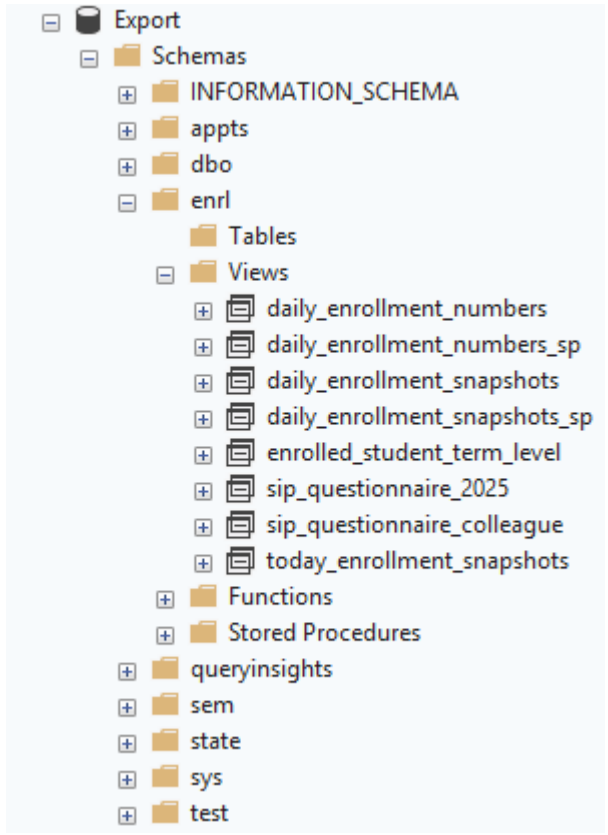
Data Warehouse Structure – Bronze Layer, Silver Layer, Gold Layer

Bronze-Silver-Gold Model



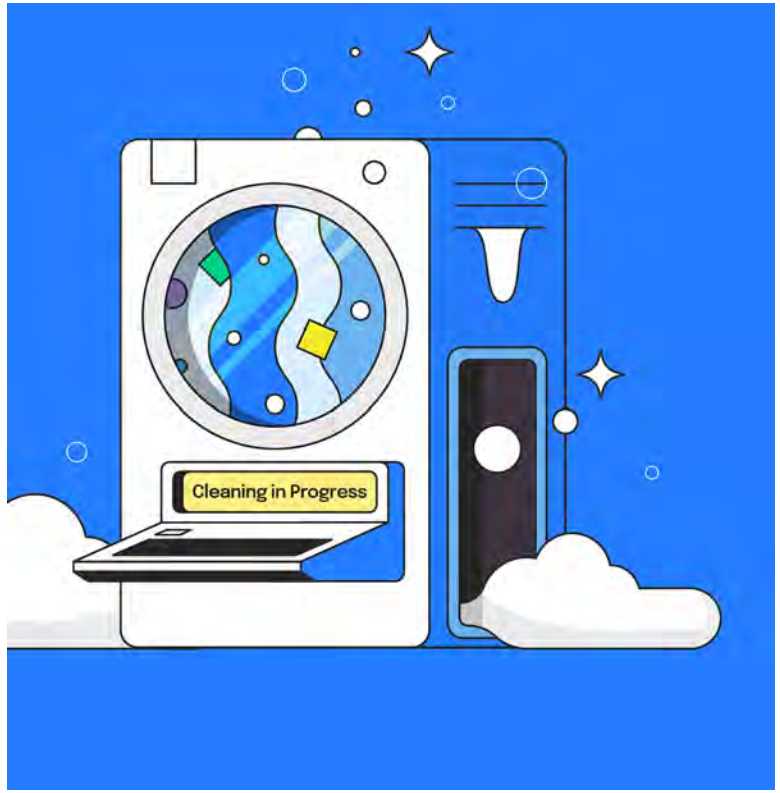




Bronze Layer – Intake Zone (Raw Data)

- Raw data from source systems
- Minimal transformation
- Preserves original data
- Major user group:
  - Data engineering related role

Silver Layer – Build Zone (Standardized & Cleaned)



- Data is:
  - Standardized
  - Cleaned
  - Deduplicated
- Business logic starts here
- Major user group:
  - Data engineering related role
  - Data analytics related role

Gold Layer – Export Zone (Business-Ready Data)

Final curated datasets

- Designed for:
  - Dashboards
  - Reports
  - Analytics Research

- Major user group:
  - Data analytics related role
  - Data science related role

Data Warehouse Principles

Consistency: To ensure data definition, functional process, and data attributes consistent.

Flexibility: To leave room for future work

Stability: To ensure reliable system performance and effective backup and recovery processes.

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Data-Informed Culture

Data-Informed Culture

DOCUMENTATION

TRAINING

DATA COMMUNITY

Impact: data reporting efficiency and accuracy

DASHBOARDS

REPORTING

DECISION-MAKING

SCALABLE STRATEGIC ANALYTICS

Q&A

Please feel free to contact

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Thank you so much for listening!

Scan the QR code to complete the session survey.

TxR 2026